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IGCSM-0150
CERVIX

CHEMORADIATION VERSUS NEOADJUVANT CHEMOTHERAPY AND SURGERY IN LOCALLY ADVANCED SQUAMOUS CELL CERVICAL CANCER: A RANDOMIZED STUDY IN A NORTH EAST NIGERIAN CENTER.

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Aims

Cervical cancer in developing countries like Nigeria is reaching pandemic proportions. The standard treatment for locally advanced cervical cancer(stages 1B2 to 111B)is concurrent Chemoradiation(CT RT), however some studies have shown that neoadjuvant chemotherapy followed by surgery (NACT+ S)to have better prognosis in terms of survival and treatment related morbidity. This is a comparative study of both treatments in terms of treatment related morbidity.

Aim: To compare the treatment related morbidity in CTRT and NACT+S

Methods

All eligible patients with squamous cell cervical cancer with FIGO stage 1B2 to 111were randomised into two arms. All received cisplatin based chemotherapy, in addition ,those in Arm A received external beam RT (45 to 50 Gy) followed by brachytherapy (20 to 30 Gy) while those in Arm B had radical hysterectomy with pelvic lymphadenectomy

ResultsA total of 153 patients were assessed. Treatment was delivered as per protocol to both arms. Patients were evaluated for short term complications that occurred within 30 days of completion of treatment and late complications that were reported within two years after treatment. There was no treatment related deaths. Overall 89% of patients in Arm A and 73% in Arm B had complications. However 18% in Arm B had recurrence and required adjuvant radiotherapy.

Conclusion

Patients tolerated the chemotherapy with surgery better than chemoradiation and so this may be a better alternative option especially in developing countries where radiotherapy centers and the expertise needed are in shortage.However the study must be verified with a larger population.

IGCSM-0640
CERVIX

LONG-TERM FOLLOW-UP AFTER NERVE SPARING RADICAL HYSTERECTOMY IN PATIENTS WITH STAGE IA-IIA CERVICAL CANCER

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Aims

Nerve sparing radical hysterectomy (NSRH) has proven physiological advantages over conventional radical hysterectomy (RH) with regard to bladder, bowel and sexual function. However, there is much debate about the long-term oncological outcome since large and robust studies are lacking. The aim of this study is to compare long-term oncological outcome of NSRH with RH.

Methods

This is a prospective cohort study comparing a RH-cohort (1994-1999) and a NSRH-cohort (2001-2005). All patients presenting with cervical cancer FIGO stage IA2-IIA who did not want to preserve fertility were included prospectively and consecutively.

Results

245 women (124-RH cohort and 121 NSRH-cohort) were included. Age, FIGO-stage and histological subtype did not differ (p=0.79, p=0.24 and p=0.17 respectively), but the percentage of women with deep infiltration and those receiving adjuvant therapy was significantly higher in the NSRH-cohort (p=0.03, p =0.03 respectively). There was a trend towards more lymph node metastasis in the NSRH-cohort (16.7% vs 26.3%, p=0.07). The 5 year local recurrence free survival (5yrsLRFS) (93.8% vs 89.1%, p = 0.12) and the 5 year disease specific survival (5yrsDSS) (82.3% vs 79.5%, p = 0.39) did not differ between both cohorts.

Conclusion

Despite significant worse prognostic factors in the NSRH-cohort, the 5yrsLRFS and 5yrsDSS did not differ significantly when compared to a cohort of women who underwent RH. More and especially larger studies are needed to strengthen our results but there is no reason to believe that NSRH is in any way inferior to RH with regard to long-term oncological outcome.

IGCSM-0669
CERVIX

RADICAL TRACHELECTOMY FOR EARLY-STAGE CERVICAL CANCER: A SURVEY OF THE SOCIETY OF GYNECOLOGIC ONCOLOGY (SGO) AND GYNECOLOGIC ONCOLOGY FELLOWS-IN-TRAINING

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Aims

To survey gynecologic oncologists and fellows-in-training regarding the role of radical trachelectomy (RT) and conservative surgery in patients with early-stage cervical cancer.

Methods
From June 2012 to September 2012, Society for Gynecologic Oncology (SGO) member practitioners (n=1,353) and gynecologic oncology fellows (n=156) were sent group-specific surveys investigating current practice, training, and the future of radical trachelectomy (RT) for early-stage cervical cancer management.
Results
Twenty-two percent of practitioners (n=303) and 24.4% of fellows (n=38) completed the surveys. Of the practitioners, 50% (n=148) report performing RT, 98% (n=269) support RT as treatment for squamous carcinoma, and 71% (n=195) confirm use of RT for adenocarcinoma. The majority of practitioners offer RT treatment for stages IA2-IB1 <2cm (n=209, 76.8%) regardless of grade (77.7%) or lymphovascular space invasion (n=211, 79.3%). Only 8% (n=23) of practitioners feel RT is appropriate for stage IBI >2cm. Respectively, both practioners and fellows most frequently perform robotic-assisted (47.0%, n=101 and 59.1% n=13) and abdominal (40.5%, n=87 and 68.2%, n=15) RT approaches. Post training, fellows project use of robotic-assisted (71% n=22) or abdominal methods (58.1% n=18). Overall, 75% (n=227) of practitioners and 60% (n=23) of fellows speculate that over the next five years less radical procedures will be used to manage early-stage cervical cancer.
Conclusion
Our findings suggest that practitioners and fellows believe RT remains an option for early-stage cervical cancer patients. However, a significant proportion of all respondents believe less radical surgery may be a future consideration for patients with low-risk early-stage cervical cancer.

IGCSM-0821
CERVIX

COMPARATIVE PERFORMANCE OF NOVEL SELF-SAMPLING METHODS IN DETECTING HIGH-RISK HUMAN PAPILLOMAVIRUS IN 30,130 WOMEN NOT ATTENDING CERVICAL SCREENING

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Aims
Primary HPV screening for cervical cancer will start in the Netherlands in 2016. In this new screening program non-responders of the regular screening can opt for HPV self-sampling. We determined whether the participation rate for a brush-based cervicovaginal self-sampling device is non-inferior to a lavage-based device. Additionally, hrHPV-positivity rates, detection rates for CIN2+/3+, and user comfort were compared.
Methods
A total of 35,477 non-responders of the regular cervical screening program aged 33-63 years were invited to participate. Eligible women (n=30,130) were randomly assigned (1:1) to receive either a brush-based or a lavage-based self-sampling device, and a questionnaire for reporting user-convenience. Women who submitted a self-collected sample and tested hrHPV-positive were invited for a physician-taken sample for cytological assessment. Triage-positive women were referred for colposcopy.
Results
A total of 5218 women responded in the brush-based sampling group (34.6**%**) and 4809 women in the lavage-based group (31.9%), i.e. an absolute difference of 2.7% (95%CI 1.8–4.2). The hrHPV-positivity rates in both groups were identical (8.3%). The detection rate of CIN2+ and CIN3+ in the brush-based group (2.0% and 1.3%) was similar to that in the lavage-based group (1.9% and 1.0%); cumulative RR of 1.01, 95%CI 0.83–1.24 for CIN2+ and 1.25, 95%CI 0.92–1.70 for CIN3+. The self-sampling devices performed similarly in user comfort.
Conclusion
Offering a brush-based device to non-responders is non-inferior to offering a lavage-based device in terms of participation to HPV self-sampling. The two self-sampling methods are equally effective in detecting hrHPV, CIN2+/CIN3+ and are both well accepted.

IGCSM-0878
CERVIX

OVARIAN PRESERVATION IN YOUNG PATIENTS WITH STAGE I CERVICAL ADENOCARCINOMA: A SEER STUDY

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Aims
Although a large part of patients with cervical adenocarcinoma are young, oophorectomy is commonly performed in those who receive hysterectomy. The purpose of this study is to examine the safety of ovarian preservation in young women with cervical adenocarcinoma.
Methods
Patients ≤ 45 years with stage I cervical adenocarcinoma and adenosquamous carcinoma were identified in the Surveillance, Epidemiology, and End Results (SEER) program (1988-2007). Characteristics of the patients with ovarian preservation were compared with that of women with oophorectomy. Univariate Kaplan-Meier analysis and multivariate Cox proportional hazard model were used to explore the effects of ovarian preservation on survival.
Results
The study sample consisted of 1639 women, including 1062 (64.8%) who underwent oophorectomy and 577 (35.2%) who had ovarian preservation at the time of hysterectomy. Younger age ($P < 0.001$), more recently diagnosed ($P < 0.001$), low-grade ($P < 0.001$) and smaller tumor ($P < 0.001$), white population ($P = 0.015$) and less likely to undergo lymphadenectomy ($P < 0.001$) and adjuvant radiotherapy ($P = 0.041$) were associated with ovarian preservation. Ovarian preservation had no effect on either cancer-specific (HR 0.90; 95% CI, 0.50 -1.61) or overall (HR 0.81; 95% CI, 0.49 -1.33) survival in the Cox proportional hazard model. When patients without radiotherapy were separately analyzed, the effect on either cancer-specific (HR 1.24; 95% CI, 0.44 - 3.54) or overall (HR 0.77; 95% CI, 0.35 - 1.73) survival were not statistically significant.
Conclusion
Ovarian preservation may have oncological safety in young women with stage I cervical adenocarcinoma.

IGCSM-0919
CERVIX

COMPARISON OF DIFFERENT ADJUVANT THERAPY AFTER RADICAL SURGERY IN EARLY STAGE CERVICAL CARCINOMA - INTERIM ANALYSIS OF A 3-ARM RANDOMIZED CONTROL STUDY

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Aims
To determine whether the addition of concurrent chemotherapy (CCT) or sequential chemotherapy (SCT) to adjuvant pelvic radiotherapy (RT) will improve survival of patients with early-stage cervical carcinoma who had adverse pathological factors.

Methods
After radical surgery, patients with stage IB1 to IIA2 cervical cancer who had one or more following pathological factors were recruited: lymph node metastases (LNM), positive parametrium or margins (PPM), lymphatic vascular space involvement (LVSI), deep invasion of cervical stromal (DIS). Eligible patients were randomized to three groups. Group A underwent 50 GY RT alone. Group B received concurrent weekly cisplatin and RT. Group C received paclitaxel and bolus cisplatin every three weeks for two cycles before RT, followed by two cycles.

Results
The 564 cases were assessable. There was no statistically significant difference in disease-free survival (DFS) among three groups (P=0.96). The DFS was better in patients with DIS or/and LVSI than in those with LNM or PPM (65 vs 49 months, P<0.05). For the patients with LNM or PPM, no significant difference in DFS was

found between three groups (38 vs 46 vs 54 months, P=0.27). However, there was a trend indicating that prognosis favored to Group C (SCT+RT). Grades 3 and 4 leukopenia was most common in Group B (P<0.05). More patients in Group B experienced gastrointestinal toxicity than other groups (P<0.05).

Conclusion

LNM and PPM should be considered as high-risk factors for recurrence in early-stage cervical cancer. Adjuvant SCT+RT might improve DFS in high-risk patients and was more tolerable than CCT+RT.

IGCSM-1052
CERVIX

IMPACT OF PRIOR CONIZATION IN DETECTION OF SENTINEL LYMPH NODES IN PATIENTS WITH EARLY-STAGE CERVICAL CANCER

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Aim: To determine the impact of prior conization on the detection of sentinel lymph nodes in patients with early-stage cervical cancer undergoing radical or simple hysterectomy, radical trachelectomy or conization and bilateral pelvic lymphadenectomy.

Methods: A retrospective chart review was performed of patients who underwent lymphatic mapping at the time of definitive surgery for early-stage cervical cancer between January 2000 through January 2014. Medical records were reviewed for demographic/clinical information, surgical details and pathologic results. Sentinel node identification were compared between patients who had undergone previous conization and those who had not.

Results: A total of 142 patients met inclusion criteria for the study. Median age for all patients was 38.5 years (range, 21-68). 78.9% underwent radical hysterectomy, 14.1% had radical trachelectomy, 3.5% had simple hysterectomy, and 2.1% had conization. Eighty-four (59.2%) patients had prior conization. There were no differences in the rate of sentinel node detection between the patients who had undergone previous conization and those who had not (91.7% vs. 86.2%, p=0.123). There was also no difference in sentinel lymph node detection when comparing by type of surgery (p=0.854). Furthermore, there was no difference in sentinel node identification between the use of the combination blue dye/Tc-99 and indocyanine green (92.2% vs. 95.2%, p=0.99).

Conclusions: Prior conization had no impact on rate of sentinel node detection in patients with early-stage cervical cancer.

IGCSM-1118
CERVIX

RELATIONSHIPS BETWEEN SOMATIC GENOMIC ALTERATIONS, TUMOR STAGE AND PROGRESSION-FREE SURVIVAL IN CERVICAL CANCER

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Aims

Cervical cancer is a major public health problem worldwide. We have recently identified novel significantly recurrent somatic mutations in *HLA-B, ERBB2* and *MAPK1* in cervical carcinomas (Nature 2014). This study seeks to identify relationships between somatic genomic alterations and clinical phenotype in cervical carcinomas.

Methods

DNA from cervical carcinoma lesions from 100 patients with tumor stages I – IV were explored by whole exome sequencing. Somatic single nucleotide variants and small insertion/deletions were identified (MuTect and Indelocator algorithms). Mutations were classified as clonal or subclonal (ABSOLUTE algorithm). Somatic copy number (CN) data were derived from WES data using the CapSeg algorithm, and significantly recurrent CN alterations were identified (GISTIC2.0). HPV typing was done by the multiplex fluorescent f-HPV DNA and MassARRAY assays. The log-rank test was used to compare survival curves.

Results

Non-localized tumors (FIGO stages ≥ II) were associated with focal amplification of the *FGFR2* gene on chromosomal cytoband 10q26 (GISTIC q = 0.18531). Six of eight (75%) tumors with *FGFR2* amplification were non-localized, in contrast to 16 of 92 (17%) tumors without *FGFR2* amplification (p = 0.001). In addition, patients with somatic *ERBB2* mutations and/or amplifications (p = 0.04), somatic *TP53* mutations

and/or deletions (p = 0.04), or infection with multiple HPV types (p = 0.02) had poorer progression-free survival.

Conclusion

We have identified novel relationships between somatic genomic alterations, tumor stage and outcome for cervical cancer patients. Our data suggest a potential for exploring FGFR2 inhibition in non-localized cervical carcinomas with *FGFR2* alterations in a clinical trial context.

IGCSM-1196
CERVIX

PROGNOSTIC IMPACT OF HISTOLOGY IN RECURRENT AND METASTATIC CERVICAL CARCINOMA: A GYNECOLOGIC ONCOLOGY GROUP STUDY.

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Aims
GOG 240 demonstrated that chemotherapy plus bevacizumab significantly improved overall survival (OS) in advanced cervical cancer. In subgroup analysis, the benefit conferred by bevacizumab was not sustained among the 27% with adenocarcinoma (AC)/adenosquamous (AS) histology, suggesting that AC/AS is a different disease than squamous cell carcinoma (SCCA). To increase sample size we pooled cases of AC/AS from other phase 3 GOG studies and developed a training set.
Methods

Three phase III GOG trials (179, 204, 240) of systemic therapy in advanced cervical cancer were studied. Binary exchange analysis was performed using Pearson's test to evaluate response rate (RR), Kaplan-Meier method to estimate progression-free survival (PFS) and OS, and Cox proportional hazards model to estimate the effect of histology on PFS and OS.

Results
994 eligible patients were evaluated, of whom 25% (n=246) had AC/AS and 75% (n=748) had SCCA. There were no significant differences in RRs and time to response between histologic subgroups. The hazard of progression and death for AC+AS vs SCCA was 1.13 (95% CI 0.97-1.33; p=0.119) and 0.97 (95% CI 0.82-1.15; p=0.747), respectively. The hazard of progression and death for AC vs SCCA+AS was 1.01 (95% CI 0.84-1.23; p=0.893) and 0.89 (95% CI 0.73-1.10; p=0.277), respectively.
Conclusion

GOG 240 was underpowered for AC/AS to draw any conclusions regarding the efficacy of incorporation of anti-angiogenesis therapy in these uncommon histologies. Given the relative infrequency of AC+AS, these pooled data support the hypothesis that these histologic subtypes are not significantly different in their biologic response to systemic therapy in the recurrent/metastatic setting.

IGCSM-0389
FEATURED ORAL PRESENTATIONS

IDENTIFICATION OF SIX NOVEL, COMMON VARIANT GENETIC SUSCEPTIBILITY LOCI FOR INVASIVE EPITHELIAL OVARIAN CANCER

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Aims
Twelve common variant genetic susceptibility loci that modestly increase invasive epithelial ovarian cancer (EOC) risk have been identified using genome wide association studies. Most of these variants also affect EOC risk in *BRCA1* and *BRCA2* mutation carriers. The aim of this study was to identify additional common low penetrance EOC risk loci.
Methods
EOC cases and controls from the Ovarian Cancer Association Consortium (OCAC) and the Consortium of Investigators of Modifiers of *BRCA1/2* (CIMBA) were genotyped for >200,000 single nucleotide polymorphisms. After imputation to the publically available 1000 Genomes Project data, associations of 11 million genetic variants with EOC risk were assessed in 15,397 EOC cases and 30,816 controls from OCAC, and in 15,252 *BRCA1* carriers and 8,211 *BRCA2* carriers from CIMBA (3,096 *BRCA1/2* carriers had EOC). The results were then combined for meta-analysis.
Results
Six new genome wide significant ($p<5x10^{-8}$) EOC susceptibility loci were discovered. Variants at 1p36 (nearest gene *WNT4*), 1p34.3 (*RSPO1*), 4q26 (*SYNPO2*), 9q34.2 (*ABO*) and 17q11.2 (*ATAD5*) were associated with EOC risk, and at 6p22.1 (*GPX6*) specifically with serous EOC risk. These SNPs increase ovarian cancer risk from 5-11% per copy of the risk allele in analyses of OCAC data and similar associations were found for *BRCA1/2* carriers in CIMBA.
Conclusion
The six novel loci reported increase the number of genome wide significant common EOC risk loci to eighteen. Incorporating EOC susceptibility variants into risk assessment tools has the potential to improve risk prediction and may be particularly useful for predicting penetrance of EOC in *BRCA1/2* mutation carriers.

IGCSM-1124
FEATURED ORAL PRESENTATIONS

A RANDOMIZED STUDY OF BENEFITS OF HARMONIC SCALPEL IN GROIN DISSECTION

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Aims
Although innovative devices are increasingly used in cancer surgery, the benefit has unfrequently been adequately assessed. Groin dissection generates a high rate of local complications including lymph fluid leaks, wound disruption, and wound infection. Groin dissection is then a model for clinical trials of new devices that are theoretically able to ensure lymphostasis
Methods

Non-blinded randomized controlled surgery comparing the use of harmonic scalpel (Ultracision®) to standard methods (clips, electrosurgery, or ligatures) for lymphostasis in full groin dissection. Randomization was done for both sides in case of bilateral dissection. The estimated sample size was 125. Primary outcome : postoperative morbidity as defined by one of the following events : symptomatic lymphocele, wound disruption > 2 cm, infectious complications requiring surgery. Inclusion criteria : vulvar cancer or melanoma of the lower limb. Exclusion criteria : previous surgery of the groin, fixed diseased groin node, or removal of sentinel node only.

Results
The trial was interrupted for slow accrual after 61 patients were included. 12 of them had bilateral groin dissection. Taking into account one protocol deviation, per protocol analysis was performed. Morbidity was 38% in the Ultracision group versus 60.5% in the control group (p=0.059). The proportion of patients with drain and the length of drainage were significantly reduced in the Ultracision group
Conclusion
In spite of the lack of power of this study, it is likely that Ultracision ensures better lymphostasis, thus reducing the related morbidity, in groin node dissection

IGCSM-1312
FEATURED ORAL PRESENTATIONS

QUALITY OF LIFE IN PATIENTS UNDERGOING EXTENSIVE (RADICAL/ ULTRA-RADICAL SURGERY) FOR OVARIAN CANCER - THE SOCQER-1 STUDY

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Introduction

Complete cytoreduction confers best survival in ovarian cancer (OC). Two Cochrane reviews demonstrate that complete cytoreduction leads to best survival and that extensive surgery for disseminated disease resulted in improved disease specific survival compared to standard surgery. Extensive surgery may confer survival benefit but may cause greater morbidity. Quality of life (QoL) in patients undergoing extensive surgery is currently unknown.

Methods

We conducted a prospective evaluation of short and medium term Quality of life in women undergoing surgery at City Hospital, Birmingham using EORTC OV28 and 30 questionnaires (Ethics- 11/WM/009) . Patients undergoing primary or Interval debulking surgery completed questionnaires at 6 sequential time points – baseline/preoperative, 6 weeks, 3 , 6 and 9 months postoperatively. Qol outcomes were compared in 3 cohorts – women undergoing standard surgery (TAH, BSO, omentectomy) for benign ovarian masses or OC and those requiring additional surgery to achieve complete cytoreduction. Statistical analysis was as per EORTC scoring manual, using SPSS and Mixed model for repeated measures data.

Results

92 patients recruited; 20 benign histology who underwent standard surgery, OC standard surgery cohort - 33, extensive surgery cohort – 32 patients. Comparison of scores in all 3 domains - symptoms, global and functional health revealed a temporary deterioration in women undergoing extensive surgery but by 9 months postoperative, scores in all 3 cohorts were identical and better than at baseline with no statistical significant difference.

Conclusion

Our pilot study provides the first known results on QoL/patient reported outcomes in women undergoing extensive surgery for OC.

IGCSM-1328
FEATURED ORAL PRESENTATIONS

SELF-SAMPLING FOR CERVICAL CANCER SCREENING IN RURAL SOUTH AFRICA: ACCEPTABILITY AND UPTAKE AMONG WOMEN INTHE EASTERN CAPE

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Background: Cervical cancer screening has failed dramatically in developing areas of the world. Self-sampling seems effective and acceptable to most women, usually offered outside health facilities. Due to differences in culture, knowledge and education these data cannot necessarily be extrapolated to other communities.

Objective: Questionnaire study, conducted to determine acceptability and uptake of self-sampling with Evalyn® brush offered to women at a rural primary health care clinic in the Eastern Cape, South Africa.

Methods: Consecutive female clinic attendees >20 years were informed, invited to participate in screening and to complete an administered questionnaire.

Results: All 186 women recruited elected to participate; 183 questionnaires were available for analysis. Participants had reasonable educational levels (87% reported secondary education), low levels of employment (39% employed in any sector) and high parity (27% had four or more children). Although 89% have heard of cervical cancer, only 35% reported previous screening. All invited women elected to screen with the Evalyn® brush and 99.5% found it comfortable. 100% said they would choose it again; 35% were ‘positive’, 65% ‘very positive’ about the method. All participants said that the instructions were understandable, the test met their expectations and that they found it easy and private.

Conclusion: Self-collection of cervical screening tests using the Evalyn® brush was highly acceptable and satisfactory to rural women accessing the primary health facilities. This method can facilitate screening of high risk women using the heath care infrastructure in under resourced rural areas.

IGCSM-1335
FEATURED ORAL PRESENTATIONS

A RANDOMIZED PLACEBO CONTROLLED PHASE IIB TRIAL OF WEEKLY PACLITAXEL PLUS/MINUS PAZOPANIB IN PERSISTENT OR RECURRENT OVARIAN CANCER.

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Aims: Pazopanib(P) is an oral, multi-target kinase inhibitor of VEGFR-1, -2, -3, PDGFR-α, -β, and c-KIT. We evaluated the efficacy and tolerability of combining P with weekly paclitaxel (T) in women with ovarian cancer.**Methods:** Eligible patients included persistent or recurrent epithelial ovarian, fallopian tube, or primary peritoneal carcinoma with 1-3 prior regimens and performance status (PS) of 0-2. All patients received T 80mg/m^2 D1, 8, 15, every 28 days and were randomized 1:1 to P 800mg PO daily or placebo. Primary endpoint was progression- free survival (PFS). Study was designed to detect a 37.5% reduction in the hazard with 80% power (alpha=10%). Secondary endpoints were toxicity, response (RR) and overall survival (OS).**Results:**106 enrolled; 100 evaluable for toxicity. Arms were well balanced for age (median 61: range 35-87), PS (0: 75%, 1-2: 25%), measurable disease, and prior bevacizumab. RR was 31.8% vs 22.7% for PT vs T, p=0.47. Median PFS was 7.5 versus 6.2mos for PT vs T, HR 0.84 (90% CI 0.57-1.22), p=0.2. Median OS was 20.7 vs 23.3 mos for PT vs T, HR 1.04 (90% CI 0.6-1.79), p=0.9. Severe hypertension was more common on the PT arm, relative risk 12 (95% CI 1.62-88.84). One patient died of sudden death, NOS, on the PT arm, p=NS. More patients discontinued treatment on T arm for disease progression (65.4% vs 31.5%), and more on PT arm for adverse events (37% vs 9.6%).

Conclusion: The combination of PT is not superior to T in women with recurrent ovarian cancer.

IGCSM-1342
FEATURED ORAL PRESENTATIONS

THE DIAGNOSTIC VALUE OF ADDING HE4 TO CA125 FOR WOMEN INVESTIGATED FOR OVARIAN CANCER IN PRIMARY CARE: A PROSPECTIVE PILOT STUDY.

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Aims:

In 2011 NICE recommended CA125 as the primary test to investigate symptoms potentially signifying ovarian cancer. We aimed to evaluate whether the addition of HE4 testing in primary care improves the accuracy of detecting ovarian cancer.

Methods:

Between November 2013 and June 2014 all women who presented in primary care, in a geographical area with a population of 200 000, meeting NICE indications to undergo Ca125 also received an HE4 test. If either or both were elevated, patients were referred for urgent gynecological review. Radiological and histological outcomes were recorded.

Results:

During the study period, 306 women met the inclusion criteria and their results were analysed.

Of those, 290 had a normal CA125; of which HE4 was normal in 269 (92.7%) and raised in 21 (7.2%).

A total of 16 had an abnormal CA125; of which 9 (56.3%) had a normal and 5 (31.3%) an abnormal HE4 score.

One womea had ovarian cancer in which both tests were abnormal. One woman had colorectal cancer in which CA125 was raised but HE4 normal.

The sensitivity, specificity, PPV and NPV of CA125 were 100%, 95%, 6.25% and 100%; of HE4 100%, 92%, 3.85% and 100%; and of the 2 combined 100%, 98.6%, 20% and 100% respectively.

Of note, 204 (67.3%) women had imaging irrespective of the tumour marker results.

Conclusions:

This pilot study shows the addition of HE4 testing to CA125 in primary care may improve the diagnostic test accuracy statistics for ovarian malignancy and assist management protocols.

IGCSM-0004
GTD / MISCHELLANEOUS

A new patient-reported outcome measure for symptom benefit with chemotherapy: the Measure of Ovarian Symptoms and Treatment concerns (MOST)

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Aims.To determine the optimal patient-reported outcome measure (PROM) for assessing symptom benefit in trials of palliative chemotherapy for women with symptomatic ovarian cancer.

Method. Candidate PROMs were: EORTC QLQ-C30 plus ovarian-specific QLQ-OV28; Functional Assessment of Cancer Therapy-Ovarian (FACT-O); FACT-Ovarian Symptom Index (FOSI), gynecologic cancer-specific Symptom Representation Questionnaire (SRQ). Pre-defined optimality criteria were: inclusion of all symptoms necessary for the specified purpose in a single symptom index; recall period covering typical length of palliative chemotherapy; numerical item rating scales. Qualitative and quantitative methods were applied to data from Stage 1 of the Gynecologic Cancer Intergroup Symptom Benefit Study (GCIG-SBS) to determine the set of necessary symptoms, and objectively assess candidate PROMs against the optimality criteria.

Results. . Ten necessary symptoms were identified: pain, fatigue, abdominal bloating/discomfort, sleep disturbance, bowel disturbance, nausea and vomiting, shortness of breath, poor appetite, urinary symptoms and weight changes. While QLQ-C30/OV28 together cover all these, they split them into numerous scales, dissipating potential symptom benefit signal. FACT-O does not cover all necessary symptoms and contains many other HRQOL-related items, diluting potential symptom benefit signal when summed into scales. Item response scales and composite scoring of all candidate PROMs were suboptimal to our specific purpose. We therefore developed a new PROM, the Measure of Ovarian Symptoms and Treatment concerns (MOST).

Conclusion. he MOST is designed to provide optimal measurement for the specified purpose. Its validity, reliability and statistical efficiency, relative to the best candidate scales of existing PROMs, will be assessed in Stage 2 of GCIG-SBS.
Acknowledgment: Funded by Australian NHMRC.

IGCSM-0070
GTD / MISCHELLANEOUS

OBSTETRIC OUTCOMES FOLLOWING LAPAROSCOPIC TRANSABDOMINAL CERVICAL CERCLAGE IN WOMEN WITH A HISTORY OF GYNAEONCOLOGIC CERVICAL SURGERY

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Aims
To evaluate the obstetric outcome and surgical morbidity of laparoscopic TAC in women with a history of gynaeoncologic cervical surgery
Methods
A prospective observational study of consecutive patients who underwent laparoscopic TAC. Eligible patients had a history of gynaeoncologic cervical surgery and a diagnosis of cervical insufficiency based on previous obstetric history and/or a short or absent cervix. Primary outcome was neonatal survival. Secondary outcome was delivery of an infant at term (≥37 weeks). Surgical morbidity and complications were also evaluated.
Results

35 patients had a laparoscopic TAC during the study period, five during pregnancy and 30 as a pre-pregnancy or interval procedure.

Twenty two pregnancies beyond 12 weeks have been documented to date. Of those, seventeen were evaluated for the study. In 40% of cases there was a history of failed transvaginal cerclage.

The perinatal survival rate was 94.7%, with a mean gestational age at delivery of 35.0 weeks. 59% of patients were delivered at term. There were no adverse intraoperative or postoperative events in this cohort.

Conclusion
Laparoscopic TAC is a safe and effective procedure resulting in favourable obstetric outcomes, in patients with a history of gynaeoncologic cervical surgery. Success rates compare favourably to the traditional laparotomy approach and is indicated when transvaginal approach is not possible or has been unsuccessful.

IGCSM-0451
GTD / MISCHELLANEOUS

RESISTANT GESTATIONAL TROPHOBLASTIC NEOPLASIA: A NOVEL DRUG COMBINATION WITH CARBOPLATIN AND PACLITAXEL PRODUCES GOOD RESPONSE

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Aims
To evaluate the results with novel drug combination consisting of paclitaxel and carboplatin for salvage of resistant or relapsed high risk GTN previously treated with EMA-CO and EMA-EP
Methods
Prospective study conducted at Regional Cancer Institute from 2009 to 2014. The combination of paclitaxel (175mg/m^2) and carboplatin (AUC 6) was administered every three weekly interval. After undetectable β hCG values are achieved, two additional courses of chemotherapy was administered to reduce the risk of relapse. They were followed up and assessed by clinical examination, monthly serum β hCG levels regularly for a minimum of 24 months.
Results
A total of 65 patients treated during the study period; 24 (36.9%) were low risk and 41(63.1%) belonged to high risk GTN. The eight (12.3%) patients were eligible for the analysis, which had resistant or relapsed disease, and were treated with a combination of carboplatin and paclitaxel. These patients received an average of 4-5 cycles. 75% (6/8) had good response while two patients had progression. The five (62.5%) are having disease remission at 3 years follow-up. The two patients (25%) died, one had fatal haemoptysis during the course of therapy and other non compliant patient died at home after a year of incomplete therapy. The one patient is has recurrence in lungs and liver after16 months of PFS is currently being treated with dose dense carboplatin and Paclitaxel.
Conclusion
The patients who were previously extensively treated with standard EMA-CO and EMA-EP chemotherapy. The carboplatin and paclitaxel doublet produces good response in a resistant or relapsed GTN.

IGCSM-0825
GTD / MISCHELLANEOUS

LOW FDG AVIDITY ON PRETREATMENT PET/CT MAY REFLECT CHEMORESISTANCE IN EPITHELIAL OVARIAN CANCER

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Aims
The objective of this study was to evaluate if F-18 fluorodeoxyglucose (FDG) avidity measured by FDG positron emission tomography/computed tomography (PET/CT) differs according to histology and whether FDG avidity has prognostic effect in advanced-stage epithelial ovarian cancer (EOC).
Methods
From 2003 to 2012, 142 women with EOC who underwent FDG PET/CT prior to anticancer treatment were retrospectively reviewed. FDG avidity was scored using the maximum standardized uptake value (SUVmax) of FDG in all suspected lesions on PET/CT. The association between tumor histology and SUVmax was assessed in patients who underwent primary debulking surgery (PDS group). We investigated if SUVmax predicts chemo-resistance in patients who underwent neoadjuvant chemotherapy (NAC group) and if it has prognostic effect in advanced stage EOC patients.
Results
In PDS group (n=111), SUVmax was significantly higher in type II EOC compared to type I EOC (median value, 12.1 vs. 6.8, P<0.001). In NAC group (n=31), SUVmax was significantly lower in poor responders than in responders (P=0.016, Mann-Whitney test). In PDS group, 83 patients with advanced stage EOC treated with more than 3 cycles of adjuvant chemotherapy, receiver operating characteristic curve revealed that area under the curve of SUVmax on recurrence was 0.647 and SUVmax 12.3 was determined as cutoff value. SUVmax lower than 12.3 was independent poor prognostic factor for recurrence in multivariated analysis (hazard ratio 2.85, 95% confidence interval 1.51-5.39).

Conclusion

SUVmax differs according to tumor histology and is associated with chemo-resistance and poor prognosis in advanced stage EOC. SUVmax is a non-invasive prognostic marker reflecting chemo-sensitiveness.

IGCSM-0856
GTD / MISCHELLANEOUS

PATIENT INITIATED FOLLOW-UP OF GYNAECOLOGICAL CANCER FOLLOWING TREATMENT: RESULTS FROM A SINGLE UK CANCER CENTRE

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Aims
To investigate the safety of patient initiated follow-up (PIFU)
Methods

Data was collected prospectively for 1215 patients at a UK tertiary cancer referral centre who had treatment for a gynaecological cancer between 2008 and 2012. Patients were offered the option of PIFU and were allocated to either patient initiated or conventional outpatient follow-up. Date of diagnosis, cancer site, FIGO stage, date of treatment, date of recurrence and date of death were recorded. The study outcomes were uptake of the follow-up type, recurrence rate and survival for both groups.

Results

Complete data was available for 997 patients recruited to the study; 57% (568/997) agreed to PIFU. 8.0% (71/568) of patients allocated to PIFU returned to conventional follow up during the study period. Preliminary analysis suggests the overall cancer recurrence rate over the study period was 12.6% with 4.7% of recurrences detected in outpatients. 41% (29/71) of patients who were removed from PIFU had a recurrence. 3.6% of patients (36/997) died whilst on PIFU.

Conclusion

PIFU is a safe alternative to conventional follow-up and deserves further exploration. This model is cost effective and reduces the high demand experienced by oncology clinics.

IGCSM-1099
GTD / MISCHELLANEOUS

NATIONAL BELGIAN REGISTRATION OF GESTATIONAL TROPHOBLASTIC DISEASE – A BELGIAN GYNAECOLOGICAL ONCOLOGY GROUP (BGOG) INITIATIVE

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Aims

This study aims to register and to improve the management of patients with gestational trophoblastic disease (GTD).

Methods

A national prospective voluntary registration study was initiated on the 9th of July 2012 in Belgium. We established two central referral centers for the French-speaking (CHU Liège, CHR-Citadelle) and Flemish-speaking (KU Leuven) population. After diagnosis of GTD and obtaining informed consent, clinical data are registered in a central database. Paraffin-embedded tissue is sent for central review. Human chorionic gonadotropin (hCG) regression curves are used for central follow-up. In case of malignancy, the physician is contacted to decide on a concerted approach.

Results

.In an interim analysis for the period between July 2012 to February 2014, 127 women were registered in the study. Pathology was corrected after central review in 25% of cases (Table 1). Mean time to hCG normalization was 10 weeks (range 3-20) and 9 weeks (range 3-17) for complete hydatidiform mole (n=64) and partial hydatidiform mole (n=34), respectively. Malignant disease was diagnosed in 27 women (low risk n=18, 66.7%; high risk n=9, 33.3% according to WHO criteria); type of treatment is presented in Figure 1a and 1b. No deaths have occurred hitherto.

Conclusion

Initial results show improvement of diagnosis after central review.

Table 1. Correction of pathological diagnosis after central review.

		Pathology review (n=127)						
		Abortion	PM	CM	IM	CC	PSTT	ETT
Initial diagnosis (n=127)	Abortion	2						1
	PM	6	33	9				
	CM	2	1	51	2	1		
	CC	1				7		
	PSTT						2	
	Inconclusive	4		4			1	

Corrected pathology: n=32 (down-graded n=14; up-graded n=18).

Abbreviations: PM=partial mole, CM=complete mole, IM=invasive mole, CC=choriocarcinoma, PSTT=placental site trophoblastic tumor, ETT=epithelioid trophoblastic tumor

IGCSM-0163
OPENING PLENARY: GAME CHANGERS

UTERUS TRANSPLANTATION (UTX) AS A TREATMENT OF INFERTILITY AFTER CERVIX CANCER SURGERY AND OTHER CAUSES OF ABSOLUTE UTERINE-FACTOR INFERTILITY

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Aims

We examined UTx as a possible treatment for absolute uterine-factor infertility (AUFI), which is caused by surgical/congenital absence of the uterus or nonfunctioning uterus (adhesions/ malformations/myoma). One AUFI subgroup is those undergoing radical hysterectomy, because of cervical cancer. Our study represents the first clinical trial of human UTx, and included a case seven years after surgery for cervical cancer stage IIa.

Methods

Nine cases of live-donation UTx were included in prospective observational study. Recipients and partners were counseled about other options to gain parenthood (adoption/surrogacy). In vitro fertilization was performed prior to UTx to cryopreserve embryos for transfer 12 months after transplantation.

Results

Durations of donor and recipient surgery ranged from 10 to 13 and from 4 to 6 hours, respectively. No immediate perioperative complications occurred in recipients. Blood transfusion was not required during surgery.

Donor surgery involved isolation of the uterus with long vascular pedicles up to internal iliac vessels. Postoperative hospital stay was 6 days. One ureteo-vaginal fistula occurred.

After 12 months seven uteri remained viable with regular menses (cancer case included).

Mild rejection episodes occurred in four patients and were effectively reversed by corticosteroids.

Two graft losses were because of acute bilateral thrombotic uterine artery occlusions and persistent intrauterine infection.

At the time of writing recipients have been monitored for 12 months and for some of them the embryo transfer was performed with promising results.

Conclusion

The surgery of live donor UTx can be mastered, but a successful UTx will await until a live birth after transplantation has been reported.

IGCSM-1194
OPENING PLENARY: GAME CHANGERS

FISTULAE IN WOMEN TREATED WITH CHEMOTHERAPY WITH AND WITHOUT BEVACIZUMAB FOR PERSISTENT, RECURRENT OR METASTATIC CERVICAL CANCER IN GOG-240

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AimsGOG-240 demonstrated significant improvements in overall survival (OS) for patients treated with chemotherapy and bevacizumab. We report here the incidence and characteristics of fistulae of all grades which occurred in these patients.
MethodsOn GOG 240 patients were treated until progression or unacceptable toxicity with chemotherapy alone (CT) or chemotherapy plus bevacizumab (CT+BV). All CRFs, AdEERS (safety) reports and source data were medically reviewed. Fistula were characterized as gastrointestinal (GI)-vaginal if involving the vagina and any part of the GI tract, as genitourinary (GU)-vaginal if involving the vagina and urinary tract; and as GI if only involving the GI tract Risk factors for fistula formation and time to event were evaluated.
Results
Among the 218 patients who received CT+BV, 18 (8.2%) developed a GI-vaginal fistula, 4 (1.8%) developed a GU-vaginal fistula and 1 reported a GI fistula (0.5%). Among the 222 patients who received CT, 2 (0.9%) developed a GI-vaginal fistula and 3 (1.4%) reported GU-vaginal fistulae. None of the fistulae were associated with peritonitis, sepsis or death Among the patients who developed GI-vaginal fistulae, 100% had received prior pelvic radiation therapy compared to 80% in the overall population. Additional risk factors and patient characteristics, including local progression, are being evaluated.
Conclusion
Patients with cervical cancer treated with bevacizumab and chemotherapy may have an increased risk of developing GI-vaginal fistulae. Overall the improvement in survival supports a positive benefit risk balance for the addition of bevacizumab to chemotherapy in patients with persistent, recurrent or metastatic cervical cancer.

IGCSM-1287

POPULATION PREVALENCE OF UK ASHKENAZI BRCA-MUTATIONS, PERFORMANCE OF AND ESTIMATED TIME-TO, FAMILY-HISTORY BASED IDENTIFICATION OF ALL BRCA CARRIERS.

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Background/Aim :To report the prevalence of BRCA1/2 mutations in the UK Ashkenazi-Jewish (AJ) population and estimate performance and time taken to detect all carriers using a FH-based approach

Methods: FH and BRCA genetic-test results data from 1034 North-London AJ participants of the population-based GCaPPS study were analysed. FH-negative volunteers completed BRCA-testing after 3-year trial follow-up. AJ population/BRCA-carriers detected from 2000-2010 were documented through clinical genetics laboratories. BRCA prevalence, sensitivity, specificity, positive-likelihood-ratio (PLR), negative-likelihood-ratio(NLR) were calculated. FH-positive BRCA population, NHS detection rates and study BRCA prevalence estimates derived were used to calculate and simulate time to detect all FH-positive BRCA-carriers in the London AJ population. Impact of changes in NHS funding and BRCA prevalence were assessed by assuming correlation of ?=0.25,0.5,0.75.

Results: 30/1034 BRCA-carriers were identified, giving a BRCA1/2 prevalence=2.9%(CI:1.97,4.12): BRCA1=1.55%(CI:0.89,2.5); BRCA2=1.35%(CI:0.74,2.26). 18/30(60%) were FH-negative and not identified using clinical criteria. The prevalence of FH-positive/FH-negative carriers is 1.16%/1.74%. FH-based testing has a sensitivity=40%(CI:22.7,59.4%),

specificity=88.45%(CI:86.3,90.4%), PLR=3.46(CI1.95,5.34) and NLR=0.68(CI0.46,0.87). Of an estimated 3234 BRCA-carriers in London, only 312 (51%=predictive testing, 49%=new mutations) were detected from 2000-2010 using FH-based criteria. From 2006-2010, the BRCA detection rate=34.2/year with the pattern being randomly spread (Poisson-model goodness-of-fit test(p=0.439). Modelling NHS detection rates and BRCA prevalence estimated it would take 44.8 years(CI:21.02,66.76) to detect all FH-positive BRCA carriers in London.

Conclusion: Current FH-based approach does not identify 60% AJ BRCA-carriers and may take 44.8 years to identify the rest. An alternative population-based approach should be considered.

IGCSM-1332
OPENING PLENARY: GAME CHANGERS

EFFICACY OF A NOVEL 9-VALENT HPV VACCINE AGAINST HIGH-GRADE LESIONS AND CANCER IN 16- TO 26-YEAR-OLD WOMEN

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AIMS

The investigational 9-valent HPV (6/11/16/18/31/33/45/52/58) VLP vaccine (9vHPV) includes HPV 6/11/16/18 and 5 additional oncogenic types (HPV 31/33/45/52/58) for increased cervical cancer coverage. Here we present results of a 9vHPV vaccine study conducted in young women 16 to 26 years of age to demonstrate the vaccines efficacy against high-grade cervical (CIN), vulvar (VIN) and vaginal intraepithelial neoplasia (VaIN) and cancer.

METHODS

Data are presented from 14,204 healthy 16- to 26-year-old women enrolled into protocol 001, a randomized, double-blind, phase IIb/III study of the 9vHPV vaccine controlled with qHPV. Subjects received 9vHPV vaccine or qHPV at day 1, month 2 and month 6. Gynecological examinations were performed at regular intervals. Tissue obtained via biopsy/definitive therapy was tested for HPV types 6, 11, 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, and 59. Primary efficacy analyses took place in a per-protocol efficacy (PPE) population.

RESULTS

Efficacy against high-grade disease related to all vaccine HPV types in the PPE population was 96.7% (95% CI: 80.9, 99.8; 30 cases in the qHPV group and 1 in the 9vHPV group). Efficacy against CIN 2/3 or worse was 96.3% (95% CI: 79.5, 99.8; 27 cases in the qHPV group and 1 in the 9vHPV group) and efficacy against VIN or VaIN 2/3 or worse was 100% (95% CI: <0, 100; 3 cases in the qHPV group versus 0 in the 9vHPV group).

CONCLUSIONS

The 9vHPV vaccine was highly efficacious in preventing HPV 31/33/45/52/58-related high-grade disease.

Conflict of interest
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IGCSM-0215
OVARY

ENGOT-OV16/NOVA: A PHASE 3 RANDOMIZED DOUBLE-BLIND TRIAL OF MAINTENANCE WITH PARP-INHIBITOR NIRAPARIB VERSUS PLACEBO IN PATIENTS WITH PLATINUM-SENSITIVE OVARIAN CANCER.

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Aims
Niraparib is an oral PARP-1/2 inhibitor with efficacy in both germ line BRCA mutated (gBRCA) ovarian cancer (OvCa) and high-grade serous OvCa (HGSC) patients (pts) who are non-gBRCA. Phase 1 data established a RP2D of 300mg. At recommended dose, 75% platinum sensitive patients achieved RECIST response in phase 1.
Methods
ENGOT-OV16/NOVA study (n=360) is a double-blind, 2:1 randomized, placebo controlled phase III study of oral niraparib versus placebo in pts with platinum sensitive recurrent OvCa. Primary objective is to evaluate efficacy of niraparib as maintenance therapy assessed by prolongation of progression free survival (PFS). PFS will be independently evaluated in a cohort of gBRCA pts and in HGSC pts who are non-BRCA.

Secondary objectives: overall survival in each cohort; bridge the centralized BRCA mutation test method to the candidate companion diagnostic test; patient-reported outcomes; PFS2; chemotherapy-free interval; safety/tolerability; QTc in a subset of niraparib-treated OvCa pts. Study eligibility: histologically confirmed OvCa, HGSC histology or known gBRCA plat sensitive recurrence, at least 2 prior courses of plat-containing therapy with no/minimal radiological residual disease, normal CA125 or decrease by 90% after last plat. The study is powered to address PFS and OS in both cohorts (gBRCA and non-gBRCA). The trial is being conducted in 126 sites in collaboration with ENGOT - European Network of Gynaecological Oncological Trials Groups (NSGO Denmark-Norway-Sweden, AGO Austria, AGO Germany, BGOG Belgium, ISGO Israel, GEICO Spain, GINECO France, MaNGO Italy, MITO Italy, NCRI UK), US, Canada, Hungary and Poland. The pt. enrollment is according to the timelines. ClinicalTrial.gov Identifier: NCT01847274

Results

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Conclusion

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IGCSM-0384
OVARY

DNA DAMAGE SIGNALLING AND APOPTOSIS IN PREINVASIVE TUBAL LESIONS OF OVARIAN CARCINOMA

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Aims

A better understanding of the molecular basis of the preinvasive stages of high-grade serous ovarian cancer (HGSC) might be helpful in early detection and diagnosis.Genetic instability is one of the characteristics shared by most human cancers and its level is variable through precancerous lesions to advanced cancer. Sinse Since the DNA damage response (DDR) has been described as one of the first phases in genomic instability, we investigated the level of DDR activation and apoptosis pathways in serous tubal intraepithelial carcinoma (STIC), the potential precursor of HGSC.

Methods
A tissue microarray including 21 benign fallopian tubes, 21 STICs, 17 HGSC from patients with STICs (associated ovarian cancer AOC) from the same individuals and 30 HGSC without STICs (non-AOC) were used. Immunohistochemistry was performed to evaluate the level of DDR proteins (pATM, pChk2, H2AX, 53BP1 and TRF2), apoptosis proteins (Bcl2, BAX and BIM) and Cyclin E.
Results
The expression of all DDR proteins increased from benign fallopian tubes to STICs. The level of expression of pATM, pChk2, H2AX and TRF2 (p=0.012) was also increased in STICs in comparison with AOC. In addition, BAX , BIM and Cyclin E expressions were high in STICs and AOC whereas Bcl2 expression was low in STICs and AOC. Immunohistochemical profiles of AOC and non-AOC were also different.
Conclusion

These results suggest an activation of the DDR and apoptosis pathways in STICs and indicate that genomic instability may occur early in the precancerous lesions of HGSC.

IGCSM-0431
OVARY

FINAL EFFICACY AND SAFETY ANALYSIS OF ORAL VERSUS INTRAVENOUS TREOSULFAN IN RECURRENT OVARIAN CANCER: A RANDOMIZED PHASE III TRIAL

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Aims

The alkylating drug treosulfan is registered for the treatment of recurrent ovarian cancer in some European countries. Since two pharmaceutical forms of treosulfan are available, it is of patients' interest to collect clinical practice data for additional safety and efficacy. Main dose-limiting side effects are bone marrow and gastrointestinal toxicity.

Methods

This is an open, randomized (1:1), multicenter trial to evaluate safety and efficacy of oral treosulfan (PO) (600 mg/m^2 d1-28 q8w) versus intravenous (IV) (7000 mg/m^2 d1 q4w) until progression or intolerable toxicity. Patients (pts) with recurrent ovarian cancer, chemotherapeutically pre-treated, with at least one measurable lesion or enhanced tumor marker Ca125 (>125 U/ml) were enrolled.

Results

A total of 248 pts (n=128 PO, n=120 IV) with median age of 62.5 years (range 29.4-87.5; n>65y=109) were included. Disease control rate was 37.5% and 41.4% (PO/IV). The incidence of hematological grade 3/4 AEs was 23.3% and 12.5%, the incidence of gastrointestinal grade 3/4 AEs 17.5% and 18.0%. Median PFS was 3.3 and 3.6 months, median OS 10.4 and 13.3 months (p=ns), respectively. Median global QoL score varied slightly over time between baseline 50.0 (n=94)/50.0 (n=105) and highest value 66.7 (n=34)/58.3 (n=43) for oral versus IV (score range 0-100).

Conclusion

The alkylating agent treosulfan shows good activity as monotherapy against recurrent ovarian cancer, exhibiting only mild toxicities. Grade 3/4 hematological AEs for oral administration have to be considered. PO versus IV administration shows comparable safety and efficacy, therefore patients' preference may determine the choice of therapeutic regimen.

IGCSM-0749
OVARY

PARAGON (ANZGOG0903): PHASE 2 STUDY OF ANASTROZOLE IN WOMEN WITH ESTROGEN(ER) /PROGESTERONE (PR) POSITIVE PLATINUM RESISTANT/REFRACTORY RECURRENT OVARIAN CANCER (PRROC)

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Aims
The aim of PARAGON is to investigate the activity of anastrozole, in patients with ER/PR positive metastatic gynaecological cancers in a series of 7 individual phase 2 studies embedded in an 'umbrella' protocol. The **primary end-point** is clinical benefit (response and stable disease at 3 months). Secondary **endpoints** include time to progression, quality of life and toxicity. Hormonal therapy is well tolerated and an option when the objective of treatment is palliation and delaying time to progression. Multiple trials have reported a median PFS of 3 month and <10% response to chemotherapy in PRROC.
Methods
55 postmenopausal women with ER/PR positive PRROC in whom further chemotherapy was not indicated were enrolled. Patients received anastrozole until progression or unacceptable toxicity. Pre-defined stopping rules and oversight by an IDMSC allowed recruitment beyond 25 patients after interim analysis.
Results
52 patients were evaluable. The clinical benefit rate (CR/PR/SD) at 3 months was 29% (95% CI 18 - 42%). There were no objective responses. All patients had stable disease. Progression was based on RECIST/CA125.The median PFS was 2.7 months. 4 patients remain progression free on treatment. Treatment was well tolerated with all grade 3 or 4 toxicities related to progression.
Conclusion
A significant subset of patients with PRROC derive clinical benefit with anastrozole with acceptable toxicity. The PFS is similar to that reported with chemotherapy.
Acknowledgements This study was funded by a grant from Cancer Australia. Study drug was provided for Australian participants by AstraZeneca.

IGCSM-0913
OVARY

CORRELATION BETWEEN CA-125 AND CLINICAL DISEASE PROGRESSION IN PATIENTS WITH OVARIAN CANCER TREATED WITH BEVACIZUMAB: ANALYSES FROM 4 RANDOMIZED TRIALS

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Aims
To investigate the extent to which CA-125 levels correlate with clinical disease progression (PD) in 4 randomized trials of bevacizumab in ovarian cancer (OC).

Methods
Data from the frontline trials GOG-218 and BO17707 (ICON7) and the recurrent-setting trials AVF4095g (OCEANS) and MO22224 (AURELIA) were included. Analyses included time to PD by CA-125 per GCIG criteria and time from CA-125 PD to PD by RECIST. All studies collected CA-125 levels on a predefined schedule. Hazard ratios (HRs) from unstratified Cox regression models are reported.

Results
All 4 trials demonstrated significantly improved progression-free survival (PFS) by RECIST with bevacizumab (Table 1). In GOG 218 and ICON7, time to CA-125 PD did not reflect the improved PFS by RECIST previously seen with bevacizumab (Table 2). In OCEANS and AURELIA, CA-125 PD was consistent with PFS by RECIST, confirming the PFS benefit with bevacizumab seen in these studies (Table 3). In all 4 studies, time from CA-125 PD to RECIST PD was longer in the bevacizumab arms than in the non-bevacizumab arms.

Conclusion
Results indicate that concordance between CA-125 levels and tumor growth may be altered in OC patients treated with bevacizumab. The occurrence of CA-125 PD in bevacizumab-treated patients may not accurately reflect the occurrence of PD by RECIST.

IGCSM-0971
OVARY

BRCA1/2 MUTATIONS ASSOCIATED WITH PROGRESSION FREE SURVIVAL IN OVARIAN CANCER PATIENTS WHO RECEIVED PAZOPANIB OR PLACEBO IN THE AGO-OVAR16 STUDY

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Aims

AGO-OVAR16 demonstrated that pazopanib maintenance therapy significantly increased progression free survival (PFS) in patients with ovarian cancer who had not progressed after first line therapy. *BRCA1/2* mutations confer an increased risk of ovarian cancer and may be associated with improved PFS and overall survival (OS) after platinum chemotherapy. We evaluated the effect of clinically important germline *BRCA1/2* mutations on PFS and OS in OVAR16.

Methods
Of N=940, N=664 provided consent and had *BRCA1/2* exon sequencing data (N=335 pazopanib; N=329 placebo). A Cox model was used to test the association between *BRCA1/2* mutations with PFS and OS.
Results
97/664 (15%) patients carried clinically important *BRCA1/2* mutations (*BRCA1/2*+); proportions were balanced between pazopanib (14%) and placebo arms (16%). *BRCA1/2*+ patients had longer PFS than *BRCA1/2*- patients in both pazopanib [HR=0.64 (95% CI 0.40–1.03), P=0.069] and placebo arms [HR=0.48 (95% CI 0.29–0.78), P=0.0031]. PFS favouring pazopanib over placebo was seen in the *BRCA1/2*- subgroup [HR=0.77 (95% CI 0.62–0.97)]. Among *BRCA1/2*+ patients, there was no difference in PFS between pazopanib and placebo arms, although numbers were small (pazopanib N=46, placebo N=51) so the CI was wide [HR=1.36 (95% CI 0.66–2.82)]. Statistically significant genotype by treatment interaction effect was not detected (P=0.38).
Conclusion

Among women with ovarian cancer who have not progressed after first line therapy, *BRCA1/2* mutations were associated with improved PFS in patients receiving pazopanib or placebo. Genotype by treatment effect was not significant. PFS favoured pazopanib over placebo in the *BRCA1/2*- subgroup.

IGCSM-1128
OVARY

RANDOMIZED PHASE 2 EVALUATION OF BEVACIZUMAB VERSUS BEVACIZUMAB/FOSBRETABULIN IN RECURRENT OVARIAN, TUBAL OR PERITONEAL CARCINOMA: A GYNECOLOGIC ONCOLOGY GROUP STUDY

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Aims
The Vascular disrupting agent (VDA) fosbretabulin tromethamine selectively targets pre-existing tumor vasculature causing vascular shutdown leading to cell death and necrosis. Anti-angiogenesis agents like bevacizumab, a humanized anti-VEGF monoclonal antibody, might prevent revascularization after/during VDA treatment.
Methods
Patients with recurrent/persistent epithelial ovarian, tubal, or peritoneal carcinoma; measurable or detectable disease; and $\leq$ 3 prior regimens were randomized to bevacizumab (15 mg/kg IV q 3weeks) or bevacizumab (15 mg/kg) + fosbretabulin (60 mg/m^2) IV every 3 weeks until disease progression or toxicity. Randomization was stratified by disease status (measurable vs. non-measurable), prior bevacizumab, and platinum-free interval. The primary endpoint was progression-free survival (PFS). The study was designed with 80% power at a 10% level of significance to detect a hazard ratio (HR) reduction of 37.5%.
Results
The study enrolled 107 patients. Median PFS was 4.8 and 7.3 months for bevacizumab and bevacizumab+ fosbretabulin, respectively (HR = 0.685; 90% 2-sided CI=0.47

~1.00). The proportion responding to bevacizumab was 28.2% (90% CI 16.7 ~ 42.3%) among 39 patients with measurable disease and 35.7% (90% CI 23.5 ~ 49.5%) among 42 patients treated with the combination. Adverse events (> grade 2) were more common in the combination particularly hypertension (35% versus 16%). There was one grade 3 thromboembolic event with the combination. One intestinal perforation in the bevacizumab arm was observed.

Conclusion

Based on the PFS and tolerability of these two anti-vascular therapies, further evaluation is warranted for this chemotherapy-free regimen. Fosbretabulin in combination with bevacizumab may double the risk of hypertension.

IGCSM-1170
OVARY

METFORMIN PLUS SALVAGE PACLITAXEL AND CARBOPLATIN IN EPITHELIAL OVARIAN CANCER (EOC): A PROSPECTIVE, RANDOMIZED, DOUBLE BLIND, PLACEBO CONTROLLED STUDY

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Aims
We studied, if addition of metformin to paclitaxel and carboplatin (TC) improves progression-free survival (PFS) for women with ovarian cancer with platinum sensitive relapse.
Methods
Between January, 2012 and December 2013, 54 eligible patients (median age, 51 years) were randomized to receive either metformin 500mg daily or a placebo for 6 cycles with TC and subsequently as maintenance for 6 months. Plasma insulin and C-peptide levels were estimated at base line and 4 weeks after chemotherapy. Quality of life was assessed using EORTC QLQ-OV28. Median follow up is 13.4 months (range, 3.7 to 24 months).
ResultsResponse rates (CR+PR) were 77.8% (CR 57.6%) vs. 80.8% (CR 63%), p=.85 in the placebo (n=27) and metformin arm (n=27), respectively. Median PFS was higher in metformin arm, 11 months (3 to 23) compared to 8.6 (2 to 20) months in the placebo arm, p=.11. Median overall survival is not yet reached. Post treatment plasma insulin and C-peptide levels were significantly reduced in the metformin arm, p<.004 and p<.01, respectively. Patients with reduced plasma insulin levels had better PFS; 11 vs. 8.3 months, p<.05. Patients in metformin arm had higher grade 3-4 thrombocytopenia (p<0.01) and macrocytic anemia (p<.04). Overall, QOL scores were similar in two arms.

ConclusionMetformin could be considered as add on during and as maintenance for 6 months after salvage chemotherapy for ovarian cancer. Reduction in plasma insulin levels correlated with improved PFS. (Funded by the Indian Council of Medical Research (ICMR); Clinical Trial Registry, India no CTRI/2012/03/002483).

IGCSM-1185
OVARY

QUALITY OF LIFE AND NUTRITIONAL STATUS AFTER EARLY ENTERAL FEEDING VERSUS STANDARD CARE AFTER SURGERY FOR ADVANCED EPITHELIAL OVARIAN CANCER

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Aims
This study investigated whether early enteral feeding could improve the post-operative nutritional status in malnourished surgical patients with advanced Epithelial Ovarian Cancer (EOC) (including primary peritoneal cancer or fallopian tube cancer).
Methods
Between 2009 and 2013, 109 malnourished patients were enrolled in a phase III, open label, multi-centre randomised clinical trial. Inclusion criteria: females 18 years or older, able to consent, planned upfront or interval cytoreductive surgery for suspected advanced EOC, fit for surgery. Randomisation was performed centrally after stratification by treatment site and mode (upfront surgery vs. neoadjuvant chemotherapy) to intervention (n=56) or control (n=53) group. Intervention consisted of intraoperative placement of a nasojejunal feeding tube and enteral feeding until the participant was able to maintain an adequate oral intake, control group received postoperative diet as tolerated. Nutritional status and quality of life (QoL) were measured at baseline, 6 weeks post-operatively and post-chemotherapy. Primary outcome: change in QoL from baseline. Secondary outcomes: nutritional status, treatment-related adverse events, length of stay, services use.
ResultsBaseline characteristics were comparable between groups. No significant differences were found between groups in QoL change from baseline, adverse event occurrence, pain score or services use at any follow-up time points. Nutritional status was significantly better in the intervention compared with control group, measured by PG-SGA score at 7 days post-surgery on an intention-to-treat basis (11.8 vs 13.8, p 0.04).
Conclusion
Early enteral feeding did not significantly improve patients Qol, but shows promise for improving post-operative nutritional status in patients with advanced EOC requiring cytoreductive surgery.

IGCSM-0003
Poster Shift I - Ovarian Cancer

SERIAL CA125 CAN DETECT OVARIAN CANCER IN THE ABSENCE OF ULTRASOUND ABNORMALITIES

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Background: Cancer screening strategies have commonly adopted single threshold rules to interpret biomarkers. We report on use of a risk algorithm based on serial measurements for ovarian screening in UKCTOCS.

Methods:46,230 postmenopausal women underwent incidence screening in the multimodal arm using annual serum CA125 interpreted with the 'Risk of Ovarian Cancer Algorithm'(ROCA). Women at normal risk were returned to annual screening,

intermediate risk had repeat CA125 and elevated risk repeat CA125 and transvaginal ultrasound. Risk was recalculated following each repeat CA125. Women with persistently increased risk were clinically evaluated. All participants were followed through national cancer/death registries. Performance characteristics of single threshold rule and ROCA were compared using receiver operator curves.

Conclusions: During the initial189,056 annual incidence screens, 369 women underwent surgery. Eighty had primary invasive epithelial ovarian cancer(iEOCs) - 82.5% Type II, 42.5% Stage I/II. Half(40/80) had serum CA125 below the standard cut-off(35U/mL) at last annual screen. Despite significantly($p<0.0001$) longer intervals from screen to surgery (median 31versus 12 weeks), 52.5% of the latter had Stage I/II cancers compared to 32.5% of those with CA125>35U/mL ($p=0•07$). Twelve interval iEOCs were reported within one year of screening. The sensitivity and specificity of multimodal screening were 87•0%(95%CI:78•3-93•1%) and 99.8%(95%CI:99.8-99.8%) respectively, with 4•6 operations/iEOC. ROCA(0.916) had significantly($p=0.0004$) larger area-under-curve compared to single threshold rule(0.852).

IGCSM-0014
Poster Shift I - Ovarian Cancer

TIMING CHOICE FOR THE SURGERY IN PATIENTS WITH THE MIDDLE-LATE STAGE OF OVARIAN CANCER

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Aims

To explore the operation time for comprehensive treatment of the middle-late stage of ovarian cancer (OC) patients.

Methods

A retrospective analysis of 110 patients with the middle-late stage of OC was performed and these included 69 patients with primary cytoreductive surgery (the first group including type I OC: 41 and type II:28) and 41 patients (the second group including type I OC: 15; type II OC: 26) with difficulty to achieve satisfactory cytoreductive effect for the initial operation (residual tumor <1cm), or with poor general condition to tolerate a larger operation. The second group of OC patients should go ahead for 3-4 cycles of the neoadjuvant chemotherapy (TP regimen), and then be administered the intermediate cytoreductive surgery after the comprehensive evaluation of CT/MRI.

Results

The average amount of bleeding during operation of the patients in the second group (155.4 ± 98.6 ml) was significantly lower than that in the first group (311.3 ± 121.5 ml) ($P<0.05$). The average operation time of the patients in the second group (153.8 ± 32.4h) was significantly lower than that in the first group (269.5 ± 46.1h) ($P<0.05$). Furthermore, the proportion of satisfactory cytoreductive effect in patients with type I OC was markedly higher than those in type II OC in the first and second groups ($P<0.05$).

Conclusion

Neoadjuvant chemotherapy plays an important role in the operation of patients with the middle-late stage of OC and choosing the optimal timing of surgery before operation is critically important in achieving the satisfactory cytoreductive effect.

IGCSM-0015
Poster Shift I - Ovarian Cancer

STEROID CELL TUMOR OF THE OVARY IN A PREGNANT WOMAN, A CASE REPORT

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Aims

Ovarian steroid cell tumors are very rare sex-cord stromal tumors comprising less than 0,1% of all ovarian tumors. As the most of these tumors are diagnosed at an early stage and do not recur or metastasize, little is known about their response to therapies such as chemotherapy or radiation.

Methods

A 24-year-old primigravida was referred to our hospital at 39 weeks of gestation with a solid, homogenous tumor in the right adnexa (8x8x6 cm). She had noticed excessive hair growth in her face, legs, back and chest and acne formation in her face, chin and chest from the beginning of the pregnancy. Her voice was deepened and slight enlargement of her clitoris was noted (11 mm length).

Results

She had cesarean section at 39 weeks of gestation for the purpose of simultaneous exploratory laparatomy. Cystectomy was performed for the right ovary. Histologic and immunohystochemistry findings were consistent with ovarian steroid cell tumor, not otherwise specified. The patients had a second laparatomy for staging procedure because the tumor had necrosis and showed 4-5 mitotic figures per 10 HPF, two months after the initial surgery.

Conclusion

Steroid cell tumor of the ovary was first described by Scully in 1979. Virilisation is the most common symptom in steroid cell tumors NOS, occurring in 56-77% of all patients. We found a total of 122 reported ovarian steroid cell tumor cases in PubMed search, but there is only one case diagnosed during pregnancy and our case is the only malignant one.

IGCSM-0016
Poster Shift I - Ovarian Cancer

PERSISTENT ASCITES DUE TO SCLEROSING ENCAPSULATING PERITONITIS MIMICKING OVARIAN CARCINOMA; A CASE REPORT

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Aims

Sclerosing encapsulating peritonitis that commonly known as *Cocoon Syndrome* is a rare cause of bowel obstruction, abdominal pain and persistent ascites due to thick homogenous fibrotic mantle covering the intra-peritoneal organs. Furthermore, altered peritoneal fluid dynamics result in persistent ascites. The condition might be congenital or acquired. Genetic factors, retrograde or trans-tubal flow of causative agents and peritoneal infections have role in pathogenesis. Bowel obstruction, abdominal mass, ascites and abdominal pain are most common clinical presentations of *Cocoon Syndrome*.

Methods

We present a case with suspected ovarian malignancy due to large abdominal mass and ascites on preoperative evaluations but diagnosed as *Cocoon Syndrome* at surgery.

Results

36 years old G1P1 lady was admitted to our clinic due to pelvic pain. On ultrasonography she had a large cystic mass with solid structures filling the abdominopelvic cavity and undifferentiated from the left adnexa with ascites surrounding the bladder and in between the bowel loops. Tumor markers were normal. Patient was prepared for laparotomy with the probability of ovarian carcinoma.

During operation 2500 ml clear ascites was removed and thick fibrotic tissue encapsulating the liver, stomach, spleen and intestines was observed with accompanying 8 cm benign natured serous left ovarian cyst. The diagnosis of Cocoon Syndrome was made upon visual findings and operation was terminated after left ovarian cystectomy.

Conclusion

Patients that are suspicious for ovarian malignancies with pelvic discomfort, ascites and adnexal mass must be kept in mind for differential diagnosis of Cocoon Syndrome especially in the presence of negative tumor markers.

IGCSM-0029
Poster Shift I - Ovarian Cancer

DOES NEOADJUVANT CHEMOTHERAPY IMPACT PROGNOSIS IN ADVANCE EPITHELIAL OVARIAN CANCER OPTIMALLY DEBULKED AT SURGERY ?

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Aims

Neoadjuvant chemotherapy has been shown to be non inferior to primary surgery in stage 3/4 epithelial ovarian cancer with initial heavy disease burden. We studied the impact of the neoadjuvant approach on survival outcomes in good prognostic patients with optimal residuals (< 1cm) after surgical debulking.

Methods

All stage 3/4 epithelial ovarian cancer patients were retrospectively reviewed from 2007-9. Patients' demographics, disease related variables and survival outcome data were abstracted. Cox regression model was built to predict patients' overall survival (OS) adjusting for age, tumour grade, histology, use of adjuvant intraperitoneal chemotherapy, residual status, and primary treatment modality.

Results

101 patients were reviewed. Most patients (97%) had ECOG performance status of 1 or less. Neoadjuvant chemotherapy was applied in 34 patients. There was no statistical association between primary treatment modality and microscopic residuals status. Serous histology was seen in 60/101 patients (59%) with 88/101 patients (87%) having grade 2 or 3 tumor. With a median follow up time of 33 months, progression was observed in 53% of patients . With respect to progression free survival, only advancing age approached statistical significant (HR 0.96 95%CI 0.92-1.00, p=0.08). In the overall survival Cox model, the use of neoadjuvant chemotherapy was an independent adverse prognostic factor (HR 5.79 95%CI 2.15-15.55, p=0.001) . In addition, macroscopic residuals was an adverse prognostic factor compared to microscopic residual disease (HR 10.76 95%CI 2.98-38.89, p<0.001).

Conclusion

Primary surgery should be the preferred approach in patients with initial high likelihood of being optimally cytoreduced

IGCSM-0030
Poster Shift I - Ovarian Cancer

IMPACT OF NEOADJUVANT CHEMOTHERAPY ON SURVIVAL IN ADVANCE EPITHELIAL OVARIAN CANCER SUBOPTIMALLY DEBULKED AT INTERVAL SURGERY

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Aims

Neoadjuvant chemotherapy has been shown to be non inferior to primary surgery in stage 3/4 epithelial ovarian cancer with initial heavy disease burden. Concerns regarding emergence of chemo resistance had been raised during the neoadjuvant phase We studied the impact of the neoadjuvant approach on survival outcomes in patients with suboptimal residual disease (>1cm) after surgical debulking.

Methods

All stage 3/4 epithelial ovarian cancer patients were retrospectively reviewed from 2007-9 at our center. Patients' demographics, disease related variables and survival outcome data were abstracted. Cox regression model was built to predict patients' progression free (PFS) and overall survival (OS) adjusting for age, tumour grade (3 vs 1/2), histology (serous vs non serous), and primary treatment approach (primary surgery vs neoadjuvant chemotherapy/interval debulking).

Results

62 patients were reviewed. Most patients (95%) had ECOG performance status of 1 or less. Neoadjuvant chemotherapy was applied in 29/62 patients. Serous histology was seen in 45/62 patients (73%) with 57/62 patients (92%) diagnosed with grade 3 tumours. With a median follow up time of 27 months, progression was observed in 87% of patients . Median PFS was13.3 months. 27/62 patients (44%) have died from disease. In the Cox model examining PFS, only grade 3 was a statistically significant predictor (HR 4.38 95%CI 1.28-15.1, p=0.02). Use of neoadjuvant chemotherapy was not predictive of neither PFS nor OS in our cohort.

Conclusion

In patients left with suboptimal residual disease after surgical debulking, use of neoadjuvant chemotherapy did not seem to worsen their survival.

IGCSM-0047
Poster Shift I - Ovarian Cancer

IS APPENDECTOMY NECESSARY IN THE MANAGEMENT OF EPITHELIAL OVARIAN CARCINOMA STAGING?

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Aims
Epithelial ovarian cancer is surgically staged according to FIGO staging. Exploratory laparotomy, ascites sampling/ peritoneal washing, multiple peritoneal biopsies, omentectomy, extrafascial hysterectomy and bilateral salpingo-oophorectomy with pelvic and paraaortic lymph node dissection are defined as the standard staging procedure for epithelial ovarian cancer. Appendectomy can be performed during staging. However it is not clear that it is mandatory for staging process, except mucinous ovarian cancer, especially for early stage carcinomas.
Methods
We evaluated 309 patients who underwent surgery with the diagnosis of epithelial ovarian cancer retrospectively from the hospital records. Age, stage, grade, histological subtype and appendiceal involvement (if it is performed) is noted.
Results
Out of 309 patients 86 of them was diagnosed as early stage (stage I-II) , 223 of them was diagnosed as advanced stage (stage III-IV). Appendectomy was performed to 198 out of 309 patients. 48 of them are positive for serosal appendiceal involvement. All the patients with appendiceal metastases had already had aditional extrapelvic disease (stages III–IV) peroperatively. No intraoperative or postoperative complication was detected directly related with appendectomy
Conclusion

No upstaging is detected due to appendiceal involvement in patients that were evaluated as early stage disease peroperatively. Appendectomy at the time of surgery for apparent early-stage ovarian cancer is not associated with complications but should not be routinely recommended.

IGCSM-0052
Poster Shift I - Ovarian Cancer

RISK-REDUCING SALPINGECTOMY AT THE TIME OF BENIGN GYNECOLOGIC SURGERY: A SURVEY OF ACOG MEMBERS IN NEW YORK STATE.

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Aims
To determine if Ob/Gyns in New York state would offer risk reducing salpingectomy (RRS) at the time of benign gynecologic surgery.

Methods

An anonymous survey was administered to Ob/Gyn physicians at the 2013 NY regional meeting. The survey assessed provider practice to offer RRS before and after reading the intervention -- the clinical position by the Society of Gynecologic Oncology of Canada entitled 'Salpingectomy and Ovarian Cancer Prevention.' Chi-square and logistic regression tests were used for statistical evaluation.

Results
Of the 90 physicians who completed the survey, median age was 52 years and 91% practiced general Ob/Gyn. Annually, they performed a median of 10 hysterectomies and 11 surgical sterilizations (SS). More physicians were willing to offer RRS at the time of hysterectomy than at the time of permanent sterilization (54% vs. 14%, $p < 0.05$). After the intervention, 27% more physicians reported they would offer RRS with benign hysterectomy ($p<0.01$) and 42% more with SS (p=NS). On univariate analysis, offering RRS at the time of hysterectomy was associated with prior knowledge of RRS theory ($p = 0.04$), surgeon age ($p<0.05$), and academic practice setting (community, $p<0.5$). Willingness to perform RRS at time of SS was associated with the volume of annual SS cases ($p<0.05$). On multivariate analysis, the only factor associated with offering RRS was the number of years in practice, 1.6 (95% CI 1.01-1.53, $p<0.05$).

Conclusion
Our data suggest that Ob/Gyns would offer RRS at the time of benign hysterectomy in those women who elect ovarian conservation.

IGCSM-0053
Poster Shift I - Ovarian Cancer

THE VALUE OF SERUM CA125 FOR MONITORING THE RECURRENCE OF EPITHELIAL OVARIAN CARCINOMA

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Aims

Summary and Analysis of patients with epithelial ovarian carcinoma clinical follow-up value of serum CA125 and CA125 values ??in postmenopausal women of normal body examination to explore the value CA125 monitoring the recurrence of epithelial ovarian carcinoma.

Methods

The subjects of this investigation are 252 patients treated from January 2005 to December 2012 by the first group of gynecologic oncology, consisting of 212 non-recurrent and 40 recurrent cases, who underwent satisfactory cytoreductive surgery (residual tumor lesions ≤1cm). As well as 2011 cases of menopausal women and 513 cases of postoperative patients of gynecological malignant tumor. Cut-off values of 5, 10, 15, 20, 25, 30, and 35 U/ml were used to compare sensitivity, specificity, and positive and negative predictive values.

Results

The median value of CA_{125} for non-recurrent patients is 7.1 U/ml; for menopausal women, 7.9 U/ml; and for postoperative patients of gynecological malignant tumor, 8.2 U/ml, whereas the X±S is 7.2±2.1 U/ml, 8.2±1.9 U/ml, and 7.8±2.7 U/ml, respectively. A specificity of 84.2% and a sensitivity of 100% were observed when 35 U/ml was used as the cut-off value. The cut-off value of 10 U/ml produced the following results: 73.5% sensitivity, 100% specificity, 89.5% positive predictive value, and 100% negative predictive value.

Conclusion

A CA_{125} value between 10–35 U/ml indicates a relative risk of recurrence for postoperative patients. When 10 U/ml was used as the cut-off value combined with image examination, the sensitivity increased. This result may improve the prognosis for recurrent patients because of the early detection of recurrent lesions and early retreatment.

IGCSM-0056
Poster Shift I - Ovarian Cancer

PROGRESSION OF SEROUS OVARIAN TUMOR OF LOW MALIGNANT POTENTIAL TO INVASIVE SEROUS CARCINOMA, A CASE REPORT

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Aims

Serous borderline ovarian tumors (SBOTs) represent group of tumors with cellular atypia and absent stromal invasion. Many studies support that SBOTs share similar molecular and genetic alterations with low-grade serous carcinomas, while high-grade serous carcinomas have a distinct pathway to carcinogenesis

Methods

Here we present a 55-year-old woman who underwent exploratory laparotomy and maximal debulking for SBOT. First recurrence was SBOT while second recurrence was low-grade invasive serous carcinoma. We will discuss the pathway from benign cyst-adenomas through serous carcinomas, management strategies and follow-up options

Results

The most important prognostic factors are “invasive peritoneal implants”, peritoneal residual disease, micropapillary pattern and stromal microinvasion. Recent molecular studies showed that molecular alterations detected in SBOTs were also present in low-grade serous carcinomas. In this manner, ovarian low-grade serous carcinomas are thought to evolve in a step-wise fashion from benign serous cystadenoma to SBOT and finally low-grade invasive serous carcinoma

Conclusion

Close and long-term follow-up is mandatory after surgical treatment of SBOTs, because they can recur as invasive low-grade serous carcinomas during the follow-up period and the estimated risk is 1–2% without major difference between serous and mucinous histology

IGCSM-0071
Poster Shift I - Ovarian Cancer

THE SUPPRESSION OF MULTI-DRUG RESISTANCE IN THE SECONDARY DRUG RESISTANCE CELL LINE OF OVARIAN CANCER

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Aims

Resistant, recurrent ovarian cancer patients who had first chemotherapy with cisplatin have showed low reactivity and high recurrence in the secondary chemotherapy. Therefore, multi-drug resistance(MDR) to chemotherapy is a major obstacle in attempts to improve the clinical outcome of ovarian cancer patients. The aim of our study is to analyze the sensitivity of some chemotherapy drugs when we co-use Cyclosporine A (CsA), which suppresses MDR, in the secondary drug resistant cell line.

Methods

After establishing the secondary drug resistant cell line, drug sensitivity was measured by MTT assay. MDR1 was analyzed by RT-PCR and western blotting assay.

Results

MDR gene(MDR1) and protein(P-gp) were overexpressed in the secondary drug resistant cell line. When we analysed the sensitivity of some chemotherapy drug after using the amounts of CsA that can suppress MDR1/P-gp, the sensitivity of paclitaxel was highest.

Conclusion

CsA has a role that makes the sensitivity of chemotherapy drug higher in the secondary drug resistant cell line by suppression of multi-drug resistance. Therefore, we could expect that the proper use of MDR suppresser like CsA with secondary chemotherapy drug would help to cure resistant, recurrent ovarian cancer patients.

IGCSM-0081
Poster Shift I - Ovarian Cancer

DECREASED ARID1A EXPRESSION IS CORRELATED WITH CHEMO-RESISTANCE IN EPITHELIAL OVARIAN CANCER

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Aims

Loss of ARID1A is related with oncogenic transformation of ovarian clear cell adenocarcinoma. The present study was conducted in epithelial ovarian cancer of all tissue types to investigate whether an increased or decreased expression level of ARID1A can be a prognostic factor for ovarian cancer or can influence the sensitivity to anticancer drugs.

Methods

The expression level of ARID1A was investigated in 111 patients with epithelial ovarian cancer who received initial treatment at the Hirosaki University Hospital between 2006 and 2011. The expression level of ARID1A was immunohistochemically graded using staining scores, which were calculated by multiplying the staining intensity of the nuclei by the stain-positive area.

Results

The level of ARID1A was significantly lower in clear cell adenocarcinoma than in other histological types. Among the patients with stage III/IV cancer (n=46), the level of ARID1A was significantly lower (P=0.026) in patients who did not achieve complete response (CR) (n=12) than in patients who achieved CR (n=34). The level of ARID1A was relatively lower (P=0.07) in patients who relapsed after achieving CR (n=21) than in patients who did not relapse (n=13). When the staining score of 0 was defined as ARID1A-negative and other staining scores were defined as ARID1A-positive, there was significant difference in progression-free survival between ARID1A-negative (n=11) and ARID1A-positive (n=35) patients in stage III/IV disease.

Conclusion

The result suggests that decreased ARID1A expression is correlated with chemo-resistance and may be a predictive factor for the risk of relapse of advanced cancer after achieving CR.

IGCSM-0087
Poster Shift I - Ovarian Cancer

PREOPERATIVE THROMBOCYTOSIS IS AN INDEPENDENT POOR PROGNOSTIC FACTOR IN PATIENTS WITH OVARIAN CANCER

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Aims
Platelets may promote cancer progression through diverse mechanisms, including protection of cancer cells from immune surveillance, cancer-cell arrest in the microvasculture, and stimulation of angiogenesis. We investigated whether platele counts were related to clinical outcome in epithelial ovarian cancer(EOC).
Methods
Clinical data on 377 patients with EOC diagnosed in CHA Bundang medical center from January 2000 to June 2013 were retrospectively analyzed.
Thrombocytosis was defined as a platelet count of more than 450, 000/mm^3.
Results

Patients with stage III/IV ovarian cancer correlated with higher median platelet counts than those with stage I/II disease(281,000/mm^3 vs. 263,000/mm^3, P=0.002). Twenty eight (7.5%) of 377 patients had thrombocytosis at the time of initial diagnosis of EOC. Patients with thrombocytosis were significantly more likely to have advanced stage disease (OR=3.288, P=0.008) and higher preoperative levels of median cancer antigen (CA) 125 than those with normal platelet counts (28.15 ng/ml vs.221.7 ng/ml, P<0.001). Patients with thrombocytosis had a significantly shorter median time to progression free survival (PFS) and overall survival (OS) than those with normal platelet counts, respectively (median PFS 78.4 months vs. 20.9 months, P=0.002 and median OS not reached vs. 64 months, P=0.001). In multivariate analysis the presence of thrombocytosis, advanced stage, and suboptimal cytoreduction were significantly associated with decreased OS.

Conclusion
Preoperative thrombocytosis is linked closely poor clinical outcomes in patients with EOC.

IGCSM-0089
Poster Shift I - Ovarian Cancer

MUCINOUS AND NON-MUCINOUS EPITHELIAL OVARIAN CARCINOMA IN A MALAYSIAN COHORT: A COMPARATIVE STUDY

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AimsEpithelial ovarian tumors are divided into mucinous, serous, endometrioid, and clear cell subtypes. There has long been a concept about ovarian cancer being a heterogenous disease in which each subtype differs in terms of natural history, risk factors, molecular events in oncogenesis, disease development and prognosis. Recent molecular and genetic studies demonstrate differences between mucinous and serous epithelial ovarian carcinomas, thus supporting the concept that these tumours develop along separate pathways.

MethodsThis is a retrospective study based on 103 women who were diagnosed with specific histological subtypes of epithelial ovarian cancer over a period of 7 years from year 2006 to 2012. Women with histological subtypes of serous, mucinous and endometrioid were included and subsequently sub-classified as mucinous and non-mucinous. These two groups were then compared in terms of patients' demographic, staging, tumour grade and behaviour, residual disease after primary cytoreductive surgery, tumour marker level and disease progression.

ResultsThose with mucinous carcinomas were more likely to be from the younger age group (≤ 40 years) (OR=13.1; $p < 0.001$). They were mostly presented with early stage disease (OR=6.61; $p < 0.001$) and found to be much more likely of being borderline in nature (OR=67.2; $p < 0.001$). Disease progression and tumour recurrence were significantly less (OR=4.83; $p=0.016$) with a much lower median pre-treatment CA-125 level ($p=0.002$).

ConclusionMucinous tumours were associated with younger age, earlier stage at diagnosis, borderline in nature, less tumour recurrence and lower pre-treatment CA-125 level as compared to the non-mucinous tumours.

IGCSM-0106
Poster Shift I - Ovarian Cancer

PROGNOSIS OF ADVANCED-STAGE PRIMARY FALLOPIAN TUBE CARCINOMA: A RETROSPECTIVE COHORT STUDY

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Aims

To study the prognosis of patients with advanced-stage serous fallopian tube carcinoma compared with that of patients with serous ovarian carcinoma and primary peritoneal serous carcinoma.

Methods

Patients with stage IIIC/IV serous tumor of primary fallopian tube cancer (PFTC), ovarian carcinoma (OC) and primary peritoneal serous carcinoma (PPSC) were identified in a single institution. All patients were surgically staged and treated with platinum based chemotherapy if chemotherapy was given. PFS and OS were then compared with Kaplan-Meier analysis. Discrete variables were compared using Chi-square and Fisher's exact tests. Continuous variable were tested using the Student's *t*-test or Mann-Whitney test where appropriate.

Results

Lower proportion of high grade (46.2% vs. 78.9% vs. 100% ; $p<0.001$) and lower range of CA-125 ($p<0.001$) in patients of PFTC. Median follow-up duration was 22.4, 88.0 and 33.0 months in PFTC, OC and PPSC groups. Five-year overall survival for the PFTC, OC and PPSC was 25.6%, 69.4.% and 35.4%, respectively ($p<0.001$). Five-year progression free survival curves were also generated. Patient with PFTC has a 41.8% PFS as compared to 65.1% for OC patients and 30.5% for PPSC patients ($p=0.004$).

Conclusion

Advanced-stage PFTC have poor survival outcome compared to OC and PPSC patients, even if PFTC have favor histolopathological factors. Thus, treatment of PFTC should be aggressive that of OC.

IGCSM-0109
Poster Shift I - Ovarian Cancer

COMPARISON OF QUALITY OF LIFE AFTER SECONDARY CYTOREDUCTIVE SURGERY (SCS) ± HIPEC IN RECURRENT OVARIAN CANCER

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Aims
This is the first prospective, longitudinal evaluation of QoL in patients with platinum-sensitive recurrent ovarian cancer receiving SCS±HIPEC.
Methods

Between September 2012 and September 2013, 34 patients underwent complete SCS, and were randomly assigned to cisplatin-based HIPEC or observation (NCT01539785), followed by 6 cycles of carboplatin-paclitaxel. The EORTC questionnaires QLQ-C30, and QLQ-OV28 were administered before surgery, 7 days, 3 and 6 months after SCS±HIPEC. ANOVA for repeated measures, and Between-Subject test were used to analyze QoL scales/items modifications over-time, and their association with independent variables. Ten-point differences were considered clinically relevant.

Results

Eighteen (52.9%) women received SCS+HIPEC, and 16 (47.1%) SCS alone. No differences were observed in clinical, surgical, histological variables, and QoL baseline values between the two groups. After surgery, Global Health worsened in both groups, reaching a clinical relevant difference in favor of HIPEC patients. Fatigue, Financial difficulties, and Attitude to disease/treatment showed an overall worsening, with a significant difference in favor of SCS-alone regarding Fatigue, and in favor of SCS+HIPEC regarding Attitude to disease/treatment, and Financial difficulties. Overall, Physical, Role, Emotional, Social, and Global Health Status functioning, Pain, and Abdominal/GI symptoms significantly improved from baseline to 6-month evaluation. In multivariate analysis, only lower educational level, and unemployment status were associated with poorer recovery of QoL levels over-time.

Conclusion
SCS ensures an overall improvement of several functioning and symptoms scales. HIPEC administration does not worsen QoL compared to SCS alone, providing a benefit in term of women's perception of their own cancer care.

IGCSM-0110
Poster Shift I - Ovarian Cancer

IMP3 SIGNATURES OF FALLOPIAN TUBE: A RISK FOR PELVIC SEROUS CANCERS

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Aims

Recent advances suggest fallopian tube as the main cellular source for women's pelvic serous carcinoma (PSC). IMP3 is an oncofetal protein which has recently observed to be overexpressed in those benign-looking tubal epithelia. We aim to examine if alteration of IMP3 shows difference in age and to determine if it serves as a risk factor for the development of PSC.

Methods

Fallopian tubes from three groups (benign, high-risk, and PSC) of patients with matched ages were studied. The age data was stratified into 10-year intervals ranging from age 20 to older than 80. The number of IMP3 signatures from both tubal fimbria and ampulla segments was measured. The data was analyzed by standard contingency table and Poisson distribution methods after age adjustment. IMP3 overexpression was also examined in serous tubal intraepithelial carcinoma and PSC.

Results

The positive IMP3-stained cells are mainly tubal secretory cells. The absolute number of tubal IMP3 signatures increased significantly within each age group. Age remained a significant risk factor for serous neoplasia after age adjustment. IMP3 signatures was more frequent in the patients of both high-risk and PSC groups. Presence of IMP3 signatures in tubal mucosa was significantly associated with tubal or pelvic serous carcinogenesis ($p < 0.001$).

Conclusion

The findings suggest that tubal secretory cells with IMP3 signatures showing growth advantage could potentially serve as a latent precancer biomarker for tubal or pelvic serous carcinomas in women.

IGCSM-0111
Poster Shift I - Ovarian Cancer

POSITIVE PERITONEAL CYTOLOGY AT THE TIME OF INTERVAL DEBULKING SURGERY IS HIGHLY PREDICTIVE OF PROGNOSIS IN ADVANCED-STAGE OVARIAN CANCER

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Aims
Interval debulking surgery (IDS) following neoadjuvant chemotherapy (NAC) is a treatment option in advanced-stage ovarian cancer. This study evaluates the significance of positive peritoneal cytology at the time of IDS for ovarian cancer.
Methods
131 patients with FIGO stage IIIc and IV ovarian, fallopian tube, or peritoneal cancer who were treated with NAC followed by IDS at our institution between 2005 and 2009 were retrospectively reviewed. Patient-, disease-, and surgery-related data were collected from the patients' medical records.
Results
Of 131 patients, 44% were ≥60 years old, 67% were in stage IIIc, 83% with ovarian cancer, and 86% with serous adenocarcinoma. Positive cytology was present in 46%. The tumor complete resection rate in the positive cytology group was significantly lower than that of the negative cytology group (52% vs. 83%, $P = 0.0004$). In addition, the median progression-free survival was 13.2 months for positive cytology vs. 22.4 months for negative ($P < 0.001$), and overall survival 35.3 months vs. 63.6 months ($P = 0.001$).
Conclusion
In advanced ovarian cancer, the result of peritoneal cytology at the time of IDS predicts the degree of tumor resection and is a relevant prognostic factor. Obtaining peritoneal cytology in advanced-stage ovarian cancer at the time of IDS is critical.

IGCSM-0112
Poster Shift I - Ovarian Cancer

THE CYTOLOGICAL ANALYSIS FROM ENDOMETRIUM IS USEFUL FOR EARLY DETECTION OF PELVIC SEROUS CARCINOMA ASSOCIATED WITH TUBAL INTRAEPITHELIAL CARCINOMA

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Aims

The purpose of this study was to evaluate the usefulness of endometrial cytological analysis for early detection of pelvic serous carcinoma associated with tubal intraepithelial carcinoma (TIC).

Methods

We compared the frequency of positive endometrial cytology between the cases with TIC and without TIC of serous ovarian, tubal and peritoneal cancer patients who underwent salpingo-oophorectomy was performed in the department of Obstetrics and Gynecology at Osaka Police Hospital from 2007 to 2013. And we evaluated the prognosis of early stage of pelvic serous adenocarcinoma that were made a diagnosis based on TIC and ascites positive.

Results

Nine cases had TIC, and among them 7 cases was performed endometrial cytological analysis. Five of 7 cases (71.4%) with TIC indicated the existence of adenocarcinoma in endometrial cytology and 7 of 19 cases (36.8%) without TIC. One the other hand, one of 9 cases (11.1%) indicated the existence of adenocarcinoma in endometrial cytology among serous ovarian cancer that did not have TIC in fallopian tube. And there were 3 cases of early stage of pelvic serous adenocarcinoma, two cases were disease-free survival (48 month and 18 month), and one case relapsed in 36 month and died of 96 month after the first operation.

Conclusion

Endometrial cytological analysis may be useful for early detection of pelvic serous carcinoma associated with tubal intraepithelial carcinoma.

IGCSM-0113
Poster Shift I - Ovarian Cancer

ROBOTIC SURGERY FOR EPITHELIAL OVARIAN CANCER:DEBULKING AND EIGHTEEN MONTH SURVIVAL OUTCOMES

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Aims

Evaluation of debulking and survival outcomes in patients with epithelial ovarian cancer(EOC) managed by a robotic (RA) vs. a laparotomy approach (LA).

Methods

Retrospective review of EOC cases managed by a single surgeon (2008-2013). Analysis used chi-squared or t-tests.

Results

81 patients had RA and 33 LA. They were similar for age (59.9 years vs. 54.9, p=0.0660), BMI (27.7 kg/m^2 vs. 29.3, p=0.3497) and prior abdominal surgery rate (69% vs. 79%, p=0.2983). Operative time was longer (141 minutes vs.105 , p=0.0002) and there was less blood loss (119 ml vs. 616, p=0.0001) for RA. Hospital stay was shorter for RA (2.2 days vs. 6.9, p<0.0001) and number of patients with at least one major complication were similar (11% (12.3/81) vs. 9% (3/33), p=0.6200). Lymph node dissection (11.1 nodes vs. 5.8, p=0.0016) and omentectomy (90% vs. 94%, p= 0.5136) were performed when indicated. Neoadjuvant chemotherapy rate was higher in RA (49% vs. 15%, p=0.0007). For stage II-IV patients, debulking to less than 0.5 centimeters was achieved in 83.3% (45/54) of RA vs. 53.8% (14/26) of LA (p=0.0049) Mean follow-up was similar, (18 [range 0.4-60.3] months vs. 20.3 [range 0-61.9] , p=0.5731). Overall survival (OS) and progression free survival (PFS) were similar for all stages via both approaches. (OS 88.1% vs. 77.9% p=0.1263, PFS 72.8% vs. 73.1%, P=0.112).

Conclusion

Similar debulking rates and OS and PFS at 18 months demonstrate that RA for the management of EOC is feasible.

IGCSM-0121
Poster Shift I - Ovarian Cancer

PELVIC PERITONEOECTOMY IN THE SURGICAL MANAGEMENT OF ADVANCED OVARIAN CANCER

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AimsTo share our experience in surgical management of advanced ovarian cancer applying a retroperitoneal approach and performing pelvic peritoneoectomy for the achievement of an optimal debulking in this disease.

MethodsThirty eight patients age ranging from 36 to 77 years (average 55,7 years) staged:I-2 (5,3%),II-4 (10,5%),III-28 (73,7%) and IV-4 (10,5%) had been operated on.Thirty patients presented without previous therapy,3-after total abdominal hysterectomy with adnexes,1-after supravaginal hysterectomy with adnexes,1-after unilateral adnexectomy and 3-after neoadjuvant chemotherapy.

All 38 patients had been submitted to retroperitoneal approach during the laparotomy and it had been performed surgical procedures including various degrees of radicalness towards the pelvic structures (uterus,parameters,vagina) with pelvic peritoneoectomy.Selective lymph node dissection is carried out in 21 cases (55,3%),total omentectomy- in 36 cases (94,7%) and appendectomy-in 23 (60,5%).

ResultsMaximal (no evidence of disease) and optimal (less than 2 cm lesion) cytoreduction is achieved in 23 (60,5%) and 8 (21,1%) patients,respectively-totally in 81,6% of all patients.The most common site of suboptimal (>2cm) residual masses is the peritoneum,covered right half of diafragma-85,7%,Lymph node metastases is detected in 33%,metastases in omentum-in 75%,parametrial invasion-in 25%,vaginal metastases-in 8,3%,metastases in appendix and Fallopian tubes-in 47,8% and 8,8%,respectively and invasion of tumor's capsula-in 34,2%.

Conclusion

Retroperitoneal approach and pelvic peritoneoectomy are feasible and safe and lead to high percentage of optimal debulking,which is the main prognostic factor in advanced ovarian cancer patients.

IGCSM-0125
Poster Shift I - Ovarian Cancer

PROGNOSTIC FACTORS OF BORDERLINE OVARIAN TUMOR

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Aims
The clinical characteristics and prognostic factors of the borderline ovarian tumor are still unclear. This study was performed to identify the prognostic factors in borderline ovarian tumor.
Methods
We analyzed histologic type, age, stage, operation method, tumor size, preoperative CA 125 level, menopause status and presence of stromal microinvasion in 96 patients with borderline ovarian tumor.
Results
The mean age was 47.3 years (range 17-84). There were 86 patients with stage I and 10 with stage III. The tumor size of mucinous tumor was significantly large than that of serous tumor (17.8cm vs. 12.3cm, $p<0.05$). The preoperative CA 125 levels were significantly higher in stage III than stage I, but not statistically different according to histologic type and menopausal status. Fertility-preserving surgery was performed in 34 patients and did not affect negatively on disease-free survival. 16 patients had microinvasion. However, the presence of microinvasion was not significantly different based on stage and did not show significant effect on disease-free survival. There was statistical difference in disease-free survival between stage I and stage III patients.
Conclusion
This study is limited by retrospective design and small number of patients. However, FIGO stage seems to be the most important prognostic factor in the borderline ovarian tumor. The implication of microinvasion may need to be evaluated further.

IGCSM-0126
Poster Shift I - Ovarian Cancer

ACTIVATION OF COL11A1 BY ANTICANCER DRUGS THROUGH IGF-1R/PI3K PATHWAY CONFERS CHEMORESISTANCE IN OVARIAN CANCER CELLS

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Aims
To investigate the molecular mechanisms of collagen type XI alpha 1 (COL11A1) in chemo-resistance of epithelial ovarian cancer
Methods
We analyzed the expression profiles of 94 epithelial ovarian cancer tissue samples obtained at first cytoreductive surgery to identify genes linked with chemotherapy response.A combination of experimental approaches, including real-time RT-PCR, western blotting, Small interference RNA, luciferase assay and chromatin immunoprecipitation (ChIP) assays were then performed to analyze the role of COL11A1 in chemo-resistance.Finally, the expression levels of COL11A1 were correlated with drug response and the clinical outcome of ovarian cancer patients.
Results
Among the 47 selected genes by expression profiling, COL11A1 was the most highly elevated in chemo-resistance tumors.Small interference RNA-mediated specific reduction in COL11A1 protein levels increased the sensitivity to cisplatin and taxol in ovarian cancer cells.COL11A1 knockdown attenuated Twist1 expression and suppressed binding of NF-κB to its putative Twist1 promoter binding site, suggesting that the NF-κB/Twist1 axis is upregulated by COL11A1. Cisplatin and taxol treatment triggers the activation of IGF-1R/PI3K signaling cascades, leading to activation of COL11A1 and Twist1. Pharmacological inhibition of PI3K abrogated the cisplatin and taxol-triggered, COL11A1-dependent chemoresistance. Furthermore, the c/EBPβ binding site on the COL11A1 promoter was identified as the major determinant of cisplatin and taxol-dependent COL11A1 activation. Analysis of 88 ovarian cancer patients indicated that high COL11A1 mRNA levels are significantly associated with poor response to chemotherapy, high Twist1 mRNA levels and poor clinical outcome.
Conclusion
Activation of COL11A1 by anticancer drugs through IGF-1R/PI3K pathway confers chemo-resistance in ovarian cancer cells via activating NF-κB-mediated Twist1 expression.

IGCSM-0130
Poster Shift I - Ovarian Cancer

INFLAMMATORY BREAST CANCER FROM METASTATIC OVARIAN CANCER: A CASE REPORT.

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Aims
Background: Metastases to the breast from extramammary malignancies are rare, representing between 0.2 to 1.3 percent of all malignant tumors diagnosed in the breast. Metastatic breast cancer, presenting as inflammatory breast cancer, is even more infrequent. Only seven cases have been reported in the current literature.
Methods
-
Results
Case: We report a 50-year-old patient with clear cell carcinoma of ovary, stage IC. She underwent complete surgical staging, and received adjuvant chemotherapy. Eleven months after the definite treatment, she developed unilateral breast erythematous patches and swelling with peau d'orange sign, resembling inflammatory breast cancer. Computerized tomography demonstrated dissemination of tumor cells through pelvic, abdomen, and chest. Breast biopsy revealed tumor cells within lymphatic channels in dermis. Immunohistochemistry staining for WT-1 and TTF are negative, and equivocal or negative for the GCDFP15. She passed away ten months after the recurrence due to tumor cells dissemination.
Conclusion

Conclusion: Either primary or metastatic breast cancer can yield similar clinical presentation and pathologic pictures. It is important to distinguish between these two conditions, because the treatment and the survival are significantly different. Metastatic breast cancer indicates tumor cells dissemination, which is undoubtedly poor prognosis with an average survival of 16 months. Survival is even shorter if presented as inflammatory breast cancer.

IGCSM-0145
Poster Shift I - Ovarian Cancer

FERTILITY SPARING TECHNIQUE IN PATIENTS WITH OVARIAN GRANULOSA CELL TUMORS

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Aims
To present the role of fertility sparing management in patients with ovarian granulosa cell tumors.
Methods

Pubmed literature search.

Results
Granulosa cell tumors of the ovary are a rare entity among the neoplasms of gynecologic oncology. Deriving from the stroma of the ovary, GCTs are generally characterized by insidious growth, low malignancy potential and late recurrence. The standard treatment for these tumors is principally surgical, consisting of bilateral adnexectomy and hysterectomy. Due to the fact that GCTs often affect younger ages, of crucial importance is the preservation of fertility by conserving the uterus and the controlateral ovary, while close monitoring is essential in order to achieve early identification and treatment of a possible recurrence.
Conclusion

These tumors have a low malignancy potential and generally have a good prognosis, but recurrences are very common even after many years post treatment. For this reason, although fertility sparing techniques can be applied to achieve pregnancy, close monitoring is suggested for early identification and treatment of a possible recurrence. After completion of family planning, hysterectomy and salpingo-oophorectomy are recommended.

IGCSM-0156
Poster Shift I - Ovarian Cancer

MICROENVIRONMENTAL BIOMARKERS EXPRESSION IN ENDOMETRIOSIS ASSOCIATED OVARIAN CANCERS

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Aims

Endometrioid and clear cell ovarian tumors have been referred to as "endometriosis associated ovarian cancers" (EAOC). However, very few studies have compared clinical and prognostic features of EAOC or non-EAOC. We have investigated clinical and microenvironmental biomarkers of EAOC.

Methods

Our study used immunohistochemistry to compare the expression of estrogen receptor (ER), hepatocyte nuclear factor-1 beta (HNF1ß), p53, phosphatase and tensin homolog (PTEN), and cyclooxygenase-2 (COX-2) among 77 cases of EAOC, including 40 clear cell carcinomas (CCCs), 33 endometrioid (EM) adenocarcinomas, and four serous carcinomas.

Results

Using log rank analysis, we found that the EAOC group demonstrated a significantly longer OS than non EAOC group (p=0.001). Positive stainings for ER, HNF1ß, p53, and COX-2 were identified in 34 (43%), 30 (38%), 10 (13%), and 44 (56%) cases. Loss of PTEN were noted in 29 (37%) cases. The expression of ER was reversely correlated with that of HNF1ß ($p < 0.001$) and correlated with p53 ($p = 0.011$). ER positivity was commonly identified in EM adenocarcinomas (91%), and rarely in CCCs (8%) and serous carcinoma (0%; $p < 0.001$). By contrast, HNF1ß expression was frequently noted in CCCs (65%) and serous carcinomas (50%), but less in EM adenocarcinoma (6%; $p < 0.001$). However, the expression of these marker in EAOC is not associate the progression free and overall survival.

Conclusion

Our results supported the Microenvironmental biomarkers expression is different in different histotypes of EAOC. However, endometriosis per se does appear to predict prognosis in ovarian clear cell and endometrioid cancers.

IGCSM-0160
Poster Shift I - Ovarian Cancer

WOMEN'S AWARENESS OF OVARIAN CANCER SYMPTOMS AND RISK FACTORS: A MODEL FROM THE MIDDLE EAST.

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Aims

According to the Cancer Registry in Jordan, ovarian cancer accounts for 3% of all female cancers. However it is considered the most deadly among gynecological malignancies. Early diagnosis carries a high 5 year survival rate of 93%; unfortunately, most cases are diagnosed when it has spread outside the ovaries.The aim of this study is to assess the knowledge and awareness of Jordanian women towards ovarian cancer symptoms and risk factors.

Methods

A cross-sectional study was performed Jordan University Hospital. A convenience sampling method was used to select 1000 women. The survey was conducted through a face to face interview. The questionnaire was adopted from a validated ovarian cancer awareness measure (ovarian CAM). It is based on a generic CAM developed by Cancer Research UK, University College London and Oxford University

Results

896 women completed the survey. Their age ranged between 18 and 85 year. 51.6% of participants were above 40 years.There was a statistically significant identification of ovarian cancer symptoms and risk factors when a participant knew a patient with ovarian cancer.Educated women (A level or equivalent) were able to identify certain symptoms compared to less educated women (O level or less). However the results were mixed when it comes to identifying risk factors.

Conclusion

In the absence of effective ovarian cancer screening program; population education, awareness of symptoms and risks factors seem to be the way forward for reducing morbidity and mortality associated with advanced stages**.**

IGCSM-0191
Poster Shift I - Ovarian Cancer

USEFULNESS OF A NOVEL BIOMARKER BASED ON PLASMA AMINO ACID PROFILE FOR EARLY DETECTION OF OVARIAN CANCER

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Aims
Plasma free amino acid profile is known to change in various cancers. We have established a novel biomarker for gynecological cancer, AICS (uterine/ovarian), by multivariate analysis of plasma amino acid profile. In this study, we evaluate the diagnostic performance of this marker for early detection of ovarian cancer.
Methods
Plasma amino acid concentrations were measured by liquid chromatography and mass spectrometry (LC-MS). AICS (uterine/ovarian) was derived by multivariate analysis of plasma amino acid profiles in patients with cervical cancer (N=50), endometrial cancer (N=50), ovarian cancer (N=50), benign gynecologic diseases (N=100) and healthy controls (N=750) as a training data set. The diagnostic performance of AICS (uterine/ovarian) was evaluated using another data set for validation.
Results
The diagnostic performance of AICS (uterine/ovarian) was evaluated by ROC curves. The ROC_AUC values for ovarian cancer were 0.93 (stage I~IV, N=63) and 0.87 (stage I, N=27), respectively. The sensitivities at the specificity of 95% were 71% for all stages and 59% for stage I. AICS (uterine/ovarian) showed similar sensitivities for each histological type of ovarian cancer such as endometrioid (89%), serous (81%), clear cell (83%) and mucinous adenocarcinoma (83%). The sensitivity for endometrial cyst was 23%, which was significantly lower than that for ovarian cancer, suggesting AICS (uterine/ovarian) could have a potential for the discrimination between endometrial cyst and ovarian cancer.
Conclusion
AICS (uterine/ovarian) would be a promising biomarker for early detection of ovarian cancer.

IGCSM-0195
Poster Shift I - Ovarian Cancer

ATYPICAL PRESANTATION OF OVARIAN CARCINOSARCOMA; A CASE REPORT

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Aims

To present a case that had ovarian carcinosarcoma with atypical presentation

Methods

Patient's data reviewed retrospectively. Seventy years old woman (G2P2) was admitted to the general surgery department for the right labial mass and inguinal pain radiating to the thigh with the probable diagnosis of femoral hernia. Furthermore, abdominal ultrasonography revealed ascites and 92x32 mm cystic-solid mass on the right pelvic region that was uncertain in origin with the postmenopausal sized uterus and 1 mm endometrial thickness. Tumor markers CA 125 and CA 15-3 were; 241 U/ml and 53 U/ml respectively. According to these findings explorative laparotomy was performed. Upon abdominal entry about 3 liters hemorrhagic ascites drained. There was 130x80 mm frozen proved malignant tumor mass, which made conglomeration with the rectosigmoid on the right adnexal region. Dome of the bladder was also invaded by the tumor. Cytoreductive surgery with PPLD was performed with low anterior resection of the rectosigmoid. Femoral hernia was repaired and left sided colostomy was created. Tumor mass on the bladder dome was also resected.

Results

Pathologic diagnosis was ovarian carcinosarcoma with the surgical stage IIIC2. Immunohistochemistry tests could not differentiate the tumor type as homologous or heterologous. Unfortunately, the patient died on the 25th postoperative day due to cardiopulmonary arrest.

Conclusion

Patients with gynecologic malignancy may have atypical symptoms according to patterns of tumor spread. Suspicion of occult malignancy needs confirmation by the diagnostic tests and/or explorative laparotomy.

IGCSM-0198
Poster Shift I - Ovarian Cancer

PRIMARY TUBAL MALIGNANCY MIGHT BE PRESENTED WITH TUBAL CARCINOMA INSITU AND DISPERSED INTRAPERITONEAL TUMOR SEEDING DUE TO SUPPORTIVE MICROENVIRONMENT

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AimsWe aimed to attract attention to the pathogenesis of pelvic serous carcinogenesis through a case with primary tubal serous tumor.
MethodsForty-six years old, G0P0 lady was admitted to hospital due to increased abdominal distention in the last 3 months. Abdominal ultrasound revealed serious ascites accumulation around the bowel segments reaching to the upper abdomen and suspicion of ovarian or peritoneal cancer due to moderately increased sized ovaries and heterogeneous abdominal semi-solid structures. CA-125 and CA-153 were increased, with the levels of 2024 IU/ml and 133 IU/ml respectively. Explorative laparotomy was performed and staging surgery was made due to frozen proved epithelial malignancy.
ResultsPermanent pathology revealed stage IIIC serous carcinoma. There was a focus of serous carcinoma-insitu in the right tubal mucosa also with the high-grade serous carcinoma metastatic to the ovaries, omentum, appendix and retroperitoneal lymph nodes. Patient had adjuvant chemotherapy with 6 cycles of carboplatin and taxol and now she is on closed follow-up.
ConclusionNowadays it is differentiated that the most of the tumors previously diagnosed as primary ovarian or peritoneal carcinoma are associated with an early serous carcinoma of the fallopian tube. Because the tubal mucosa is resistant to tumor invasion, most of the desquamated malignant cells disperse through ovarian surface and intraperitoneal milieu, where microenvironment allows them to flourish. By this way high-grade, highly dispersed serous tumors can be seen along the peritoneal surfaces secondary to foci of tubal carcinoma-insitu, a lesion limited to mucosa without any invasion to underlying submucosa.

IGCSM-0199
Poster Shift I - Ovarian Cancer

EVALUATION OF CHEMOTHERAPEUTIC RETROCONVERSION IN A CASE WITH OVARIAN IMMATURE TERATOMA

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Aims: Growing teratoma syndrome (GTS) is an uncommon entity with unclear etiology among patients with germ cell tumors. It presents with enlarging histologically mature metastatic masses during or after chemotherapy. Tumor markers are usually normal. We presented a case with GTS to draw attention to this uncommon situation.

Methods: A 14 years old adolescent was admitted to hospital with the new onset of pelvic pain and abdominal distension. Abdominal ultrasound revealed a huge, heterogeneous, abdomino-pelvic mass probably ovarian in origin. CA 125, CA 19-9 and AFP levels were 94 U/ml, 485 U/ml and 642 ng/ml respectively. Laparotomy was performed and the patient was treated with four cycles of cisplatin and etoposide due to stage IA, grade-3 right-sided immature teratoma concomitant to left ovarian mature teratoma. Six months after the surgery, 5 cm cystic liver mass in the 6^{th} segment was seen on the computerized tomography. Tumor markers were normal. Second look laparotomy was performed for liver resection and the permanent pathology revealed a mature teratoma. She also developed a left ovarian mass diagnosed as mature teratoma after hepatic resection during the follow-up.

Results: Metastatic immature tissue might be converted to mature one with the effects of chemotherapy or chemotherapy might increase the destruction of the immature tissue components and allows mature tissue to flourish.

Conclusion: Complete surgical excision of the metastatic lesion is required due to absence of effective medical treatment for GTS because of its unresponsiveness to chemo or radiotherapy.

IGCSM-0203
Poster Shift I - Ovarian Cancer

HIGH PRETREATMENT PLASMA D-DIMER LEVELS ARE ASSOCIATED WITH POOR PROGNOSIS IN PATIENTS WITH OVARIAN CANCER INDEPENDENTLY OF VENOUS THROMBOEMBOLISM AND TUMOUR EXTENSION.

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Aims

Elevated plasma D-dimer is associated with decreased survival among patients with breast, lung and colon cancers. The present study clarifies the prognostic significance of pretreatment plasma D-dimer (DD) levels in patients with epithelial ovarian cancer (EOC).

Methods

We investigated pretreatment DD levels and other variables for overall survival using univariate and multivariate analyses in 189 consecutive patients with EOC stages I to IV that were initially treated between November 2004 and December 2010.

Results

The median follow-up period was 53 (7–106) months. Univariate analysis significantly associated elevated pretreatment DD (≥ 2.0 μg/mL) levels to poor 5-year overall survival rates irrespective of previously treated venous thromboembolism (VTE) (81.9% vs. 59.7%, $P = 0.0006$). Swollen lymph nodes >10 mm ($P = 0.0027$), CA125 levels ≥ 200 U/mL ($P = 0.0003$), stage IV ($P < 0.0001$), massive ascites ($P = 0.0312$) and serous histology ($P = 0.0024$) were also poor prognostic factors. Pretreatment DD levels of < 1.5, 1.5 - 3.0 and ≥ 3.0 μg/mL were significantly associated with 5-year survival rates of 84.1%, 66.1% and 61.2%, respectively; P for trend = 0.01. Multivariate analysis independently associated DD levels ≥ 2.0 μg/mL ($P = 0.0284$) and stage IV ($P = 0.001$) with poor overall survival.

Conclusion

High pretreatment DD levels are associated with poor overall survival in patients with EOC independently of VTE and tumour extension and might comprise a promising prognostic biomarker for patients with EOC.

IGCSM-0205
Poster Shift I - Ovarian Cancer

PRIMARY OVARIAN CLEAR CELL CARCINOMA OF THE ABDOMINAL WALL - AN EVIDENCE-BASED REVIEW OF CASE REPORTS IN THE LITERATURE.

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Aims

Primary ovarian clear cell carcinoma (OCCC) of the abdominal wall is extremely rare therefore therapeutic regimes are not estimated so far as well as knowledge about prognosis of the patients is still unclear. The aim of this study was to provide an evidence-based review of case reports to collect the data on clinical features, applied management and prognosis.

Methods

A literature search was performed using PubMed database with the terms "clear cell carcinoma", "abdominal wall", "scar"**.** A total of 17 case reports with full text available were identified including data on 18 patients with OCCC

Results

All abdominal wall OCCCs appeared after previous laparotomy for gynecological reasons. Cesarean section was the leading surgical intervention among them (15/18, 83%). Overall median follow up was 9,5 months (range 1-60). Four patients (4/18, 22%) died, 2 had recurrence (2/18, 11%) and 12 had no evidence of the disease (12/18, 66%). All patients had appropriate imaging and half of them was surgically staged for ovarian cancer. Four (4/18, 22%) had confirmed lymph node metastases. None had cancer detected in ovaries or other sites of intraperitoneal cavity. "Killing" OCC abdominal tumors appeared later from the initial surgery then curable forms of this cancer (16,8 vs 22,75 years, p=0.003). There were no differences in other clinico-pathological features between curable and fatal OCCCs.

Conclusion

The need of surgical staging for ovarian cancer is questionable, especially in cases with non-suspicious imaging results. Information about risk of abdominal wall OCCC should be incorporated into informed consent for cesarean section.

IGCSM-0207
Poster Shift I - Ovarian Cancer

WHAT IS THE BEST STRATEGY FOR DETERMINING WHO SHOULD BE SCREENED FOR BRCA 1/2 GERMLINE?

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Aims

BRCA 1/2 mutations are showing increasing significance in ovarian-type cancers as they are becoming a therapeutic target and not just a guide for prophylaxis. The purpose of this paper was to determine the most effective screening method for discovering BRCA 1/2 germline mutations.

Methods

One hundred twenty-five tumors from women with ovarian cancer had their tumors tested for both germline and somatic BRCA 1/2 mutations. A decision analytic model was used to determine the most effective screening method.

Results

In the cohort of 125 patients, 17 were found to have germline mutations (11 had somatic mutations). Five screening strategies were analyzed: testing all women with ovarian cancer, testing all women with high grade ovarian cancer, testing all women with high grade serous ovarian cancer, testing women with an ovarian cancer and a family history of breast/ovarian cancer, or testing all women with a high grade serous ovarian cancer or a family history of breast/ovarian cancer. Only screening all high grade cancers found all of the germline mutations. Despite this fact, the most effective strategy was using a three-generation family pedigree. This also was determined to be the most cost-effective.

Conclusion

The most cost-effective method of determining which women should tested for BRCA 1/2 germline mutations is family history.

IGCSM-0222
Poster Shift I - Ovarian Cancer

MODERN ASPECTS OF SURGICAL TREATMENT OF PATIENTS WITH GRANULOSE CELL TUMOR OF THE OVARIES

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Aims
To improve the pathogenetically based methods of surgical treatment of granulosa cell ovarian tumors for improved medico-social rehabilitation of patients.
Methods
The data of 95 patients with granulose cell ovarian tumors of adult type (GCTAT) and 50 patients with granulosa cell ovarian tumors of juvenile type (GCTJT) cured in the Department of Oncogynecology of National Cancer Institute in 2005 – 2014, have been studied.
Results
The volume of surgical interference in the case of I stage GCTAT I included radical hysterectomy in combination with surgical staging. In the case of extraovarian GCTAT dissemination (stages II-IV) apart from panhysterectomy and surgical staging there have been performed different combined interventions the character of which depended on localization of metastatic lesions. In the case of I stage GCTJT I there have been performed the organ-sparing operations (unilateral adnexectomy, total omentectomy). Extraovarian GCTJT dissemination was associated with aggressive disease course and was registered in 5-8% of cases, therefore there was performed additional removal of visible metastases from the surface of parietal and visceral peritonium, pelvic and paraortal lymphadenoectomy, and peritoneal swabs were obtained for cytological examination. It has been shown that granulosa cell ovarian tumors of adult and juvenile types are neoplasms with different course and prognosis requiring different clinical approaches at the stage of their surgical treatment. GCTJT is characterized by less aggressive course and more favorable prognosis.
Conclusion
Accounting the less aggressive course and more favorable prognosis of GCTJT in patients of reproductive age one should consider the performance of an organ-sparing therapy.

IGCSM-0224
Poster Shift I - Ovarian Cancer

PREVALENCE OF LYMPH NODE METASTASIS AND ONCOLOGIC OUTCOMES OF MALIGNANT OVARIAN GERM CELL TUMORS.

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Aims

To determine rate of lymph node metastasis, role of lymphadenectomy, and oncologic outcomes in ovarian germ cell malignancy.

Methods

Retrospective review of medical records of patients who were diagnosed with malignant ovarian germ cell tumor and had complete surgical staging at Siriraj Hospital, Bangkok, Thailand during January 2006-December 2013.

Results

Twenty-seven patients were met the inclusion criteria. Mean age of the patients was 21 years, range 7-33 years. The mean tumor size was 17 cm, range 4-36 cm. The most, 13 patients (48.2%) were staged as FIGO stage IA. Histopathology was dysgerminoma in 9 patients (33.3%), immature teratoma in 8 patients (29.6%), yolk sac tumor in 5 patients (18.5%), and mixed malignant germ cell tumor in 5 patients (18.5%). The rate of pelvic lymph node metastasis was 11.1%. None had para-aortic lymph node metastasis. Twenty-one patients (77.8%) received adjuvant chemotherapy, the most used regimen was combination of bleomycin, etoposide and platinum (BEP), for 20 patients (95.2%). Only one patient (3.7%) had pregnancy after complete treatment and had a term normal child. Median follow-up time was 19 months, range 1.9-80 months. Median disease free survival was 18 months. 7.4% (2/27) of the patients had disease progression during primary treatment. Twenty-four patients (88.9%) are alive without disease.

Conclusion

High rate of pelvic lymph node metastasis in malignant ovarian germ cell tumors, so pelvic lymphadenectomy should be done in surgical treatment.

IGCSM-0236
Poster Shift I - Ovarian Cancer

LONG TERM OUTCOME OF CLEAR CELL CARCINOMA OF THE OVARY IS NON-INFERIOR TO EPITHELIAL CARCINOMA OF OTHER HISTOLOGIC TYPES

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Aims
This study investigated the long term outcome of clear cell carcinoma (OCCC) with other epithelial ovarian cancer (EOC).
Methods

Consecutive cases of histology proven OCCC were identified from 1 January 2004 to 31 December 2009. Two EOC cases of non-OCCC type immediately subsequent to each index case were selected as controls. The main outcome measures were patient status in term of alive-with-no-disease, alive-with-disease and death, and survival by Kaplan-Meier analysis. The significance of differences in patient status between comparison groups was analysed by chi-square test and the difference in survivals was analysed by log-rank test.

Results

A total of 246 cases of ovarian cancer were studied, including 80 OCCC, 90 serous EOC and 76 other non-serous EOC. The median follow-up of OCCC was 70.0 month for FIGO-stage-1A, 76.5 months for FIGO-stage-1B/C, and 54.0 months for FIGO≥2. The proportion of patient alive with no disease was 70% for OCCC and 88.9 % for other EOC (p=0.362) in FIGO-stage-1A group, 66.7% for OCCC and 84.4% for other EOC (p=0.204) in FIGO-stage-1B/C group, and 20% for OCCC compared to 13.9% for serous EOC (p=0.10) and 35.1% for other non-serous EOC (p=0.002) for the FIGO-stage≥ 2 group. Kaplan-Meier analysis showed that the median survival had not been reach for OCCC and other EOC for FIGO stage 1A and 1B/C groups and for OCCC in the FIGO≥2 group (log-rank test not significant).

Conclusion
The long-term outcome of OCCC in the chemotherapy era of paclitaxel-carboplatin was non-inferior to other EOC.

IGCSM-0241
Poster Shift I - Ovarian Cancer

EVALUATION OF MICROSCOPIC CHANGES IN FALLOPIAN TUBES OF BRCA MUTATION CARRIERS, BY MORPHOMETRIC ANALYSIS OF HISTOLOGICAL SLIDES

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Aims
Part of serous ovarian tumors are hypothesized to originate from fallopian tube fimbria. This study aims to test this hypothesis in BRCA carriers and non-carriers and predict the presence of premalignant serous ovarian tumors by using a novel method of computerized morphometry of the fimbrial epithelium .
Methods
24 fimbriae reported as "normal" by H&E examination, from healthy women (13 BRCA positive and 11 negative) and 13 fimbriae of ovarian cancer patients, (6 BRCA positive and 7 negative) were analyzed by Computerized histomorphometric analysis of ImageProPlus software. Images of fimbrial epithelium were Fourier transformed in 2 dimensional frequency maps and submitted to co-occurrence matrix analysis, extracting 4 textural variables (Homogneity, Correlation, Contrast, Entropy).
Results

Significant textural differences were noticed between BRCA positive and negative fimbria within the healthy group ($p<0.01$). No differences were seen between BRCA negative and positive cancer patients. Significant differences were found between all healthy women and cancer patients for all variables ($p<0.0001$). Multivariate analysis showed that using 3 variables, the presence of ovarian cancer could be predicted (sensitivity=100%, specificity=92%).

Conclusion

This novel method is able to detect differences in the texture of the fimbrial epithelium of BRCA carriers versus non-carriers and between healthy versus ovarian cancer patients. These promising findings may support the hypothesis that part of ovarian cancer precursors derive from the fimbrial epithelium. Further studies should take place in order to confirm these observations.

IGCSM-0245
Poster Shift I - Ovarian Cancer

ROLE OF MIR-206 IN CISPLATIN RESISTANCE OF OVARIAN SEROUS CARCINOMA

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Aims

Chemotherapy drug resistance is a major cause of poor prognosis in patients with advanced ovarian cancer because of the lack of efficient biomarkers to predict the chemoresistance and prognosis of the ovarian cancer. The goal of this study is to find a gene marker that can predict cisplatin-base chemo-sensitivity of ovarian cancer.

Methods

We defined and validated human miRNA expression profiling in ovarian cancer patients with CR (complete response) and IR(incomplete response) to cisplatin-based chemotherapy by using microarray assay and qRT-PCR. We explored the function of miRNAs by establishing the ovarian cancer cell lines that can stably over-express the miR-206. The MTS, flow cytometry, cell scratches and transwell experiments were performed to identify the change of cell proliferation, apoptosis, migration and invasion in a stable overexpression of miR-206 cell lines and its corresponding controls.

Results

163 miRNAs were differentially expressed in CR versus IR groups. MiR-206 was significantly up-regulated in IR patients compared to CR group. The pEGP-miR-206 plasmid was generated and transfected into A2780s and OV2008 cell lines. The proliferation was faster and the apoptosis rate was markedly decreased in up-regulated miR-206 group compared to controls. In addition, migration speed and number of ovarian cancer cells was markedly increased in the groups of transfected miR-206.

Conclusion

Our data indicate that microRNAs are closely related to the prognosis of serous ovarian cancer. The expression level of miR-206 could serve as a novel predictor and prognostic biomarker for ovarian cancer patient's response to cisplatin -based chemotherapy and survival.

IGCSM-0246
Poster Shift I - Ovarian Cancer

QUALITY OF LIFE IN PLATINUM-SENSITIVE RECURRENT OVARIAN CANCER: CHEMOTHERAPY VERSUS SURGERY PLUS CHEMOTHERAPY

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Aims
The standard treatments of patients with recurrent ovarian cancer (ROC) remains poorly defined. Primary endpoint of this study is to compare QoL of ROC patients submitted to chemotherapy alone (CT) or surgery followed by CT.The secondary aim is to evaluate safety and feasibility of secondary cytoreductive surgery (SCS).
Methods
From January 2007 to December 2012, consecutive patients with suspicious recurrence of ovarian cancer were assessed for study protocol. A prospective, case-control study was conducted to compare quality of life (QoL) in patients affected by platinum-sensitive ROC and submitted to SCS followed by CT (group A) or to chemotherapy alone (Group B) after a diagnostic laparoscopy (DL). During treatment all eligible patients filled the Quality of Life Questionnaire-C30 and European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire-OV28 questionnaires. All results were compared between groups using Mann-Whitney tests
Results
A total of 74 patients were eligible. Group A included 38, group B included 16 patients. QoL scores of both questionnaires were comparable between groups, with the exception of constipation and pain, which resulted significantly worsened in Group A at 3 months. This difference was no longer present at 6 months. Median overall survival at 35 months was 72 % for Group A and 56% in Group B at 32 months
Conclusion
SCS is a feasible and safe therapeutic option. Surgery followed by CT seems to have a negligible impact in QoL versus CT alone. Thus SCS seems to be an effective and tolerable therapeutic option in platinum-sensitive recurrences.

IGCSM-0247
Poster Shift I - Ovarian Cancer

ECONOMIC IMPACT AMONG FAMILY CAREGIVERS OF ADVANCED OVARIAN CANCER PATIENTS

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Aims
The life of a family changes in many ways when cancer is diagnosed. These changes regard also financial costs. To the authors' knowledge, little work has been done to estimate the costs associated with care giving for cancer patients, during the first line treatment, including surgery and 6 chemotherapy cycles
Methods
Between June 2009 to December 2012, advanced ovarian cancer patients' primary family caregivers were recruited from to the Division of Gynecologic Oncology of the University Campus Bio-Medico of Rome within 4 weeks of the patient's new diagnosis. Caregivers (N=90) reported demographic, medical information and economic cost, such as traveling to and from medical appointments, waiting with patients for appointments, missing work, attending to patients who are hospitalized
Results
Between June 2009 to December 2012, 90 advanced ovarian cancer patients' primary family caregivers were enrolled in the study. The mean age of the study cohort was 52.3 years. They reported a 3% of missing work days. The mean cost for all caregivers was 988.529 € per year. So the mean cost of each caregiver was 10.981 €/ annually
Conclusion
This economic analysis of caregiving in advanced ovarian cancer patients reports the significant burden that cancer treatment places on both families and society. These findings underscore the importance, when appropriate, of including valid estimates of the cost of informal caregiving when evaluating the cost-effectiveness of cancer treatments

IGCSM-0249
Poster Shift I - Ovarian Cancer

PREDICTING OVERALL SURVIVAL IN PATIENTS WITH OVARIAN CANCER: A NEW CLINICAL MODEL

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Aims

Overall survival (OS) in ovarian cancer has been largely researched and many prognostic factors have been explored, including the serum carbohydrate antigen 125 (Ca125). In last decades, a novel biomarker, the Human Epididymis protein 4 (HE4), has been introduced. The present study aimed to explore and evaluate HE4 measurements along with Ca125, in OS prediction after adjusting for the common prognostic factors like the stage, residual tumor, grading, age and histotype

Methods

A retrospective study was performed in ovarian cancer patients who were submitted to primary cytoreductive surgery and first-line adjuvant chemotherapy. Serial measurements of patients' Ca125 and HE4 were collected at different frequencies of treatment. A statistical model coupling the Cox hazards and the mixed effects models was applied to determine the association between each patient's OS and longitudinal Ca125 and HE4 profiles. A multi-variate analysis was performed to assess a correlation between the prognostic factors and Ca125, He4 and OS

Results

110 patients were recruited and a total of 850 Ca125 values and HE4 were collected. Preoperative age, HE4 and Ca125 levels, stage, grading, residual tumor, histotype were included into a multivariate logistic regression model. This model correctly predicted in 88% of patients if they had a high or low risk of death at given time point

Conclusion

Longitudinal CA125 and HE4 values, measured at the diagnosis of ovarian cancer and during chemotherapy, could be used to reliably predict OS after adjusting for the

prognostic factors. This could be potentially useful in clinical decision making and management of ovarian cancer patients

IGCSM-0251
Poster Shift I - Ovarian Cancer

ADVANCED CLINICAL STAGE PRESENTATION IN PATIENTS WITH NON-INVASIVE SEROUS TUBAL INTRAEPITHELIAL CARCINOMA (STIC) WITH TUMOR CELL SHEDDING- SHOULD WE SEPARATE THIS ENTITY FROM REGULAR STIC?

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Aims: Ovary usually is considered as primary site of high grade serous carcinoma (HGSC). Analysis of fallopian tubes (FT) in women with increased risk of cancer (BRCA+) discovered invasive and/or pre-invasive involvement of tubes in 34-60% with HGSC. We report 2 cases of advanced stage HGSC in patients with a STIC with shedding groups of tumor cells.
Methods: Patient A, 56 yo presented with abnormal Pap smear. Subsequent ECC showed strips of adenocarcinoma. Clinical examination showed normal cervix. Follow up LEEP procedure were negative. She underwent radical HYSBSO and PLND.

Patient B, 54 yo presented with vaginal bleeding and biopsy proven grade 3 endometrial endometrioid adenocarcinoma (ECA). Patient had Robotic-assisted HYSBSO, PLND.

Results: Final pathology patient A: negative histology of cervix and endometrium, HGSC at ovarian surface, STIC of FT with luminal shedding and positive peritoneal cytology.

Patient B: focus of grade 3, ECA, confined to the endometrium, HGSC at ovarian surface, STIC with luminal shedding of both FT. The STIC's and shedded tumor cells in both cases showed severe atypia with increased (MIB-1)

Conclusion: We describe 2 patients with STIC in the absence of invasion.

The positive peritoneal cytology and increased CA125 levels are due tumor cell shedding into the peritoneum. The intraluminal shedding appears to be risk factor for early peritoneal metastasis and we suggest meticulous assessment of FTs with STIC to set this group apart. Further studies are needed to evaluate recurrence rates and clinical management after discovery of STIC, tumor cell shedding and positive peritoneal washing.

IGCSM-0252
Poster Shift I - Ovarian Cancer

TREATMENT OUTCOMES OF GEMCITABINE IN RECURRENT EPITHELIAL OVARIAN CANCER PATIENTS

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Aims

To study the response rate (RR), progression-free survival (PFS) and toxicity profiles of recurrent epithelial ovarian cancer (EOC) patients who were treated with gemcitabine.

Methods

Recurrent EOC patients who were treated with gemcitabine between January 2000 and December 2013 at Department of Obstetrics and Gynecology, Faculty of Medicine Vajira Hospital were identified. Medical records were reviewed. Clinico-pathological features including data of gemcitabine treatment, response and toxicity were collected.

Results

We identified 43 EOC patients who had gemcitabine treatment. All, except one patient who did not receive any adjuvant treatment, had received platinum-based chemotherapy. Among these 42 patients, 31.0% had refractory cancer to first-line chemotherapy while 69.0% had recurrence with 48.8% being platinum-sensitive. A total cycle of gemcitabine used was 203 cycles (median 4, range 2-9 cycles). Overall RR was 11.6%: 19% in platinum-sensitive vs 4.5% in platinum-resistant groups (p=0.158) and 42.9% in the patients having gemcitabine together with platinum vs 5.6% by gemcitabine alone (P=0.024). Median PFS was 3.6 months (95% confidence interval [CI], 2.73-4.49 months): 8.1 months (95% CI, 2.73-4.49 months) in platinum-sensitive vs 3.2 months (95% CI, 2.01-4.42 months) in platinum-resistant groups (p=0.077) and 8.1 months (95% CI, 4.73-11.48 months) in gemcitabine combination vs 2.7 months (95% CI, 1.98-3.38 months) by single gemcitabine (P=0.007). Common toxicities were hematologic toxicity which was well tolerated and manageable.

Conclusion

Gemcitabine has modest activity in pre-treated EOC. A combination regimen had higher activity than single agent with a significant improvement in RR and PFS.

IGCSM-0255
Poster Shift I - Ovarian Cancer

TRANSABDOMINAL CARDIOPHRENIC LYMPH NODE DISSECTION VIA INCISED DIAPHRAGM REPLACE CONVENTIONAL VIDEO-ASSISTED THORACIC SURGERY FOR CYTOREDUCTIVE SURGERY IN ADVANCED OVARIAN CANCER

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Aims
The objective of this study is to describe the feasibility of the new approach, transabdominal cardiophrenic lymph node dissection (CPLND), via incised diaphragm in patients with ovarian cancer by gynecologic oncologists instead of the conventional video-assisted thoracic surgery.

Methods
From November 2008 to December 2011, 11 women (10 primary and 1 recurrent ovarian cancers) underwent CPLND for the extensive cytoreductive surgeries via incised muscle of the right diaphragm by gynecologic oncologists. All ≥5 mm tumors in CPLN, which were the criterion for suspicious malignancy on preoperative axial computed tomogram, were completely resected by gynecologic oncologists.

Results
The median tumor size of the CPLN was 10 mm (range, 7–17 mm) and metastasis was identified in 45% (5/11) of ≥5 mm CPLN on preoperative computed tomogram. The median number of harvested CPLND was 3 (range 1–12) and metastatic node was 1 (range, 0–10). There was no significant morbidity related to CPLND and mortality associated with surgery. Ten patients achieved the no gross residual disease and one patient accomplished gross residual-1, indicating residual disease measuring ≤1 cm in maximal diameter.

Conclusion
Transabdominal CPLND via incised diaphragm is feasible as a part of the cytoreductive surgery without significant morbidities by gynecologic oncologist. This procedure could substitute the conventional video-assisted thoracic surgery.

IGCSM-0260
Poster Shift I - Ovarian Cancer

WEE1 IS A NOVEL INDEPENDENT PROGNOSTIC MARKER OF POOR SURVIVAL IN POST-CHEMOTHERAPY OVARIAN CARCINOMA EFFUSIONS

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Aims

Wee1-like kinase (Wee1) is a tyrosine kinase which negatively regulates entry into mitosis at the G2 to M-phase transition and has a role in inhibition of unscheduled DNA replication in S-Phase. The present study investigated the clinical role of Wee1 in advanced-stage (FIGO III-IV) ovarian serous carcinoma.

Methods

Wee1 protein expression was analyzed in 287 effusions using immunohistochemistry. Expression was analyzed for association with clinicopathologic parameters, including survival.

Results

Nuclear expression of Wee1 in tumor cells was observed in 265/287 (92%) effusions, and was significantly higher in post-chemotherapy disease recurrence compared to pre-chemotherapy effusions obtained at diagnosis (P=0.002). In univariate survival analysis of the entire cohort, a trend was observed between high (>25% of cells) Wee1 expression and poor overall survival (P=0.083). Survival analysis for 109 patients with post-chemotherapy effusions showed significant association between Wee1 expression and poor OS (P=0.004), a finding which retained its independent prognostic role in Cox multivariate analysis (P=0.002).

Conclusion

Wee1 is frequently expressed in ovarian serous carcinoma effusions, and its expression is significantly higher following exposure to chemotherapy. The present study is the first to report that Wee1 is an independent prognostic marker in serous ovarian carcinoma.

IGCSM-0266
Poster Shift I - Ovarian Cancer

A TRUNCATED CXCL10 VARIANT INFLUENCES ANTI-TUMOUR IMMUNITY IN OVARIAN CANCER

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Aims

The development and progression of ovarian tumours is strongly influenced by anti-tumour immunity, and particularly tumour-infiltrating leukocyte populations (TILs). CXCL10, a T-cell chemoattractant, is often over-expressed by ovarian tumours suggesting an influence over TILs. However, CXCL10 can also antagonize leukocyte recruitment following proteolytic modification at its N-terminus. Its relationship to TILs in ovarian tumours has never been examined.
This study explored the relationship between CXCL10 and TILs in ovarian tumour tissues, and whether CXCL10 might be modified in ovarian tumours.

Methods

Immunohistochemical staining of tissue microarrays was used to co-localize CXCL10 with TILs (CD45+ CD3+), with specific emphasis on high grade, serous epithelial tumours. Mass spectrometry was used to *de novo* sequence immunocaptured CXCL10. MALDI Imaging Mass Spectrometry was used to establish the localization of a truncated form of CXCL10 in tumour epithelium.

Results

Malignant tissues contained substantially fewer TILs than normal or benign tissue, despite increased CXCL10 expression. CXCL10 isolated from malignant tissues was truncated at its N-terminus by 2 amino acids, a modification known to actively suppress chemotaxis of T-cells. Antagonistic, truncated CXCL10 was specifically localized to tumour epithelium and co-localized with the enzyme Dipeptidyl Peptidase IV (DPP4), known to cleave CXCL10 *in vitro and in vivo.*

Conclusion

This is the first identification of N-terminally modified, antagonistic CXCL10 in any tumour type. Our data suggest the enzymatic modification of chemokines as a previously unrecognized, tumour-specific mechanism that can significantly influence anti-tumour immunity. Ongoing work will establish the responsible enzyme/s and pursue novel therapeutic interventions targeting this modification in ovarian cancer patients.

IGCSM-0269
Poster Shift I - Ovarian Cancer

MMP10 REGULATES STEMNESS OF OVARIAN CANCER STEM CELLS

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Aims

Ovarian cancer stem cells (CSCs) have higher ALDH1A1 activity, and can be isolated by ALDEFLUOR assay. In this study, we screened gene profiles of ALDH1high cells and identified MMP10 and its function in ovarian CSCs were investigated.

Methods

Ovarian carcinoma cells RMG1, HMOA were analyzed. MMP10 gene over expression and gene knockdown were performed by cDNA transfection and siRNA transfection, respectively. The stemness of the ovarian carcinoma cells were analyzed sphere forming ability, resistance to chemotherapeutic agents, ALDEFLUOR assay and Western blot. We stained 122 cases of ovarian cancer immunohistochemically using monoclonal antibody of MMP10, and checked its correlation with clinical factors and prognosis.

Results

MMP10-overexpressed RMG1 showed higher sphere forming ability, resistance to chemotherapeutic agents, increased ALDH1high population and increased ERK1/2 and AKT activation. In the histological study, MMP10 high expression is independent poor prognostic factor and factor of platinum resistance in multivariate analysis.

Conclusion

MMP10 regulates stemness of ovarian CSCs. MMP10 also regulate cell-growth signaling and resistance with chemotherapy. Further study is needed to detect upstream of the MMP10 dependent signaling.

IGCSM-0276
Poster Shift I - Ovarian Cancer

EFFECTIVENESS AND IMMNUNOLOGICAL ANALYSIS IN A PHASE II CLINICAL TRIAL OF THE GPC3 DERIVED PEPTIDE VACCINE FOR OVARIAN CLEAR CELL ADENOCARCINOMA PATIENTS

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Aims

. Ovarian clear cell carcinoma (OCCC) is well-known to be highly resistant to platinum-based chemotherapy. Thus, there is an urgent need to further our understanding of the pathogenesis of OCCC, particularly with respect to the expression of proteins, which confer chemoresistance, for the development of a novel therapeutic strategy. Glypican-3 (GPC3) is useful not only as a novel tumor marker, but also as an oncofetal antigen for immunotherapy. In this study, we describe the effect of vaccination with the HLA-A2 or A24-restricted GPC3 peptide on patients with OCCC.

Methods

Sixty-eight OCCC patients were entered into clinical trial. The patients were divided into three groups such as clinical remission, combined therapy and recurrence or advanced groups. Patients were injected intradermally with 3 mg of HLA-A24- or -A2-restricted GPC3 peptide emulsified with incomplete Freund's adjuvant every two weeks. Primary endpoints are 2-year DFS in adjuvant group and 6-month Disease control rate based on RECIST in combined group and recurrence or advanced groups. Immunological responses were analyzed by *ex vivo* IFN-γ enzyme-linked immunospot (ELISPOT) assay.

Results

The GPC3-derived peptide vaccine showed no severe adverse events. In recurrence or advanced group, 13 patients were evaluated. Clinical efficacy based on RECIST was 10 cases of PD and 3 case of PR. GPC3 peptide vaccine showed immunological effectiveness.

Conclusion

Our current data provide preliminary evidence of clinically meaningful benefit for GPC3 peptide vaccines in OCCC and support further evaluation of this approach in these patient populations.

IGCSM-0278
Poster Shift I - Ovarian Cancer

ADULT GRANULOSA CELL TUMOUR OF THE OVARY: CLINICOPATHOLOGICAL PROGNOSTIC FACTORS FOR RECURRENCE

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Aims
Granulosa cell tumours (GCTs) account for less than 5% of all ovarian malignancies, whereasadult type occurs after age of 30 (95%). Aim of this study is to identify the predicting factors.
Methods

Retrospective review of 48 patients with adult GCT of the ovary, treated at our institution during 1996 to 2011. Clinical, pathological and follow up data were collected.

Results
The mean age of diagnosis was 54.4 years,64.6% were menopausal. Preoperatively, in almost half of the cases (45.8%) the U/S showed cystic tumours, while in 22.9% the U/S findings were solid elements. Surgical staging was done in 58.3%,whereas intraoperative rupture of tumour occurred in 12.5% of the patients. The majorityof cases was staged IA (64.4%)while only six (12.6%) were from IIB to IIIC. Moreover,mitotic index was 4 or more in 39.6% of the patients and nuclear atypia was moderate to high in 72.5%. During follow-up period (mean 8.8 years), disease recurrence occurred in 7 patients (14.6%)with no deaths recorded. Conversely,the cumulative recurrence free rate for the first two years was 97.9%, five years 93% and ten years 80.4%. Tumour size, stage and mitotic index proved to be of substantial importance for recurrence, while further data analysis estimated that age, menopause, U/S findings, CA-125, intraoperative rupture of tumour, pelvic lymphadenectomy, surgical staging and nuclear atypia were only independent predictors.
Conclusion

Tumour size and stage along with mitotic index appears to be significant parameters for clinical prognosis of recurrence in GCT.

IGCSM-0293
Poster Shift I - Ovarian Cancer

MAXIMAL SURGICAL EFFORT SHOULD BE AIMED FOR RECURRENT ADULT GRANULOSA CELL TUMOR

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Aims

The management of recurrence is contraversial. We aimed to evaluate the characteristic features, management and survival of the patients with AGCT recurrence in this study.

Methods

The data of 18 (12.5%) patients with recurrence of 144 patients who were diagnosed with AGCT, who were treated and followed-up in our clinic between 1990 and 2013 was retrospectively evaluated.

Results

Median age of the patients at diagnosis was 54 years (range, 35-70) and 12 patients were postmenopausal. Five patients had recurrence only in the pelvis, 5 in the upper abdomen and pelvis, 3 outside the abdomen, 3 in the upper abdomen, 1 in the pelvis and outside the abdomen and 1 in the upper abdomen and outside the abdomen. Surgery was performed in 16 patients and maximal debulking was obtained in 13 of these patients. Ten of the patients had unifocal, 8 of them had multifocal tumor. Maximal debulking could be achieved in all patients with unifocal recurrence. On the other hand, maximal debulking could be obtained in only 3 patients (37%) with multifocal recurrence (p=0.031). Multifocality of R1 and the presence of residual tumor after surgery were associated with lower survival (31 months vs 207 months, p=0.031; 22 months vs 220 months, p=0.005, respectively)

Conclusion

Multifocality of the disease and presence of residual disease after surgery were associated with worse survival in the present study. Therefore, maximal debulking should be aimed.

IGCSM-0305
Poster Shift I - Ovarian Cancer

MULTIVISCERAL RESECTION DURING RADICAL CYTOREDUCTIVE SURGERY FOR THE TREATMENT OF EPITHELIAL OVARIAN CANCER WITH PERITONEAL CARCINOMATOSIS: 15 YEARS EXPERIENCE

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Aims
Evaluate the resection of multiple abdominal organs to achieve optimal cytoreduction in the treatment of peritoneal carcinomatosis due to epithelial ovarian cancer, complications of surgery, morbidity, mortality and most common types of resections
Methods
during the following period from February 1999 to February 2014, 173 patients underwent optimal cytoreduction due to epithelial ovarian cancer, fallopian tube or primary peritoneal cancer. A retrospective study of medical records demonstrated that organs were resected , morbidity and mortality until the day of hospital discharge
Results
we performed in the first ten years 40% of multivisceral resections and about 80% in the last 5 years .Morbidity was approximately 30% in both periods and mortality was less than 2%
Conclusion
with the goal of achieving optimal cytoreduction, which is the main prognostic factor for these patients, multivisceral organ resection despite the morbidity had lower mortality and is feasible

IGCSM-0309
Poster Shift I - Ovarian Cancer

CLINICAL IMPACT OF THE NUMBER OF THE RETRIEVED PELVIC LYMPH NODES IN EPITHELIAL OVARIAN CANCER

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Aims
To investigate the diagnostic and therapeutic effect of pelvic lymphadenectomy (PLA) according to the number of the retrieved nodes in epithelial ovarian cancer (EOC)
Methods
Data were obtained from the patients who were surgically treated for newly diagnosed EOC from 2002 to 2014. According to the number of retrieved pelvic nodes, patients were divided into three groups: no-PLA, group A (1-5), and group B (>5). Survival outcomes were evaluated.
Results
Of 111 patients identified, 48 were in early stage and 63 in advanced stage. PLA was performed in 71.2%, and the mean number of retrieved pelvic nodes was 7 (1-25). Between the two groups of A (n=40) and B (n=37), there was no difference in the rate of pelvic nodes metastasis (22.5% in group A and 24.3% in group B, p=0.85). In univariate analysis, patients of no-PLA showed significantly higher rates of recurrence (OR: 2.04, 95%CI 1.02-4.09) and death (OR: 8.20, 95%CI 1.03-65.58) than those of group B, while the differences were not significant between group A and B. In multivariate analysis, nodes number was not a significant risk factor for both recurrence and death, and patient's age and residual mass was the single most important factor associated with disease free survival and overall survival, respectively.
Conclusion
Pelvic nodes sampling may have a similar diagnostic and therapeutic value compared to a thorough PLA in EOC. Careful targeting of node in PLA is more plausible than an attempt to remove lymph nodes as much as possible in terms of similar survival gain and low complication.

IGCSM-0317
Poster Shift I - Ovarian Cancer

IMPACT OF HOSPITAL TYPE AND TREATMENT ON LONG-TERM SURVIVAL AMONG PATIENTS WITH FIGO STAGE IIIC EOC: FOLLOW-UP THROUGH TWO RECURRENCES AND THREE TREATMENT LINES

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Aims
To investigate the impact of hospital type and treatment on 8-year survival in patients with recurrent advanced epithelial ovarian cancer (EOC), to determine possible predictors of survival.
Methods
Using the Norwegian Cancer Registry, we identified 174 women with FIGO stage IIIC EOC diagnosed in 2002. First-line treatment consisted of up-front debulking surgery and chemotherapy, received in either a teaching hospital (TH, n=84) or a non-teaching hospital (NTH, n=90). Survival was determined for three time intervals (TI): TI-1, from end date of first-line treatment to first recurrence or death; TI-2, from beginning of second-line treatment until second recurrence or death; and TI-3, from beginning of third-line treatment to death or end of follow-up.
Results
Extensive surgery (i.e., debulking to 0, <1 cm or ≤2 cm residual disease) carried out in TH resulted in longer survival in the TH group during TI-1 (10.3 versus 7.2 months p=0.02). Beyond TI-1 no difference in survival was observed between TH and NTH. During TI-2, 99 patients with first recurrence received second-line treatment (TH, n=54; NTH, n=45); 71 had platinol-sensitive tumors, and thus better survival than the 28 with platinol-resistant tumors (10.9 versus 4.3 months, p<0.01). During TI-3, 54 patients with second recurrence received third-line treatment, the majority of whom had good performance status, a mean age of 60 years, and received better debulking as first-line treatment followed by ≥6 cycles of chemotherapy.
Conclusion

Extensive primary surgery at TH, platinol sensitivity, age and performance status were predictors of survival in this cohort.

IGCSM-0318
Poster Shift I - Ovarian Cancer

PREOPERATIVE DIAGNOSIS OF SQUAMOUS CELL CARCINOMA ARISING FROM MATURE CYSTIC TERATOMA

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Aims

To analyze the value of tumor markers and clinical factors in making a differential diagnosis between mature cystic teratoma (MCT) and squamous cell carcinoma arising from MCT, we performed retrospective case study.

Methods

Medical records were analysed from September 1985 through November 2013 in our department. Age, values of tumor marker (SCC, CEA, CA125, CA19-9), maximum tumor diameters, and stages were analyzed for differentiation between 58 patients with MCT and 28 patients with squamous cell carcinoma arising from MCT.

Results

Twenty-eight patients with squamous cell carcinoma arising from MCT were retrieved. The value of average and standard deviation of the each factors in patients with squamous cell carcinoma were as follows: age, 54.29±12.09;SCC, 14.57±19.00 ng/mL; CEA 11.58±18.79 ng/mL; CA125 72.76±85.59 U/mL; CA19-9 736.49±1285.43 U/mL; maximum tumor diameter 15.01±5.13 cm. Cutoff value of each factors according to ROC analysis was as follows: SCC 1.74 ng/mL; CEA 1.73 ng/mL; CA125 19.84 U/mL; CA19-9 36.60 U/mL; Age 43.32 yrs; Maximum tumor diameter 9.16cm. SCC was the best screening marker, followed by CA125 for squamous cell carcinoma arising from MCT. The optimal cutoff values for age and maximum tumor diameter were 43 years old and 9.2 cm, respectively, according to ROC analysis.

Conclusion

Characteristics of the patients with squamous cell carcinoma arising from mature cystic teratoma were old age of the patient, large sized tumor and high value of tumor markers of SCC, CEA, CA125, CA19-9. Especially preoperative value of SCC was useful marker for squamous cell carcinoma arising from MCT.

IGCSM-0321
Poster Shift I - Ovarian Cancer

HIGH DCR3 EXPRESSION ENHANCES MALIGNANT POTENTIAL IN EPITHELIAL OVARIAN CANCER

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Aims

Epithelial ovarian cancer is notorious for its tendency to metastasis and poor prognosis. Decoy receptor 3 (DcR3), a soluble tumor necrosis factor receptor, is associated with lymph node and distant metastasis as well as a poor prognosis in several types of cancer. Recent studies have revealed that DcR3 can promote tumor cell migration and invasion, suggesting that DcR3 may play important roles in tumor progression. However, the functional role and regulation of DcR3 expression in ovarian cancer is so far unknown.

Methods

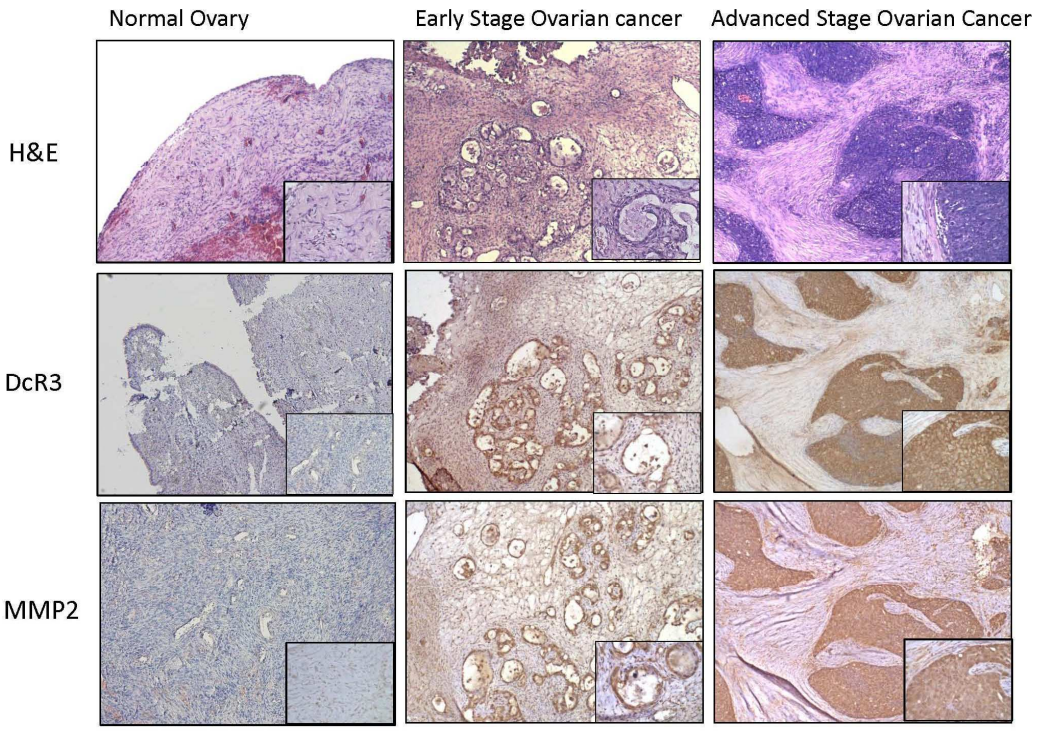
Using immunohistochemistry, the expression levels of DcR3 and MMP-2 were measured in 150 patients with epithelial ovarian cancer. In functional assays, effects of DcR3 knockdown on the biological behavior of ovarian cancer cells were investigated.

Results

DcR3 was overexpressed in the highly invasive ovarian disease, compared with the normal ovarian tissue (75 % vs. 5%, $p<0.001$). In addition, the expression of DcR3 in advanced-staged ovarian cancer was significantly higher than in early-staged ovarian cancer (75 % vs. 14.3 %, $p=0.004$). The overexpression of DcR3 was also significantly higher in cases showing MMP-2 overexpression. High DcR3 expression was associated with poor clinicopathologic features.
Figure: Expression of DcR3 in human ovarian cancer tissues. Original magnification: ×100 (upper); x 200 (lower).

Conclusion

The findings suggest that DcR3 plays important roles in tumor progression of ovarian cancer. DcR3 may serve as a key driver of tumor cell dissemination and suggest DcR3 as a promising target for rational therapy of ovarian cancer.



IGCSM-0324
Poster Shift I - Ovarian Cancer

AN EPIDEMIOLOGICAL EVALUATION OF THE INCIDENCE OF OVARIAN, FALLOPIAN TUBE AND PERITONEAL CARCINOMAS IN ENGLAND DURING 2001-2010

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Aims
To ascertain if the recent reduction in the incidence of ovarian cancer rates could be partly due to reclassification of disease types.
Methods
Registered cases of ovarian, fallopian tube and peritoneal cancer in England during 2001-2010, were scrutinized to assess the trends in disease incidence . Codes employed were ovarian cancers (ICD10 C56, C571-4, C577-9), fallopian tube cancers (C570), peritoneal cancers (C481) and peritoneal cancers unspecified (C482). Borderline tumours were excluded. Using the Stata *strs* command, age-standardised relative survival was calculated as a ratio of the observed versus expected survival rate, using annual age and sex specific national life tables to derive expected background mortality rates. Analyses were carried out using Stata Statistical Software: Release 12
Results
51,115 women were registered with ovarian cancer, 2,729 as peritoneal and 786 as fallopian tube cancers. In 2001, there were 5,464 ovarian cancers , 63 fallopian tube and 129 peritoneal cancers, whereas in 2010 ovarian cancers registered had fallen to 4,967, fallopian tube cancers had risen to 112 cases, and peritoneal cancers to 403. Combined, the overall incidence of these three disease types remained relatively static during the decade. A small reduction in ovarian cancer incidence occured but the rise in number of registered fallopian tube (77.8%) and peritoneal cancers (212.4%) during the same period may account for some of this fall.
Conclusion

The fall in incidence of ovarian cancer is considered mainly due to the use of the contraceptive pill. Reclassification is another contributory factor,. If reclassification rates varied between countries, the potential for erroroneus comparisons arises.

IGCSM-0326
Poster Shift I - Ovarian Cancer

PREVALENCE OF ENDOMETRIOSIS IN OVARIAN CANCER

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Aims

The malignant transformation of endometriosis to clear cell and endometrioid subtypes of ovarian cancer is well documented. Our study aims to determine the prevalence of endometriosis in ovarian cancer in Singapore and identify epidemiological risk factors for malignant transformation of endometriosis.

Methods

A retrospective observational study was conducted encompassing newly diagnosed ovarian cancer and borderline ovarian tumours in Singapore General Hospital from July 2011 to December 2013. We collected data on patient demographics, presence and sites of endometriosis, cancer grade and subtype, and stage of disease.

Results

Prevalence of endometriosis was 18.3% (42) in our cohort of 230 patients. The majority (30, 71.4%) had malignancy arising within ovarian endometriosis, while 12 (28.6%) had incidental endometriosis. Clear cell cancers (20, 47.6%) dominated, while endometrioid and papillary serous subtypes made up 19% (8) and 14.2% (6) respectively. Other associated subtypes included sarcomas, borderline, sarcomas and malignant mixed mullerian tumours. Nulliparous women accounted for 55% (23) of patients and 86% of them had high-grade but early stage (1 and 2) cancers. Overall, 80% (32) of patients had high-grade tumours yet 71.4% (30) had early stage disease.

Conclusion

The incidence of endometriosis in ovarian cancer was higher than in Western and Japanese (10.9-14.5%) cohorts. Consistent with previous studies, clear cell tumours were the most prevalent, but interestingly, endometrioid and papillary serous tumours each formed a similar proportion of cases in our population. Endometriosis-associated ovarian cancers tended to be of higher grade but were diagnosed at an earlier stage than the general cohort of ovarian cancer patients.

IGCSM-0336
Poster Shift I - Ovarian Cancer

A QUALITATIVE STUDY OF OVARIAN CANCER SURVIVORS' PERCEPTIONS OF ENDPOINTS AND GOALS OF CARE

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Aims

The Ovarian Cancer National Alliance survey, "Endpoints in Clinical Trials: What do our patients consider important?" revealed a communication gap between physicians and survivors. This qualitative study explored the space between perceptions in hopes of better defining treatment endpoints meaningful to treating physicians and their patients.

Methods

A focus group of ovarian cancer survivors (n=23) was assembled via the survivor support network SHARE. A physician-guided session explored topics including expectations of treatment, toxicity thresholds and decision-making. Sessions were recorded, transcribed and coded. Common themes were identified and intra-case analysis performed by two independent reviewers.

Results

The main themes identified in the focus group were barriers to communication, importance of frequent communication between patient and physician, and expectations of treatment changing with position along the treatment continuum. One hundred percent of participants identified communication with their physician as an essential element in determining treatment course. Only 14% reported having a discussion about goals and values with their physician preceding treatment decisions. Participants reported that the terms progression free and overall survival held minimal significance and instead they preferred an individualized approach to care focusing on quality of life. Many women underreported side effects with reasons ranging from fear of dose reductions to forgetting about symptoms due to anxiety.

Conclusion

An objective measure of treatment success meaningful to survivors, physicians and regulators is, at present, elusive and may not exist. Ideally, future trial design would place equal weight on quantitative and qualitative measures and include information about goals of treatment.

IGCSM-0340
Poster Shift I - Ovarian Cancer

TRANSITIONAL CELL CARCINOMA (TCC) OF THE OVARY THAT HAS ACHIEVED LONG-TERM SURVIVAL: A CASE REPORT

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Aims

TCC of the ovary is a recently recognized subtype of ovarian surface epithelial cancer and its incidence represents 1% of all ovarian carcinomas. In our hospital, three cases of TCC have been recognized out of 191 ovarian carcinoma (1.5%) between January 2000 and December 2013. We report a case of TCC which achieved a long prognosis by chemotherapy and inter debulking surgery (IDS).

Methods

A 76-year-old postmenopausal woman presented with a history of abdominal pain and palpable abdominal mass. The patient underwent exploratory laparotomy and diagnosed as TCC, pT3cNxM0, FIGO stage IIIc. She underwent 4 cycles of chemotherapy: paclitaxel and carboplatin (TC) as neoadjuvant chemotherapy (NAC). Following the chemotherapy, IDS with total abdominal hysterectomy, bilateral salpingo-oophorectomy and partial omentectomy was performed. She underwent 3 cycles of chemotherapy TC after the IDS. After 36 months from initial treatment, recurrence was found in her pelvis by computer tomography. Tumor resection was performed. After the operation, she underwent 6 cycles of chemotherapy with TC again. After 60 months from initial treatment, recurrence was found in surface of liver, and she underwent 2 cycles of chemotherapy with TC. However the chemotherapy could not be continued because of side effects. She underwent 10 cycles of chemotherapy with liposomal doxorubicin ($40mg/m^2$).

Results

She is regularly followed up and has been disease free for 36 months after the last treatment.

Conclusion

We can expect an effectiveness of standard ovarian cancer treatment for TCC as well as common ovarian epithelial carcinoma.

IGCSM-0342
Poster Shift I - Ovarian Cancer

TARGETING THE CELL SURFACE PROTEIN CDCP1 IN A MODEL OF ADVANCED OVARIAN CANCER.

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Aims: High grade serous ovarian cancer (HGSC) is the most common histotype of ovarian cancer, representing approximately 70% of all cases. Most patients are diagnosed at an advanced stage which presents a challenge for treatment and the 5 year survival rate remains poor. HGSC presents a distinctive metastatic phenotype whereby disseminating cancer cells migrate, survive in ascitic fluid and implant in the peritoneum as multiple tumour nodules.

The cell surface protein CUB domain-containing protein 1 (CDCP1) promotes migration, invasion and survival in cancer models and is associated with a poor prognosis in a number of malignancies. CDCP1 will be investigated as a potential therapeutic target in HGSC.

Methods

Immunohistochemistry (IHC) was used to investigate CDCP1 expression in HGSC tumours (n=95) and normal ovaries (n=25). CDCP1 was silenced with lentiviral constructs in HGSC cell lines and the effect on migration *in vitro* and tumour establishment *in vivo* was tested. CDCP1 was targeted using a monoclonal anti-CDCP1 antibody to treat mice carrying a patient-derived xenograft (PDX).

Results

IHC analysis revealed that CDCP1 was over-expressed in 74% of HGSC tumours and was not detected in normal ovarian tissue. Silencing of CDCP1 in HGSC cell lines significantly reduced migration *in vitro* and reduced tumour burden *in vivo*. Anti-CDCP1 antibody treatment significantly reduced tumour burden in a PDX of HGSC.

Conclusion

These data show that CDCP1 is aberrantly expressed in HGSC and warrants further investigation as a potential therapeutic target.

IGCSM-0344
Poster Shift I - Ovarian Cancer

QUANTIFICATION OF POSITIVE CELLS WITH SPECIFIC GENE EXPRESSION IN FFPE PATIENT SECTIONS OF EPITHELIAL OVARIAN CARCINOMA

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Aims

In situ hybridization (ISH) in formalin fixed paraffin embedded (FFPE) sections is commonly used for clinical diagnosis that detects RNA/DNA gene expression. However, it is difficult for a doctor to evaluate the gene expression under the situation that ISH positive staining, by any reasons, was only distributed portion of FFPE sections. Here we provided a method that allowed us to quantitative analysis of gene expression in volume and surface density in FFPE sections.

Methods

Paraffin blocks containing epithelial ovarian carcinoma (EOC) or control tissues were selected for serial sectioning. For ISH light microscopy, tissues were photographed and a coherent lattice square test system was used for point/intersection counting. The number of ISH positive EOC cells was counted on the screen of the computer in every secondary square. Profiles were taken in every fourth square of every sixth section from each section.

Results

The volume density (Vv) of positive ISH cells was expressed as a percentage by point counting and calculated by the formula Vv=PI/PT, in which PI is the number of points and PT is the number of points of reference area. The surface density (Sv) expressed in mm2/mm3 by intersection counting and calculated by the formula Sv=2 II/LT, in which II is the number of intersections and LT is the length of test line.

Conclusion

This procedure may be adapted for clinical diagnosis and basic research, providing an efficient method to evaluate gene expression patterns in FFPE tissue, especially in cases where the ISH staining was less distributed.

IGCSM-0345
Poster Shift I - Ovarian Cancer

INVESTIGATING THE ROLE OF CANCER STEM CELLS IN CHEMORESISTANT AND RECURRENT OVARIAN CANCER

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Aims

The treatment of ovarian cancer (OC) with chemotherapy leaves resistant cancer cells responsible for recurrence. This study aims to understand the molecular mechanisms involved with chemoresistance/recurrence by investigating the roles of (i) the cancer stem cell (CSC) associated JAK2/STAT3 pathway and; (ii) an embryonic stem cell factor Oct4A in OC cell lines and isolated tumor cells from the ascites of patients.

Methods

The mechanism of survival of chemotherapy-treated residual cells was determined by *in vitro* assays and in mouse xenografts. The functional role of Oct4A *in vitro* and *in vivo* was investigated by silencing Oct4A expression in an OC cell line.

Results

The treatment of OC cells with chemotherapy resulted in a CSC-like residual population with increased activation of JAK2/STAT3 pathway. Both JAK2/STAT3 activation and CSC-like characteristics were inhibited by a low dose JAK2 specific inhibitor *in vitro* and *in vivo*. This resulted in a significantly reduced tumor burden, inhibition of the JAK2/STAT3 pathway and a loss of CSC-like characteristics. We then targeted Oct4A to functionally understand the role of CSC-like populations on OC progression, chemoresistance, tumor burden and overall survival. Knockdown of Oct4A in OC cells resulted in a decreased expression of CSCs and was consistent with decreased cell proliferation, migration and chemoresistance *in vitro. In vivo* Oct4A knockdown cells produced a significantly reduced tumor burden in mice resulting in a significantly increased survival period compared to vector control cells.

Conclusion

These studies suggest that targeting CSCs may prove a therapeutic option for advanced-stage OC patients.

IGCSM-0346
Poster Shift I - Ovarian Cancer

OVARIAN PURE IMMATURE TERATOMAS – CASE SERIES FROM A REGIONAL CANCER INSTITUTE

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Aims
Pure immature teratomas are rare tumors, accounting for less than 1% of ovarian tumors. Clinical presentation and outcomes in this rare tumour is the focus of this study.
Methods
This is a retrospective analysis of patients with ovarian immature teratomas treated from 1999 to 2011. Patient's demographic, clinical, operative, treatment and follow up details are analysed.
Results
Of the 218 patients with ovarian germ cell tumors, twenty four had pure immature teratoma accounting for 11% of all tumors. The median age of presentation was 21.4. Pain was the commonest complaint and fourteen patients had an abdominal mass at the time of diagnosis. Six patients had a unilateral salphingo-oophorectomy and no further staging procedure. Only one patient in this group was kept on follow up. Five patients received chemotherapy and with average follow up of 46 months had no evidence of recurrence. The remaining with advanced disease underwent surgical staging preceded or followed by platinum chemotherapy. Of the six patients who underwent lymphadenectomy, three patients had positive nodes. Two of the node positive women accounted for the two deaths in this study. Four confirmed recurrences were recorded. Three of these recurrences were Stage IIIC tumours. Overall survival after a mean followup of 39 months is 91.6%.
Conclusion

Advanced tumours and recurrences can be salvaged with cytoreduction and platinum chemotherapy. Pooling data in this rare tumour is necessary to come to meaningful conclusions.

IGCSM-0365
Poster Shift I - Ovarian Cancer

METFORMIN THERAPY IS ASSOCIATED WITH A DECREASED RISK OF OVARIAN CANCER IN TAIWANESE WOMEN WITH TYPE 2 DIABETES MELLITUS

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Aims

To evaluate whether metformin therapy affects ovarian cancer risk in Taiwanese female patients with type 2 diabetes mellitus (T2DM).

Methods

The reimbursement databases of Taiwanese female patients with a new diagnosis of T2DM between 1998 and 2002 (*n*=479475) were retrieved from the National Health Insurance for follow-up of ovarian cancer until the end of 2009. Metformin was treated as a time-dependent variable; and of these patients, 286106 were never-users and 193369 were ever-users. A time-dependent approach was used to calculate ovarian cancer incidence and estimate hazard ratios by Cox regression for ever-users, never-users, and subgroups of metformin exposure (tertiles of cumulative duration and cumulative dose).

Results

During follow-up, 601 (0.31%) metformin ever-users and 2600 (0.58%) never-users developed ovarian cancer, representing an incidence of 49.42 and 146.44 per 100,000 person-years, respectively. The overall multivariable-adjusted hazard ratio (95% confidence intervals) for ever- versus never-users was 0.658 (0.593-0.730). The multivariable-adjusted hazard ratios for the first, second, and third tertiles of cumulative duration of metformin therapy were 1.169 (1.019-1.341), 0.761 (0.644-0.898) and 0.276 (0.225-0.340), respectively (*P*-trend <0.0001); and 1.220 (1.067-1.395), 0.610 (0.513-0.725) and 0.305 (0.248-0.374), respectively (*P*-trend <0.0001), for cumulative dose of metformin.

Conclusion

Metformin therapy is associated with a decreased risk of ovarian cancer.

IGCSM-0372
Poster Shift I - Ovarian Cancer

CLINICAL AND IMMUNOLOGICAL ANALYSIS IN CLINICAL STUDY OF GLYPICAN-3 PEPTIDE VACCINE FOR PATIENTS WITH OVARIAN CLEAR CELL CARCINOMA IN FIRST CLINICAL REMISSION

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Aims

Glypican-3 (GPC3) is useful not only as a novel tumor marker, but also as an oncofetal antigen for immunotherapy. In this study, we investigated the effect of vaccination with the HLA-A24 or A2-restricted GPC3 peptide on patients with ovarian clear cell carcinoma (OCCC) in first clinical remission.

Methods

We are conducting a phase II trial with a GPC3-derived peptide vaccine in OCCC patients. The dose of GPC3 peptide injected was 3 mg per body. Patients received the intradermal injection of GPC3 peptide emulsified with incomplete Freund's adjuvant. Vaccinations were carried out biweekly from the first to the 6th and repeated at 6-week intervals from the 7th until the 10th. Immunological responses were analyzed by *ex vivo* IFN-γ enzyme-linked immunospot assay. Surgical specimens were stained with hematoxylin and eosin or monoclonal antibodies against GPC3 and HLA class I, according to the manufacturers' directions.

Results

Twenty-eight OCCC patients were enrolled in this trial until the end of April 2014. Six patients who were vaccinated at least 3 times had recurrence. Recurrence pattern of all patients was peritoneal metastasis. None of 10 patients with stage IC had recurrence. GPC3 peptide vaccination could induce peptide-specific CTLs in most OCCC patients.

Conclusion

It may be difficult to predict the clinical benefit based on the strength of GPC3 expression in the primary tumor. Our current data support further evaluation of this approach in stage IC patients. The development of a biomarker to select suitable patients would contribute to potential success in a clinical trial of a GPC3 peptide vaccine.

IGCSM-0374
Poster Shift I - Ovarian Cancer

MALIGNANT PERICARDIAL EFFUSION AND TAMPONADE FROM A PRIMARY OVARIAN CARCINOMA

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Aims

Neoplastic pericarditis is the most common cause of cardiac tamponade, accounting for 32–58% of cases. Malignant pericardial effusion often has an insidious onset, can mimic disseminated carcinomatosis and is often noticed only postmortem. It can cause effusion and, rarely, tamponade.

The development of malignant pericardial metastasis in patients with disseminated malignancy is not uncommon. The incidence ranges from 5%-53%. Metastatic pericardial disease is much more common than primary malignancy and arises from lung and breast carcinoma, melanoma or hematological malignancies but is noted to be extremely rare in patients with ovarian cancer. Nevertheless, any tumor can potentially involve the pericardium and result in effusion.

The aim of this paper is to present a case of malignant pericardial effusion and subsequent literature review.

Methods

Case study

Results

Presenting a case of ovarian endometrioid adenocarcinoma who underwent hysterectomy and surgical staging procedure last 2012. She presented with difficulty of breathing, abdominal enlargement and leg edema 1 year after surgery. Further examinations revealed pericardial effusion. Pericardiostomy and pericardial biopsy were done, and samples sent were positive for malignancy.

Conclusion

The overall prognosis of patients with malignant pericardial effusion is primarily dictated by the histologic type and extent of the underlying cancer. Except for a few malignant diseases such as lymphomas, involvement of the pericardium virtually always reflects incurability. Anihilistic attitude towards the management of malignant pericardial effusion is not justified because for many patients a reasonable period of meaningful paliation can be obtained.

IGCSM-0377
Poster Shift I - Ovarian Cancer

ELEVATED PREOPERATIVE PLATELET TO LYMPHOCYTE RATIO IS ASSOCIATED WITH DECREASED SURVIVAL OF WOMEN WITH OVARIAN CLEAR CELL CARCINOMA

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Aims

To establish whether preoperative platelet to lymphocyte ratio (PLR) predicts survival of women with ovarian clear cell adenocarcinoma (OCCC).

Methods

PLR > 300 was considered elevated. Progression-free survival (PFS) probability was estimated using Kaplan–Meier methods. Cox proportional hazards analysis was used to determine an independent effect of PLR.

Results

Thirty-six patients were reviewed. Elevated PLR were more commonly noted in advanced stage than those early stage patients (88.9% vs. 11.1%). Women with elevated PLR carried a higher rate of disease progression during primary therapy than that for the normal PLR group (44.4 vs. 22.2%). Median PFS for patients with elevated PLR was notably worse than that for patients with normal PLR (10 vs. 34 months). Despite an independent impact of an elevated PLR on PFS was found to be marginally significant when controlling for the standardly applied prognostic markers, there was a trend toward significant noted (HR=4.76; 95%CI, 0.95-23.8).

Conclusion

Elevated PLR appears to directly adverse survival rather than being a surrogate for other poor prognostic indicators. PLR may be a potentially useful biomarker for predicting survival of women with OCCC and merits further large-scale studies to confirm these provocative results.

IGCSM-0380
Poster Shift I - Ovarian Cancer

ROLE OF BRCA1 AND BRCA2 GENE MUTATIONS IN EPITHELIAL OVARIAN CANCER IN INDIAN POPULATION : A PILOT STUDY

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Aims

Ovarian cancer is the third most common cancer in India with an age adjusted rate (AAR) of 5.3/100, 000 women. Hereditary cancers constitute upto 14% of all epithelial ovarian cancers. The aim of the study was to study the role of three common mutations, 183delAG and 5382insC in BRCA1 and 6174delT in BRCA2 genes in epithelial ovarian cancers.

Methods

The pilot study was carried out on 30 women aged less than 50 years with serous papillary ovarian cancer admitted for staging laparotomy. DNA was isolated from patients' tissue blocks and the exons of interest, exon 2 and 20 in BRCA1 and exon 11 in BRCA2, were amplified. Sequencing was performed using Big Dye terminator and the sequenced data viewed using Sequence Scanner software.

Results

This study identified 5 sequence variants (2 reported single nucleotide polymorphisms and 3 novel variants) in BRCA1 gene and 1 novel sequence variant in BRCA2 gene. The three mutations, namely 187delAG and 5382insC in BRCA1 and 6174delT in BRCA2 genes were not seen any of the patients (Fig. 1, 2).

Conclusion

Any future study should be of case-control type on a larger population involving sequencing of all exons in BRCA1 and BRCA2 genes so as to establish the role of mutations and sequence variants in epithelial ovarian cancer in an Indian population. NCCN guidelines recommend genetic testing in any women who has had epithelial ovarian cancer.

IGCSM-0383
Poster Shift I - Ovarian Cancer

PHASE II TRIAL OF WEEKLY TRABECTEDIN PLUS WEEKLY PEGYLATED LIPOSOMAL DOXORUBICIN FOR TREATMENT OF ADVANCED, PERSISTENT OR RECURRENT OVARIAN CARCINOMA

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Aims

The aim our study is to determine safety, feasibility and efficacy of weekly Trabectedin (T) 0,4 mg/mq iv in combination with weekly Pegylated Liposomal Doxorubicin (PLD) 10 mg/mq in patients with recurrent ovarian cancer.

Methods

We carried out a single Institute Phase II trial in patients with advanced recurrent ovarian cancer. Inclusion criteria included: age 18-75; recurrent and measurable disease; acceptable organ function; normal blood chemistry parameters; prior chemotherapic regimens; ECOG performance status 0-1; life expectancy > 3 months; signed informed consent. Trabectedin (0.4 mg/mq) was administered weekly via a central line, after premedication with dexamethasone, as a 3-h infusion weekly for 3 weeks followed by weekly infusion of Caelyx 10 mg/mq. Therapy continued until disease progression, unacceptable toxicity, patient refusal.

Results: Between March 2010 and Febrary 2014, 38 patients were recruited; median age was 56 years (range: 36-75). The median number of cycles was 5 (203 total cycles, range 2-13). In 11 patients (29%) an objective response rate with measurable disease was achieved. The median progression-free survival was 5.9 months. No unexpected toxicities were found. The most frequent treatment-related grade 3/4 adverse events included neutropenia (29%), thrombocytopenia (13%), anemia (7%), nausea/vomiting (12%), fatigue (12%) and reversible AST/ALT elevation (14%), neuropathy (8%). No drug related cardiotoxicity was observed. There were no treatment-related deaths nor cases of liver failure.

Conclusion

Weekly administration of T and PLD is a safe and feasible therapeutic option for recurrent ovarian carcinoma. Further studies are needed in order to confirm these data.

IGCSM-0392
Poster Shift I - Ovarian Cancer

ANALYSIS OF A LARGE SERIES OF ABDOMINAL GROWING SYNDROM TERATOMA : SURGICAL CHARACTERISTICS AND ONCOLOGIC OUTCOMES.

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Aims

To evaluate the surgical characteristics and oncological outcomes in a series of growing syndrome teratoma/GST.

Methods

Retrospective analysis of ptients treated for an ovarian immature (IT) teratoma by conservative surgery followed by chemoterapy and who develop thereafter an histologically pure « mature » GST (excluding nodal GST) treated using debulking surgery.

Results

Between 1980 and 2013, 23 patients underwent debulking surgery for GST. Mean age at diagnosis was 23,2 ± 6,8 years. Mean delay between IT and GTS diagnosis was 337,2 ± 342,2 days. Surgical resection included Douglass pouch resection or large peritonectomies (n=17), complete omentectomy (n=15), diaphragmatic resection (n=13), bilateral salpingo-oophorectomies (n=13), hysterectomy (n=12), bowel resection (n=7), splenectomy (n=5), large wound resection (n=4 including a free flap for closure in 1). Conservative surgery (of the uterus and at least a part of 1 ovary) was possible in 10 patients. Complete cytoreductive surgery (CC0) was achieved in 18 and a CC1 resection in 3 patients. Mean follow-up was 73,6 ± 79,4 months. Seven of them have presented at least 1 recurrence (under the form of. GST). Six of these recurrent patients had CC0 resection. Two patients had a child after the treatment. No patients died from disease.

Conclusion

Overall prognosis of abdominal GST is good, but surgical procedures required are similar to those used in debulking surgery for epithelial cancer. Nevertheless, whenever technically possible a conservative surgery should be done because spontaneous fertility is possible. Recurrent GST is frequent even after complete surgery.

IGCSM-0402
Poster Shift I - Ovarian Cancer

DDX4 (DEAD BOX POLYPEPTIDE 4) COLOCALIZES WITH CANCER STEM CELL MARKER CD133 IN OVARIAN CANCERS

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Aims
DDX4 (DEAD box polypeptide 4), characterized by the conserved motif Asp-Glu-Ala-Asp (DEAD), is an RNA helicase which is implicated in various cellular processes involving the alteration of RNA secondary structure, such as translation initiation, nuclear and mitochondrial splicing, and ribosome and spliceosome assembly. DDX4 is known to be a germ cell-specific protein and is used as a sorting marker of germline stem cells for the production of oocytes. A recent report about DDX4 in ovarian cancer showed that DDX4 is overexpressed in epithelial ovarian cancer and disrupts a DNA damage-induced G2 checkpoint.
Methods
We investigated the relationship between DDX4 and ovarian cancer stem cells by analyzing the expression patterns of DDX4 and the cancer stem cell marker CD133 in ovarian cancers via tissue microarray.
Results
Both DDX4 and CD133 were significantly increased in ovarian cancer compared to benign tumors, and showed similar patterns of expression. In addition, DDX4 and CD133 were mostly colocalized in various types of ovarian cancer.
Conclusion
CD133-positive ovarian cancers sorted by a MAX-sorting system showed significantly increased expression levels of DDX4, suggesting a strong possibility that DDX4 plays an important role in cancer stem cells, and/or can be used as an ovarian cancer stem cell marker.

IGCSM-0405
Poster Shift I - Ovarian Cancer

ANNEXIN A2 A POTENTIAL PROGNOSTIC MARKER FOR SEROUS OVARIAN CANCER PROMOTES OVARIAN CANCER METATASIS

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Aims

Ovarian cancer metastasis is defined by the spread of ovarian cancer cells and their implantation to the peritoneum. We identified annexin A2 using proteomics and investigated the role of annexin A2 using *in vitro* and *in vivo* ovarian cancer models.

Methods

Annexin A2 levels were assessed in stage III serous ovarian cancers using immunohistochemistry and annexin A2 siRNAs was used to evaluate the effect of annexin A2 suppression on ovarian cancer cell adhesion, motility and invasion. Furthermore, annexin A2 neutralizing antibodies were used to examine the role of annexin A2 in invasion and metastasis using a chick chorioallantoic membrane (CAM) assay and an intraperitoneal xenograft mouse model.

Results: Kaplan-Meier survival analysis showed high stromal annexin A2 expression was associated with reduced progression free survival and overall survival. Moreover, multivariate Cox Regression analysis showed stromal annexin A2 was an independent predictor of overall survival in the patients with residual disease. Depletion of annexin A2 inhibited the motility and invasion of ovarian cancer cells and adhesion to the peritoneal cells *in vitro*. Annexin A2 neutralizing antibodies inhibited OV-90 cell motility and invasion *in vitro* and in the CAM assay. The growth of SKOV-3 cells and their peritoneal dissemination in nude mice was inhibited by annexin A2 neutralizing antibodies. Our findings suggest that the reduced in tumour burden and metastatic spread is a result of reduced cell survival.

Conclusion

Annexin A2 plays an important role in ovarian cancer metastasis and is therefore a potential prognostic marker and therapeutic target against ovarian cancer.

IGCSM-0408
Poster Shift I - Ovarian Cancer

ONCOGENE MUTATION TESTING IN LOW GRADE SEROUS CARCINOMAS AND SEROUS BORDERLINE TUMOURS IN AN AUSTRALIAN TERTIARY CARE REFERRAL SETTING.

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Aims

Serous ovarian cancer can be divided into two biologically and clinically relevant groups. High grade serous carcinomas constitute around 90% of these and are driven by *TP53* muations. The remainder are low grade serous adenocarcinomas, several of which may harbour KRAS or BRAF oncogene mutations as part of the mitogen-activated protein kinase pathway (MAPK/ERK).

The low grade serous carcinomas respond poorly to conventional serous carcinoma chemotherapy but have shown promising early results with new targeted therapies that disrupt this pathway such as selective MEK inhibitors.

Our aim was to determine the prevalence of targeted mutations including two specific mutations, BRAF and KRAS, in a cohort of women reviewed at an Australian tertiary care public hospital with low grade serous ovarian disease.

Methods

We performed Sequenom OncoCarta Panel testing for 19 possible oncogene mutations on formalin fixed paraffin embedded tissue blocks (n=50) of low grade serous adenocarcinomas and serous borderline tumours.

Results

We determined the spectrum and proportion of mutations, including double positive mutations, and correlated these findings with stage of disease at presentation and disease progression data.

Conclusion

This study in a small cohort of patients in a diagnostic setting was supportive of current theories of the molecular pathogenesis of low grade serous ovarian cancer and initiated a personalized medicine approach to the treatment of this disease. Such patients should be considered for future trials involving MEK inhibitors.

IGCSM-0418
Poster Shift I - Ovarian Cancer

GAMUT – GENOMIC ANALYSIS OF MUCINOUS TUMOURS

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Aims
Mucinous tumours can arise from multiple organs but are rare at each site and thus understudied. <3% of epithelial ovarian cancers (OC) have a mucinous histology (MOC) and these have a distinct genomic profile compared to other OC subtypes. Low-grade MOC may progress from benign/borderline ovarian precursors but the development of late stage high-grade MOC is less clear. Advanced disease is frequently platinum-resistant and many of these may in fact represent metastases from distant sites.
Methods
GAMuT is an in-depth molecular characterisation of mucinous tumours incorporating Exome-seq, RNA-seq and SNP arrays, aiming to (1) identify key events in MOC pathogenesis from benign to invasive stages and (2) determine if genetic or gene expression changes distinguish between mucinous cancers from different anatomical sites. Clinically and pathologically reviewed cases of MOC, benign/borderline ovarian precursors, and extra-ovarian metastases have been identified through CART-WHEEL.org, AOCS and national/international tumour banks.
Results

Exome sequencing suggests significant overlap of candidate genes with mucinous tumours from other tissues including inactivating mutations in the pan-mucinous suppressor gene *RNF43*. We have also identified concurrent MAPK pathway activation/*CDKN2A* loss as an early event in tumour development, and p53 aberration associated with an invasive phenotype.

Conclusion

Preliminary findings support an adenoma-borderline-carcinoma progression model for MOC, although it remains to be seen if this is true for high-grade MOC, or if expression analysis can distinguish mucinous tumours arising from different sites. If mucinous cancers share common genomic aberrations regardless of cell of origin, this has significant implications for treatment strategies.

IGCSM-0419
Poster Shift I - Ovarian Cancer

THE CLINICAL CHARACTERISTICS IN DETERMINING THE OPTIMUM TIMING OF INTERVAL DEBULKING SURGERY IN PATIENTS WITH ADVANCED EPITHELIAL OVARIAN CANCER.

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Aims
We investigated the clinical characteristics in determining optimum timing of interval debulking surgery (IDS) following neoadjuvant chemotherapy (NAC) in patients with advanced stage epithelial ovarian cancer.
Methods
We reviewed the chart of women with advanced epithelial ovarian cancer, fallopian tube cancer, or primary peritoneal cancer who had been treated with IDS following NAC at our cancer center from January 2006 to April 2014.
Results
There were 139 patients including 91 ovarian cancer (FIGO stage ?c:56, ?:35), 2 fallopian tube cancer (?:2), and 46 primary peritoneal cancer (?c:27, ?:19). IDS was performed after 3 to 6 cycles (median 4 cycles) of platinum based chemotherapy. Sixty-seven patients (48.2%) achieved complete resection of all macroscopic disease, though 72 did not.
Patients with CA125 value <25.8mg/dL at IDS had superior complete resection rate compared with higher CA125 value (84.7% vs. 21.3%; p<0.0001).
Patients without ascites at IDS also had superior complete resection rate (60.5% vs. 32.8%; p=0.0031).
Moreover, patients with CA125 value <25.8mg/dL and without ascites at IDS had superior complete resection rate compared with others (39/45, 86.7%; p<0.0001).
Conclusion
Low CA125 value and absence of ascites were major predictive factors for complete resection of tumors at IDS. Decline of CA125 value and disappearance of ascites may be useful in determining the optimum timing of IDS.

IGCSM-0420
Poster Shift I - Ovarian Cancer

POST-TREATMENT FERTILITY AND GONADAL FUNCTION IN YOUNG WOMEN DIAGNOSED WITH A MALIGNANT OVARIAN GERM CELL TUMOR (MOGCT) DURING THE "CISPLATIN ERA"

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Aims

By self-report and serum levels of anti-Mullerian hormone (AMH) to assess post-treatment fertility after modern treatment of MOGCT.

Methods

In 2013 a questionnaire-based survey was performed in 61 patients diagnosed at age < 40 years with MOGCT from 1980-2009. Forty-nine of them also attended an out-patient visit. The event of first post-treatment pregnancy was documented within each of 3 groups: (1) Surgery only (n=10); (2) Cisplatin-based chemotherapy (n=35); (3) Other adjuvant treatment (n=16 [Adriamycin in 12 and radiotherapy in 4]). AMH was determined in women <40 years at survey.

Results

Post-treatment pregnancy was reported by 34 of 61survivors. The 15 year cumulative fertility estimates (Kaplan Meier procedure) in the three groups were respectively (1) 35%, (2) 34% and (3) 7% (p: <0.01). Fertility was significantly higher after cumulative cisplatin doses of <500 mgm^2 (equivalent to ≤3 cycles) - 47% than after ≥500 mgm^2 (equivalent to >3 cycles) -20% (p: 0.03). The cumulative dose ≥500 mgm^2 and delayed menarche remained significant predictors of infertility, (respectively: HR: 5.4; HR: 3.3, [cox regression analysis]). Of 22 AMH levels, three were ≤3 pmol/l, with one of the latter women being pregnant at survey.

Conclusion

After fertility-sparing surgery and modern chemotherapy, fertility is preserved in most MOGCT survivors though dependent on the cumulative dose of cisplatin. AMH`s role as a biomarker of gonadal function requires further research.

IGCSM-0433
Poster Shift I - Ovarian Cancer

PELVIC PERITONECTOMY IN PATIENTS WITH DISSEMINATED FORMS OF MALIGNANT OVARIAN TUMORS

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Aims

For improved tumor resectability in patients with disseminated forms of malignant ovarian tumors there has been applied a method of retroperitoneal panhysterectomy - pelvic peritonectomy (Douglas ectomy).

Methods

Pelvic peritonectomy included en bloc resection of uterus with affected ovaries and tumor masses from pelvic peritoneum with metastases localized on serose of Douglas pouch, colon, bladder; it was performed in 37 patients with disseminated malignant ovarian tumors: in 23 (62.2%) patients surgical removal of pelvic peritoneum and uterus with ovarian tumors was not accompanied with intervention in annexa (rectum, bladder); in 15 (38.8%) patients with tumor invasion into intestinal wall, there was additionally performed low anterior resection of rectum with primary reconstruction.

Results

Performance of pelvic peritonectomy (Douglas ectomy) in patients with disseminated forms of malignant ovarian tumors increases the radicality of intervention by 42.5 %, and the use of primary-reconstructive intervention in large bowel elevates patient's quality of life. The use of mentioned approaches allows preserve an integrity of rectosigmoid part of colon without decrease of radicality in patients with malignant ovarian tumors, increase by 27.6 % the number of optimal surgical interventions in patients with disseminated forms of this pathology.

Conclusion

An advantage of this method in an elevation of radicality of cytoreductive surgical interventions in patients with disseminated forms of malignant ovarian tumors, the decrease of the rate of recurrence and metastasis, an improvement of long-term outcome an patient's quality of life.

IGCSM-0440
Poster Shift I - Ovarian Cancer

ESTROGEN AND PROGESTERON RECEPTOR EXPRESSION AFFECTS OVARIAN CANCER SURVIVAL

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Aims

Potential endocrine influence in ovarian cancer is gaining interest, but the results are inconclusive. Although about 60% of all ovarian cancers display high expression of estrogen receptors, the effect of endocrine treatment is limited. We assessed estrogen and progesterone receptor (ER/PR) expression in an ovarian cancer cohort in order to study the potential correlation between hormone receptor expression and disease free survival.

Methods

140 ovarian cancers were collected in a consecutive series 1998-2000 (Skåne Oncology Clinic, Sweden). A majority of the tumors were serous, high-grade and advanced-stage. Immunohistochemical stainings for ER and PR were evaluated on a tissue microarray, and dichotomized as either $\leq$10%, weakly stained cells or $\geq$11%, moderately-strongly stained. The 5-year disease free survival was estimated in univariate analyses.

Results

75/140 tumors expressed ER and/or PR. Univariate analysis revealed a significantly better 5-year disease free survival for ER-/PR+ patients compared to ER+/PR- (p=0.007, Log-Rank test). Survival analyses stratified for stage and grade were only possible to interpret among stage III+IV and grade 2+3 tumors. Both analyses showed a trend towards better outcome for ER-/PR+ patients (stage III+IV, p=0.009; grade 2+3, p=0.058).

Conclusion

This study indicates that a combination of ER-negativity/PR-positivity in ovarian cancer is prognostically favorable, in line with previous results correlating strong PR-expression to prolonged survival in high-grade serous ovarian cancers. Furthermore, we show that ER-positivity/PR-negativity is prognostically unfavorable. This indicates that endocrine treatment may be useful in subsets of ovarian cancer and warrants further studies.

IGCSM-0441
Poster Shift I - Ovarian Cancer

SERUM CA19-9 AS A PREDICTOR OF MALIGNANCY IN PRIMARY OVARIAN MUCINOUS TUMORS: A MATCHED CASE-CONTROL STUDY

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Aims

To evaluate correlation of serum CA19-9 elevation with the histological subtypes of primary ovarian mucinous tumors.

Methods

We retrospectively identified 27 consecutive women with pathologically-confirmed primary ovarian mucinous neoplasms (16 borderline and 11 malignant), who had been checked serum CA19-9 and CA125 level preoperatively. The control group was established by 1:2 matching for age among all women with pathologically-confirmed benign mucinous tumors over the same period. The associations of the serum CA19-9 elevation and clinical characteristics were evaluated.

Results

Serum CA19-9 was more frequently elevated in borderline or malignant than benign tumors (57.9% vs. 16.7%, P= 0.001), although the mean value of serum CA19-9 was not significantly different among histological subtypes. CA19-9 elevation was correlated with large tumor size (largest diameter ≥ 15cm; p = 0.028), serum CA125 elevation (p = 0.006), and tumor pathology (borderline or malignant tumors; p = 0.001). Other clinical characteristics, including parity, menopause, bilateral tumor involvement, and torsion were not correlated with CA19-9 elevation. Multivariate analysis revealed that tumor pathology was the only independent factors for CA19-9 elevation in primary ovarian mucinous tumors (Odds ratio 3.842, 95% CI 1.277-11.558, p = 0.017). Interestingly, subgroup analysis in women with normal serum CA 125 level revealed that CA19-9 was significantly correlated with borderline or malignant than benign tumors (Odds ratio 6.3, 95% CI 1.438 – 19.648, p = 0.014).

Conclusion

Serum CA19-9 can be a useful marker in predicting malignancy of primary ovarian mucinous tumors, particularly when serum CA125 level is not elevated.

IGCSM-0457
Poster Shift I - Ovarian Cancer

SINGLE PORT ACCESS (SPA) HIGH DEFINITION DOUBLE CONSOL ROBOT SUPRA- RADICAL CYTOREDUCTIVE, AND PANNICULECTOMY SURGERY IN MORBIDLY OBESE WOMEN WITH ADVANCED OVARIAN CANCER: FARGHALY'S TECHNIQUE

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Aims

The surgical management of morbidly (BMI >40) and super obese (BMI >50) women with ovarian cancer is challenging. Complications such as wound breakdown, respiratory challenges, cardiac complications and difficult intubations are associated with obesity. The aim of this study is, to evaluate the efficacy of Single Port Access (SPA) robot-assisted double consol, high definition supra radical cytoreductive, and panniculectomy surgery in obese patients with advanced ovarian cancer.

Methods

Single Port Access (SPA) robot- assisted laparoscopic surgery is employed, using da Vinci surgical double consol HD system for morbidly obese patients with advanced ovarian cancer. Supraradical cytoreduction of malignant deposits in the pelvis, and abdomen is achieved. Panniculectomy is performed to enhance operative exposure in those patients, and to minimize the intraoperative vascular injury risk.

Results

This technique allows navigation around anatomical barriers, and decreases the fatigue experienced by the surgeons. Single Port Access (SPA) robotic assisted laparoscopic surgery. The technique is safe. It has a reasonable good oncologic and postoperative outcome, reduced estimated blood loss (EBL), shorter hospital stay, and return to normal activity.

Conclusion

Single Port Access (SPA) HD and double consol robot – assisted laparoscopic supra-radical cytoreductive, and panniculectomy surgery in morbidly obese women with advanced Ovarian Cancer: Farghaly's Technique, is well tolerated, feasible, and associated with acceptable morbidity. It provides satsifactory surgical and oncologic outcome.

IGCSM-0462
Poster Shift I - Ovarian Cancer

INCIDENTAL FINDINGS OF PET/CT IMAGING IN WOMEN WITH OVARIAN, FALLOPIAN TUBE AND PERITONEAL CANCER – A RETROSPECTIVE COHORT STUDY

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Aims

The aim of this study was to identify incidental findings in PET/CT imaging of women with ovarian, fallopian tube and peritoneal cancer and to assess the clinical significance of these findings.

Methods

All reports of the first diagnostic PET/CT scan performed from January 2011 to December 2012 were reviewed retrospectively. All incidental findings were noted and categorized according to their significance. Any significant findings that prompted further investigation at the first multidisciplinary conference were followed via medical records.

Results

A total of 209 consecutive women were included in the study. In 166 (79.4%) patients 346 incidental findings were diagnosed, with 114 (32.9%) of these findings requiring further investigation. Further investigation was only performed in 46 (40.4%) findings of which five were inconclusive. Malignancy was identified in 21 (51.2%) of 41 results. Of the remaining 20 findings two benign lesions were found while no abnormality was found in 18 cases. A significant delay in time to treatment of 4 days (range 1-118) was found when incidental findings led to further investigation ($p < .001$).

Conclusion

A diagnostic PET-CT in women with ovarian cancer causes a large number of incidental findings. In a substantial number of patients these findings are not followed-up by further investigations. Patients that had additional investigations experienced a significant delay in treatment of median 4 days which in the majority had no clinical consequence. Secondary malignancies were diagnosed in 2.6% of the 114 incidental findings and consideration into the necessity to investigate each finding is therefore important.

IGCSM-0466
Poster Shift I - Ovarian Cancer

PATTERNS OF RECURRENCE IN ADVANCED HIGH GRADE SEROUS OVARIAN CANCER PATIENTS ALIVE FIVE YEARS AFTER DIAGNOSIS.

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Aims

Epithelial ovarian cancer is the most common cause of gynaecological cancer-associated death with a five-year overall survival of 30%. The peritoneum is the common site of recurrence; however, for women whose disease continues to respond to platinum-based drugs, disease can frequently be controlled for more than five years. The objective of this study was to describe the features of recurrence in women with advanced ovarian cancer who had prolonged survival.

Methods

This retrospective study received Institutional REB approval. Initial data were extracted from the Princess Margaret Cancer Registry. Women with recurrent ovarian cancer alive five years after an initial diagnosis of stage III-IV (pleural) high grade serous ovarian cancer (HGSOC) were reviewed using Princess Margaret Cancer Center (PM) medical records.

Results

From 2000 to 2012, 818 new primary, stage III-IV serous ovarian cancer cases were seen at PM. Of those who had regular follow-up at PM, 105 were alive after 5 years from the initial diagnosis. Lastly, 56 patients were identified with recurrent advanced HGSOC for which the key characteristics are summarized in Table 1 below.

Conclusion

Long term survival in women with HGSOC is associated with optimal debulking surgery and platinum sensitive disease. With the chronicity of the disease, unusual sites of metastasis are observed. *BRCA* mutations are not the only biomarker of platinum sensitivity and highlight the necessity to analyze homologous recombination deficiencies and other molecular predictors of survival.

IGCSM-0468
Poster Shift I - Ovarian Cancer

A PILOT INTEGRATED ANALYSIS OF LONG-TERM BENEFIT OF OLAPARIB IN OVARIAN CANCER: RESULTS OF FEASIBILITY TESTING.

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Aims

Olaparib is an oral PARP inhibitor (PARPi) that causes synthetic lethality in tumor cells with *BRCA1/2* mutations (*BRCA1/2*m). Olaparib has exhibited antitumor activity in patients with *BRCA1/2*m as monotherapy. However, *BRCA1/2*m testing does not identify the full range of susceptible patients. To better define the profile of patients who respond well to PARPi, we propose to analyze those who experienced a long-term response to olaparib.

Methods

In this retrospective, exploratory multi-study analysis we reviewed data from patients participating in the olaparib clinical development program between 2005 and 2012, and who achieved a durable response (>2 years) with olaparib.

Results

From the 13 studies (N=1489), a total of 137 patients have received olaparib for >2 years (up to 31 January 2014). Of these 137 patients, 84 have received >3 years', 46 >4 years', nine >5 years' and four >6 years' olaparib therapy. Focusing on the two large maintenance trials, treatment durations are described in Table 1, stratified by *BRCA* status.

Further molecular analyses will be feasible based on the tissue available as shown in the Table 2.

Conclusion

A significant numbers of patients with recurrent advanced ovarian cancer experienced a prolonged benefit from olaparib. Response durability may be related to the presence of *BRCA*m but potentially also other variables. Further clinical/molecular characterization of the long-term responding patients, and comparison with short-term disease control, will improve our understanding of response and resistance to PARPi.

IGCSM-0473
Poster Shift I - Ovarian Cancer

DIAPHRAGMATIC RADIOTHERAPY FOR EPITHELIAL OVARIAN CANCER INVOLVING DIAPHRAGM

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Aims
It is technically challenging to perform subphrenic /liver surface radiotherapy (RT) due to sophisticated target shape (dome shape), low radiation tolerance of liver and motion with respiration. We designed a novel method to apply irradiation to patients with advanced ovarian cancer involving subphrenic/liver region.
Methods
We used image-guided intensity-modulated RT or Rapid-arc technique to reduce set-up error, respiratory-gated treatment techniques and motion-compression method to manage target motion. A retrospective study of patients receiving this technique between 2001 and 2013 was conducted. Outcome measurements were in-field local control and treatment-related complications
Results
Of the 43 patients with subphrenic metastasis/liver surface seedings, single lesion was noted in 32 patients and 11 patients had multiple lesions (group 1). 27 of the 32 single-lesion patients received focal RT (group 2) and the others (n = 5) whole diaphragm/liver surface RT (group 3). At the end of follow-up, 15 patients had in-field local recurrence at irradiated sites (7, 6 and 2 in Group 1, 2, 3, respectively). Three patients in Group 2 developed new subphrenic/liver surface recurrences. The 3-year in-field local control rate after RT was 57.4%. Most of the patients (n = 35) died of cancer progression at other sites. Three patients had no evidence of disease at the end of follow-up. The 3-year overall survival rate after RT was 28.1% (9 patients >3 years). None had $\geq$ grade 3 toxicity.
Conclusion
Diaphragm/liver surface RT in advanced ovarian cancer could be feasible and less toxicity to liver.

IGCSM-0477
Poster Shift I - Ovarian Cancer

INTERACTION BETWEEN PERITONEAL MESOTHELIAL CELLS AND OVARIAN CANCER CELLS IN PERITONEAL DISSEMINATION

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Aims

Recently tumor stroma has been highlighted as a powerful supporter of tumor progression. In peritoneal dissemination of ovarian cancer, it has been reported that cancer-associated fibroblasts and adipocytes are the major components of the microenvironment. The aim of this study was to determine whether peritoneal mesothelial cells (PMCs) play an important role in peritoneal dissemination of ovarian cancer. We focused on morphological and functional changes of PMCs by carcinomatuous ascites.

Methods

We isolated primary cultured peritoneal mesothelial cells from surgical specimens. We examined the morphological changes of PMCs by carcinomatuous ascites, conditioned medium of ovarian cancer cell line and TGF-β. We performed microarray analysis of activated PCMs compared to the normal cells. Then we compared the capacity for migration toward conditioned medium of normal and activated PMCs.

Results

When PMCs were cultured with either carcinomatuous ascites, conditioned medium of ovarian cancer cell line or TGF-β, PMCs were dramatically changed from cobblestone-like to fibroblast-like morphology, demonstrating epithelial-mesenchymal transition by E- and N-cadherin expression using western blot analysis. Microarray analysis of PMCs activated by TGF-β revealed that some of the genes, IGF-1,2, HB-EGF, PDGF, VEGF and SDF-1 were up-regulated. Ovarian cancer cells showed a greater capacity for migration toward activated PMCs than toward normal PMCs.

Conclusion

Our data suggest that PMCs were changed morphologically and functionally by carcinomatuous ascites. The changed PMCs may have effect on ovarian cancer cells. Further investigations of the interaction between PMCs and ovarian cancer cells may leads to a new strategy in ovarian cancer therapy.

IGCSM-0478
Poster Shift I - Ovarian Cancer

OVARIAN CARCINOID PRESENTING WITH RIGHT HEART FAILURE

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Aims

Ovarian carcinoid tumours are rare neuroendocrine neoplasms, accounting for only 0.3% to 1.0% of all carcinoid tumours, and <0.1% of all ovarian tumours. Accordingly, very few cases of ovarian carcinoid affecting the heart have been reported in the literature. In relation to carcinoid tumours however, carcinoid heart disease is a relatively common complication, arising in up to 66% of patients with carcinoid syndrome. Clinically, carcinoid syndrome presents with facial flushing, secretory diarrhoea, bronchospasm, and hypotension; caused by tumour release of vasoactive substances (kinins and serotonin), generally in disseminated carcinoid disease. Intrinsic tricuspid and pulmonary valve disease are commonly (97% and 88% respectively) involved in carcinoid heart disease, leading to significant morbidity and mortality as a result of right heart failure (RHF).
To highlight investigations useful for identification of carcinoid disease and appropriate therapeutic strategies.

Methods

In the current report, a case of a 69 year old woman presenting with symptoms of RHF is described; including review of the literature.

Results

Biochemical markers, including NT-proBNP, as well as tricuspid valve appearance on transthoracic echocardiogram and MRI, were consistent with carcinoid disease; confirmed to be secondary to a primary ovarian tumour (PET scan and histopathology). The patient underwent tricuspid and pulmonary valve replacements; followed by ovarian resection.

Conclusion

Carcinoid is a diagnostic dilemma. Treatment options are complex. Consideration must be given to simultaneous management of the systemic disease (ovarian mass, carcinoid syndrome, and any metastases) and the cardiac disease. A baseline echocardiogram is essential in all patients with carcinoid syndrome.

IGCSM-0483
Poster Shift I - Ovarian Cancer

COMPARISON OF OVARIAN AND RENAL CLEAR CELL CARCINOMA BY COMPREHENSIVE TUMOR PROFILING

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Aims

Clear cell ovarian carcinomas (CCOCs) are an uncommon histopathological subtype of epithelial ovarian cancers (EOCs) that are chemoresistant. Treatment options are limited in recurrent/metastatic CCOC's. There are case reports of responses to mTOR inhibitors and tyrosine kinase inhibitors (TKI's) in CCOC. 70% of renal cell carcinomas are clear cell carcinomas (CCRCs). They are also chemoresistant, but often respond to TKI's and mTOR inhibitors. Tumor profiling may identify a subset of CCOCs with similar features to CCRC's and help select patients with CCOC who might benefit from targeted therapies.

Methods

69 CCOCs and 30 CCRCs were referred to Caris Life Sciences in 2013; specific testing was performed per physician request and combined next-generation sequencing, protein expression and gene amplification.

Results

CCOCs were very different to CCRC's with some shared features. CCOC characterised by PIK3CA mutations in 52% compared to 7% in CCRC. More PTEN loss observed in CCRC (56% vs.45%). VHL mutations prevalent in CCRCs (38% versus 0%). Mutations in RAS pathway (11%) and FBXW7 (10%) in CCOC, but none in CCRC. cMET overexpression in 47% CCRC and 19% CCOC's as a group (but 70% in PIK3CA mutated CCOC

Conclusion

Molecular profiling of proteins, gene expression, and mutations demonstrates the major differences as well as similarities between clear cell ovarian and renal cancers. They share much less than their similar names imply. Drugs, which target the mTOR /PIK3CA pathway or cMET, may have therapeutic potential in CCOC subsets. We did not identify a subset of CCOC that closely resemble CCRC.

IGCSM-0492
Poster Shift I - Ovarian Cancer

PROGNOSTIC IMPACT OF HISTOLOGICAL TYPE IN STAGE IV OVARIAN CARCINOMA: A RETROSPECTIVE ANALYSIS OF 219 PATIENTS.

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Aims
The patients of FIGO stage IV epithelial ovarian carcinoma have various metastases, and the prognosis is not uniform. The aim was to compare survival by clinico-pathological factors in these patients, between serous or endometrioid tumor (S/E) and clear cell, mucinous, or others tumor(C/M).
Methods
Two-hundred nineteen patients who were treated for stage IV in our hospital and affiliated hospitals between 1994 and 2010 were retrospectively evaluated. All patients underwent surgery and diagnosed by the central pathological review system. Patients were consisted of 90 primary debluking surgery, 86 interval debluking surgery, and 43 incomplete surgery, and were divided into two groups on chemotherapy regimen (taxan-platinum (TP) and non-TP).
Results
Median overall survival(OS) in 169 S/E tumors and 50 C/M tumors were 3.1 and 1.0 years ($p<0.001$). The median OS significantly longer in TP than non-TP, especially for patients with C/M tumor (1.4 vs 0.7 year, $p=0.017$). Multivariate analysis for OS using Cox regression model demonstrated residual tumor(>1cm), non-TP regimen, C/M tumor, and metastatic site as independent poor prognostic factors. However, in patients with CM tumor, prognosis of single metastatic sites (except liver, lymph nodes, pleural effusion), <1cm residual tumor, and resection of metastasis tended to be favorable (median OS: 4.1, 4.6, and 2.6 years, respectively)
Conclusion
Though this study suggested that cytoreduction surgery or TP chemotherapy contribute to improvement OS in stage IV ovarian cancer patients, C/M tumor was still poor prognosis. Managements of treatment including radical surgery such as resection of metastasis should be proactively consider for these cases.

IGCSM-0496
Poster Shift I - Ovarian Cancer

NEUTROPHIL TO LYMPHOCYTE & PLATELET TO LYMPHOCYTE RATIOS, PLATELET VOLUME AND PLATELET DISTRIBUTION WIDTH IN PATIENTS WITH BORDERLINE OVARIAN TUMORS (BOTS)

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Aims

Neutrophil-to-lymphocyte ratio (N/L), platelet-to-lymphocyte ratio (P/L), platelet volume (PV) and platelet distribution width (PDW) may indicate the systemic inflammatory response related with various tumors. We aimed to investigate the relationships between the N/L, P/L, PV, PDW and BOTs with respect to disease stage, accompanying ovarian malignancies, and preoperative CA 125 and CA 19-9 levels.

Methods

A total of 105 patients with BOTs who underwent surgery were included in the study. Preoperative laboratory evaluations and patients' characteristics were reviewed retrospectively.

Results: The mean age of the patients was 42,5 years old (range: 17-75). The most common tumor histology was serous followed by mucinous. There were only 16 patients (15.2%) with bilateral tumors. 78.1% of patients had stage IA disease. The mean CA 125 and CA 19-9 values were 91.5 IU/ml (range: 4-1556 IU/ml) and 66.5 IU/ml (range: 0.02-1000 IU/ml). The mean values of N/L, P/L, PV and PDW were 3.24, 147.26, 9.31 fl and 14.7% respectively. There were no significant differences in the N/L, P/L, PV and PDW values with respect to disease stage, presence of peritoneal implants, positive peritoneal cytology, accompanying ovarian malignancies, tumor side, bilateralism and preoperative CA 125 and CA 19-9 levels. However, CA 19-9 values were significantly high in patients with stage IA tumors and concomitant ovarian malignancies.

Conclusion

The actual predictive potential of these parameters still needs further trials with larger sample size of subgroup of patients with BOTs such as; disease stage higher than stage IA, with peritoneal implants, positive peritoneal cytology, increased CA 125 and CA 19-9 levels.

IGCSM-0498
Poster Shift I - Ovarian Cancer

CLINICAL BENEFITS OF SECONDARY DEBULKING SURGERY FOR RECURRENT OVARIAN CANCER

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Aims

Secondary debulking surgery for recurrent ovarian cancer (SDS) is still controversial. The aim of this study is to evaluate the clinical benefits of SDS by comparing outcomes of recurrent cases treated with SDS and subsequent chemotherapy (SDS-group) to those treated with chemotherapy alone (CT-group).

Methods

Clinical data of 14 cases of SDS-group and 12 cases of CT-group, which were treated for the first recurrence of ovarian cancer in our hospital from Jan.2005 to Jan.2012, were investigated. All patients satisfy the following three conditions: (i) no ascites; (ii) only intra-abdominal lesions; and (iii) visible lesion less than three. The Kaplan-Meier method was used to estimate survival curves and chi-square test and log-rank test were used for statistical analysis.

Results

The median follow-up time was 60 months. The mean age of cases at initial treatment was 54.6±8.3 years old for SDS-group, 61.1±10.1 for CT-group (p=0.07). Complete resection of relapsed lesion was achieved in 86% of SDS-group. The relapse rate after the treatment of the recurrence was lower for SDS-group (64%) than CT-group (100%, p=0.002). 2-years post-recurrence progression free survival rate was 38.7% for SDS-group, 8.3% for CT-group (p=0.01). 2-years post-recurrence over-all survival was 85.7% for SDS-group, 66.7% for CT-group (p=0.05).

Conclusion

SDS for resectable recurrent ovarian cancer can reduce the rate of second recurrence, and might improve the prognosis.

IGCSM-0516
Poster Shift I - Ovarian Cancer

OVARIAN MASSES IN ADOLESCENCE: A RETROSPECTIVE ANALYSIS

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Aims
To review incidence, clinical practice, surgical management and histology of adolescent ovarian masses in order to audit and improvise future practices.
Methods
Complete hospital records of all adolescents between 10-20 years who had undergone surgery for ovarian masses were retrospectively analyzed between December 2005 and 2013. Parameters analyzed were age, clinical features, diagnosis, operative procedure and histopathology. Data management and descriptive analyses were performed using SPSS 16.0
Results
A total of 94 patients were included in the study and among them, 37 had non neoplastic masses, 30 had benign neoplasms while 27 had malignant tumors. The main clinical presentations were abdominal pain (54%) and abdominal mass (41%). Surgeries included ovarian cystectomy, salpingoopherectomy and two patients with stage III epithelial tumors underwent total abdominal hysterectomy with bilateral salpingoophorectomy. Malignant tumors were significantly larger than benign neoplasms (18± 5.6 cm vs 8.2± 5.3 cm). Dermoid was the most common benign neoplasm while germ cell tumor was the most common malignant mass; dysgerminoma being the commonest (50%). Malignancy was more common in early adolescence (15± 4.2 years) while non-neoplastic masses were seen more frequently in late adolescence (17.7±2.2 years). There was a fair correlation between ultrasound and histopathological diagnosis.
Conclusion

There should be a high index of suspicion of malignancy in ovarian masses especially in early adolescence. Tumor size, tumor markers and ultrasound are helpful to differentiate between benign and malignant masses. During surgery ovarian conservation is of paramount importance and laparoscopic procedures for benign conditions are preferred in adolescents.

IGCSM-0520
Poster Shift I - Ovarian Cancer

RADIATION IN RECURRENT GRANULOSA CELL TUMOURS (GCTS) – THE PRINCESS MARGARET EXPERIENCE (PMCC)

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Aims: GCTs are renowned as indolent tumours with long patient survival. 1/3 of patients develop a relapsing-remitting course. At relapse surgery remains the preferred treatment until it is not feasible. Based on benefits recognized in adjuvant treatment, we explored the role of radiation at relapse.
Methods: Upon REB approval patients with recurrent GCT registered at PMCC between 1992-2012 were identified. Clinical characteristics, treatment and course were recorded.

Results: 52 GCT patients with recurrence were identified. Median time to relapse was 6.9 years (range 0.43-24.0y). 76.7% of relapsed patients initially had stage I disease. All relapsed patients had received surgery at initial diagnosis with 6 receiving adjuvant therapy. 23 patients received at least 1 course of radiation at relapse at PMCC with 4 patients treated elsewhere. Radiation was predominantly used following surgery. 6 patients treated in this fashion remain disease-free post 1st relapse at a median follow-up 7.6y (table 1). In pelvic-only relapse, pelvic RT to 45Gy was used. If extra-pelvic metastases were detected upper abdominal RT 23-27Gy was added. Whole abdominal RT (30Gy) was used when surgery was not possible. Twenty-three received abdominal and/or pelvic RT, 3 received RT to the lung, 2 to liver, and 2 to bone.
No chronic toxicities were described. Surgery post-radiation was feasible with 7 patients having 1-4 operations.

Conclusion

Whilst surgery remains the mainstay of therapy, post-operative RT may prolong the disease-free interval. RT offers a viable and safe therapeutic option for recurrent GCT either alone or as an adjunct to surgery.

IGCSM-0521
Poster Shift I - Ovarian Cancer

PILOT ASSESSMENT OF TRABECTEDIN IN HEAVILY PRE-TREATED WOMEN WITH GERM-LINE BRCA MUTATION POSITIVE RECURRENT HIGH GRADE SEROUS OVARIAN CANCER

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Aims

Homologous recombination deficiencies (HRD) including *BRCA* mutations are identified in up to 50% of high grade serous ovarian cancers (HGSOC). Trabectedin binds to the minor groove of DNA and alkylates guanine at the N2 position. Trabectedin causes double-stranded DNA breaks suggesting a heightened susceptibility in HGSOC patients with HRD. This single institution retrospective review investigates single agent trabectedin activity in *BRCA* associated HGSOC.

Methods

Patients with HGSOC treated with trabectedin 1.3mg/m^2 over a 3 hour infusion q3w at Princess Margaret Cancer Centre were evaluated for objective response rate (ORR), progression-free (PFS), and overall survival (OS). Baseline characteristics were recorded.

Results

Twelve patients underwent treatment between September 2012 and April 2014. Ten (83.3%) had known *BRCA* mutations (one of uncertain significance). 91.6% had stage III/IV disease at diagnosis. Median number of cycles received was 4.5 (range 1-14). The ORR by RECIST 1.1 was 33.3% with all 3 platinum-sensitive patients demonstrating either a complete or partial response. Overall, median PFS and OS was 2.8 and 13.3 months, respectively. Median PFS and OS have not been reached in platinum-sensitive patients with two patients remaining on treatment after 14 cycles. Seven patients developed grade 3–4 toxicity (58.3%) with grade 3 neutropenia in 33.3% and transient non-cumulative transaminitis observed in 16.7%.

Conclusion

Single agent trabectedin offers a promising therapeutic option in heavily pretreated recurrent HGSOC, especially in platinum-sensitive disease. The role of trabectedin in patients with HRD including *BRCA* mutations deserves further exploration.

IGCSM-0523
Poster Shift I - Ovarian Cancer

OUTCOMES OF STAGE I GRANULOSA CELL TUMOURS (GCT) – 56 YEARS OF COMPLEXITY AND THERAPEUTIC CONUNDRUMS

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Aims

Despite good prognosis 30% of stage I GCTs relapse, posing a management dilemma further perpetuated by invalidated prognostic factors. Recent advances with identification of the FOXL2 mutation have not been matched by improvements in our understanding and treatment of this disease.

Methods

Stage I GCT patients referred to the Auckland Gynae-Oncology Team from 1955-2012 were identified. Baseline characteristics, histopathology and clinical course was recorded retrospectively

Results

46 stage I GCT patients were identified. Median follow-up was 12.6y (range 0.2-40.4y) with the median age at diagnosis 47.2y (22-86y) (Table 1).

18 patients (39.1%) relapsed with median TTP of 8.3y (1.3-17.7y) - 7 initial relapses occurred >10 years. Stage Ia (31.0%) and Ic (35.7%) patients demonstrated similar relapse rates. Tumours ≥10cm were associated with increased relapse ($p<0.01$). Most developed a relapsing-remitting course but 2 remain disease-free at 4 and 13.6y post 1st relapse. 83.3% received non-surgical management at least once for relapse. Clinical benefit rate was 40.0% with chemotherapy and 66.7% with hormonal therapy.

5-year and 10-year OS was 95.4 and 79.8% respectively. Median OS was similar in patients with (23.6y) and without relapse (20.6y $p=0.65$). Median OS was four-fold higher in patients with initial relapse >5 years (36.7y vs 9.1y $p=0.01$)

Conclusion

Surgery remains the only proven therapy at diagnosis and relapse. Caution should be exercised in recommending adjuvant chemotherapy given OS >20 years even with relapse. Hormonal therapy appears encouraging but needs further assessment. GCTs continue to pose a management conundrum.

IGCSM-0528
Poster Shift I - Ovarian Cancer

COMPARING THE GENOMIC LANDSCAPES BETWEEN EXTREME OUTCOMES (LONG TERM SURVIVORS VS. SHORT RECURRENCE 'PLATINUM-RESISTANT' DISEASE) IN HIGH-GRADE SEROUS OVARIAN CANCER

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Aims
To explore genomic determinants of treatment sensitivity and resistance in high-grade serous ovarian carcinoma(HGSOC), we examined whole genome profiles of extreme responders: long-term survivors(LS)vs. short recurrence(SR).

Methods
Women with HGSOC with fresh frozen tissue, clinicopathologic, and outcome data across two institutions were identified as i)LS > 4.5 years from diagnosis, or ii)SR, < 9 months of diagnosis. Comprehensive whole genome mutation, copy number, LOH and rearrangements were assessed.

Results
Of 62 whole genome sequencing(WGS) libraries completed, full analysis available on 50;29 LS+19SR+2SRLS (median coverage 50X). Nanostring gene expression profiles were obtained on all samples. No association was seen between extreme outcomes groups and previously established gene expression subtypes. No difference was seen in relative mutation load(SNV's) between groups. TP53 mutation frequency and distribution across protein domainswere consistent with prior publications. Mutations in genes involved in homologous recombination (HR) were frequent (>87 mutations) and diverse (>29 genes), with enrichment in LS. BRCA1/2 mutations were more frequent in LS. SR cases exhibited more CNNE1 mutations, fewer BRCA1/2 mutations, and C-T enrichment nucleotide substitution patterns. LS&SR harboured different rearrangement profiles and clonal diversity profiles in LOH features, with SR tumors having a greater proportion of dominant clonal populations as compared to higher subclonal in LS.

Conclusion
Amid the diverse landscape of HGSOC, supervised analysis of extreme outcome groups identified global genomic architecture differences, largely attributable to enriched

deficiency of HR pathways in LS. We hypothesize that interplay between clonal diversity and genomic instability confer inherent potential for resistance and sensitivity to platinum-based therapy and opportunities for patient stratification.

IGCSM-0537
Poster Shift I - Ovarian Cancer

GRANULOSA CELL TUMOURS OF THE OVARY - AN INDOLENT BUT COMPLEX DISEASE: THE PRINCESS MARGARET EXPERIENCE

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Aims

Adult granulosa cell tumours (GCT) are rare indolent malignancies with a tendency to late relapse. Defining prognostic factors and determining optimal management has been fraught. To address this we reviewed long-term experience with this disease at Princess Margaret, a tertiary referral centre.

Methods

Following REB approval**,** baseline characteristics, clinical course, histopathology and survival data was recorded for GCT patients from 1992-2012.

Results

148 GCT patients with median age 49.3y (22.5-80.7y) were identified. 80 (54%) presented with bleeding or abdominal pain, with 68 (46%) of tumours ≥10cm. All had surgery at diagnosis with 17 (11%) receiving adjuvant therapy. 114 (77 %) presented with stage I disease and 13 (9.0%) with concomitant endometrial cancer (Table 1). Median follow up was 6.8y (range 0.2-43.2y). Median PFS and OS was 15.6y and 29.7y respectively.

52 patients relapsed experiencing 1-7 relapses each (median 3). 81% had further surgery at relapse (Table 2). Median TTR was 7.2y (range 1.8-24.0y). Stage was the only significant predictor for relapse (p=0.002). Median time to 2nd and 3rd relapse was 2.6y and 1.9y respectively. 8 patients remain alive and disease-free post-first relapse

(median time 6.6y).

Conclusion

Despite progression, GCTs have a good prognosis with median OS >20y. Stage remains the most consistent prognostic factor. Whilst surgery remains the mainstay of therapy for relapse, hormonal therapy and radiation warrant further investigation. A better understanding of GCTs is central to improving patient outcomes.

IGCSM-0555
Poster Shift I - Ovarian Cancer

PLANTING THE SEED FOR RECURRENT OVARIAN CANCER TUMOURS: THE ROLE OF EMBRYONIC STEM CELL FACTOR OCT4A IN EPITHELIAL OVARIAN CANCER

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Aims
Metastasis of high grade epithelial ovarian cancer (EOC) relies on the shedding of primary ovarian tumour cells into the peritoneal cavity. Shedded cells can directly attach to neighbouring organs or alternatively maintain long term tumourogenicity and chemoresistance by forming cellular aggregates (spheroids). Cancer Stem-Like Cells are proposed to facilitate in this mechanism. This study aimed to investigate the role of Oct4A, an embryonic stem cell factor and known master regulator of pluripotency, in EOC progression, spheroid formation, metastasis and chemoresistance.
Methods

Expression of Oct4A in primary EOC tumours was investigated by IHC and qPCR analysis. Expression of Oct4A in chemonaive and recurrent EOC patient ascites-derived tumour samples was investigated by qPCR. The functional role of Oct4A was investigated using *in vitro* assays and *in vivo* mouse models with shRNA knockdown of Oct4A in the EOC cell line HEY.

Results

We demonstrate that Oct4A expression significantly increases with tumour dedifferentiation and also in the ascites-derived tumour cells of recurrent EOC patients. Silencing of Oct4A in HEY cells resulted in decreased cell proliferation, migration, spheroid formation and increased chemosensitivity *in vitro*. IP injection of Oct4A knockdown cells *in vivo* produced significantly reduced tumour size, tumour burden and invasiveness in mice, resulting in significantly increased mouse survival rates compared to controls.

Conclusion

This study suggests Oct4A plays a crucial role in the progression and metastasis of EOC and highlights why EOC patients, who initially respond well to conventional chemotherapy, subsequently relapse with incurable recurrent disease.

IGCSM-0561
Poster Shift I - Ovarian Cancer

SAFETY AND EFFICACY OF DOCETAXEL PLUS CARBOPLATIN IN MENOPAUSAL PATIENTS WITH MÜLLERIAN CARCINOMA.

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Aims

paclitaxel plus carboplatin (TC) and docetaxel plus carboplatin (DC) are commonly used as standard chemotherapy for patients with Müllerian carcinoma. It was reported that there were no difference of response rate, progression free survival and overall survival between TC and DC, but DC provided a better therapeutic index with less neurotoxicity than TC. Elderly patients often took longer time to recovery from neuropathy. The purpose of this study was to evaluate the efficacy and tolerance of docetaxel plus carboplatin in postmenopausal patients with gynecologic carcinoma treated at Osaka City University Hospital.

Methods

This study included 21 patients with epithelial ovarian carcinoma and one with peritoneal carcinoma who provided written informed consent and were treated with DC at Osaka City University hospital from October 2010 to December 2012. The effect was assessed based on RECIST by MRI after every 3 cycles. For the patients without evaluable lesions, the effect was assessed by the criteria of Rustin (CA125). The severity of adverse events was assessed according to the Common Terminology Criteria for Adverse Events (CTCAE) Version 3.0.

Results

Response rate of the DC was 72.7%. The grade 3 and 4 toxicities encountered were 14 grade 3 leukopenia ,8 grade 4 leukopenia, 22 grade 4 neutropenia, 7 grade 3 anemia, one grade 3 nausea. 4 cases had febrile neutropenia, however they were treated safely with G-CSF and antibiotics. 5 cases required dose reduction due to neutropenia.

Conclusion

We confirmed that DC is effective therapy for menopausal patients with a lower neurotoxicity profile.

IGCSM-0567
Poster Shift I - Ovarian Cancer

NEOADJUVANT CHEMOTHERAPY IN ADVANCED OVARIAN CANCER PATIENTS: EFFICIENCY OF SCREENING BY LAPROSCOPY FOR CLINICAL TRIAL RECRUITMENT

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Aims
To report the results of screening by laparoscopy for inclusion in a clinical trial (Anthalya:NCT01739218) testing the efficacy of bevacizumab in the neoadjuvant settting for FIGO Stage IIIC/IV Ovarian, Tubal or Peritoneal Adenocarcinoma
Methods
We are currently conducting a clinical trial to evaluate the efficacy of neoadjuvant bevacizumab and chemotherapy measured by the rate of complete resection (Completeness of Cytoreduction (CC) score=0) after interval debulking surgery. Secondary objectives are: Objective Response Rate for the neoadjuvant period, ORR after all courses of treatment and monitoring of CA 125 . Before randomization, patients with suspicion of stage IIIC-IV ovarian cancer had a laparoscopy to have a histological assessment of the tumor, to evaluate resectability for inclusion.
Results

This multicenter study is conducted in 14 centers. To date, 178 patients have been screened over a 16 month period. 81 patients have been randomized. The proportion of screening/inclusion in the paticipating centers ranged from 16% to 100% (mean: 46%).

Reasons for non inclusion were resectable tumor (60%), non ovarian/tubal/peritoneal adenocarcinoma histology or contra-indication to carboplatin/taxol/bevacizumab (29%), patient refusal (1%). The screening success was not statistically related to the specialty of the PI in each center (medical oncologist vs surgical oncologist, p=0.09) or to the volume of patients screened (p=0.09).

Conclusion

In patients with suspicion of ovarian cancer (based on imaging, CA125 and clinical data), screening by laparoscopy resulted in eligibility of 46% of patients for inclusion in a neoadjuvant therapy clinical trial. Resectable tumors was the first reason for non inclusion.

IGCSM-0568
Poster Shift I - Ovarian Cancer

DYNAMIC ANALYSIS OF CA 125 DECLINE DURING NEOADJUVANT CHEMOTHERAPY IN PATIENTS WITH EPITHELIAL OVARIAN CANCER AS A PREDICTOR FOR SENSITIVITY TO PLATINUM

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Aims
To evaluate the kinetic parameters of serum CA 125 during neoadjuvant platinum-based chemotherapy (NAC), in patients with epithelial ovarian cancer, to identify a surrogate marker of sensitivity to platinum.
Methods
Patients were selected from a population of epithelial ovarian cancer diagnosed between 2002 and 2009. Patients treated with NAC followed by interval debulking surgery, were included. Demographic data, CA 125 concentrations, radiographic, surgical and pathologic data were obtained. Univariate and multivariate analyses were conducted to test the association between CA 125 kinetics and the platinum-sensitivity. ROC analysis was used to determine the optimal threshold of CA 125 for prediction of platinum-sensitivity.
Results
One hundred and forty-two patients met study criteria. Fifty-four patients (38%) were platinum-sensitive. Comparing patients with relapse < 12 months and those with relapse > 12 months, a CA 125 level after 3rd NAC cycle < 35 UI/ml was significantly associated with improved overall survival (OS) and relapse-free survival (RFS). In the multivariate model including cytoreduction, cycle to nadir and CA 125 level after 3rd NAC cycle, patients with a CA 125 level after 3rd NAC cycle > 35 UI/ml were 3.8 times more at risk for relapse < 12 months (95% CI [1.7-8.5], p<0.001).
Conclusion
Our results suggests that epithelial ovarian cancer patients who normalized their CA 125 level after 3rd NAC cycle (< 35 UI/ml), have a significantly longer RFS and OS. The CA 125 level after 3rd NAC < 35 UI/ml was an independent predictor for tumor platinum-sensitivity.

IGCSM-0574
Poster Shift I - Ovarian Cancer

ACTIVITY OF DESIGNED MONOFUNCTIONAL PLATINUMS ALONE AND IN COMBINATION WITH PHYTOCHEMICALS IN OVARIAN TUMOUR MODELS

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Aims
Although cisplatin is widely used in the clinic, its use has also been limited due to the presence of numerous side effects and acquired drug resistance. The present study aimed to design novel platinums of the form: $[PtL_3Cl]Cl$ where L= 8-hydroxy quinoline and benzimidazole coded as LH3 and LH4 respectively, determine their activity alone and in combination with the phytochemicals genistein, capsaicin, resveratrol, curcumin and querceitin in ovarian tumour models A2780, $A2780^{cisR}$ and $A2780^{ZD0473R}$. The compounds can form monofunctional adducts with DNA, undergo stacking interaction with nucleobases in DNA and are expected to be transported across the cell membrane by carriers such as OCT.

Methods
Compounds were characterised based on elemental analyses and spectral studies. Cytotoxicity was determined using MTT reduction assay. Combination index (CI) was used as a measure of combined drug action. Pt accumulation and Pt-DNA binding and glutathione levels were also determined.

Results
Both LH3 and LH4 are more active than cisplatin against the resistant cell lines. Bolus combinations of LH3 and LH4 with phytochemicals were found to be most synergistic.

Conclusion
Designed monofunctional platinums can be novel drug candidates with different cytotoxicity profiles. Bolus combinations of LH3 and LH4 with selected phytochemicals were found to be most synergistic.

IGCSM-0580
Poster Shift I - Ovarian Cancer

DEVELOPMENT OF A FUNCTIONAL ASSAY TO DETERMINE THE NUCLEOTIDE EXCISION REPAIR STATUS OF EPITHELIAL OVARIAN CANCER

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Aims

The nucleotide excision repair (NER) pathway repairs single-strand DNA lesions, including UV-induced thymine dimers. NER over-expression has been linked to platinum-resistance in ovarian cancer. Development of a biomarker assay determining NER function could help determine response to therapy. This study aimed to validate an enzyme-linked immunosorbent assay (ELISA) utilising thymine dimer removal in ovarian cell lines and patient samples.

Methods

Knockdown models were generated using OSEC2 ovarian surface epithelial cell line with siRNA targeted against the NER genes XPA and XPG. Knockdown was confirmed with qRT-PCR.

Cells were UV-treated to induce DNA damage and fixed at 0, 6 and 24hours. DNA damage repair was compared to controls using the competitive ELISA. UV-treated single-strand calf thymus DNA was bound to wells of an ELISA plate, before adding sample DNA and primary thymine antibody. Secondary antibody followed by substrate solution was added to allow absorbance reading. The ELISA was applied to three primary cultures derived from ovarian cancer patient ascites.

Results

Non-transfected OSEC2 cells accumulated thymine dimers after UV treatment but returned to baseline at 24hours, suggesting NER-competence. XPA and XPG siRNA models accumulated thymine dimers following UV treatment without resolution, suggesting NER-deficiency. SiRNA knockdown for XPG and XPA were 53% and 57% respectively. Two primary cultures demonstrated NER-competence and one NER-deficiency.

Conclusion

Preliminary results from this functional NER assay are promising and substantiated by NER-competent and defective models. Additional patient samples are required for further validation and to determine the relationship between NER function and response to chemotherapeutics.

IGCSM-0585
Poster Shift I - Ovarian Cancer

METASTATIC SITE PREDICTS PROGNOSIS OF FIGO STAGE IV EPITHELIAL OVARIAN CARCINOMA

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Aims
In this study, we analyzed clinicopathological prognostic factors of FIGO stage IV epithelial ovarian carcinoma (EOC) in order to investigate its prognostic factors.

Methods
Medical records of the 278 EOC patients diagnosed and treated in the Yokohama City University Hospital were analyzed retrospectively.

Results
Among 278 EOC patients, 44 cases were diagnosed as FIGO stage IV (15.8%). The median survival time (MST) of these 44 patients was 745.9 days and 9 (20.4%) patients achieved complete remission and survived for more than 1 year without the disease. Detailed analysis showed that the most significant prognostic factor was the metastatic site. The MST of the patients with non-regional lymph node metastasis and/or pleural metastasis was significantly longer than MST of the patients with metastasis in other sites (MST 1231.2 days vs 285.5 days, $p<0.001$ by log-rank test). Conversely, the metastatic sites of all 9 long survivors were non-regional lymph node metastasis and/or pleura. In addition, 8 cases among 9 long survivors (89%) experienced no disease relapse.

Conclusion
Prediction of the prognosis of advanced EOC is crucial because the balance of aggressive treatment and maintenance of the patients' quality of life is an important issue during the treatment. The fact that most of the long survivors had experienced no relapse suggested that intensive initial treatment was needed for the patients with good prognostic factors, i.e. non-regional lymph node and pleural metastasis.

IGCSM-0586
Poster Shift I - Ovarian Cancer

ARE WOMEN DIAGNOSED WITH A MUCINOUS OVARIAN TUMOUR AT INCREASED RISK OF A MALIGNANCY ARISING FROM THE GASTRO-INTESTINAL TRACT?

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Aims

It has been proposed that mucinous ovarian cancers are of bowel origin rather than arising from ovarian epithelium. A study was conducted to investigate the incidence of a second primary malignancy, in particular tumours arising from the gastrointestinal (GI) tract, in women diagnosed with a mucinous ovarian tumour.

Methods
A review was conducted of all ovarian cancers registered in Pan-Birmingham Cancer Network between 1990-2012. Histological subtype, cause of death and second cancer data were obtained from the West-Midlands Cancer Registry.
Results
Of the 4165 ovarian cancers diagnosed during the 22-year study period, 267 were mucinous (MOC) and 234 were borderline mucinous (BMT). 113 (42.3%) MOC and 47 (20.1%) BMT cases had died during the follow up period, of these 10 (3.7%) MOC and 15 (6.8%) BMT cases were recorded to have died from another malignancy. In addition, in women who were still alive, a further 27 (10.1%) MOC and 28 (12.0%) BMT cases were diagnosed with a second primary, either prior to, at the time of, or after their ovarian cancer diagnosis. In total, 6 of the second malignancies were lower GI (colorectal) and 6 were upper GI (stomach/pancreas/oesophagus) in origin. There was no significant difference in the number of upper or lower GI cancers occurring in women diagnosed with a MOC/BMT (n=501) as compared to women diagnosed with a non-mucinous (serous/serous borderline/endometrioid/clear cell) ovarian malignancy (n=1704), p=0.426 and p=0.594 respectively.
Conclusion
There does not appear to be an increased risk of a GI malignancy in women diagnosed with a mucinous as compared to a non-mucinous ovarian malignancy.

IGCSM-0587
Poster Shift I - Ovarian Cancer

A CLINICOPATHOLOGICAL ANALYSIS OF 48 MALIGNANT OVARIAN GERM CELL TUMOR CASES

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Aims
Malignant ovarian germ cell tumor (MOGCT) accounts for approximately 5% of all ovarian malignancies. MOGCTs are encountered at any age but are most frequently seen in children and adolescents. This patient population is faced with difficult decisions, related to the management of their MOGCT, as well as to their future childbearing potential. We sought to evaluate the clinicopathological characteristics of MOGCT.
Methods
From 1986 to 2013, a total of 48 MOGCT cases were retrospectively reviewed at Kumamoto University Hospital.

Results

The incidence of MOGCT in all malignant ovarian tumors was 6.9%?The median age at initial treatment was 31.3 years (range 7-79). Fertility-preserving surgery (FS) was performed in 29 patients, and radical surgery was performed in 19 patients. Among the patients who underwent FS, 14 patients received adjuvant chemotherapy. Thirty-two patients were diagnosed with stage I, 7 with stage II, 5 with stage III, and 4 with stage IV. Twenty-two patients were diagnosed with immature teratoma, 9 with mature cystic teratoma with malignant transformation, 6 with mixed germ cell tumors, 4 with each of yolk sac tumors and dysgerminoma, and 3 with others. Two patients died within 4 months of radical surgery, and two patients relapsed. One patient died 16 months after radical surgery, while one who underwent FS received chemotherapy. One patient delivered a healthy baby 8 years after FS following chemotherapy.

Conclusion
There were no patients who died after FS. Conservative surgery is both feasible and safe in young patients with MOGCT.

IGCSM-0604
Poster Shift I - Ovarian Cancer

COMBINATIONS OF TARGETED THERAPY AND PHYTOCHEMICALS AS AN AFFORDABLE MEANS TO OVERCOME DRUG RESISTANCE IN OVARIAN CANCER

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Aims

Although ovarian cancer accounts for only about 3% of the malignancies in women in the western world, it presents itself as the most lethal gynecological malignancy mainly due to acquired drug resistance. The current project aims to apply combinations of platinum-based drugs with selected tumour active phytochemicals celastrol (Cel), guggulsterone (Gugg), garcinol (Gar) and ellagic acid (EA) to ovarian tumour models with the aim of overcoming drug resistance.

Methods

Cisplatin (Cis) was applied alone and in sequenced combinations with Cel, Gugg, Gar and EA to ovarian A2780, A2780^{CisR} and A2780^{ZD0473R} cancer cell lines using 0/0 h, 0/4 h, and 4/0 h sequences of administration (meaning respectively: both the drugs added at the same time, Cis administered first followed by the phytochemical 4 h later and the converse). Cell viability was determined using the MTT reduction assay and combination indices (CIs) were calculated as a measure of combined drug action.

Results

Most of the combinations were found to be additive and antagonistic except those of Cis with Ella where greater synergism was observed at higher concentrations but essentially independent of sequence of administration.

Conclusion

The results of the present study that combinations of Cis with Cel, Gugg, Gar and EA may not be able to overcome platinum resistance in ovarian cancer.

IGCSM-0607
Poster Shift I - Ovarian Cancer

A RETROSPECTIVE STUDY OF ADJUVANT CHEMOTHERAPY PLUS PELVIC RADIOTHERAPY IN FIGO STAGE II EPITHELIAL OVARIAN CANCER

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Aims
Epithelial ovarian cancer (EOC) is the commonest cause of death from gynaecological malignancy. The role of surgery with adjuvant platinum-based chemotherapy has been established in EOC, but the role of adjuvant pelvic radiotherapy remains unclear. We aimed to compare the time to pelvic recurrence and overall survival in patients with FIGO stage II EOC who received standard of care treatment alone (cytoreductive surgery and chemotherapy) with those who received adjuvant pelvic radiotherapy in addition.
Methods

We conducted a retrospective audit of patients treated for stage II EOC between 1999 and 2008 at three Melbourne hospitals. Our primary endpoint was time to pelvic recurrence. Secondary end-points were overall survival, time to other sites of recurrence and toxicity.

Results

103 patients with complete data were identified. Baseline features were similar in those treated +/- radiotherapy. Time to pelvic recurrence did not differ between patients treated with chemotherapy alone (n=73) and those treated with chemotherapy plus radiotherapy (n=19) ($HR_{chemo+RT:chemo}$=1.32; 95%CI=0.5-3.6; p=0.58). None of the other variables considered were associated with time to pelvic recurrence including age, histological subtype, grade or residual disease status. Overall survival did not differ between the two groups ($HR_{chemo+RT\ :\ chemo}$=1.38; 95%CI=0.5-4.3; p=0.75). Administration of pelvic radiotherapy was feasible and the rate of reported grade 3/4 toxicities did not differ between treatment groups (p = 0.39).

Conclusion

Adjuvant pelvic radiotherapy in stage II EOC treated with cytoreductive surgery and chemotherapy did not appear to delay pelvic recurrence or impact survival in this small retrospective study.

IGCSM-0611
Poster Shift I - Ovarian Cancer

THERAPEUTIC TARGETING OF C-MET IN OVARIAN CLEAR-CELL CARCINOMA

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Aims

Recent reports revealed that c-Met activation is specifically associated with epithelial ovarian carcinoma and is association with poor prognosis. In this study, we investigated c-Met expression and the effects of its therapeutic targeting in ovarian clear-cell carcinoma (CCC).

Methods

Expression levels of c-Met in the CCCs, serous carcinoma and normal ovarian tissues were evaluated using real-time PCR. To test c-Met inhibitors in cell lines including ES2, RMG1, RMG2, OVISE and OVSAHO, we performed in vitro experiment including MTT and apoptosis assay. We performed Western blots to evaluate the c-Met expression and down-stream pathway. Moreover, we performed the in vivo therapy experiment in patient-derived xenograft models (PDX, Avatar) of ovarian CCC to confirm these effects.

Results

The c-Met expression was significantly increased in CCCs compared with serous carcinoma and normal ovarian tissues ($P<0.05$). When we treated c-Met inhibitor (SU11274, Crizotinib) to ovarian CCC cells, cell viability was significantly decreased and apoptosis was significantly increased. Western blot assay demonstrated that the protein expressions for c-Met signaling pathway were decreased by c-Met inhibitors. Moreover, we found that c-Met inhibitor (SU11274) had significant decreased tumor weight compared with control in a case of PDX (Avatar) models for ovarian CCC.

Conclusion

These results revealed that c-Met inhibitor have significant anti-tumor effects in ovarian CCC, and suggested that c-Met may have a potentials of therapeutic target for ovarian CCCs.

IGCSM-0613
Poster Shift I - Ovarian Cancer

PERIOPERATIVE USE OF BETA BLOCKERS IMPROVES OVERALL SURVIVAL IN PATIENTS WITH OVARIAN CANCER: A MULTI-INSTITUTIONAL STUDY

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Aims

To quantify the impact of perioperative use of β blockers on patient survival after debulking of epithelial ovarian cancer.

Methods

We conducted a multi-center retrospective study of all consecutive women after primary debulking of ovarian cancer (2002-2007). One institution had routinely been using perioperative β blockers (BBP) for at risk patients, the other institution did not. Patients at risk were those with history of CAD or two of the following (age >65, obesity, diabetes, or hypertension). Demographic, operative, and follow up data were collected. Cox proportional hazard models were used to assess the effect of BBP on Overall survival (OS) and Progression-free survival (PFS).

Results

We identified 185 patients: 70 received BBP, and 115 did not. Both groups were similar in demographics. Caucasian race constituted 93% and 93%, advanced stage (III,IV) 72% and 74%, advanced grade 97% and 90%, and optimal debulking 77% and 83%, respectively. Hypertension was seen more in the BBP compared to the no BBP group (22% and 6%, p=0.002). PFS in BBP group compared to those with no BBP was 18.2 vs. 15.8 months (p=0.66), while the OS was 44.2 vs. 39.3 months (p=0.1). In a multivariate analysis, along with patient's age and stage, BBP administration showed statistically significant improvement in OS 0.68 (HR 0.46-0.99; p=0.046), but not in PFS 0.75 (HR 0.54-1.11; p=0.16).

Conclusion

Perioperative administration of β blockers in patients after ovarian cancer surgery improves patient overall survival. A prospective clinical trial in this population is warranted to further evaluate these results.

IGCSM-0619
Poster Shift I - Ovarian Cancer

AUDIT OF CA125 FOLLOW UP AFTER FIRST LINE THERAPY FOR OVARIAN CANCER

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Aims

The MRC OVO5 / EORTC 55955 trial showed that patients in remission after first line therapy for ovarian cancer did not benefit from routine measurement of CA125 during follow up. Since the presentation of these results we have counselled patients about the options for follow up and provided them with an information leaflet about the trial results and the symptoms that should prompt an early appointment and CA125 measurement. We present an audit of practice following the presentation of those results.

Methods

The medical records of patients completing first line therapy for epithelial ovarian, fallopian tube or primary peritoneal cancer in our unit between July 2009 and December 2013 are being analysed. Data from the first 63 records analysed are included.

Results

An agreed plan of CA125 follow up was recorded in 54 of 63 patients. No routine CA125 follow up was selected by 42 (77.8%) and routine CA125 follow up was selected by 12 of whom 3 wished not to be informed of the results. The first indicator of relapse in the 27 relapsed patients, who had a mean treatment free interval of 366 days, was symptoms in 20, signs in 1, CA125 in 2 and CA125 at same time as symptoms in 4. The reason for CA125 measurement was signs or symptoms in 30 and planned / patient choice in 23.

Conclusion

If patients are given sufficient information about the role of routine CA125 measurements during follow up the great majority avoid these routine blood tests.

IGCSM-0620
Poster Shift I - Ovarian Cancer

CONSERVATIVE MANAGEMENT OF EARLY-STAGE EPITHELIAL OVARIAN CANCER: RESULTS OF A LARGE SERIES IN A TERTIARY CENTER

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Aims
Fertility-sparing surgery (FSS) is a strategy often considered in young patients with low-grade(G1-2) early-stage epithelial ovarian cancer (eEOC), whilst is still controversial in hig-risk patients. We investigated the role of FSS in low and high-risk eEOC patients who underwent comprehensive surgery.
Methods

We analyzed data from patients operated for an eEOC from February-1975 to January-2011, focusing on patients submitted to FSS. Seventy patients out of 307 with eEOC were identified. Patients underwent FSS were compared with 237 patients underwent radical-comprehensive-staging (RCS) in the same period. The study end points were overall survival (OS) and relapse-free survival (RFS). In a sub-analysis we also investigated the outcome of patients considered at good prognosis (FIGO IAG1-2).

Results

Type of surgery (FSS vs RCS) did not affect RFS or OS in any analysis.

At the multivariate analysis only FIGO stage was significant for RFS (p=0.0003). For OS higher FIGO stage (p=0.01), but also lower number of total nodes removed (p=0.008) and higher age at surgery (p= 0.0004) did negatively impact.

About the sub-analysis, FIGO IAG1-2 versus IAG3 and upper stages was related with a better prognosis for OS at univariate analysis (p=0.002), but not at the multivariate (p=0.1). Whilst the number of nodes removed (p=0.02) and age at surgery (p=0.0001) did maintain significance at multivariate analysis. For RFS the FIGO stage IAG1-2 was correlate with a better prognosis at univariate (p<0.0001) and multivariate analysis (p=0.01).
Conclusion

FSS in eEOC underwent comprehensive surgical staging is safe with oncological results comparable to radical surgery group.

IGCSM-0622
Poster Shift I - Ovarian Cancer

AMBULATORY CHEMOTHERAPY IN EPITHELIAL OVARIAN CANCER PATIENTS

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Aims

To determine the response rate and the toxicity of a three-hour paclitaxel plus carboplatin administration as ambulatory chemotherapy for primary or recurrent epithelial ovarian cancer.

Methods

: Retrospective review of medical record from April 2010. Seventy nine patients with mean age of 55 years old who were treated with adjuvant or salvage chemotherapy (intravenous paclitaxel 175 mg/m^2 drip in 3 hours plus carboplatin AUC5 drip in 1 hour) every 21 days for 6 cycles.

Results

Twenty four (36.4%) in early stage (I-II) and forty two (63.6%) in advanced stage (III-IV). 83.5% of the patients were in primary treatment. The complete response rate were 79.2% ; 64.3% and 46.2% in early; advanced and recurrent cases, respectively. Three patients had hypersensitivity reaction during the first administration of paclitaxel , another one after carboplatin infusion. Only 2/79 (2.5%) developed febrile neutropenia which can be manageable. 12/79 (15.2%) had grade III neutropenia without symptom. Most of the patients complained about grade I neuropathy.

Conclusion

Ambulatory chemotherapy is effective and quite safe. However, hypersensitivity reaction should be aware especially in the first cycle.

IGCSM-0623
Poster Shift I - Ovarian Cancer

FDG-PET/CT TO PREDICT OPTIMAL PRIMARY CYTOREDUCTIVE SURGERY IN PATIENTS WITH ADVANCED OVARIAN CANCER.

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Aims

Primary cytoreductive-surgery (CRS) has a significant impact on prognosis in epithelial-ovarian-cancer (EOC). Patient selection is important to recognize factors limiting optimal CRS and avoid unnecessary aggressive surgical procedures. We evaluated the contribution of FDG-PET/CT in the pre-surgical identification of sites of disease and evaluation of cytoriducibility.

Methods

From August-2013 to January-2014 patients with suspicion of having EOC underwent ^{18}F-FDG-PET/CT within 20 days before surgery. To assess diagnostic value of PET/CT, the results were compared with surgical findings and post-surgery histopathology.

Results

We prospectively evaluated 29 patients and found 23 with EOC and 6 with inflammatory-alterations or benign-tumors. FDG-PET/CT was positive (SUV_{max}11.3±5.4) in 21/23 (91%) of EOC and provided 2 false-negative (1-mucinous and 1-clear-cell carcinoma; SUV_{max}≤2.8). FDG-PET/CT was true-negative (SUV_{max}2.2±1.6) in 4 out-of 6 patients (67%). False-positive FDG-PET/CT scans were both cellular-fibromas (SUV_{max} 4.8 and 5.6).

The sensitivity, specificity and accuracy of PET/CT to characterize ovarian-masses was 91%, 67% and 86%, respectively.

Among the 21 FDG-PET/CT positive EOC, we detected factors limiting optimal CRS in 6 cases (29%), 4 porta-hepatis infiltration and 2 burden-bowel-mesentery involvement,

confirmed at surgical exploration. FDG-PET did not find limiting factors in the remaining 15 patients (71%), in whom optimal CRS was obtained.

Conclusion

FDG-PET/CT showed high sensitivity but suboptimal specificity in the characterization of ovarian masses. FDG-PET/CT highly correlates with surgical findings in terms of cytoreducibility of the tumor. All patients without any FDG-PET/CT factor limiting optimal CRS were debulked. FDG-PET/CT could have a role to non-invasively select patients suitable or not for primary CRS.

IGCSM-0626
Poster Shift I - Ovarian Cancer

TIME SERIES ANALYSIS OF GENETICS CONSULTATION FOR PATIENTS WITH SEROUS PELVIC CARCINOMA

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Aims

Serous pelvic carcinoma (SPC), originating in the ovary/fallopian tube/primary peritoneum, is the 5th leading cause of cancer death amongst women in Canada. BRCA genetic mutations contribute to 20-30% of all SPC. In 2001, Cancer Care Ontario expanded diagnostic BRCA mutation testing to include women with SPC.

The aim of this study was to determine whether patients diagnosed with SPC are seen by medical genetics for consideration of BRCA mutation testing.

Methods

Using the Ontario Cancer Registry, we performed a secular trends analysis of women in the province of Ontario with a confirmed histopathologic diagnosis of SPC between January 1, 1997 and December 31, 2011. Physician billing codes were used to identify the 2 year consultation rate by medical genetics.

Results

The final study population included 5412 women with SPC. Median age at diagnosis was 62, and 5.7% had a history of breast CA. Of the 77% who underwent surgery, 96% were performed by gynecologic oncology/gynecology, with 81.4% receiving chemotherapy. Death occurred within 2 years of diagnosis in 30.9% of the cohort. Median time from diagnosis to consultation was 1 year, with 6.2% of SPC patients seen by medical genetics. The rate of consultation increased over time, from 2.5% in 1997, to 11.8% in 2011.

Conclusion

Utilizing a large population based cohort, we demonstrate that the majority of SPC patients are never seen by medical genetics. Barriers preventing genetics consultation in women at high risk for BRCA mutations must be addressed if we hope to prevent future SPC in their female siblings and children.

IGCSM-0637
Poster Shift I - Ovarian Cancer

DISEASE RELAPSE IN OVARIAN CANCER PATIENTS DETECTED BY HE4 AND CA125

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Aims

The aim of the present study was to study serial measurements of C125 and human epididymis protein 4 (HE4) during follow-up after surgery and adjuvant first-line standard carboplatin/paclitaxel chemotherapy in epithelial ovarian cancer patients (EOC) and to explore their possible predictive value as to relapse.

Methods

Serum samples from 88 EOC patients were collected at the end of treatment and consecutively during follow up and analyzed for CA125 and HE4 by EIA assays.

Results

Disease recurrence was detected in 55 patients during follow-up and 52(95%) of those patients had HE4>70 pmol/L and 33 patients (60%) had HE4>150 pmol/L while 43(78%) patients had a CA125 value>35 U/mL during follow-up. In patients without recurrence, no patients had elevated CA125>35 U/mL during follow-up. However, for HE4, 13(39%) patients had HE4>70 pmol/L and three (9%) patients had HE4>150 pmol/L respectively, at a given time during the follow-up despite no clinical or radiological signs of recurrent disease.

Risk classification of patients by HE4 level at the end of adjuvant chemotherapy at a set sensitivity of 90%(95% CI:78.2-96.7%), classified 70(84.3%) women into a high risk group for relapse and 13(15.7%) women into a low risk group for relapse, with a specificity of 24.2%(95% CI:11.1-42.3%), PPV of 64.3%(95% CI:51.9-75.4%) and NPV of 61.5%(95% CI:31.6-86.1%).

Conclusion

HE4 appears to be a sensitive marker for detection of recurrence and in risk assessment of recurrence already at the beginning of follow-up. In some cases, HE4 can pick up recurrence where CA125 is negative.

IGCSM-0653
Poster Shift I - Ovarian Cancer

PROLONGED INFUSIONAL GEMCITABINE COMBINED WITH ORAL TREOSULFAN: A HIGHLY ACTIVE REGIMEN IN HEAVILY PRETREATED PATIENTS WITH OVARIAN AND OTHER MULLERIAN TRACT CARCINOMAS

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Aims
GeT, a combination of treosulfan (TREO) and gemcitabine (dFdC), has produced promising activity in platinum-resistant epithelial ovarian carcinoma (EOC).This non-interventional study sought to obtain detailed informations regarding the clinical value of GeT administered in a routine setting in patients (pts) with heavily pretreated EOC and other Mullerian tract cancers (MTC)..
Methods
A total 59 MTC pts having failed 1-11 (median. 3) chemotherapies were included (EOC, n=54). 37 were platinum-resistant (group R) and 22 were sensitive (group S). GeT was administered at q2w cycles with TREO at 1 g/m^2 PO d 1-4 and dFdC at 450 mg/m^2 IV (3 h infusion) d 1. Toxicities were scored according to CTCAE 4.0, responses were classified considering the integrated GCIG scale. PFS and OS were calculated from the start of GeT until progression or death from any reason or loss-to follow-up.
Results
Hematological toxicities were manageable: neutropenia G3-4, n=6; anemia G3-4, n=8; fever G3, n=3; infection G3, n=1. Non-hematological toxicities exceeded G2 in 4 pts. In 1 pt, GeT was prematurely terminated due to allergic exanthema. 8 CR,19 PR, and 16 SD accounted for an ORR of 45.8%.and a clinical benefit rate (CBR) of 72.9%. PFS and OS were 17.3 and 67.6 wks, respectively. No significant differences between group R and S were seen: ORR, 40.5% vs 54.4%; CBR, 70.3% vs 77.3%; PFS, 17.0 vs 18.4 wks; and OS, 63.0 vs 72.6 wks.
Conclusion
GeT given is safe and efficacious in heavily pretreated MTC pts exhibiting chemomodulatory activities. Clinical platinum-resistance did not impair the likelihood to benefit from GeT.

IGCSM-0655
Poster Shift I - Ovarian Cancer

SECONDARY CYTOREDUCTIVE SURGERY (SCRS) FOR RECURRENT EPITHELIAL OVARIAN CANCER (EOC): AN ANALYSIS OF PATIENTS TREATED AT BRAZILIAN NATIONAL CANCER INSTITUTE (INCA)

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Aims

Ovarian cancer (OC) is the second most common gynecological malignancy and the leading cause of death in the USA. The majority of primary OC are of epithelial origin. Surgical staging and cytoreduction followed by platinum-based chemotherapy is the standard therapeutic approach. Despite optimal treatment, 5 year survival for advanced OC is approximately 30%. Although debulking surgery is widely accepted as a major part of primary treatment of OC, its role in recurrent disease remains controversial. At INCA, surgery in patients with relapsed OC is performed in selected cases; this study aims to provide a review of the institutional experience with SCRS for recurrent EOC.

Methods

A retrospective analysis of patients with recurrent EOC who were candidates for SCRS at INCA, between March 2002 and November 2012, was performed.

Results

Thirty-two patients with recurrent EOC were submitted to SCRS. Median age at the time of SCRS was 57 years old and 90% of the patients were ECOG PS 0-1. Most patients, 85%, were FIGO stages III and IV at initial diagnosis. Median treatment-free interval (TFI) was 28 months. Median overall survival (OS) after SCRS was 29 months. The OS rates were 67 months for patients with complete resections versus 24 months for those with incomplete resections ($p = 0.04$). Only complete resections were independently related to prognosis (p 0.017; 95% CI 1.43 to 39.80).

Conclusion

Our findings corroborates with the results of previous studies which evaluated SCRS and identified that complete debulking was the strongest predictor for survival.

IGCSM-0656
Poster Shift I - Ovarian Cancer

NEOADJUVANT CHEMOTHERAPY IN PATIENTS WITH EPITHELIAL OVARIAN CANCER: IMPACT ON BOWEL RESECTION RATE.

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Aims

Our objective was to assess the impact of neoadjuvant chemotherapy (NAC) on small and large bowel resection rate in patients with ovarian cancer..

Methods

Patients were selected from a population of advanced epithelial ovarian cancer (FIGO IIIc and IV) diagnosed between 2002 and 2009 in two cancer centers. Patients initially unresecable treated with NAC followed by interval debulking surgery, were included. Patient without primary surgical evaluation or with partial primary surgery were excluded. A systematic blinded review of all the surgical reports pre and post NAC was done by 2 independent surgeons to assess the theoretical surgical procedures necessary to obtain a complete resection.

Results

Ninety seven patients met the inclusion criteria. Of the 84 patients (87%) with theoretical need for bowel resection before NAC, only 47 (49%) still need resection after NAC ($p<0.0001$). Similar impacts were observed for small bowel resection (77% to 24%, $p<0.0001$), colon resection (56% to 24%, $p<0.0001$) and rectosigmoid resection (90% to 31%, $p<0.0001$). The median overall survival of patient with complete resection with or without bowel was 57.4 months and 49.9 months, respectively ($p=0.71$). The median overall survival of patient without complete resection was significantly worst with a median of 21.4 months ($p<0.0001$).

Conclusion

NAC decrease significantly the rate of small bowel resections but also colon and rectosigmoid resection. Bowel resection after NAC is not assiocated with worst prognosis as far as the interval debulking surgery is complete.

IGCSM-0658
Poster Shift I - Ovarian Cancer

AN EVIDENCED-BASED ESTIMATION OF THE POPULATION SURVIVAL BENEFIT OF FIRST-LINE CHEMOTHERAPY FOR GYNAECOLOGICAL CANCER.

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Aims

Randomised clinical trials and meta-analyses describe the benefit of chemotherapy and combined chemo-radiotherapy for subgroups of major gynaecological (endometrial, cervix and ovarian) cancer patients with specific disease characteristics. This study estimates the overall survival (OS) benefit for the whole population of gynaecological (GYN) cancer patients in Australia if evidence-based guidelines for chemotherapy were followed.

Methods

Decision trees with evidence-based indications for chemotherapy have been previously defined. The marginal benefit of chemotherapy was extracted from published trials. Multiple electronic citation databases were systematically queried, including Medline and the Cochrane Library. The benefits of chemotherapy were estimated for 1, 5 and 10-year survival. To assess the robustness of our estimates, sensitivity analyses were performed.

Results

First-line chemotherapy was indicated in 45.4% of patients with major GYN cancer. The estimated 1, 5, and 10-year absolute OS benefits of first-line chemotherapy for the whole population of patients with GYN cancer in Australia were 3.0%, 3.5% and 0.7%, respectively. They are summarized as below.

GYN Cancer	Estimation of Population OS Benefit of First-line Chemotherapy			Total proportion of GYN cancer population
	1-yr OS benefit	5-yr OS benefit	10-yr OS benefit	
Cervix cancer	2.1%	2.6%	2.6%	18.3%
Endometrial cancer	1.3%	0.1%	0.0%	50.0%
Ovarian epithelial cancer	6.3%	9.3%	0.7%	31.7%
GYN Cancer	**3.0%**	**3.5%**	**0.7%**	**100%**

Conclusion

Chemotherapy would provide a survival benefit of 3.5% at 5 years when applied to the major GYN cancer patient population in Australia if all patients with an indication for chemotherapy were treated.

IGCSM-0664
Poster Shift I - Ovarian Cancer

EFFICACY OF MULTILINE CHEMOTHERAPY FOR PLATINUM-REFRACTORY OR -RESISTANT RECURRENT OVARIAN CANCER

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Aims
The prognosis of patients with platinum-refractory and -resistant (pla-R) ovarian cancer is extremely poor, regardless of whether resistance is primary or acquired after subsequent relapse (originally platinum-sensitive). We evaluated whether multiline chemotherapy prolongs survival of pla-R patients.

Methods
We retrospectively reviewed medical records of 76 patients with recurrent ovarian cancer (ROC), and analyzed overall survival (OS), survival after acquiring pla-R according to a status of platinum-sensitivity and the number of chemotherapy regimens after becoming platinum-resistant, using the Kaplan–Meier method and log-rank test.

Results
All patients were classified into Group R (n = 35; disease-free interval (DFI) < 6 months) and Group S (n = 41; DFI ≥ 6 months). The median follow-up period of all patients was 30 months. Median OS was significantly longer in Group S than in Group R (53.8 vs. 21.5 months). However, there was no significant difference in median OS after acquiring platinum-resistance between groups S and R (10.2 vs. 15.8 months). Median OS according to the number of chemotherapy regimens administered after acquiring platinum-resistance was 6.7 months in the 1-regimen group and 17.9 months in the ≥2-regimen group, while it was 10.2 months in the only best supportive care group.

Conclusion

Though, primary status of platinum-sensitivity must be an important prognostic factor for OS of ROC patients, it does not affect survival after acquiring platinum-resistance. Administration of ≥2 regimens, if safely possible, may prolong survival of pla-R patients. However, in chemotherapy-resistant patients, despite platinum-sensitivity, even 1 chemotherapy regimen may shorten survival.

IGCSM-0668
Poster Shift I - Ovarian Cancer

THE ASSOCIATION BETWEEN DIET, SUPPLEMENT USE AND SURVIVAL AFTER A DIAGNOSIS OF INVASIVE OVARIAN CANCER

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Aims
The relationship between diet and survival after a diagnosis of ovarian cancer is unclear as a result of a limited number of studies and inconsistent findings. Our aim was to examine the association between diet (food groups, nutrients, selected beverages, supplement use) and overall survival in a population-based cohort of 1112 women diagnosed with invasive epithelial ovarian cancer in Australia between 2002 and 2005.
Methods
Usual pre-diagnostic dietary intake was measured at recruitment by a validated food frequency questionnaire. Deaths were ascertained up to October 2011 via follow-up through medical records and linkage with the Australian National Death Index. Adjusted hazard ratios (HRs) and 95% confidence intervals (CI) were calculated using Cox proportional hazards regression.
Results
After adjustment, we observed trends towards improved survival with higher intakes of green tea (p-trend=0.04). There was also a suggestion of better survival among those with higher dietary fiber intake ($HR_{Q4\ vs\ Q1}$ =0.84 95%CI: 0.67, 1.05, p-trend=0.06). Higher intake of saturated fat was associated with worse survival ($HR_{Q4\ vs\ Q1}$ =1.27; 95%CI: 1.02, 1.57, p-trend=0.03). A survival disadvantage was apparent with use of vitamin C supplements (HR 1.51, 95%CI: 1.00, 2.30, p=0.05), but no association was observed for vitamin C intake from diet alone.
Conclusion
Diet, and possibly some supplements may play a role in overall survival of women diagnosed with ovarian cancer. Given limited research in this area, replication in other study populations and studies that assess the association with diet post-diagnosis are necessary to confirm these associations.

IGCSM-0671
Poster Shift I - Ovarian Cancer

RETROSPECTIVE ANALYSIS OF INTRAPERITONEAL CARBOPLATIN COMBINED WITH INTRAVENOUS DOSE-DENSE PACLITAXEL IN PATIENTS WITH OVARIAN CARCINOMA

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Aims

Dose-dense paclitaxel and carboplatin has improved survival compared to the conventional paclitaxel and carboplatin for treatment of advanced ovarian cancer. Intraperitoneal (IP) chemotherapy with cisplatin demonstrated better prognosis for optimally debulked stage III ovarian cancer. Although, it has not been widely accepted yet due to its complications, IP carboplatin was shown to have more reasonable pharmacokinetics than intravenous (IV) carboplatin. The efficacy of IP carboplatin in combination with dose-dense paclitaxel has not been clearly known yet.

Methods

We retrospectively analyzed the 69 patients with stage II-IV ovarian, fallopian tube, and primary peritoneal carcinoma who underwent IP carboplatin in combination with IV dose-dense paclitaxel (ddTCip) as a frontline chemotherapy.

Results

Eleven and 58 patients underwent optimally and suboptimally debulked surgery, respectively. We observed 91.4% patients had clinical response for ddTCip therapy. Ten and 43 patients showed complete and partial response, respectively. We observed 89.9%, 55.1% and 20.3% cases had grade 3/4 neutropenia, anemia, and thrombocytopenia, respectively. Port-related adverse events occurred in 8 (11.6%) patients.

Conclusion

We suggest that the frontline chemotherapy with ddTCip therapy is safe and effective even for suboptimally debulked stage II-IV ovarian carcinoma patients. A randomized phase III trial comparing IP versus IV carboplatin in combination with IV dose-dense paclitaxel is currently ongoing.

IGCSM-0672
Poster Shift I - Ovarian Cancer

STATIN THERAPY INDUCES APOPTOSIS IN PLATINUM RESISTANT OVARIAN CANCER CELLS

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Aims

Epidemiological studies indicate that cancer patients who also use HMGCoA reductase inhibitors (statins) for cholesterol control have improved cancer outcomes. Using platinum resistant high grade serous ovarian cancer (HGSC) cell lines, we demonstrated that lipophilic statins, such as atorvastatin and simvastatin, may inhibit the metastasis of some ovarian cancers *in vitro*.

Methods

Atorvastatin and simvastatin, at a physiological dose of 0.2 μM, significantly supressed the migration of HEY-1 (high grade serous) and TOV21G (clear cell carcinoma) cells. Apoptosis assays of IGROV-1 cells revealed that combinatorial treatment with cisplatin and 0.2 μM atorvastatin induced significantly more cell death than either drug alone.

Results

Because tumour associated macrophages (TAM) can mediate chemoresistance, we next investigated the apoptotic effects of statins on HGSC cells co-cultured with macrophages isolated from HGSC patient ascites. HEY-1 cells exhibited cisplatin-resistant behaviour. However, they were sensitised to cisplatin and statin-cisplatin combination treatments in the presence of M1-like and M2-like macrophages. The combination treatments induced higher apoptosis when compared to cisplatin alone. We are currently establishing tumours in mice using luciferase-tagged HEY-1 cells and will begin treatments with atorvastatin (with and without cisplatin).

Conclusion

Overall, the beneficial effects we observed varied amongst different HGSC cell lines (and also between different statins). As statins impact many normal and tumour associated cellular processes, their use in ovarian cancer therapeutics will require the development of suitable biomarkers that will assist appropriate stratification of ovarian cancer patients with platinum resistance, who could gain durable responses with platinum rechallenge in combination with statin therapy.

IGCSM-0675
Poster Shift I - Ovarian Cancer

LIPOCALIN2 ENHANCES INVASION AND SURVIVAL AGAINST OXIDATIVE STRESS OF OVARIAN CLEAR CELL CARCINOMA

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Aims
Excessive oxidative stress by chronic inflammation and iron accumulation may have crucial roles in carcinogenesis of the ovarian endometriotic cyst. We previously showed that lipocalin2 (LCN2), known as an iron transporter, was strongly expressed in ovarian endometriosis and related carcinomas, and the over-expression of LCN2 was associated with poor outcome of ovarian carcinoma patients. In this study, we further examined the role of LCN2 in ovarian carcinoma cell *in vitro*.
Methods
Two ovarian clear cell carcinoma cell lines, ES2 and Tov21G, expressing low-levels of LCN2, were used. ES2-LCN2, which overexpressed LCN2, was established by the transfection of LCN2 expression vector. The effects of LCN2 on cell proliferation and survival against H_2O_2 treatment (as oxidative stress) or anticancer agents (cisplatin and paclitaxel) were measured by WST-1 assay. The DNA damage by oxidative stress was examined using immunofluorescent staining for 8-OHdG. The effect of LCN2 on invasion was analyzed using the Matrigel invasion assay.
Results
WST-1 assay revealed that the survival against oxidative stress ($p<0.05$) and anticancer agents ($P<0.05$) was significantly increased in ES2-LCN2 compared with control. Positive staining for 8OHdG was observed in LCN2-negative areas, suggesting LCN2 to decrease the DNA damage. LCN2 significantly stimulated the invasion of ES2 ($p<0.001$) and Tov21G ($P=0.007$) cells.
Conclusion
LCN2 may promote the survival of endometriosis-related ovarian carcinoma cells under excessive oxidative stress, resulting in the progression of this malignancy.

IGCSM-0677
Poster Shift I - Ovarian Cancer

EXERCISE DURING CHEMOTHERAPY FOR OVARIAN CANCER (ECHO): STUDY DESIGN FEATURES AND OUTCOMES OF A CANCER AUSTRALIA AND CANCER COUNCIL AUSTRALIA FUNDED RANDOMISED, CONTROLLED TRIAL

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Aims

Ovarian cancer is the most common cause of gynaecological cancer death, with an overall 5-yr relative survival of 43%. Impaired physical wellbeing and overall quality of life (QoL) represent major concerns for women during and following ovarian cancer treatment, predict survival and are amenable to change through interventions. Exercise, now considered an important part of overall management of a number of cancers, improves short-term outcomes (e.g., function, fatigue, QoL) during chemotherapy. There is also exciting, albeit preliminary data to suggest exercise may assist patients to receive the planned dose of chemotherapy without delay or dose modifications and may improve survival. The potential quality and quantity of life benefits of exercise have not been assessed in women with ovarian cancer, despite this group having significant capacity for change in exercise behaviour.

Methods

Therefore, the purpose of the ECHO trial is to evaluate the effects of an exercise intervention during chemotherapy for epithelial ovarian cancer, with outcomes of interest including physical wellbeing, function, QoL, chemotherapy-adverse events and adherence and progression-free survival. Cost-effectiveness, and potential mechanistic pathways of exercise during chemotherapy will also be explored.

Results
Key study design features, including outcomes of interest, timing of assessments, recruitment approach, intervention details and timeline, will be outlined during the presentation.
Conclusion
The ECHO trial is the first randomised trial worldwide to ascertain the value of adding exercise to standard chemotherapy for women with ovarian cancer and reflects a collaborative effort involving ANZGOG, NHMRC CTC, and the Institute of Health and Biomedical Innovation, QUT.

IGCSM-0679
Poster Shift I - Ovarian Cancer

APOPTOSIS INDUCED BY SELECTED PHYTOCHEMICALS IN SOME GYNAECOLOGICAL TUMOUR MODELS

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Aims

Increasing attention is given to plant-derived tumour active compounds because of fewer side effects, generally greater solubility and cancer selectivity. One such compound is wedelolactone that showed anti-estrogenic effect in uterus cancer cells, inhibited invasive growth of breast cancer cells (MDA-MB-231) and induced apoptosis in prostate and MDA-MB-231 breast cancer cells. In this study, we further explored apoptotic potential of wedelolactone and norwedelolactone along with ursolic acid, oleonolic acid, betulinic acid and EGCG against estrogen dependent and independent tumour models.

Methods

Stock solutions were made in DMSO (wedelolactone ; ursolic acid , betulinic acid , EGCG) except for oleanolic acid (1:4 mixture of ethanol and water). Cytotoxic activity of the compounds alone and in combination with platinum drug cisplatin against cancer cell lines: (Ovarian: A2780, $A2780^{CisR}$, $A2780^{ZD0473R}$, SKOV-3; Breast: MCF-7 and cervical: HELA) were determined using MTT reduction assay. Combination index (CI) will be determined as a measure of the combined drug action.

Results

IC_{50} values of compounds are found to vary significantly; combination studies are expected to be completed before presentation at the conference.

Conclusion

The compounds have been found to be cytotoxic in ER^+ and ER^- cancer models.

IGCSM-0680
Poster Shift I - Ovarian Cancer

ANALYSIS OF RECURRENCE PATTERN BASED ON MINIMALLY INVASIVE APPROACH IN PATIENTS WITH STAGE I EPITHELIAL OVARIAN CANCER

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Aims

To analyze recurrence patterns of stage I epithelial ovarian cancer patients who had complete surgical staging, comprehensive surgical staging, or fertility sparing surgery through laparotomy or laparoscopy.

Methods

We enrolled 194 patients with stage I epithelial ovarian cancer who were treated in our institution from January 1, 2001 to December 31, 2010.We categorized the patients who had laparoscopic surgery irrespective of surgical extent or comprehensive staging/fertility sparing surgery irrespective of laparotomy or laparoscopy as a minimally invasive approach group.

Results

Among 194 patients who had stage I epithelial ovarian carcinoma, 105(54.1%) patients had complete surgical staging with laparotomy and 89(45.9%) patients had minimally invasive surgical approach. Among 89 patients with minimally invasive surgical approach, 30(33.7%) patients had laparoscopy. When we compare survival outcome based on the type of surgical approach, there is no difference in terms of progression free survival (P = 0.741) and overall survival (P = 0.321). There were 19(11 in complete surgical staging with laparotomy gruop, 8 in minimally invasive approach group) recurrence in this cohort and we investigated the recurrence patterns based on different surgical approaches. Among complete surgical staging with laparotomy group 54.5% (6/11) had recurred out of pelvis initially, however, in the minimally invasive approach group, 87.5%(7/8) recurred out of pelvis and this difference was not statistically significant.(*P* = 0.177) And there is no difference according to peri-operative morbidities between two groups.

Conclusion

Minimally invasive surgical approach is feasible and safe. However there should be an effort to exploration of upper abdominal cavity during this minimally invasive surgery.

IGCSM-0682
Poster Shift I - Ovarian Cancer

PAPILLARY CARCINOMA ARISING FROM A STRUMA OVARII

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Aims
This is to report a case of papillary carcinoma arising from a struma ovarii, it aims to review the available literature on how to manage this case.
Methods
Extensive literature search has been made.
Results

Struma ovarii is an ovarian teratoma that is composed predominantly or entirely of thyroid tissue. It is the most common type of monodermal teratoma, accounting for nearly 3% of all ovarian teratomas. It is a rare tumor which compromises 1% of all ovarian tumors and 2.7% of all dermoid tumors, its malignant form, occurrs 0.3% to 5% of all struma ovarii tumors. The diagnosis of thyroid-type carcinoma arising in struma ovarii largely depends on the recognition of its characteristic microscopic features with hematoxylin eosin-stained sections. Clinicians have debated the criterion for the histopathologic diagnosis of malignancy. Many are proponents of using a system based on the guidelines for primary papillary thyroid carcinoma. Surgical removal of the ovarian mass remains the main treatment; however the management after initial surgery is still controversial. Some authors have advocated the management of malignancy in struma as other germ cell tumors while others have proposed that it should be treated like its thyroid counterpart. The latter is the favored approach in the recent literatures.

Conclusion

Malignant struma ovarii is a rare disease that is most often misdiagnosed because of its nonspecific symptoms. Multiple treatment options are available, but currently there is no gold standard. Reporting of these cases are important so as to establish a more definite treatment guidelines.

IGCSM-0684
Poster Shift I - Ovarian Cancer

EXPERIENCE OF PRIMARY GYNAECOLOGICAL MALIGNANCY IN A PAEDIATRIC & ADOLESCENT POPULATION - A 19-YEAR REVIEW

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Aims

Gynaecological malignancies in paediatric and adolescent populations are rare with very few case series reported. Our aim was to review cases, treatment modalities and outcomes of primary gynaecological malignancy at The Royal Children's Hospital(RCH) from 1993-2012.

Methods

This retrospective audit reports primary gynaecological malignancy in females <19 years. Cases were identified from the hospital database and included primary uterine, cervical, ovarian, vaginal and vulval malignancies.

Results

During the study period, 27 cases were identified.

Ovarian cancers(n=16, 59.3%) were most common, followed by vaginal(n=7, 25.9%), vulva(n=3, 11.1%) and cervix(n=1, 3.7%).

The median age for ovarian malignancy was 12(range 2-16), vaginal was 2(0-12) and vulval was 13(2-15).

The most common ovarian malignancy was dysgerminoma(5/14, 35.7%), including one with an XY karyotype. The most common vaginal malignancy was rhabdomyosarcoma(3/7, 42.9%). Of vulval malignancies, one was a rhabdomyosarcoma(1/3) and two were neuroectodermal tumours(2/3).

The presentation for those with ovarian malignancy was abdominal pain(n=10, 62.5%), palpable mass(n=8, 50%), abdominal distension(n=6, 37.5%) and vomiting(n=6, 37.5%).

Four girls(25%) presented with precocious puberty. Of seven girls with a vaginal malignancy, three(42.9%) presented with vaginal bleeding and two(28.6%) passed tissue per vagina. All those with vulval malignancies presented with a mass.

The commonest procedure performed for ovarian malignancy was oophorectomy (n=9, 56.25%). Twenty-one (77.8%) had combination chemotherapy. Of patients who received radiotherapy (n=2), one had significant complications.

Seven patients(26%) are known to have died.

Conclusion

Gynaecological malignancy in this population is uncommon. Young girls presenting with abdominal pain, vaginal bleeding or mass must be appropriately investigated.

IGCSM-0685
Poster Shift I - Ovarian Cancer

SQUAMOUS CELL CARCINOMA ARISING IN MATURE CYSTIC TERATOMA: CASE SERIES

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Aims
This paper aims to discuss the risk factors and management of a rare condition, squamous cell carcinoma arising in mature cystic teratoma.

Methods
Case series: search of cases in Philippine General Hospital

Results

Malignant transformation occurring in a mature cystic teratoma is a rare entity with an incidence rate of 2%. Squamous cell carcinoma is the most common histopathologic type occurring in more than 75% of malignant transformations. Preoperative diagnosis is extremely difficult due to its rarity and similarity to the benign tumor. This condition is usually detected in the operating room or commonly after postoperative histopathologic examination. Clinicians should suspect this rare malignant transformation in patients older than 45 years, tumors equal to or larger than 10 cm, elevated CEA and SCC serum markers, and characteristic color Doppler ultrasound findings. Prognosis is good for early stage disease and in which optimal cytoreductive surgery is obtained. Intraoperatively, MCTs with unusual adherence, solid areas, nodular or papillary protrusions, and nodules or plaques in the cyst wall should be suspected to contain malignancy and frozen section requested.

Conclusion
Malignant transformation in mature cystic teratoma is suspected in patients older than 45 years, tumors equal to or larger than 10 cm, elevated CEA and SCC serum markers, and characteristic color Doppler ultrasound findings. Unilateral oophorectomy without further postoperative treatment may be justified for stage IA disease. Optimal debulking in combination with platinum-based chemotherapy, with or without radiotherapy, is suggested for stages beyond IA. There is currently no therapeutic standard regarding adjuvant therapy. Treatment should be individualized until a consensus is made.

IGCSM-0686
Poster Shift I - Ovarian Cancer

THE IMPACT OF THE INTERVAL FROM SURGERY TO INITIATION OF CHEMOTHERAPY (ISC) ON SURVIVAL IN ADVANCED EPITHELIAL OVARIAN CANCER

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Aims

We investigate the prognostic impact of the interval from surgery to initiation of chemotherapy (ISC) in advanced epithelial ovarian cancer.

Methods

We enrolled patients with advanced epithelial ovarian cancer (FIGO stage III and IV) who were treated at Samsung Medical Center from January 1, 2001 to December 31, 2010. We excluded the patients who had neoadjuvant chemotherapy.

Results

507 patients (stage III; 448, stage IV; 59) were enrolled and the median ISC was 9 days with the rage of 4 and 84 days. When we compare the survival for groups with short ISC (≤ 9 days) and long ISC (> 9 days), long ISC showed significant negative impact on survival in multivariate analysis. In subgroup analysis based on surgical outcomes (gross no residual: n= 109, optimal with residual less than 1 cm: n= 206, suboptimal: n= 192) longer ISC was significantly associated with poorer progression free survival (PFS, P = 0.0383) and overall survival (OS, P = 0.0002) in optimal surgery group (gross residual less than 1 cm). In this group the hazard ratio for PFS and OS started to be significant with 11 days of ISC ($P < 0.05$). However, in microscopic disease, the ISC did not show any prognostic impact and only trend of poor OS was observed in suboptimal group (P = 0.0867)

Conclusion

Our data suggest that delay of chemotherapy after surgery more than 11 days might entail negative impact on PFS and OS in advanced epithelial ovarian cancer patients who had gross residual disease after surgery.

IGCSM-0690
Poster Shift I - Ovarian Cancer

ROLE OF HEREDITARY CANCER SPECIALIST IN INTER DISCIPLINARY GYNECOLOGIC CANCER CARE TEAM

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Aims
Hereditary Cancer Clinics are a relatively recent development. Their role in a Gynaecological Cancer Centre has not previously been assessed. The aiim of this study was to determine the role of the Hereditary Cancer Clinic at the Prince of Wales hospital, in the management of patients at the Gynecological Cancer Centre of the Royal Hospital for Women, Sydney.

Methods
Records of all Tumor Board discussions for the 5 Year period 2010-2014 have been reviewed to identify patients recommended for genetic referral. These patients will be checked against the Genetic Registry of Prince of Wales Hospital, to determine compliance with the referral. The Genetic Registry will also be used to determine how many patients accepted the recommendation for genetic testing, and how many of these patients were found to have a germline mutation.

Results
Overall in the 4 year period (2010-2013) , 1,717 patients were presented to the Tumor Board. Recommendation for genetic referrals increased from 42 (10.9%) in 2010 to 83(21.8%) in 2013. The 2014 data collection is on going.

Conclusion
The Hereditary Cancer Clinic plays a pivotal role in ensuring that patients are appropriately referred and investigated for Germline mutation.

IGCSM-0700
Poster Shift I - Ovarian Cancer

A 32 YEAR REVIEW OF CLINICAL PRESENTATION AND THE USE OF RISK OF MALIGNANCY INDEX (RMI2) IN DIAGNOSIS OF OVARIAN MALIGNANCIES IN CHILDREN AND ADOLESCENTS

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Aims

To document presentation, histologic type and outcome of surgically removed ovarian malignancies in females. To determine the predictive value of the RMI2 algorithm in determining ovarian malignancy.

Methods

A retrospective chart review of females ≤21 years attending the Royal Women's Hospital and Royal Children's Hospital (RCH), Melbourne, Australia who underwent surgeries for ovarian masses between1982 to 2013. RMI2 index was based on a serum CA 125 level, ultrasound findings, and menopausal status. The optimal RMI2 cut-off was determined for those with complete data (restricted to ≤18 years to include the paediatric population) using comparable data on benign masses surgically removed at RCH.

Results

65 patients were diagnosed with borderline (21, 32%) or malignant (44, 68%) ovarian tumours. Median age at diagnosis was 17 years (range, 7-21 years). Presenting symptoms included pain (43, 71.7%), abdominal distension (25, 41.7%), gastrointestinal symptoms (14, 23.3%), menstrual irregularities (8, 13.3%), incidental finding on scan (10%). Two cases presented with ovarian torsion. Sensitivity of USS for malignancy was 70.8%.Histological types included surface epithelial 31 (47.7%), sex cord stromal 5 (7.7%), germ cell 27 (41.5%) and not otherwise specified tumours 2 (3.1%) . There were 7 deaths . Predictive value of RMI2 was calculated using data from 85 girls benign(n=64) and malignant (including borderline) (n=21). The optimal RMI2 cut-off in this population was 112, (sensitivity 62%, specificity 95% , NPV 88%, PPV 81%, area under the ROC curve 79%)

Conclusion
RMI2 of <112 gives a high negative predictive value for ovarian malignancy in young women.

IGCSM-0701
Poster Shift I - Ovarian Cancer

MANAGEMENT OF STAGE 1 SMALL CELL CARCINOMA OF THE OVARY HYPERCALCEMIC TYPE (SCCOHT): THE BENEFIT OF AGGRESSIVE THERAPY.

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Aims
Small cell carcinoma of the ovary, hypercalcemic type (SCCOHT) is a rare and aggressive disease. Primary treatment for localized disease is surgical resection. The role of adjuvant chemotherapy is unclear with no consensus on the recommended type or duration.
Methods
A retrospective study of 11 patients diagnosed with stage I SCCOHT evaluated at MD Anderson Cancer Center between January 1990 and April 2014 was performed. Medical records were reviewed for demographic information, pathologic findings, treatment regimens and outcomes.
Results

Median age at diagnosis was 29 years (range 24-46). Adjuvant chemotherapy was given to 9 patients and consisted of vinblastine, cisplatin, cyclophosphamide, bleomycin, doxorubicin and etoposide (VPCBAE) in 5 patients; etoposide and platinum (EP) in 3; and carboplatin and paclitaxel (CP) in 1. Six patients (54%) developed recurrent disease: 1 of the 5 patients treated with VPCBAE (20%), 3/3 (100%) treated with EP, and 2/2 (100%) that did not receive adjuvant chemotherapy. Median disease free survival (DFS) for the patients who developed recurrent disease was 7 months (range 2-20). Four patients (36.4%) have died of disease with a median overall survival of 23 months (range 16-36). In addition, 1 patient (9.1%) is alive with disease and 6 (54.5%) are alive without evidence of disease. Five patients did not develop recurrent disease with a median follow up of 26 months (range 5-60).

Conclusion
Our findings suggest that multi-agent adjuvant chemotherapy with VPCBAE may be more effective when compared to platinum doublet or no treatment in women with stage I SCCOHT.

IGCSM-0709
Poster Shift I - Ovarian Cancer

A CASE OF SPONTANEOUS REGRESSION OF RECURRENT OVARIAN SEROUS ADENOCARCINOMA

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Aims
Spontaneous regression (SR) was reported in several malignancy such as malignant melanoma, gastric and colon carcinoma, however, SR in ovarian serous adenocarcinoma (OSAC) is rare. Because SR was occasionally observed in association with severe infectious condition such as sepsis, the activation of immune system is thought to play an important role in SR. We reported a case with SR of recurrent OSAC.
Methods
The present case was initially diagnosed with OSAC stage IIIc at 43 years of age. The tumors were completely resected and received 6 courses of chemotherapy. Her OSAC recurred in the pelvic cavity and she underwent a surgical resection and chemotherapy at 50 years of age. At 55 years of age, her OSAC again recurred as a 2.5 cm pelvic tumor with elevated serum CA125 levels, however, she wished no treatment. After 6 months, the serum CA125 decreased suddenly to normal range, and the pelvic recurrent tumor disappeared. The SR of her OSAC has been persistent until 58 years of age. The literature review as to SR was also performed.
Results
During follow-up of SR, she received no additional treatment. She had no symptom of infection except MAC (Mycobacterium avium complex) infection in the lung.
Conclusion
Although the cause of this SR is unknown, MAC infection may be one of the possible reasons.

IGCSM-0712
Poster Shift I - Ovarian Cancer

EARLY MORTALITY AND MORBIDITY OF ELDERLY PATIENTS WITH OVARIAN CANCER RECEIVING DOSE DENSE TC REGIMEN

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Aims
To understand early mortality and morbidity of Japanese elderly patients with ovarian cancer receiving dose dense TC.
Methods
Retrospective chart review of ovarian cancer patients received dose dense TC at Hyogo Cancer Center. Elderly patients were defined as 65 years old or more. Early death was defined as death within 100 days after the last chemotherapy by any cause. Early morbidity was defined as toxicity related to change or termination of chemotherapy.
Results
From Feb. 2010 to Feb. 2013, 101 patients received dose dense TC. Median age was 58 (range 21 - 79), and 26 % of them were elderly. Most of patients (81%) had good PS (0 or 1), Median BMI was 21.4 (range 16.6 -33.8) mg/m^2. Two early deaths occurred both in non-elderly patients. Toxicity related to dose delay, dose reduction, chemotherapy termination, or regimen change occurred in 71, 62, 10 and 6 % of patients, respectively. Early morbidity include neuropathy, hypersensitivity reaction, depression, infection, neutropenia, liver dysfunction, ileus, and weight loss. Among 16 patients with early morbidity, 4 (25%) of them were elderly.
Conclusion
Early mortality and morbidity of dose dense TC seems to be consistent with previous report. Chronological age *per se* may not be risk factor for early mortality and morbidity of elderly patients receiving chemotherapy. Other factors, such as depression or nutrition status should also be assessed. Prospective study is warranted to understand risk factors for early mortality and morbidity of elderly patients of ovarian cancer receiving chemotherapy.

IGCSM-0717
Poster Shift I - Ovarian Cancer

INITIAL EXPERIENCE FOR EXTENSIVE CYTOREDUCTIVE SURGERY AS THE FIRST YEAR GYNECOLOGIC ONCOLOGY FACULTY: SURGICAL OUTCOME AND CHALLENGE

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Aims

To investigate the surgical outcome and challenge of initial experience of a gynecologic oncologist as a faculty after finishing of adequate training for extensive cytoreductive surgery at the tertiary educational hospital.

Methods

From March 2010 to February 2011, 18 patients (16 primary and 2 recurrent) with ovarian cancer were surgically treated in Pusan National University Yangsan Hospital. Initial experience of a single gynecologic oncology faculty for primary or secondary cytoreductive surgery was retrospectively analyzed.

Results

Of 18 patients, Median operative time was 277 min (range, 150-660 min). Stage?? Optimal cytoreduction (residual disease < 1 cm) and complete cytoreduction (no residual disease) were possible in 16 patients (88.9%) and 10 patients (55.6%), respectively. Postoperative morbidities were included ileus (n=3), wound dehiscence (n=3), pleural effusion (n=1), leakage at ileo-rectal anatomosis (n=1), chylous ascites (n=1), and postoperative bleeding requiring reoperation (n=1). There was 1 patient with surgery related death due to sepsis at postoperative day 23. Special advice and discussion was needed in 3 patients; respectability of suprarenal lymph node metastasis, primary debulking surgery in old age (80 years), and total colectomy in case of extensive tumor involvement in colon. There was a challenge for organizing multidisciplinary surgical team and being lacking in well trained surgical nurses.

Conclusion

Although the rate of optimal cytoreductive rate was acceptable, unexpected postoperative morbidities such as leakage at bowel anastomotic site and postoperative

bleeding were encountered. Improvement of adequate surgical team and sharing thinking way with continuous mentoring are essential to overcome these.

IGCSM-0719
Poster Shift I - Ovarian Cancer

A RARE CASE OF OVARIAN STEROID CELL TUMOR CAUSING VIRILIZATION IN A POSTMENOPAUSAL WOMAN

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Aims
Steroid cell tumors, not otherwise specified (NOS), are rare ovarian sex cord-stromal tumors with malignant potential. The majority of these tumors produce several steroids, particularly testosterone. Various virilizing symptoms such as hirsutism, temporal balding, and amenorrhea are common in these patients.
Methods
A 48-year-old woman was referred for virilization and huge pelvic mass. Transvaginal ultrasound suggested the presence of 8 x 10cm sized mixed echogenic tumor in left adnexa.
Results
After clinical evaluation, Total abdominal hysterectomy and bilateral salpingo-oophorectomy was performed with a clinical diagnosis of benign ovary tumor. She recovered from the surgery uneventfully and was discharged from the hospital seven days after surgery. Finally, pathological examination revealed that the left ovarian tumor was steroid tumor of ovary.
Conclusion

We present here an unusual case of an ovarian steroid cell tumor, and a brief review of the literature regarding these types of tumors.

IGCSM-0720
Poster Shift I - Ovarian Cancer

LINE-1, A NOVEL BIOMARKER FOR HIGH-GRADE SEROUS OVARIAN CARCINOMA

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Aims

LINE-1 (Long Interspersed Nuclear Element 1) retrotransposon is a repetitive DNA capable of mobilising autonomously in the mammalian genome via a 'copy-and-paste' mechanism. Thus, they can disrupt normal cellular regulation leading to genome instability, a hallmark of cancer. This study aims to investigate the role of *LINE-1* in high-grade serous ovarian carcinoma (HGS OvCa).

Methods

Novel *LINE-1* insertions in 14 pairs of matched primary human HGS ovarian tumours-normal tissues and 9 ovarian cancer cell lines were mapped by retrotransposon-capture sequencing (RC-seq). Bisulphite sequencing, qRT-PCR and immunoblotting were also used to assess the epigenetic regulation of *LINE-1* promoter, *LINE-1* transcription and expression of *LINE-1* ORF1 protein (ORF1p) respectively in tumour versus non-tumour tissues as well as in cell lines.

Results

Approximately 34% of 128 de novo *LINE-1* insertions present only in tumours were enriched in exons and introns of genes potentially involved in ovarian tumorigenesis. *LINE-1* RNA transcripts were also detected. Notably, a significant subset (5/8) of malignant tumours ($X^2 = 6.85$, $p = 0.01$) and none of the benign tumours expressed *LINE-1* ORF1p necessary for retrotransposition. Furthermore, using an engineered *LINE-1* reporter we demonstrated *LINE-1* mobilisation *in vitro* in cell lines. Endogenous *LINE-1* RNAs and *LINE-1* protein were also detected. Marked differences in retrotransposition efficiency were observed between cell lines, and could be due to differential epigenetic regulation of the *LINE-1* promoter, as demonstrated by bisulphite sequencing.

Conclusion

Together, this study demonstrates *LINE-1* as a promising novel biomarker for HGS OvCa.

IGCSM-0721
Poster Shift I - Ovarian Cancer

TARGETING CANCER STEM CELL (CSC)-ASSOCIATED PATHWAYS TO OVERCOME CHEMORESISTANT IN EPITHELIAL OVARIAN CANCER

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Aims

CSCs are increasingly accepted as the putative mediators of chemoresistance and cancer relapse in epithelial ovarian cancer (EOC) patients. Therefore, targeted-CSC approach is crucial. We have recently demonstrated a significant decreased in CSC-like phenotype and mice tumour burden following suppression of paclitaxel-induced activation of JAK2/STAT3 pathway using a JAK-2 specific inhibitor (CYT387). However, chemoresistance is governed by multiple signalling pathways and may select for CYT387-resistant cancer cells. Therefore, we aim to identify and interrupt another key signalling pathway, including the JAK2/STAT3 pathway that is activated in response to paclitaxel treatment in the surviving residual cells.

Methods

Paclitaxel and CYT387-treated ovarian cancer cells and mice xenografts were examined for the CSC-like marker expressions (EpCAM, CD44, CD117, CD24, Oct-4A, Nanog) and pathway activations (JAK2/STAT3, SRC, EGFR and AKT) by immunofluorescence, Western Blot, flow cytometry, qRT-PCR and immunohistochemistry. JAK/STAT Signalling Pathway PCR Array was then used to identify non-CYT387-affected genes which will be targeted by a commercially available inhibitor or function-blocking antibody. MTT assay was used to assess cells sensitivity to paclitaxel while the tumour burden and recurrence were studied in Balbc nude mice.

Results

Besides the JAK2/STAT3 pathway, SRC, EGFR and PI3K/AKT/mTOR pathways were activated in paclitaxel-treated surviving ovarian cancer cells expressing CSC-like markers.

Conclusion

Simultaneous suppression of the JAK2/STAT3 pathway and another complementary pathway ensure a broad range of inhibitory effects and could be a breakthrough to overcome chemoresistance and drastically improved the efficacy of current chemotherapeutic treatment for EOC patients.

IGCSM-0722
Poster Shift I - Ovarian Cancer

PODOPLANIN EXPRESSION PLAYS AN IMPORTANT ROLE IN CELL CYCLE REGULATION IN OVARIAN CLEAR CELL ADENOCARCINOMA

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Aims
We previously demonstrated that Podoplanin (PDPN), a 38-kDa transmembrane glycoprotein, was expressed in epithelial ovarian carcinomas, with more frequent expression observed in clear cell adenocarcinomas (CCCs). However, the cellular functions of PDPN have not yet been fully elucidated. In this study, we investigated the relationship between PDPN expression and cell cycle regulation.
Methods

We established two CCC cell lines, designated RMG-1-PDPN and OVISE-PDPN, that exhibited stable expression of the *PDPN* gene. These cell lines were derived from RMG-1 and OVISE cells, respectively, which do not express PDPN. Genes that were significantly differentially expressed between RMG-1-PDPN, OVISE-PDPN, and wild-type cells were identified by DNA microarray assays. The sensitivities of RMG-1-PDPN cells and corresponding wild-type cells to anticancer drugs (i.e., paclitaxel, SN-38, carboplatin, and cisplatin) were measured by MTT assays.

Results
RMG-1-PDPN and OVISE-PDPN cells exhibited significantly slower cell growth compared with corresponding wild-type cells. Six genes were found to be significantly differentially expressed by DNA microarray assays, and increased cyclin-dependent kinase 2 associated protein 1 (CDK2AP1) expression and decreased cyclin G2 expression were confirmed in RMG-1-PDPN and OVISE-PDPN cells using real-time PCR. Interestingly, RMG-1-PDPN cells showed notably lower sensitivity to paclitaxel and carboplatin than wild-type cells.
Conclusion

Low proliferative activity may be associated with biological behavior and chemoresistance in CCC. The findings of the current study suggest that PDPN inhibits cell proliferation via the modulation of CDK2AP1 and/or cyclin G2 expression; therefore, PDPN may have an important role in the regulation of the cell cycle in CCC.

IGCSM-0723
Poster Shift I - Ovarian Cancer

OVARIAN CANCER SCREENING BY AUSTRALIAN WOMEN FROM FAMILIES WITH BRCA1 OR BRCA2 MUTATIONS

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Aims

Since 2010, Cancer Australia has recommended against surveillance for ovarian cancer (OC) because it is ineffective. This study aimed to estimate the contemporary prevalence of OC screening by Australian women from families with *BRCA1* or *BRCA2* mutations identified by family cancer clinics.

Methods

Subjects were women from families with *BRCA1* or *BRCA2* mutations enrolled in kConFab who did not have a cancer diagnosis and completed a follow-up questionnaire between 30/10/2009 and 27/03/2014. Those who had bilateral salpingo-oophorectomy or received their mutation result in the most recent follow-up round were excluded. Data, including frequency and reason for CA-125 and pelvic ultrasound (PU), were collected by questionnaire every 3 years. Three groups were defined: 'aware carriers', women aware they carried a mutation; 'aware non-carriers', women aware they did not carry the family mutation; 'unaware', women who did not know their mutation result.

Results

Of 627 eligible participants, the 93 aware carriers were more likely to screen (39% PU, 37% CA125, $p<0.01$) than the 316 aware non-carriers (7%, 8%, respectively) and the 218 unaware (7, 8%, respectively). Of the 29 aware carriers who reported on the period

since Cancer Australia guidelines were updated (1/1/2010), 41% and 28% had had screening PU and CA-125, respectively.

Conclusion

More than one-third of Australian women that know they are a *BRCA1* or *BRCA2* mutation carrier, and even a non-trivial proportion of those who know they do not carry a mutation, have been undergoing ovarian screening, contrary to Cancer Australia's recommendations.

IGCSM-0726
Poster Shift I - Ovarian Cancer

EVALUATION OF RESPONSE TO HORMONE THERAPY IN 22 PATIENTS WITH MEASURABLE ADULT GRANULOSA CELL TUMORS OF THE OVARY

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Aims

Granulosa cell tumors (GCTs) represent rare ovarian malignancies arising from sex-cord-stromal cells. Responses to hormone therapy (HT) of advanced primary disease or recurrences have been published in case reports only. The aim of this study was to determine the objective response rate to HT for patients with an adult GCT of the ovary in a consecutive series of patients.

Methods

All patients treated for adult GCT within the Academic Medical Center (between 1990 and 2013), the Free University (between 1984 and 2013) and the Antoni van Leeuwenhoek Hospital (between 1979 and 2013), together accounting for the Center for Gynecologic Oncology Amsterdam, were identified and their records were screened for HT administration. The main outcome was the objective response rate to HT.

Results

We identified 127 patients with an adult GCT, of which 81 (64%) had a recurrence. Twenty-five of these patients (20%) were treated with hormones, of these 22 had measurable disease at the start of their treatment. Pooled objective response rate to HT was 18% (4/22) (95% Confidence Interval 6-41%). In one patient (4.5%) a complete response and in three (14%) a partial response was described. Fourteen patients (64%) had stable disease and in 4 patients (18%) disease was progressive.

Conclusion

Although several case reports described good responses to HT in patients with a GCT, we found only a moderate demonstrable effectiveness in this large consecutive series of patients.

IGCSM-0731
Poster Shift I - Ovarian Cancer

CAN ACUTE RADIATION EFFECT OVARIAN RESERVE OF THE MICE?

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Aims

The present study deals with the morphological changes and degenerating of Antimullerian hormon reseptör in follicles induced by g-radiation.

Methods

A total of 20 reproductive female mice were evaluated. Nine mice was control group and eleven mice were g-irradiated with the dose of 8.3 Gy. Enteritis was created after the exposure of this dose. It was confirmed by intestinal biopsy. The ovaries were removed at the fifth day after irradiation and stained with AMH receptor kit. Cross-sections were prepared by histological sections for microscopical observations. The ratio % of antral follicles and staing of AMH recepter of follicles were evaluated between study and control groups.

Results

We compared with the number of antral follicles count and staining of follicles with AMH receptor kit and there was no difference between study and control group.

Conclusion

The effect of radiation on ovarian antral follicle count and AMH receptor was not observed on the acute period .

IGCSM-0743
Poster Shift I - Ovarian Cancer

EXPRESSION OF MACROPHAGE MIGRATION INHIBITORY FACTOR, CD74 AND KI-67 IN OVARIAN TUMOR

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Aims

Macrophage migration inhibitory factor (MIF), CD74 and Ki-67 emerge as important players in pathogenesis and angiogenesis of several types of malignant tumors. The purpose of this study was to evaluate the expression of MIF, CD74 and Ki-67 in ovarian borderline tumor and ovarian cancer and explore the potential roles they play in ovarian tumor.

Methods

Macrophage migration inhibitory factor, CD74 and Ki-67 expression was assessed by immunohistochemistry in 52 cases with various degrees of ovarian tissues, including 5 normal ovarian tissue, 23 borderline tumor, 24 ovarian cancer. Correlation between immunostainings and clinicopathological parameters, as well as the follow-up data of patients, was analyzed statistically.

Results

Immunohistochemical analysis showed that CD74 expression was significantly higher in ovarian cancer(13/24) than borderline ovarian tumor(5/23) and normal samples(0/5). KI-67 expression was higher in ovarian cancer (9/24) than borderline ovarian tumor(1/23) and normal samples(0/5). MIF expression was high in all three group (20/24 vs 19/23 vs 5/5). Correlation analysis revealed that high CD74 expression in tumor cells were associated with adevanced clinical stage, and worse prognosis of patients.

Conclusion

Overexpression of CD74 in ovarian cancer may play important roles in the pathogenesis of ovarian cancer.

IGCSM-0748
Poster Shift I - Ovarian Cancer

FIRST-LINE CHEMOTHERAPY FOR EPITHELIAL OVARIAN CANCER: A NATIONAL APPROACH TO GUIDELINE RECOMMENDATIONS TO ENCOURAGE BEST PRACTICE.

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Aims

Ensuring currency of cancer clinical practice guidelines is essential for making timely, evidence-based information available to health professionals. A review of the 2004 recommendations for the use of first-line chemotherapy for ovarian cancer indicated the need for revision to address new research evidence.

Methods

A multidisciplinary working group, including consumer representatives, was established to provide input to the systematic review and identify where evidence had changed sufficiently to warrant change in guideline recommendations. The primary search was limited to randomised controlled trials (RCTs), with a broader supplementary search conducted for evidence on obese women and older women, to identify any specific chemotherapy requirements for these subsets. The working group provided input to the development of the guidelines and the guidelines were reviewed externally.

Results

While the recommendation about the use of a platinum/taxane combination as the standard treatment for first-line chemotherapy for women with advanced ovarian cancer was retained, new recommendations were developed about the use of intraperitoneal chemotherapy for women with optimally debulked stage III ovarian cancer and neo-adjuvant chemotherapy for selected patients. Practice points about the use of bevacizumab and dose-dense chemotherapy were developed to guide clinicians in determining appropriate treatment options.

Conclusion

Cancer Australia worked with clinicians and consumers to revise guidelines about first-line chemotherapy to support best-practice care in the management of women with epithelial ovarian cancer in Australia.

IGCSM-0752
Poster Shift I - Ovarian Cancer

VARIATIONS IN PRIMARY CHEMOTHERAPY AND SURVIVAL AMONGST AUSTRALIAN WOMEN WITH EPITHELIAL OVARIAN CANCER

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Aims
dose reductions, delays, drug cessation and variations in timing of commencement occur commonly in primary chemotherapy of women with epithelial ovarian cancer (EOC) but whether they influence survival is not known. Our aim was to investigate whether variations in primary chemotherapy were associated with survival in a nationally complete cohort of Australian women with EOC
Methods
All 1192 women diagnosed with invasive EOC in Australia in 2005 were identified through state-based cancer registries. Medical record information including details of primary chemotherapy treatment was obtained and survival data updated in 2012. Those started on standard chemotherapy (carboplatin and paclitaxel given at 3-weekly intervals) after primary cytoreductive surgery were included (n=537). Hazard ratios (HR, 95% Confidence Interval (CI)) were calculated using multivariable Cox proportional hazards models.
Results
Preliminary results suggest that duration of interval between surgery and commencement of chemotherapy does not significantly influenced survival (HR=1.0, 95%CI 0.9–1.0 per week of delay between surgery and first chemotherapy cycle). A lower Relative Dose Intensity (RDI) was associated with poorer survival (HR=1.1, 95%CI 1.0–1.1 per 5% decrease in RDI) after adjusting for age and comorbidities and this effect seemed mostly driven by decreases in carboplatin. Treatment delays of >one week during chemotherapy were also associated with poorer survival (HR=1.8, 95%CI 1.2–2.7).
Conclusion
Our results suggest that some variations in primary chemotherapy are modestly associated with survival. Replication of our findings is required but our results may indicate avenues for interventions to improve survival in women with EOC.

IGCSM-0756
Poster Shift I - Ovarian Cancer

A SUBGROUP ANALYSIS OF TRINOVA-1: WEEKLY TREBANANIB OR PLACEBO PLUS PACLITAXEL IN ASIAN WOMEN WITH RECURRENT OVARIAN CANCER

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Aims

In TRINOVA-1, a randomized, double-blind phase 3 study, paclitaxel plus trebananib compared with paclitaxel plus placebo significantly improved progression-free survival (PFS) in ROC (7.2 vs 5.4 months; HR = 0.66; 95% CI 0.57-0.77; *P* <0.001). This post hoc analysis investigated the subset of Asian women.

Methods

Women (≥18 years, platinum-free interval <12 months) with recurrent epithelial ovarian, primary peritoneal, or fallopian tube cancer received IV paclitaxel 80 mg/m^2 (days 1/8/15) Q4W plus weekly trebananib 15 mg/kg or placebo. Endpoints were PFS (primary); and overall survival (OS), tumor response, and adverse events (AEs; secondary).

Results

Eighty-eight Asian women (trebananib/placebo, n = 40/48) were enrolled. The trebananib arm had improved median PFS (8.5 [95% CI; 5.4-13.0] months) compared with the placebo arm (3.8 [95% CI; 3.6-5.6] months; HR = 0.55; 95% CI 0.32-0.94; *P* = 0.030). Objective and CA-125 response rates were 53% and 58% in the trebananib arm; and 34% and 69% in the placebo arm. In the trebananib arm, the most common AEs (>50%) were localized edema (65%) and alopecia (63%). Of 63% with grade ≥3 AEs in the trebananib arm, 1 patient died from multi-organ failure. In the placebo arm, the most common AE (>50%) was alopecia (83%). 48% of patients had grade ≥3 AEs in the placebo arm; no patient died. OS results were not mature.

Conclusion

Similar to the overall results of TRINOVA-1, paclitaxel plus weekly IV trebananib 15 mg/kg appeared efficacious in the subset of Asian women. Toxicities were consistent with monotherapy of either agent.

IGCSM-0758
Poster Shift I - Ovarian Cancer

OPPORTUNISTIC BILATERAL SALPINGECTOMY DURING GYNAECOLOGICAL SURGERY FOR BENIGN DISEASE: A SURVEY OF CURRENT AUSTRALIAN PRACTICE

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Aims
Recent epidemiological evidence supports the fallopian tube as the site of origin for many pelvic serous cancers (PSC) including serous epithelial ovarian cancers. As a result, a change in practice, with opportunistic bilateral salpingectomy at the time of hysterectomy, has been advocated as a preventative strategy for PSC. The 2012 Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) statement regarding the management of adnexae at the time of hysterectomy for benign gynaecological disease stated 'consideration be given to bilateral salpingectomy at the time of hysterectomy with the risks and benefits to be discussed with the patient on a case by case basis'.
Methods
An online survey of all 1490 Australian fellows of RANZCOG was performed. Information pertaining to clinician demographics, number offering risk-reducing salpingectomy and principal reasons for their decision was collected.
Results

The response rate was 26%. 70% of respondents would offer bilateral salpingectomy to low risk women undergoing gynaecological surgery for benign indications, usually at the time of abdominal (96%) or laparoscopic (76%) hysterectomy, and least commonly at time of vaginal hysterectomy (28%) or Caesarian section sterilization (25%) . Main reasons for not offering salpingectomy were insufficient evidence to benefit the patient (32%) or being unaware of recent evidence (27%).

Conclusion

This survey suggests that opportunistic salpingectomy may be frequently offered in Australia, usually at the time of hysterectomy. Given the lack of robust evidence to suggest a benefit at a population-based level, a national registry is recommended to monitor risk/benefit.

IGCSM-0762
Poster Shift I - Ovarian Cancer

DIAGNOSTIC VALUE OF COMBINED 18F-FDG POSITRON EMISSION TOMOGRAPHY/COMPUTED TOMOGRAPHY IN RECURRENT EPITHELIAL OVARIAN CANCER: CORRELATION WITH PATHOLOGIC CONFIRMATION OF THE SECONDARY CYTOREDUCTION

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Aims

The aim of this study is to evaluate diagnostic accuracy of combined 18F-fluoro-2-deoxyglucose-positron emission tomography/computed tomography (18F-FDG-PET/CT) imaging in suspected recurrence of ovarian cancer by correlating with pathologic confirmation of the secondary cytoreduction.

Methods

A total of 134 patients, who underwent combined 18F-FDG-PET/CT and/or CT imaging followed by secondary cytoreduction, were reviewed retrospectively reviewed. We compared the report of preoperative imaging and the pathologic report of the secondary cytoreduction, and estimated the sensitivity, accuracy and false positive rate of combined 18F-FDG-PET/CT in both patient-based and lesion-based aspects.

Results

The median age was 47 (range: 17-76) years, and the median increase in serum CA-125 was 17.2 (range: 0.7-997) U/mL. Seventy-three patients underwent combined 18F-FDG-PET/CT, and 129 did CT before their secondary cytoreduction. The median interval time between primary and secondary cytoreduction was 31.5 (range: 11.1-136.6) months. One-hundered twenty-four patients were ultimately confirmed to have recurrent ovarian cancer with overall 254 lesions positive for recurrence. The overall patient-based accuracy of 18F-FDG-PET/CT was 87.7%, with sensitivity of 98.5% and false positive rate of 11.1%. The overall lesion-based accuracy of 18F-FDG-PET/CT was 81.1%, with sensitivity of 91/9% and false positive rate of 14.5%.

Conclusion

Our study demonstrated somewhat discrepancy from previous reported studies in respect of a diagnosis value of combined 18F-FDG-PET/CT imaging in recurrent

epithelial ovarian cancers after correlating with the pathologic result of the secondary cytoreduction. A prospective study with larger cohort would be necessary to verify the diagnostic value of combined 18F-FDG-PET/CT imaging in recurrent epithelial ovarian cancers.

IGCSM-0763
Poster Shift I - Ovarian Cancer

OVEREXPRESSION OF MUCIN 13 DUE TO PROMOTER METHYLATION PROMOTES AGGRESSIVE BEHAVIOR OF OVARIAN CANCER

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Aims

Recent discoveries suggest that aberrant DNA methylation provides cancer cells with advanced metastatic properties. However, the precise regulatory mechanisms controlling metastasis genes and their role in metastatic transformation are largely unknown. To address epigenetically-regulated gene products involved in ovarian cancer metastasis, we examined the mechanisms regulating mucin 13 (MUC13) expression and its influence on aggressive behaviors of ovarian malignancies.

Methods

We injected SK-OV-3 ovarian cancer cells peritoneally into nude mice to mimic human ovarian tumor metastasis. Overexpression of *MUC13* mRNA was detected in metastatic implants from the xenografts by expression microarray analysis and qRT-PCR. The DNA methylation status within the *MUC13* promoter region was determined using bisulfite sequencing PCR and quantitative methylation-specific PCR. We evaluated the effects of exogenous MUC13 on cell invasion and migration using *in vitro* transwell assays.

Results

MUC13 mRNA expression was up-regulated, and methylation of specific CpG sites within the promoters was reduced in the metastatic implants relative to those in wild-type SK-OV-3 cells. Addition of a DNA methyltransferase inhibitor to SK-OV-3 cells induced *MUC13* expression, thereby implying epigenetic regulation of *MUC13* by promoter methylation. MUC13 overexpression increased migration and invasiveness compared to control cells, suggesting aberrant up-regulation of *MUC13* is strongly associated with progression of aggressive behaviors in ovarian cancer.

Conclusion

We provide novel evidence for epigenetic regulation of *MUC13* in ovarian cancer. We suggest that the DNA methylation status within the *MUC13* promoter region may be a potential biomarker that can indicate the aggressive behavior of ovarian cancer.

IGCSM-0765
Poster Shift I - Ovarian Cancer

TRANSCRIPTIONAL SILENCING OF FORSSMAN SYNTHETASE IS REGULATED BY DNA METHYLATION IN OVARIAN CANCER

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Aims

Forssman antigen (Fs) is a glycolipid present on mammalian cells and presumably to a greater extent on cancer cells. However, neither the biological function of Fs nor the mechanisms regulating expression of *GBGT1*, the gene that encodes for the enzyme (Forssman synthetase) catalysing the final step in Fs synthesis, are known. We investigated whether *GBGT1* expression is epigenetically regulated in ovarian cancer.

Methods

RT-qPCR (profiling of ovarian cancer cell lines: A2780, TOV112D, TOV21G, IGROV1, OVCAR3, SKOV3; and normal surface epithelium cells: HOSE6.3, HOSE17.1). Western blotting (GBGT1 protein level determination). COBRA- and bisulfite sequencing (DNA methylation determination at *GBGT1* promotor CpG island). 5-Aza treatment (GBGT1 expression reconstitution). Flow cytometry ((HPA)-staining to detect Fs presentation).

Results

We found by RT-qPCR profiling significantly lower *GBGT1* expression in all investigated ovarian cancer cell lines (e.g. A2780, except OVCAR3) than in normal surface epithelium cells. Bisulfite sequencing showed that the CpG island in the *GBGT1* promoter was heavily (95.8%) methylated (hypermethylated) in A2780 but weakly (9.5%) methylated (hypomethylated) in OVCAR3 cells. The extent of methylation inversely correlated with both *GBGT1* mRNA and protein expression. This correlation was also

found in ovarian cancer tissue samples. 5-Aza treatment increased *GBGT1* mRNA and protein expression in A2780 cells and these 5-Aza-treated cells exhibited increased HPA-staining, reflecting the elevated presence of Fs on these cells.

Conclusion

GBGT1 expression is epigenetically regulated by DNA methylation in both ovarian cancer tissue cells and ovarian cancer cell lines. This suggests a role of *GBGT1* in ovarian cancer.

IGCSM-0766
Poster Shift I - Ovarian Cancer

P1 GLYCOSPHINGOLIPID IS AN OVARIAN CANCER-ASSOCIATED CARBOHYDRATE ANTIGEN AND ENHANCES CELL MIGRATION

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Aims

We previously showed that levels of plasma-derived naturally circulating anti-glycan antibodies (AGA) to P1 trisaccharide was lower in ovarian cancer patients than healthy women. We investigated which Ig-class of these AGA accounts for this discrimination 'cancer vs. healthy', whether P1 is indeed expressed on ovarian cancer cells, and what the biological functions of P1 may be.

Methods

Suspension array was employed to assess the presence of anti-P1 IgG- and IgM-class antibodies in the plasma/ascites. Findings were verified using three independent glycan-based immunoassays and flow cytometry. LC-MS/MS and flow cytometry were performed to detect P1 antigen on tissue and cells. FACS-sorting was used to produce two IGROV1 cell subpopulations (P1-low, P1-high) which were employed in transwell-assay and real-time xCELLigence system to assess cell migration.

Results

We show (independent cohort, n=155) that it is the IgM-class of anti-P1 antibodies which accounts for the previously observed discrimination 'cancer vs. healthy' (p=0.0002). We also demonstrate that P1 antigen is indeed expressed on cells from fresh tissue specimens and on cultured ovarian cancer cells and that this naturally expressed P1antigen is recognized and bound by naturally circulating and affinity purified anti-P1-IgM isolated from patients ascites. IGROV1 cells expressing high levels of P1 (66%) migrated significantly faster than P1-low cells (33%).

Conclusion

P1 antigen is for the first time reported to be expressed on ovarian cancer cells and is thus proposed as a novel ovarian cancer-associated carbohydrate antigen with a potential diagnostic and prognostic value. P1 glycosphingolipid may also play a role in cell migration.

IGCSM-0767
Poster Shift I - Ovarian Cancer

PPAR-GAMMA AGONISTS AUGMENT ANTICANCER EFFECTS OF XIAP INHIBITION ON HUMAN OVARIAN GRANULOSA CELL TUMOR-DERIVED CELLS

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Aims

Ovarian Granulosa cell tumors (GCT) are hormonally-active neoplasms characterized by an indolent course and late relapse. GCT are unusual in that they have an unexplained propensity for late recurrence. Aside from surgery, no therapeutic modalities have proven effective. We have identified the peroxisome proliferator-activated receptor-gamma protein (PPARγ) and the X-linked inhibitor of apoptosis protein (XIAP) as potential novel and specific therapeutic targets. We aimed to investigate if combined targeting of PPARγ and XIAP presents a novel therapeutic strategy for the treatment of GCT.

Methods

We analysed XIAP and PPARγ expression and distribution in GCT using immunohistochemistry. Proliferation and apoptosis assays were performed for the GCT-derived KGN and COV434 cell lines treated with PPARγ agonists troglitazone or rosiglitazone, in combination with either embelin (chemical XIAP inhibitor) or a small molecule Smac mimetic that specifically antagonizes XIAP.

Results

We observed strong immunostaining for both PPARγ and XIAP in primary and recurrent GCT. We showed that on their own, treatment with the PPARγ agonists or XIAP inhibitors do not induce apoptosis. However, activation of PPARγ combined with inactivation of XIAP caused significant decrease in cell proliferation and viability, characterized by significant increase in apoptosis after 24 hours. These observations may also translate to ovarian epithelial cell cancers (EOC) as increased apoptosis was observed in serous EOC-derived cell lines expressing both XIAP and PPARγ.

Conclusion

We propose that a combination therapy involving the abrogation of XIAP may be of greater efficacy for the treatment of GCT and potentially other ovarian cancer subtypes.

IGCSM-0771
Poster Shift I - Ovarian Cancer

PRESENCE OF BISECTING GLCNAC-MODIFIED PROTEINS ON OVARIAN CANCER CELLS ASSOCIATES WITH ELEVATED EXPRESSION OF THE EPIGENETICALLY REGULATED MGAT3 GENE

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Aims

Changes in the glycosylation of membrane proteins are a common feature of malignant transformation including ovarian cancer development. However, the nature of these changes and their underlying molecular mechanisms are poorly understood.

Methods

Membrane protein glycan extraction and LC-ESI-MS (liquid chromatography negative-ion electrospray ionization mass spectrometry for glycan characterization), qRT-PCR (gene expression profiling in cell lines), bisulfite sequencing (analysis of DNA methylation) and Western blotting (protein determination).

Results

We identified characteristic glycan features that were unique to membrane proteins of ovarian cancer cells such as the exclusive presence of 'bisecting *N*-acetyl-glucosamine (GlcNAc)' type *N*-glycans. The bisecting GlcNAc on *N*-glycosylated proteins is the product of MGAT3 (beta-1,4-*N*-acetylglucosaminyltransferase 3). The expression of both the *MGAT3* gene and the corresponding enzyme was elevated in ovarian cancer cell lines (SKOV3, IGROV1, A2780, OVCAR3) as compared to normal ovarian surface epithelial (HOSE) cells. We found that elevated *MGAT3* expression in ovarian cancer cells correlated with DNA hypomethylation at the transcription start site (TSS) of the *MGAT3* promoter, suggesting an epigenetic regulatory mechanism for *MGAT3.* This

finding was further confirmed by treating HOSE cells with DNA-methyltransferase inhibitor, 5-Aza, which resulted in increased *MGAT3* expression, mirrored by a reduction of DNA methylation at the TSS.

Conclusion

Elevated MGAT3 expression in ovarian cancer cells is epigenetically regulated by DNA methylation. The presence of specific *N*-glycan substructures in combination with the epigenetic regulation of their associated enzymes may stimulate the development of novel anti-glycan drug targets and clinical diagnostic tools in ovarian cancer.

IGCSM-0773
Poster Shift I - Ovarian Cancer

RCT TO EVALUATE UTILITY AND EFFICACY OF NEUTRAL ARGON PLASMA AS NEW TECHNOLOGY IN ACHIEVING COMPLETE CYTOREDUCTION OF ADVANCED EPITHELIAL OVARIAN CARCINOMA- INITIAL FEASIBILITY STUDY

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Aims

To assess trial acceptability within gynaecological tumour group and EOC patients.

Primary Outcome Measure

To evaluate safety and efficacy of PJ to achieve optimal cytoreduction(nil visible disease) in women undergoing debulking surgery for EOC.

Secondary Outcome Measures

Disease free survival and overall survival

Methods

SS Single blind randomized controlled trial in tertiary ertoncology centre for Stage 3/4 EOC following ethics approval. Patients randomized to either PJ device or standard surgery during primary or interval debulking surgery. Patient demographics, intra and post-operative data collected. Size/location of pre-surgical disease, procedures performed, tissue and anatomical location subjected to PJ, power settings and time taken to ablate tumour deposits recorded.

Results

30 patients recruited till date. 13/30 randomized to PJ device and remaining standard surgery. Blood loss significantly lesser in PJ arm ($p<0.05$). Complete cytoreduction to nil macroscopic disease achieved in 11/13 PJ cases compared to 10/17 non-PJ cases. The duration of surgery was similar in both arms and in a few cases was longer in the PJ arm. There were no significant differences in the post-operative morbidity.

Conclusion

Preliminary data on feasibility and safety suggests that PJ is an innovative surgical device with several features well suited for debulking surgery providing encouraging results.

Conflict of interest
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IGCSM-0775
Poster Shift I - Ovarian Cancer

BENEFICIAL SUBGROUP FROM SURGICAL MANAGEMENT OF RECURRENT OVARIAN CANCER

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Aims
To investigate the treatment outcome of extensive cytoreductive surgery (CRS) in patients with recurrent ovarian cancer.
Methods
From Jul 2001 to Nov 2013, 265 surgical procedures were performed in 227 patients: 212 secondary, 43 tertiary, 6 quaternary, 2 quinary, 1 senary, and 1 septenary CRS, identified from searching “exploratory laparotomy on EMR. Various kinds of parietal and visceral peritonectomy and organ resection were performed. Progression free survival (PFS) and Overall survival (OS) were analyzed in 212 women underwent secondary CRS using disease free interval (DFI; <6, 6-12, 12-30, or >30 months) and number of metastasis (NOM, 1, 2-5, or >5).
Results

 Twelve individual groups were converted on 3 groups according DFI and NOM (Figure 1): group I (DFI>30 months and NOM<5), group II (DFI, 1-30 months and NOM <5), and group III (NOM>5, irrespective of DFI). This pattern was identical in PFS and OS. PFS and OS was statistically different among 3 groups (p<0.01). 5-year PFS and 5-year OS was 48% and 63% for group I, 23% and 43% for group II, and 0 and 11% for group III, respectively (Figure 2).

Conclusion

DFI >30 months and NOM <5 are favorable prognostic factors for surgical candidates with recurrent ovarian cancer. DFI and NOM should be considered for selecting candidates for secondary cytoreductive surgery.

Conflict of interest
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IGCSM-0776
Poster Shift I - Ovarian Cancer

A PILOT TEST FOR NEWLY DEVELOPED SYNOPTIC OPERATIVE TEMPLATE FOR OVARIAN CANCER (SOTOC): EMPHASIS ON THE PERFORMANCE OF CYTOREDUCTIVE SURGERY

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Aims

We developed NCC-PCI-Operative Template (NPOT) for the objective description of perioperative tumor burden and surgical approaches in the management of ovarian cancer, tubal cancer, and primary peritoneal cancer.

Methods

After approval of IRB, prospective study was performed using newly developed Synoptic Operative Template for Ovarian Cancer (SOTOC). It was a streamlined record with clickable operation name and quantative measures for recording of ascites, estimated blood loss, transfusion, etc. The intraperitoneal cavity was divided into nine areas (Omentum, LUQ, epigastric, RUQ, colon, small bowel, right & left paracolic gutter, pelvis, LN and extraperitoneal) and the residual tumor in each areas was recorded. The recording time of PCI and SOTOC was measured.

Results

Forty-nine women who underwent debulking operation at national cancer center were enrolled this study. All patients were diagnosed as ovarian cancer. The mean age was 52.9 year (range, 25-71 year) and the mean value of CA 125 was 501.5 U/mL (range, 5.8-3840 U/mL). Forty-two (85.7%) patients had complete cytoreductive surgery and 7 (14.3%) had residual tumor over 1mm. The recording time of SOTOC was shorter than that of PCI (5.5±2.8 vs. 8.32±6.5 minutes; p=0.03). In the review of the cases with residual tumor, the descriptions of SOTOC were not remarkably different from PCI.

Conclusion

We suggest that SOTOC can be more convenient and effective alternative for the surgical record of ovarian cancer, tubal cancer, and primary peritoneal cancer. Further studies are encouraged to confirm the value of SOTOC as an independent prognostic indicator for the long-term outcome of ovarian cancer patients.

Conflict of interest
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IGCSM-0786
Poster Shift I - Ovarian Cancer

INHIBITION OF EGFR/HER-2 AFFECTS GROWTH OF ASCITIC OVARIAN CANCER CELLS IN VITRO STUDY

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Aims
Elevated expression of EGFR and Her-2 has been shown to correlate with a poor prognosis in ovarian cancers. Gefitinib, a reversible EGFR inhibitor, and canertinib, an irreversible dual EGFR/Her-2 inhibitor showed a modest clinical response in ovarian cancer. Advanced ovarian cancer can cause ascites, and ascitic fluids transport ovarian cancer cells in a form of small clusters that is a main cause of drug resistant, metastasis, and regrowth. The role of EGFR and Her-2 proteins in the survival of the ascitic cancer cells is not yet investigated. Therefore, the therapeutic window of EGFR and Her-2 inhibitors can be exploited in ascitic cancer cell populations. Aims of this study was to investigate the role of EGFR/Her-2 in ascetic cancer cells and use inhibitors to block receptor positive cells.
Methods
We used ovarian cancer cell lines (OVCAR-5, SKOV-3 and OVCAR-4) and isolated cells from ascitic fluids from 11 patients with advanced ovarian cancer. Cells were cultured in a non-adherent surface to encourage the cluster formation.
Results
Canertinib significantly inhibited cell growth and cellular metabolism in EGFR/Her-2 positive SKOV-3 clusters. Cell cycle proteins and associated signaling proteins, pAkt and pErk were reduced in canertinib treated cells. This reduction was correlated with the expression of EGFR and Her-2. Gefitinib and canertinib selectively reduced cellular metabolism of isolated ascitic cells, and the reduction was also correlated with expression of EGFR and Her-2.
Conclusion
An irreversible inhibitor can produce profound inhibitory effects in ascitic ovarian cancer and pre-screening of EGFR/Her-2 expression is essential to obtain inhibitory response from EGFR/Her-2 inhibitors.

IGCSM-0788
Poster Shift I - Ovarian Cancer

THE ALPINE TECHNIQUE: MOLECULAR DETECTION OF OVARIAN CANCER – A PROOF OF CONCEPT STUDY

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Aims
There is increasing evidence that ovarian cancer originates in the fallopian tubes and that exfoliated cells are transported into the uterine cavity. A detection of those cells would be a major improvement compared to state-of-the-art diagnostic tests, lacking sensitivity and specificity.
Methods
We have established a lavage of the uterine cavity and fallopian tubes to detect exfoliated tumor cells. Using massively parallel sequencing (NGS), mutations were assessed in matching tissue and lavage specimen of 22 epithelial ovarian cancer patients (Kinde, I., 2013). Additionally, samples of 9 patients were analyzed through digital droplet PCR (ddPCR).
Results

The ALPINE technique (Austrian Lavage Procedure for the Detection of Tubal Intraepithelial Neoplasms) was optimized to be performed in an outpatient setting and non-invasive manner.
In 16/22 (72.7%) lavage samples a mutation was detected using NGS. Of 18 patients, corresponding tumor tissues were available, showing the same mutation.
In 9/9 (100%) cases, genetic changes identified in tumor tissue could successfully be detected in matched lavage specimens, applying ddPCR. The two methods showed an exceptional concordance of $R^2 = 0.9915$. Mutation rates were in the range between 0.01% and 46.2%.
Furthermore, a filter approach, followed by p53 immunofluorescence staining confirmed the presence of tumor cells in the lavage sample of an additional patient.

Conclusion
This study proves that tumor cells are shed into the uterine cavity and can be collected by our ALPINE technique. This approach has high potential in early – and differential diagnosis; possibly even for premalignant changes in high risk patients.

IGCSM-0790
Poster Shift I - Ovarian Cancer

OVQUEST: LIVING AFTER THE DIAGNOSIS AND TREATMENT OF OVARIAN CANCER. PRELIMINARY RESULTS FROM AN INTERNET-BASED SURVEY

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Aims

To describe the late effects of treatment and the impact on the quality of life of patients who have received treatment for ovarian cancer in Australia.

Methods
A link to an internet-based survey was sent to the mailing lists of Ovarian Cancer Australia and ANZGOG. Women aged 18 and over who had been diagnosed with ovarian cancer at least 6 months previously and received chemotherapy were eligible to complete the survey. Self-report data were collected on demographics, cancer diagnosis, treatment and follow-up care as well as standardised instruments for quality of life and treatment-related toxicities.
Results
176 eligible women have completed the questionnaire to date. Respondents were a median of 2 years from diagnosis (range 0-26 years). The majority (62.8%) had stage III/IV disease at diagnosis. Almost one third (30.7%) had received chemotherapy for recurrent ovarian cancer, the majority of whom (58.7%) had received 2 lines of therapy (range: 2–6+). Most reported receiving platinum/taxane combination therapy. Four out of five women (81.8 %) described symptoms of peripheral neuropathy, 52.3% had clinically significant fatigue, 33.3% mood disturbance and 17.9% moderate-severe insomnia. Insomnia scores were inversely correlated with time from diagnosis (p=0.006) and last chemotherapy (p=0.002), with a trend for improvement in fatigue with time from chemotherapy (p=0.066). No significant associations were seen between mood disturbance or neuropathy scores and time from either diagnosis or treatment.
Conclusion

The high rates of troublesome symptoms reported in this cross-sectional survey warrant attention by clinicians involved in the follow-up care of ovarian cancer patients. Targeted interventions are needed.

IGCSM-0795
Poster Shift I - Ovarian Cancer

TOLERANCE AND OUTCOME OF PRIMARY CHEMOTHERAPY WITH CARBOPLATIN AND DOCETAXEL IN ELDERLY OVARIAN CANCER PATIENTS

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Aims
It has been reported that carboplatin and docetaxel therapy in epithelial ovarian cancer is equally effective as carboplatin and paclitaxel therapy. On the other hand, elderly cancer patients are less likely to tolerate chemotherapy. We sought to evaluate the effect of age on the toxicity profiles and outcome of ovarian cancer patients treated with carboplatin and docetaxel.
Methods
Fifty six epithelial ovarian cancer patients were divided into two groups according to their age (patients ≤ age 65 and patients ? age 65 years). They received carboplatin AUC5 and docetaxel 70mg/? on day1 of six 21-day cycles. Objective tumor assessments were evaluated in accordance with RECIST guidelines. Adverse events were evaluated by grade in accordance with National Cancer Institute Common Toxicity Criteria. Mann-Whitney's U test and Fisher's exact probability test were used for statistical analysis.
Results
The groups were similar in regard to stage and histology. Anticancer effects of chemotherapy (CR plus PR) were similar in both groups. Although the most frequent toxicity was neutropenia, incidence of grade3-4 neutropenia was similar in both groups). Elderly patients were less likely to be continuation of chemotherapy (66.7% vs. 83.3% $P<0.05$), and difference was due to the gastrointestinal side effects.
Conclusion
Primary effect of carboplatin and docetaxel in elderly ovarian cancer patients were similar compared with younger patients. To improve the tolerance of this chemotherapy, gastrointestinal support was necessary.

IGCSM-0799
Poster Shift I - Ovarian Cancer

AUTOANTIBODY BIOMARKERS FOR THE EARLY DETECTION OF OVARIAN CANCER

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Aims
Ovarian cancer is the most lethal gynaecological cancer. The poor prognosis is largely attributed to a lack of early detection. Efforts are therefore being made to identify ovarian cancer biomarkers in order to develop an effective screening method. Autoantibodies raised against tumour associated antigens (TAAs) during early stages of cancer development have potential as biomarkers for ovarian cancer diagnosis.
Methods
We developed an immunoproteomic strategy to identify autoantibodies that are differentially raised in ovarian cancer patients compared to healthy and benign controls. Here, captured autoantigens eluted from paired cancer and control immunoaffinity columns were differentially labelled using isotope coded protein label (ICPL) technology. Pooled samples were analyzed using liquid chromatography coupled to an LTQ XL Orbitrap mass spectrometer.
Results
Relative quantification identified 141 autoantigens whose corresponding autoantibodies showed increased expression (≥1.5 fold ratio) in sera of ovarian cancer patients versus controls. Upon bioinformatic prioritization, 50 autoantibody candidates were selected for verification using a protein microarray. Of these, eleven autoantibody candidates were found to be significantly different in cancer patients compared to controls. A panel of the top four candidate biomarkers showed combined ROC curves with 100% sensitivity and 98.3% specificity using sera of 18 early stage ovarian cancer patients and 60 controls. Those candidates are now being validated in combination with CA125 as a diagnostic indicator for early ovarian cancer using enzyme-linked immunosorbent assay (ELISA) and larger patient cohorts.
Conclusion

We have identified serum autoantibodies with potential utility for early detection/screening of ovarian cancer.

IGCSM-0800
Poster Shift I - Ovarian Cancer

ENHANCED GAB2 EXPRESSION IS CHARACTERISTIC OF A CLINICALLY DISTINCT PI3K-DEPENDENT SUBTYPE OF HIGH-GRADE SEROUS AND ENDOMETRIOID OVARIAN CANCER

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Aims

High-grade serous ovarian carcinoma has very poor survival and is characterised by *TP53* mutations and extensive copy number alterations. The identification of genomic alterations that define subtypes of ovarian tumours is important in the stratification of patients to receive targeted molecular therapeutics. We sought to characterise a subset of high-grade serous ovarian tumours that over-express *GAB2* and exhibit enhanced sensitivity to PI3K/mTOR pharmacological inhibition.

Methods

Gene expression data was collected using a Nanostring assay from a large cohort of patients and integrated with previously published expression and copy number datasets from the Australian Ovarian Cancer Study (AOCS) and The Cancer Genome Atlas (TCGA) to assess the correlation between *GAB2* expression, patient survival and high-grade serous tumour classification. Given the association between GAB2 and PI3K

signalling, we also assessed the response of *GAB2* over-expressing ovarian tumour cell lines to the dual PI3K/mTOR inhibitor, PF-04691502.

Results

GAB2 over-expression and in some cases gene amplification is characteristic of a subset of high-grade ovarian tumours that have improved overall survival. We also demonstrate that high *GAB2* expression is correlated with enhanced sensitivity to the dual PI3K/mTOR inhibitor, PF-04691502.

Conclusion

High *GAB2* expression is characteristic of a clinically distinct subset of high-grade serous ovarian cancer patients that have improved overall survival. Preclinical *in vitro* analysis of ovarian tumour cell lines further indicate that high *GAB2* expression may be used as a genomic marker for the stratification of patients that will respond to targeted inhibition of PI3K signalling.

IGCSM-0801
Poster Shift I - Ovarian Cancer

CHROMOGRANIN A IN OVARIAN TUMORS – A DIAGNOSTIC AND PROGNOSTIC MARKER?

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Aims

The presence of neuroendocrine differentiation in ovarian tumors may indicate a poor prognosis. Elevated serum levels of the neuroendocrine marker chromogranin A (CgA) have been described in ovarian carcinoma.
The aims of the present study were to explore the clinical value of serum CgA in women with a pelvic mass, and study whether the serum levels reflect CgA expression in ovarian tumors.

Methods

234 consecutive women referred to St. Olavs hospital for primary surgery due to a pelvic mass were included. Preoperative serum CgA values were quantified with a RIA method. Immunohistochemistry was performed in ovarian tumors. Clinicopathological data and data regarding treatment and five year follow-up were analyzed.

Results

92 women had ovarian, peritoneal, or tubal cancer, 39 had borderline tumor, 82 had benign tumors, and 21 had other malignant tumors. Elevated serum CgA levels were found in 48 of the women, of whom 41 had an ovarian tumor. There was no difference in median CgA level between women with carcinoma, borderline, or benign ovarian tumors (p=0.495). CgA staining was performed in 82 ovarian tumors. Only three women had

tumors with groups of CgA positive cells widely distributed, of whom 2 had elevated serum CgA levels. Mucinous tumors had significantly higher immunohistochemical expression of CgA than non-mucinous tumors (p=0.001). Serum CgA did not reach statistical significance as a prognostic marker in univariate or multivariate analyses of survival.

Conclusion

CgA seems to be of limited value as a diagnostic and prognostic marker in ovarian tumors.

IGCSM-0802
Poster Shift I - Ovarian Cancer

SURVIVAL AND BRCA1 EXPRESSION IN EPITHELIAL OVARIAN CARCINOMA – IMMUNOHISTOCHEMICAL DETECTION

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Aims

Germline mutations in the BRCA1 and BRCA2 genes are responsible for 5-15 % of ovarian cancers. Presently, mutation status relies on proper genetic testing. Immunohistochemistry (IHC) is an inexpensive test that may identify germline and somatic mutations as well as other malfunctioning BRCA-gene products (BRCAness phenomenon). This is important as treatment with Poly (Aadenosine Diphosphate-Ribose) Polymerase (PARP) inhibitors, which mainly depends on dysfunctional BRCA gene products, is considered.
The aim of this study was to test IHC detection of BRCA1 deficient epithelial ovarian carcinoma (EOC) and investigate the prognostic relevance of BRCA1 expression.

Methods

Formalin fixed, paraffin-embedded tumour tissue from 170 patients with EOC, from primary debulking surgery, was collected and stained immunohistochemically with BRCA1 antibodies. Semiquantitative analysis was performed with a cut-off at 10 % (< 10% = BRCA1 loss; > 10% BRCA intact). BRCA1 IHC expression was analysed for correlation with patient- and clinicopathologic characteristics and overall survival.

Results

38.2 % of the patients had BRCA1 deficient tumours evaluated by IHC. Overall survival was significantly increased in this group (median survival 4.0 years (95 % CI [2.26.6]) vs. 1.5 years (95% CI [1.3-1.9]); $p < 0.0001$). These findings were confirmed in multivariate analysis where patients with BRCA1 deficient tumours had significantly better survival with a hazard ratio (HR) of 0.52; 95% CI [0.35-0.78].

Conclusion
IHC detection of BRCA1 in EOC is a potential screening method prior to further genetic testing. Low immunohistochemical expression of BRCA1 is a favourable prognostic marker in EOC.

IGCSM-0811
Poster Shift I - Ovarian Cancer

ROLE OF PETCT IN RECURRENT OVARIAN CANCER

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Aims
The aim of the present study was to evaluate the role of FDG PET /CT in patients with suspected ovarian cancer recurrence on the basis of doubling CA 125 but within normal range or rising levels with negative conventional imaging techniques (CECT & USG whole abdomen, Chest X-ray
Methods

This was a retrospective study conducted at Gynaeoncology cancer unit, Rajiv Gandhi Cancer Institute, New Delhi, India with number of subjects 38 who were asymptomatic during recurrence. Every patient underwent CECT, USG whole abdomen and Chest X-ray along with FDG PET CT followed by secondary cytoreductive surgery. The findings of PET CT were correlated with intraoperative and histopathology findings.

Results
All 38 patients had rising or doubling trend of CA 125 levels during routine follow up after primary management of established case of epithelial ovarian cancer. All these 38 patient had negative conventional imaging findings but PET-CT which showed evidence of recurrent disease. In 35 patients (92.1%) intraoperative findings were similar to the findings as reported by PET – CT. 3 patients had evidence of metastasis in lungs with no evidence of disease in abdomen or pelvis
Conclusion
PET CT is more reliable predictor of recurrent disease and allows better anatomical localization of pathologic uptake providing high accuracy in patients with recurrent ovarian cancer with negative conventional imaging findings. Although, diagnostic accuracy in the prediction of full resectability is limited, surgical planning is improved by identifying sites of abdominal and pelvic metastases

IGCSM-0813
Poster Shift I - Ovarian Cancer

SURGICAL OUTCOME IN OVARIAN CANCER: RESULTS OF THE AGO-AUSTRIA QUALITY ASSURANCE PROGRAM

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Aims

The AGO-Austria initiated in 1998 a prospective quality assurance program for patients with ovarian cancer. The aim of this study was to evaluate factors predicting overall survival especially under consideration of surgical outcome.

Methods

All Austrian gynecological departments were invited to participate in the quality assurance program. A questionnaire was sent out that included basic information on primary treatment. Patient life status was assessed by the official mortality data set collected by Statistics Austria. Patients treated between 2000 and 2012 were included in the analysis.

Results

A total of 3299 patients were evaluable. This represents approximately 40% of all patients treated in Austria the same period. 1629 (49.3%) were optimally debulked with no residual disease. The rate of optimal debulking was dependent on histology ranging from 38% in high grade serous tumors to 72.5% in mucinous tumors (Tab.1).

Histology	All		RD > 1cm		RD 0.1-1 cm		No macroscopic RD	
	Freq	OS	Freq	OS	Freq	OS	Freq	OS
Low grade serous	4.7%	75.8%	12.3%	54.3%	17.5%	71.5%	70.1%	80.8%
High grade serous	52.1%	42.0%	38.6%	23.3%	23.4%	38.9%	38.0%	65.3%
Mucinous	7.7%	66.8%	13.7%	20.0%	13.7%	45.8%	72.5%	80.4%
Endometrioid	12.4%	71.0%	14.7%	29.2%	16.9%	60.8%	68.5%	83.6%
Clear cell	3.9%	60.6%	21.9%	16.4%	15.6%	54.6%	62.5%	78.8%
Other	19.2%	47.5%	29.0%	22.1%	20.0%	36.1%	50.9%	69.1%
Total	3299		990		680		1629	

Survival in patients with no residual disease was also affected by FIGO stage, however differences in OS between FIGO stage IIB and IIIB was only marginal (Tab.2).

FIGO	All (5y-OS)	RD > 1cm (5y-OS)	RD 0.1-1 cm (5y-OS)	No macroscopic RD (5y-OS)
IA	84.9%	1)	83.3%	85.0%
IB	80.0%	1)	70%	81.7%
IC	80.7%	1)	74.9%	81.8%
IIA	85.7%	1)	80.0%	92.9%
IIB	71.1%	1)	80.1%	69.8%
IIC	64.3%	30.1%	73.9%	69.8%
IIIA	56.7%	32.8%	38.4%	68.3%
IIIB	46.8%	22.4%	35.9%	69.9%
IIIC	36.2%	25.3%	34.9%	56.8%
IV	21.5%	18.4%	21.3%	35.2%

Conclusion

The results indicate that surgical outcome is not only dependent on the surgeon but also on histologic subtype. OS is more dependent on residual disease than on histologic subtype.

IGCSM-0817
Poster Shift I - Ovarian Cancer

CYTOREDUCTIVE SURGERY IN RECURRENT OVARIAN CANCER. THE DESKTOP INTERGROUP SERIES

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Aims

The role of surgery in platinum sensitive recurrent ovarian cancer is not clearly defined, especially regarding the following questions: (1) surgical aim, (2) identification of potential candidates for surgery, and (3) improvement of prognosis.

Methods

Retrospective multicentre study for identification of the surgical aim and a score to identify candidates for surgery (DESKTOP I trial). Subsequent validation of the AGO score (DESKTOP II).

Results

DESKTOP I analyzed 267 patients. Complete resection was associated with significantly longer survival compared with surgery leaving any postoperative residuals [median 45.2 vs. 19.7 months; hazard ratio (HR) 3.71; 95% confidence interval (CI) 2.27-6.05; P < .0001]. A hypothetical score for prediction of complete cytoreduction was developed. This score was deemed positive, if three factors were present: (1) complete resection at 1st surgery (2) good performance status, and (3) absence of ascites. The prospective DESKTOP II trial screened 516 patients. 51% of the patients were classified as score positive and 129 patients with positive score and first recurrence underwent surgery. The rate of complete resection was 76% thus confirming the validity of this score regarding positive prediction of resectability in more than 2 out of 3 patients.

Conclusion

Patients with recurrent ovarian cancer seem to have a benefit only from complete resection. The AGO score is a useful tool to identify patients in whom complete resection is feasible. The third step of the DESKTOP trials (DESKTOP III) comparing chemotherapy plus surgery versus chemotherapy alone in patients with platinum sensitive relapsed ovarian cancer is ongoing.

IGCSM-0823
Poster Shift I - Ovarian Cancer

TUMOR DORMANCY AFTER IRRADIATION IN PLATINUM-RESISTANT OVARIAN CANCER LESIONS: ANALYSIS OF SUVMAX CHANGES OF IRRADIATED TUMORS BY PET/CT AND PATHOLOGICAL CONFIRMATION OF TUMOR BED EFFECT

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Aims

Aims**:** To analyze the characteristics and natural course of irradiated tumor lesions by (1) observing changes in maximum standardized uptake value (SUVmax) in irradiated tumors by PET-CT, (2) evaluating the effectiveness of salvage chemotherapy for relapsed/recurrent tumors after radiotherapy (RT), and (3) histopathologically examining the tumor bed effect (TBE) in relapsed/recurrent tumors after RT.

Methods

Method: We evaluated 75 lesions from 15 patients diagnosed with platinum-resistant (PtR) ovarian cancer. The response to local RT was assessed using the Response Evaluation Criteria in Solid Tumors (RECIST) version 1.1. Natural course of irradiated lesions after RT was assessed by the changes in SUVmax with serial PET/CT. Salvage chemotherapy was applied for the 25 relapsed/recurrent lesions after RT, and its effectiveness was similarly assessed. Five relapsed/recurrent lesions were examined histopathologically.

Results

Results: Local RT showed the following outcome: 43 complete response (CR), 21 partial response (PR), 9 stable disease (SD), and 2 progressive disease (PD). During the follow-up period, 20.9% (9/43) of CR lesions recurred (median duration, 20.3 months); 86.7% (26/30) of PR+SD lesions became dormant (median duration, 7.1 months); and 20.0% (5/25) of relapsed/recurrent lesions achieved secondary dormant state (median duration, 8.7 months) by salvage chemotherapy. Histopathological examination revealed remarkable proliferation of tumor vessels and hyalinized collagen fibers in relapsed/recurrent lesions after RT.

Conclusion

Conclusion: Ovarian cancer lesions could potentially be induced into a dormant state by RT or a secondary dormant state by salvage chemotherapy for relapse/recurrence after RT. Unexpectedly, TBE characterized by hypovascularity was not obvious in relapsed/recurrent lesions after RT.

IGCSM-0829
Poster Shift I - Ovarian Cancer

INITIAL RESULTS OF SURVEY REGARDING USE OF PLASMAJET DEVICE FOR DEBULKING SURGERY OF EPITHELIAL OVARIAN CANCER

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Epithelial Ovarian Cancer (EOC) is the second most common gynaecological malignancy in the UK. Treatment for EOC includes a combination of cytoreductive surgery and systemic chemotherapy treatment with platinum and paclitaxel. Complete cytoreduction to nil macroscopic disease should remain the objective whenever surgery is performed. This is challenging in most cases and the need for such ultra-radical surgery has necessitated the development of various innovative surgical equipments and one such device is the PlasmaJet® (PJ).

Aim

To assess the acceptability of an RCT among the gynaecological oncological community

Methods

The trial was presented at various national and regional meetings over the course of one year. A 6 question survey was emailed out the all members of the British Gynaecological Cancer Society and a separate expression of interest form to those who were interested and keen to participate.

Results

Following the first round of emails, the response rate was a poor 10%. Two subsequent reminders resulted in a 40% response to the survey. All respondents felt the need for this study. The biggest concern raised was the lack of a PJ device and training in its use.

Conclusion

Further reminder being sent out to maximise responses. The use of a surgical device to assist with debulking is felt to be of some help. An initial feasibility study is currently underway to explore this further.

Conflict of interest
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IGCSM-0835
Poster Shift I - Ovarian Cancer

CYLINDROMA ORIGINATING FROM OVARIAN MATURE CYSTIC TERATOMA

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Aims

Cylindroma is a benign tumor that originates from the sweat glands in the skin. It mostly occurs on the scalp, but rarely in elsewhere. Many authers have reported the cases of cylindroma in other sites. To the best of our knowledge, no one has reported previously cylindroma occurred in the ovary. We report a very rare case of cylindroma arising in ovarian mature cystic teratoma.

Methods

A 75-years-old woman was admitted with complaint of ovarian tumor diagnosed by pelvic ultra sound screening. The tumor had multiple components including fat, and the size was 13.1x 9.8 cm in diameter. Magnetic resonance imaging of the pelvis revealed no lymphnode or other metastasis. A papillary mural nodule of 16 × 7mm in diameter with contrast effect was recognized inside of the cyst wall. Therefore, we suspected malignant transformation of mature cystic teratoma, and performed open surgery for her.

Results

Intraoperatively, right ovary and uterus is normal, and left ovary showed the tumor of 13cm in diameter. So we performed left salpingo-oophorectomy. Grossly, the tumor consisted of unilocular cyst with thin wall of smooth surface, and partially consisted of a 25 mm-sized mural nodule. Microscopically, the surface of inner cyst wall was covered with keratinized stratified squamous epithelium, and mural nodule part was consisted of bone, cartilage, and the tissue mimicking cylindroma in small area.

Conclusion

Referring to the results of various immunostaining, we made a diagnosis of cylindroma originating from the skin of mature cystic teratoma.

IGCSM-0837
Poster Shift I - Ovarian Cancer

METHYLATION SIGNATURE OF CANCER STEM CELL PREDICTS PROGNOSIS OF OVARIAN CANCER PATIENTS

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Aims
The clinical relevance of DNA methylation of ovarian cancer stem cell remains unknown.
Methods
We compare the methylomic profiles between ovarian cancer stem cells and its parental cell line using a bead array. We did stringent verification and validation in cell lines and human tissues, and correlate DNA methylation levels to clinicopathological features.

Results
Hypomethylation of both ATG4A and HIST1H2BN predicted a poor progression-free survival (HR, 1.8; 95% CI, 1.0–3.6) and overall survival (HR, 1.7; 95% CI, 1.0–3.0) using tissues from our tissue bank. We validated this association in an independent cohort of ovarian tumors published by The Cancer Genome Atlas (TCGA) project. The hypomethylation signature predicted early disease recurrence (HR, 1.7; 95% CI, 1.1–2.5) and death (HR, 1.4; 95% CI, 1.0–1.9). According to the functional analysis of ATG4A, we found that ATG4A increased stem properties, including the expression of stem markers, and suspended the growth of ovarian cancer cells. The expression of ATG4A also promoted migration and chemoresistance in ovarian cancer cells. The demonstration that expression of ATG4A in cells increased their stem properties provided an indication of its biological function.

Conclusion
The application of this DNA methylation as a predictive biomarker for epigenetic therapy may help in the delivery of personalized medicine for ovarian cancer patients. TAG4A may be considered as a therapeutic target for ovarian cancer. These results support our idea of ovarian cancer stem cells epigenomics for biomarker as well as therapeutic targets development.

IGCSM-0850
Poster Shift I - Ovarian Cancer

IS IT SAFE TO PERFORM FERTILITY-SPARING SURGERY IN PREMENOPAUSAL WOMEN WITH STAGE I MUCINOUS EPITHELIAL OVARIAN CANCER?

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Aims
To evaluate the oncologic safety and to assess pregnancy outcomes of premenopausal women with stage I mucinous epithelial ovarian cancer (mEOC) who underwent fertility-sparing surgery (FSS).

Methods
A total of 97 patients, who were premenopausal at the time of surgery and diagnosed with stage I mEOC, were divided into 2 groups according to the type of surgery they received: group A (FSS) and group B (hysterectomy and/or bilateral salpingo-oophorectomy). Oncologic outcomes were compared between two groups and pregnancy outcome were assessed in group A.

Results

The median age was 33 (range: 13-50) years at the time of surgery. Fifty-three (54.6%) patients were in group A and 44 (45.4%) were group B. Sixty-three (64.9%) patients were stage Ia, and 34 (35.1%) were Ic. During 73.7 (range: 7.1-243.5) months of the median follow-up duration, 13 (13.4%) patients recurred and 8 (8.2%) of them died of disease. Noticeably, 10 (10.3%) recurred and 6 (6.2%) died among group A. In multivariate analysis, a significantly poorer prognosis was noted in group A (HR: 6.26, 95% CI: 1.53-25.53, p=0.011) and in patients with higher LN of preoperative CA-125 (HR: 1.98, 95% CI: 1.26-3.11, p=0.003). In patients with high preoperative CA-125, FSS caused significantly higher recurrence rate (HR: 5.73, 95% CI: 1.22-27.03, p=0.027). Of group A, 10 women tried to be pregnant, and there were 7 live births, 2 pregnancies with no congenital anomalies, and 3 nulliparas.

Conclusion
It might need to be cautiously considered to perform FSS in stage I mEOC patients with high preoperative CA-125.

IGCSM-0853
Poster Shift I - Ovarian Cancer

BORDERLINE OVARIAN TUMORS: SINGLE INSTITUTION EXPERIENCE AND REVIEW OF THE LITERATÜRE

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Aims

The aim of this study was to evaluate the clinico-pathological variables in patients with treated for borderline ovarian tumors.

Methods

The present study investigated 131 women who were finally diagnosed with borderline epithelial ovarian tumors at the study center between September 1997 and February 2013. Clinical data were obtained from patient files and pathological data were obtained from pathology records. Frequency distributions were compared using the Chi-squared test. A recurrence-free survival (RFS) curve was derived using the Kaplan–Meier Method.

Results

A total of 131 patients operated. The incidence for serous borderline ovarian tumour(SBOT), musinious borderline ovarian tumour(MBOT), mixed and others type borderline ovarian tumours were 52.7%, 37.4 %, 6.9% and 3% respectively. Most were diagnosed in stage I (81.7%); 1.5% and 16.8% had stages II and III, respectively. Median follow-up time for survivors was 43.3 (range, 1–183) months. Median time to recurrence was 21.3 (range, 3–74) months. 5-year RFS rates was 87.8%. In multivariate analysis adjuvant treatment HR: 9.8 [95% CI, 1.29–75.9]) were independent prognostic factors for 5-year RFS. Overall, 17 patients (13%) experienced relapse and no died within the observation period.

Conclusion

BOT has an excellent prognosis, Invasive implants, conservative treatment, adjuvant treatment and higher pre-operative serum CA-125 level were independent variables predicting recurrence.

Conflict of interest
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IGCSM-0866
Poster Shift I - Ovarian Cancer

GYNANDROBLASTOMA: A RARE OVARIAN TUMOUR. A CASE REPORT AND REVIEW OF THE LITERATURE

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Aims

The aim of our study is to present a rare type of ovarian tumour.

Methods

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Results

Case presentation: A 15-year-old female with chronic abdominal pain and menstrual irregularity admitted to our clinic. An abdominopelvic ultrasound revealed a large, right-sided adnexal cyst which including solid areas. Serum tumour marker levels were normal. A transabdominal cystectomy was performed. Pathology result was gynandroblastoma which is a rare tumour of the ovary. There is no recurrence after 6 years of operation.

Conclusion

As a result, gynandroblastoma is a rare tumour presenting with varied clinical symptoms and has a low recurrence rate according to the literature.

Conflict of interest
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IGCSM-0867
Poster Shift I - Ovarian Cancer

A REVIEW OF PRIMARY PERITONEAL CANCERS : REGIONAL CANCER INSTITUTE EXPERIENCE

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Aims

To study the clinical, pathologic profile, outcome and prognostic features of primary peritoneal cancers (PPC)

Methods

we conducted a five year retrospective study of PPC diagnosed and treated at our centre from January 2008 to December 2012. The diagnosis was based on GOG criteria, complemented with IHC. These patients were analysed for event free survival (PFS), this was correlated with stage and surgical adequacy.

Results

The total number of ovarian cancers treated during study period was 374. The 10 (2.7%) cases of the 374 were eligible for the PPC analysis. The two (20%) of the 10 cases had family history of breast and ovarian cancers, two (20%) cases were diagnosed as abdominal tuberculosis (TB) prior referral to our centre. The eight (80%) of 10 cases presented with stage IIIC and other two cases (20%) with stage IV disease. The eight (80%) of 10 cases underwent upfront surgery; six (75%) of these eight cases had optimal cytoreduction. After debulking surgery the most useful IHC marker include CK7+, CK20-, CA125+, WT-1+, and GCDFP- . At median follow up of 24 months, the median PFS was 22 months, while the estimated 5 year PFS was 18%. Stage IV disease and suboptimal surgery had poor outcome.

Conclusion

The PPC presents with advanced stage disease and are observed to be misdiagnosed abdominal tuberculosis in tropical countries. The GOG criteria and IHC complement the diagnosis. These have poor outcome despite optimal care, highlighting need for larger studies on this disease.

IGCSM-0869
Poster Shift I - Ovarian Cancer

HUMAN EPIDIDYMIS PROTEIN 4 AS BIOMARKER FOR THE DIFFERENTIATION BETWEEN PRIMARY OVARIAN CANCER AND OVARIAN METASTASES

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Aims
About 5-15% of all malignant ovarian tumors are metastases from other malignancies. Differentiation from primary ovarian cancer is difficult but important for further management. The use of clinical characteristics for this differentiation has limitations and serum biomarkers have been marginally assessed. The clinical value of Human Epididymis secretory protein 4 (HE4) as a serum biomarker in primary ovarian cancer has been established. The aim of this study is to evaluate the use of HE4 in the differentiation between primary ovarian cancer and ovarian metastases of gastro-intestinal malignancies or breast cancer.
Methods

HE4 was measured in serum of 192 patients with ovarian metastases (n=45) or primary ovarian cancer (n=147). Clinical patient data were collected. Sensitivity, specificity and area under the curve (AUC) for HE4, CA125 and CEA were calculated, using the Receiver Operating Characteristic (ROC) methodology.

Results

The median HE4 value of the primary ovarian cancer group (431 pmol/L) was significantly higher than the median of the ovarian metastases group (68 pmol/L, p=0,0001). The best cut-off value to differentiate ovarian metastases from primary ovarian cancer was 115 pmol/L corresponding with an AUC 0.89, sensitivity 81% and specificity 80%. HE4 demonstrated the highest discrimination value (ROC-AUC = 0.89), compared to CA125 and CEA (AUC = 0.80 and 0.77, respectively).

Conclusion

HE4 can be useful in the differentiation of ovarian metastases from primary ovarian cancer. With a serum HE4 under the cut-off value of 115 pmol/L, ovarian metastases from other malignancies should always be considered in patients presenting with an ovarian tumor and multifocal (intra abdominal) disease.

IGCSM-0874
Poster Shift I - Ovarian Cancer

EVIDENCE AROUND CRITERIA FOR SELECTING OVARIAN CANCER PATIENTS FOR BRCA MUTATION TESTING - FINDINGS FROM THE LITERATURE AND GUIDELINES REVIEW

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Aims

To provide evidence on which patient characteristics most appropriately inform targeted BRCA testing in patients with ovarian cancer (OC) and the impact of current guidance on BRCA screening/testing practices.

Methods

A systematic literature search of studies that assessed BRCAm frequency in women with OC unselected for patient characteristics published between 2003–2013. A search for guidelines recommending genetic testing/screening for BRCAm was also conducted. Grey literature was screened for conference abstracts and additional relevant information.

Results

Sixteen studies and one systematic review were identified that assessed BRCAm frequency in women with OC. BRCAm prevalence in all OC patients ranged from 6–14%. Five out of 12 guidelines mentioned genetic testing for OC patients; 10 out of 12 guidelines recommend genetic screening for healthy individuals with certain patient characteristics (ie, family history of breast cancer [BC] or OC, high-risk ethnicity and personal history of BC). Using criteria recommended in current guidelines, it is estimated that 30% of all BRCAm OC patients would not be selected for testing.

Conclusion
Guidance for BRCAm testing in patients with OC is lacking, and generally restricts testing to those patients with known family or personal history of BC/OC or Ashkenazi Jewish ethnicity. This strategy would result in around 30% of BRCAm OC remaining unidentified, and thus unable to benefit from new, BRCAm-targeted, therapies. Based on evidence of BRCAm OC patient characteristics, we recommend BRCAm testing of all women diagnosed with non-mucinous epithelial OC (due to very small frequency of BRCAm in mucinous histology).

Conflict of interest
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IGCSM-0876
Poster Shift I - Ovarian Cancer

FOLLICULAR STIMULATING HORMONE MODIFIES NOTCH SIGNALING MEDIATED PLATINUM RESISTANCE IN OVARIAN CANCER

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Aims

To know the relationship of notch 1 receptor signaling and ovarian cancer treatment are our purpose.

Methods

The notch 1 expressions were categorized in samples as negative (< 10% of positive cells) and positive (> 10% positive cancer cells). Notch 1 receptor expression and clinico-pathologic factors were analyzed by X^2 - & t - test and Kaplan-Mayer survival test retrospectively. In vitro, cell proliferation (MTT) assays and apoptosis (DAPI stain) assays of SK-OV-3 cells for cisplatin resistance with notch1 silencing by siRNA were performed. Formalin-fixed paraffin - embedded 5 normal ovaries and 10 borderline ovarian tumors (BOT) and 35 ovarian cancer (OC) tissue sections were subjected to immunohistochemical staining using rabbit polyclonal Notch1 antibodies. P values lower than 0.05 were accepted as statistically significant.

Results

Notch 1 receptor positivity according to grades are 33.3%, 50.0%, 50.0% for respective grades (p=0.035). Notch 1 positive patients showed short disease free interval (mean 65.7 vs 8.25 months, p=0.000) and five year survival rates, 58.5 (n=24) vs 41.0 (n=11) months in notch 1 negative and positive group (p=0.011). Apoptosis were increased by cisplatin in DAPI staining of SK-OV-3 cells (p=0.0055). Notch1 silencing showed increased platinum sensitivity by decreasing proliferation of SK-OV-3 cells (p = 0.0018).The notch1 staining positive rates are 0% in normal ovarian surface epithelial cells, 20% in BOT tissues, 45.7% in OC tissues (p=0.069).

Conclusion

Notch 1 receptor signaling seems to provide resistance to platinum based chemotherapy and in vitro experiments.

IGCSM-0877
Poster Shift I - Ovarian Cancer

A FEASIBILITY STUDY OF COMBINATION TAXOL & CARBOPLATIN INTRAPERITONEAL CHEMOTHERAPY IN OVARIAN CANCER

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Aims

The purpose of this study is to see the feasibility and effectiveness of intraperitoneal taxol-carboplatin combination chemotherapy.

Methods

Fourteen ovarian cancer patients were included in this study. Mean age was 56 (45 ~69) years. The stages are stage Ic : 1, stage II : 1, stage IIIc : 6, stage IV : 6. After 1L hydration on day 1, pre-chemotherapy hydration of normal saline 500cc IV (IP pre-hydration) was performed on day 2. Taxol(T) 135mg/m^2 was introduced into the peritoneal cavity on day 2. Postchemo hydration 500ml was injected intravenously. After pre-chemotherapy hydration, normal saline 500cc IV (IP pre-hydration), Carboplatin(C) AUC 4 on day 3. Postchemotherapy IV hydration 500 mL was injected.

Results

In total 14 patients, complete remissions (CR) were 9 patients (64.3%) and they were all optimal cytoreductive surgery patients. Partial remissions (PR) were 5 patients (35.7%), non-optimal cytoreductive surgery: 2, poor tolerance : 1, unable to perform full course chemotherapy due to skin infection : 1. Toxicities were as usual, neutropenia grade 3 were 14, grade 3 pain was 1, grade 2 pain was 13, grade 2 neurotoxicities were 3 patients

Conclusion

Intraperitoneal combination TC therapy is effective and tolerable as intravenous chemotherapy. Optimal cytoreductive surgery is necessary before intraperitoneal

chemotherapy. More study in large group and long term follow up of patients is necessary.

IGCSM-0882
Poster Shift I - Ovarian Cancer

ATM AND ATR AS PREDICTIVE FACTORS OF CHEMO-RESISTANCE AND SURVIVAL IN OVARIAN CANCER

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Aims

DNA damage response (DDR) is recently considered as an important pathway for tumor suppression and cancer treatment. Nonetheless, the expression pattern of DDR-related proteins in ovarian cancer is not well-known. In this study, we aimed to evaluate the expression pattern of DDR key proteins ATM and ATR, and their role in tumor progression and survival of ovarian cancer patients.

Methods

Ovarian cancer tissue was obtained from 99 patients during the staging operation. The expression pattern of ATM and ATR was evaluated by immunohistochemistry using specific antibodies. Relationships among the staining results, clinicopathologic data, and patient survival were evaluated.

Results

High expression of ATR was associated with chemo-resistant tumor ($p = 0.020$) and poorer overall survival ($p < 0.0001$). In contrast, high expression of ATM was not correlated with chemo-resistant tumor ($p = 0.263$) and did not predict survival, either. Cox's regression analysis revealed that high expression of ATR was an independent risk factor for poor overall survival (HR 7.113, 95% CI 1.438-35.195).

Conclusion

Our results suggest that high expression of ATR may be associated with poorer survival by inducing tumor progression and chemo-resistance in ovarian cancer. This concept is supportive for the development of ATR inhibitor as a potent target in ovarian cancer treatment.

IGCSM-0885
Poster Shift I - Ovarian Cancer

IMMATURE TERATOMA OF THE OVARY WITH SPINAL BONE METASTASIS: A CASE REPORT

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Aims

Most of immature teratomas are limited to ovaries, and distant metastases to lung , liver and retroperitoneal lymph node are rare. There are no report described about bone metastasis.

Methods

We report here a very rare case of immature teratoma of the ovary with spinal bone metastasis.

Results

A 28-year-old woman was reffered to department of orthopedics of our hospital with a chief complaint of low back pain and paralysis of bilateral lower extremities. Abdominal and pelvic CT scan images showed destruction of the 9 th thoratic vertebrae, and solid mass containing bone and toothwith about 16 cm in diameter in the pevic cavity The 9 th thoratic bon tumor was diagnosed as malignant tumor with neuroepithelial feature by needle biopsy. We concluded the pelvic mass was immature teratoma and it metastatized to the spinal bone. Thus, the left adnexectomy, partial omentectomy and resection of peritoneal dissemination were perfomed. The final pathological diagnosis was immaure teratoma(Grade 3) with immature neurological cells and glial implantation.Soon after the surgery, multiple pulmonary and liver metastasis were found, and the other bone metastasis was confirmed. She received three corses of systemic chemotherapy(BEP-regimen), and liver and lung metastases disappeared, followed by irradiation to metasatatic bones,Three monsths after final chemotherapy, PET-CT scan showed bilateral axillar lymphnodes metastasis and right iliac bone, and the second line chemotherapeutic drugs (VIP-regimen) were administrated, and the metastatic foci shrinked or disappeared.she was now alive and uneventful.

Conclusion

This is a valuable case report of immature teratoma of the ovary with spinal bone metastasis

IGCSM-0890
Poster Shift I - Ovarian Cancer

CABOZANTIB HAS ANTI-TUMOR EFFECT FOR OVARIAN CLEAR CELL CARCINOMA CELLS.

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Aims

MET, a tyrosine kinase receptor for hepatocyte growth factor (HGF). is involved in cell motility and invasion in cancer cells. MET is highly expressed in ovarian cancer including clear cell carcinoma (CCC) and has been reported to be a poor prognostic factor. The aim of this study was to whether cabozantinib, a dual inhibitor of MET and VEGF receptor (VEGFR)-2, is active for CCC.

Methods

To investigate the antitumor effect of cabozantinib, we used three cell lines of CCC (OVTOKO, OVISE, RMG-1). We examined the basal level of expression of MET, phosphorylated-MET, and VEGFR by western blot analysis. We treated these cells with various concentration of cabozantinib for 48 hours, and examined the cell viability by MTT assay. We also investigated the antitumor effect of cabozantinib by oral administration for 14 days in a mouse xenograft model (RMG-1).

Results

Western blot analysis revealed that MET is expressed in all three CCC cell lines, and phosphorylated MET is expressed in one CCC cell line (RMG-1) at basal level. We could detect expression of phosphorylated MET in all CCC cell lines under HGF stimulation. VEGFR is expressed in all cell lines tested. Cabozantinib suppressed phosphorylation of MET in a time-dependent manner, and inhibited cell growth in a dose-dependent manner in vitro. Cabozantinib also inhibited tumor formation in vivo in a mouse xenograft model.

Conclusion

Cabozantinib has an anti-tumor effect for ovarian CCC cells.

IGCSM-0891
Poster Shift I - Ovarian Cancer

ARTEMISININ DERIVATIVES SYNERGIZE WITH PACLITAXEL BY TARGETING FOXM1 THROUGH RAF/MEK/MAPK SIGNALING PATHWAY IN OVARIAN CANCER

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Aims
To determine if artemisinin derivatives dihydroartemisinin (DHA) can improve the efficacy of paclitaxel and cisplatinum in human ovarian cancer cells in vitro and its possible underlying molecular mechanism.
Methods
Ovarian cancer cell lines SKOV3 and OVCAR3 were treated with paclitaxel/cisplatinum/DHA or a combination for 72 hrs. Cytotoxicity and drug combination effects were assessed. Quantitative RT-PCR and western blot were performed to determine changes in FOXM1 expression and its downstream molecules.
Results
1. Application of DHA to ovarian cancer cells induced cytotoxicity with IC50 between 1μM to 2μM. Drug combination studies demonstrated that DHA synergized with paclitaxel (CI value 0.6-0.73) and additive to cisplatinum (CI value 0.98-1.11) in SKOV3. low dose DHA (0.5μM) significantly synergized to the combination of paclitaxel and cisplatinum in SKOV3 cells (CI 0.40-0.83). 2. Cell cycle analysis proved that DHA alone arrested cells in G2/M phase (30.8%) compare to control (17.3%) after 24 hrs treatment. 3. DHA significantly downregulated oncogenic transcription factor FOXM1 expression and the transcription of downstream molecules, CCNB1, BIRC5 and STMN1. 4. Targeting FOXM1 by DHA delay G2/M transition, induce apoptosis and stabilize microtubule dynamics to sensitize the tumor cells to paclitaxel-induced apoptosis, contributing to the synergistic effects. 5.Western blot demonstrated that DHA inhibit serum-induced phosphorylation of MAPK, indicating the inhibitory effects of DHA toward Raf/MEK/MAPK signaling pathway.
Conclusion
These results demonstrate that inhibition of Raf/MEK/MAPK signaling by DHA led to suppression of FOXM1 target gene expression and contribute to cellular cytotoxicity and drug synergism in ovarian cancer.

IGCSM-0896
Poster Shift I - Ovarian Cancer

PROGOSTIC IMPACT OF SUPRARADICAL SURGERY IN ADVANCED OVARIAN CANCER PATIENTS WITH COMPLETE MACROSCOPIC RESECTION

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Aims

Surgical skills and specially approach to advanced ovarian cancer involving the upper abdomen has improved the rate of optimal cytoreduction and survival. Morbidity and mortality associated to these procedures are strongly associated to radicality.

Primary endpoint of the study was to identify unfavorable prognostic factors related to disease characteristics and extent in patients who underwent complete macroscopic cytoreductive surgery for advanced ovarian cancer.

Methods

Medical records from 7 referral centers in France were reviewed to identify all patients who had cytoreductive surgery for stage IIIC-IV epithelial ovarian, fallopian, or primary peritoneal cancer. All patients had at least 6 cycled of carboplatin and paclitaxel combination. No Bevacizumab was used in any patient included in the study.

Results

374 consecutive patients with complete cytoreductive surgery were included in the study.On univariate analyses, stage, grade, upperabdominal disease, supraradical surgery and carcinomatosis extent were significantly associated with disease free survival. Stage, and supraradical surgery were significantly associated with OS. Extent of peritoneal carcinomatosis remained a prognostic factor with a trend towards decreased OS. On multivariate analyses, supraradical surgery was significantly related with DFS and OS.

Conclusion

In this multicentric retrospective series including patients with complete macroscopic resection, there was a significative association between disease extent to the upper abdomen requiring supraradical surgery and decreased desease free and overall survival .

IGCSM-0898
Poster Shift I - Ovarian Cancer

SURGICAL APPROACH AND SURVIVAL IN ELDERLY PATIENTS WITH ADVANCED OVARIAN CANCER

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Aims

This study aimed to assess the impact of age on treatment pattern, adequacy and safety of complete cytoreductive surgery in elderly patients, and survival of elderly patients compared to young patients when complete cytoreduction is obtained.

Methods

All patients who had cytoreductive surgery for stage IIIC-IV epithelial ovarian cancer in 7 referral centers in France were retrospectively identify. Medical records were reviewed and patient demographic data with particular emphasis on operative records to detail extent and distribution of disease spread, surgical procedures, chemotherapy treatment, and follow-up data were included.

Results

527 consecutive patients were included in the study. The elderly group comprised 79 (14,9%) patients who were 70 years or more at the time of surgery. Complete cytoreduction after primary surgery was 68.8% in patients under 70 years compared to 54.5% in patients of 70 years or older. Significantly lower rates of lymphadenectomy and upperabdominal procedures were recorded in elderly patients.After a median follow-up of 49 months, median progression-free survival and overall survival were similar in both groups.

Conclusion

Chronological age alone is not reason to withhold surgical effort. Comprehensive geriatric evaluation by including validated instruments to individually assess medical

comorbidity, functional status and high life expectancy to select elderly patients that would tolerate and benefit from maximal cytoreductive effort is the best option to improve survival.

IGCSM-0908
Poster Shift I - Ovarian Cancer

MORBIDITY OF RECTOSIGMOID RESECTION IN PATIENTS UNDERGOING CYTOREDUCTIVE SURGERY FOR EPITHELIAL OVARIAN CANCER. RISK FACTORS FOR COMPLICATION.

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Aims

Complete cytoreduction is the goal of cytoreductive surgery in advanced epithelial ovarian cancer and rectosigmoid resection is a frequent component of this surgery. The aim of this study was to evaluate the morbidity of rectosigmoid resection at the time of cytoreductive surgery and identify risk factors for complications.

Methods

We analysed individual data from all patients undergoing rectosigmoid resection as a part of complete cytoreduction between 2005 to 2013. Previously identified risk factors for complications were analysed, so as the use of bevacizumab in adjuvant or neoadjuvant chemotherapy. Major complications were defined as complication ≥3 of the Clavien Dindo classification.

Results

228 patients underwent cytoreductive surgery. 116 had primary cytoreductive surgery, 112 interval cytoreductive surgery. 43/228 (18.9%) patients underwent major complications and there were more frequent (p=0.04) in initial cytoreductive surgery (24.1%, 28/116) vs interval surgery (13.4%; 15/112). 69 patients underwent rectosigmoid resection (32 primary surgery) (p=0.32). Morbidity was more frequent in patients with rectosigmoid resection (30.4%, 21/69) vs no rectosigmoid resection (14.6%, 22/151) (p=0.006). Anastomotic leak rate was 2,89% . No factors, including Bevacizumab were significantly associated with major complications and ileostomy was not protective (p=0.71).

Conclusion

Morbidity of this surgical procedure is acceptable in order to obtain a complete cytoreduction without residual disease. Protective ileostomy not seems to be a protective factor and use of Bevacizumab not seems to be a risk factor for complications.

IGCSM-0915
Poster Shift I - Ovarian Cancer

FIMBRECTOMY AND PREVENTION OF OVARIAN CANCER

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Aims

Numerous studies suggest that ovarian cancer, especially serous ovarian carcinoma, originate from a precursor lesion in the fallopian tube epithelium. In the eighties and nineties the fimbrectomy was a well established technique for sterilisation. In our hypothesis we suggest that these patients have developed less frequent ovarian cancer than those without a fimbrectomy.

Methods

We performed a matched pairs analysis. We included and compared patients who underwent postpartal fimbrectomy in Innsbruck, Graz and Deutschlandsberg in the years 1983 to 1999 to patients without fimbrectomy. The patient data was retrieved from the Tyrolean and the Statistics Austria cancer registry to determine carcinomas.

Results

In the fimbrectomy group we identified one patient with a serous borderline ovarian tumor (SBOT), however no woman had developed ovarian cancer.

In the control group we detected two patients with a high-grade serous cystadenocarcinoma (HGSOC), one of these had additionally a carcinoma in situ of the fallopian tube (STIC). Two patients had developed a mucinous cystadenocarcinoma and one a malignant Brenner tumor.

Conclusion

In our study no women after fimbrectomy developed ovarian cancer.

This data suggest that fimbrectomy might have a protective effect on the development of ovarian cancer.

It is remarkable that not only HGSOC, but also all other histological types of ovarian cancer were reduced too.

According to this data fimbrectomy might be considered as procedure to prevent ovarian cancer.

IGCSM-0925
Poster Shift I - Ovarian Cancer

OVARIAN CANCER IN REPUBLIC OF SRPSKA, BOSNIA AND HERZEGOVINA FROM 2008 TO 2013

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Aims

Even though some cutting edge methods of diagnostics and treatment have been introduced recently, survival rate has not significantly changed. Five-year survival period is below 30%, because approximately 70% of women has been diagnosed at late stage.
To show diagnostics and ovarian carcinoma treatment in RS

Methods

In the period from 2008-2013 anamnesis of the patients has been analysed as well as their gynecologist exam, imaging diagnostics, (ultra sound, tomography, magnetic resonance, cistoscopy, rectoscopy) determing tumorous blood markers (Ca 125, HE4, Ca, 19-9, AFP, Roma Index). Final diagnosis is set after histopathological examination of the tumour following the surgery.

Results

In the Obstetric - Gyneacological clinic in Banja Luka there were 644 adnexal tumours, of which 82.65 % were malignant and 17.4% were benign. 43.7% of patients were over 61 years old. Majority of them were housewives (68.7%). There were 96.4% laparotomy operations, 2.7% laparoscopy operations and 0.9% by conversion. The most common cancer stadium was FIGO III – 41.9%, FIGO II 25.8%, stadium I 21.6% and stadium IV 10.7%. Histopathologicaly dominant was serous carcinoma 50.0%. In the first two years 8.3% patients died and the early recidivation in that period was 10.4%. Five- year survival period in the early stadium was 87.5%.

Conclusion

The diagnostics and ovary carcinoma treatment in the stadium FIGO I and II is of great importance for the overall positive survival rate.

IGCSM-0928
Poster Shift I - Ovarian Cancer

ANTIPROLIFERATIVE AND APOPTOTIC ACTIVITES OF MÜLLERIAN INHIBITING SUBSTANCE (MIS) COMBINED WITH CALCITRIOL IN OVARIAN CANCER CELL LINES.

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Aims
The aim of this study was to investigate whether Müllerian inhibiting substance (MIS) in combination of calcitriol modulates apoptosis of human ovarian cancer cell lines (SKOV3, OVCAR3, and OVCA433), and to identify the signal pathway by which MIS mediates apoptosis.

Methods
SKOV3, OVCAR3, and OVCA433 cells were exposed to MIS in the absence or presence of calcitriol. Cell viability, proliferation and apoptosis were evaluated by MTT assay and PI staining. Western blot and RT-PCR assays were used to investigate the signaling pathway; inhibition of PI3K activation was conducted with the chemical inhibitors (LY294002); inhibition of ERK was performed with PD98059; JNK signaling was inhibited with SP600125.

Results
All cell lines showed strong specific staining for MISR II. Treatment of ovarian cancer cells with MIS and calcitriol led to a dose- and time- dependent inhibition of cell growth and survival. Combination treatments dramatically suppressed the cell growth, up-regulated the expression of Bcl-2 associated X protein, down-regulated the expression of Bcl-2, caspase-3, and increased the proportion of cells in the G1 phase fraction and apoptotic cells through the PI3K, ERK and JNK signaling pathways.

Conclusion
These results offer a strong rationale for testing the therapeutic potential of MIS, alone or in combination with calcitriol, in the treatment of ovarian cancer with a much-needed decrease in the toxic slide effect of currently employed therapeutic agents.

IGCSM-0935
Poster Shift I - Ovarian Cancer

PROGNOSTIC IMPACT OF THE TIME INTERVAL BETWEEN PRIMARY SURGERY AND CHEMOTHERAPY IN THE TREATMENT OF EPITHELIAL OVARIAN CANCER.

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Aims
Complete surgical debulking followed by platinum-taxane is the standard therapy for epithelial ovarian cancer. The aim of this study is to assess whether the interval from primary surgical debulking to initiation of chemotherapy has an impact on progression free survival (PFS) and overall survival (OS) in ovarian cancer.
Methods

One hundred and seventy eight patients underwent debulking surgery for epithelial ovarian cancer between 1/2005 and 12/2012 followed by chemotherapy. Only patients with primary surgery and a complete cytoreduction were included. We collected individual datas for these patients. Logrank test was performed to determine the effect of the time to chemotherapy (TTC) on PFS and OS.

Results
99 patients met our inclusion criteria. The median interval from surgery to chemotherapy was 39 days [Min=10; Max=115]. Median follow-up for OS was 978 days and 18 patients died. No statistical difference was found on OS between patient who underwent chemotherapy in the 21 first days (p=0.20). Median follow-up for PFS was 607 days and 44 patients had progression of disease. No statistical difference was found on OS between patient who underwent chemotherapy in the 21 first days (p=0.48).
Conclusion
The time interval between surgery and chemotherapy seems to have no impact on prognosis in epithelial ovarian cancer. However a study with a larger effective could provide more informations

IGCSM-0936
Poster Shift I - Ovarian Cancer

RETROSPECTIVE ANALYSIS OF THE EFFICACY OF CHEMOTHERAPY (CT) AFTER SECOND RELAPSE AND MULTIVARIATE ANALYSIS IN OVARIAN CANCER (OC).

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Aims

In recurrent OC the impact on survival beyond second relapse has not been fully addressed and we lack criteria for predicting efficacy.

Methods

We retrospectively identified 108 patients with more than one relapse of ovarian cancer at our institution from 1992 to 2011. Progression-free survival (PFS) and overall survival (OS) for first to fifth line of treatment and univariate and multivariate analysis was performed.

Results

All patients (n 108) received at least one relapse treatment after the first line therapy. 87, 69, 46 and 29 patients recieved second, third, fourth, fifth lines CT respectively.

Median PFS after the first, second, third, fourth and fifth relapse was respectively 11.94 [95% confidence interval (CI) 10.00-14.04], 9.5 [7.039-10.98], 7.43 [5.49-10.06], 5.9 [4.01-7.96] and 8.6 [5.75-11.94] months. Median OS after successive lines was 32.76 [25.23-40.65], 21.84 [14.50-28.98], 24.86 [19.53-32.79], 29.34 [23.58-40.42] and 10.19 [5.00-21.57] months.

Factors effecting prognosis in multivariate analysis are summarized in table 1 for PFS and table 2 for OS.

Conclusion

In our retrospective study of selected patients heavily treated with CT, PFS and OS remain beyond 5 and 10 months respectively in successive lines.

Our data strongly support the prognostic significance of platinum sensitivity in subsequent relapses up to third relapse. Other factors to select patients up to third line were tumor debulking at primary surgery (no residual tumor), ECOG and Hb.

IGCSM-0949
Poster Shift I - Ovarian Cancer

GROWING TERATOMA SYNDROM OF THE OVARY: DIAGNOSIS AND MANAGEMENT, A SURVEY OF FRENCH NATIONAL RARE TUMOUR NETWORK

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Aims

The Growing teratoma syndrom (GTS) is the occurrence of a mature teratoma during or after chemotherapy for immature teratoma (IT) of ovary, while tumor markers are normalized.
Aim is to describe characteristics of patients with GTS and their management.

Methods

From the database of the French National Rare Tumour Network (TMRO) since 2009.

Results

8 patients showed GTS criteria. Patients were 30 years old at diagnosis [20-43], with an average parity of 0.5 [0-2].

Initial characteristics and management: In 87.5% of cases, the surgical approach was laparoscopy with laparoscopic conversion or immediately laparotomy. Initial tumor size was 14.1 cm [6-22]. Histological examination revealed an IT associated with a neurological component in 25% of cases. It was grade 3 in 75% of cases. Patients all received adjuvant chemotherapy (mainly association Bleomycin-Etoposide-Cislatin).

GTS management: The time to GTS onset was 6 months [2.9 to 13.4]. The discovery mode was mostly in the CT during or after chemotherap. In 87.5% of cases, the site of implantation of the mature tissue was the peritoneum associated or not with the ovary, omentum. The first treatment was surgery, either resection of residual masses alone or controlateral oophorectomy with omentectomy or maximum cytoreductive surgery. After surgery, two patients presented severe complications. One presented a paraneoplastic syndrome and one postoperative complications in intensive care leading to death.

Conclusion

GTS remains relatively unknown. The rapid evolution and complications related to tumor

size require that GTS is known and sought during treatment and monitoring of IT of the ovary.

IGCSM-0950
Poster Shift I - Ovarian Cancer

CLINICOPATHOLOGICAL ANALYSIS OF ADULT GRANULOSA CELL TUMORS: A RETROSPECTIVE ANALYSIS OF 40 PATIENTS

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Aims

Granulosa cell tumors (GCTs) of the ovary are rare tumors and generally diagnosed in early stages. The aim of this study is to identify the clinicopathologic features of these tumors.

Methods

A total of 40 patients who underwent surgical staging between March 2007 and April 2013 at the Gynecologic Oncology Department of Zekai Tahir Burak Women's Health Education and Research Hospital were retrospectively evaluated.

Results

Most of the patients were detected in early stage, 67.5% of patients were stage 1A. Pelvic pain was the leading symptom. Tumor mass was commonly under 5cm (55%) and mostly right sided (60%). Gravity, parity, serum CA-125, CA-15.3, CA-19.9, CEA levels, neutrophil-lymphocyte count, number of mitotic figures, atypia, and lymphovascular space invasion were not significant between early stage (stage 1A) and advanced stage (stage 1B-3B) disease. However age discrimination and menopausal status were the only significant parameters (Stage 1A patients were commonly premenopausal). Fertility sparing surgery as a conservative approach seems more prevalent for the premenopausal patients especially between 21-30 years of age.

Conclusion

It should be kept on mind that most patients with granulosa cell tumor are premenopausal. Tumor marker levels and other findings are not helpful for predicting GCTs preoperatively. Moreover fertility expectations shape the surgical procedure. On

basis of the stage of disease adjuvant chemotherapy and ovarian toxicity are also challenging issues in reproductive ages.

IGCSM-0951
Poster Shift I - Ovarian Cancer

CLINICAL OUTCOME OF TERTIARY SURGICAL CYTOREDUCTION IN PATIENTS WITH RECURRENT EPITHELIAL OVARIAN CANCER

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Aims

To evaluate the operative and clinical outcome of tertiary cytoreductive surgery (TCS) in patient with recurrent epithelial ovarian cancer.

Methods
The present study investigated 20 women who had recurrent epithelial ovarian cancer and underwent TCS between May 1997 and November 2012. Clinical data were obtained from patient files and pathological data were obtained from pathology records. Frequency distributions were compared using the Chi-squared test
Results

Median age of the patients was 48.2 (range, 30–64) years during initial diagnosis. Sixteen patients (80%) had stage III disease at initial diagnosis. Three patients had grade I (15%), six patients had grade II (30%) and eleven patients had grade III disease (55%). The median time from secondary to TCS was 20.9 months (range, 5-48 months) . TCS was optimal (≤1 cm residual tumour) in 8 of the 20 patients (40%) and suboptimal(>1 cm residual tumour) in 12 patients (60%).The median follow-up after TCS was 25.5 months (range, 1–80 months). The median follow- up after optimal and suboptimal TCA were 32.4 months (range, 16-80) and 20.7 months (range, 1-67), respectively ($p<0.05$). At the time of last follow up, 70% of patients had died of disease, 20% of patients had no evidence of disease.

Conclusion
TCR seems to be beneficial for patients in whom optimal surgery can be achieved.

Conflict of interest
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THE PREDICTION OF OVARIAN CARCINOMA BY PREOPERATIVE NEUTROPHIL TO LYMPHOCYTE AND PLATELET TO LYMPHOCYTE RATIOS IN PATIENTS WITH OVARIAN MASS: A PRELIMINARY REPORT

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Aims

Neutrophil-to-lymphocyte ratio (N/L) and platelet-to-lymphocyte ratio (P/L) may indicate the systemic inflammatory response against tumor tissue. We aimed to investigate the relationships between the N/L, P/L ratios with benign and malignant ovarian tumors in patients with a diagnosed ovarian mass.

Methods

A total of 553 patients with ovarian cancer (n: 189), borderline ovarian tumor (BOT) (n: 97) and benign ovarian mass (n: 267) who underwent surgery were included in this retrospective study. Preoperative CA 125, CEA, CA 199, CA 153 values; white blood cell (WBC), neutrophyl (N), lymphocyte (L), platelet (P) counts and hemoglobin (Hg) levels were reviewed retrospectively. Also N/L and P/L were calculated.

Results

Serous tumors were the leading histologic types in patients with BOT or invasive carcinoma. Patients with ovarian carcinoma were significantly more anemic than the others. There were significant differences in the CA 125, CEA and CA 153 levels between the groups with the highest values observed in ovarian carcinoma ($p<0.05$). The mean L counts were lower and P counts were higher in cancer group ($p<0.05$). N/L and P/L ratios were significantly increased in patients with ovarian cancer ($p<0.05$). Furthermore, N/L and P/L ratios in cancer patients were also significantly increased in patients with advanced stage disease.

Conclusion

N/L and P/L ratios may serve as potential bio-markers of the cancer-associated systemic inflammatory response in patients with ovarian carcinoma. Moreover, these ratios can be

useful in predicting the advanced stage disease. Further studies are needed to asses the impact of the N/L and P/L ratios on the prognosis of patients with ovarian cancer.

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IS INTRAPERITONEAL CHEMOTHERAPY IN THE MANAGEMENT OF RECURRENT EPITHELIAL OVARIAN CANCER FEASIBLE?

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Aims
We examined the clinical utility of intraperitoneal (IP) chemotherapy in treating patients with recurrent epithelial ovarian cancer (EOC).

Methods
We performed a retrospective review of patients with recurrent EOC who underwent IP chemotherapy between January 2000 and May 2014. Twenty-three patients were identified and 4 were excluded (3 on clinical study involving high dose IP chemotherapy with stem cell rescue; 1 lost to followup after one IP treatment). We examined patient demographics, chemotherapy history, treatment response, and complications related to IP chemotherapy.

Results
Median age was 57.6 years (range 41-69 y). Fifteen patients were initially diagnosed with ≥ stage II and 84.2% had serous histology. All patients underwent optimal secondary tumor debulking surgery (< 1cm residual disease) with IP port placement. The majority of patients completed at least 5 cycles of IP chemotherapy (89.5%), and 12 patients completed the planned IP chemotherapy schedule successfully (68.4%). Reasons for non-completion were severe nausea and vomiting, abdominal pain with bowel obstruction, and port-failure. One patient received IP chemotherapy again because of recurrence after 7 months since the initial IP chemotherapy. The median progression-free survival was 28.0 months (95% confidence interval, 20.1-35.9 months) and five-year overall survival rate was 57.9% since the completion of IP chemotherapy.

Conclusion

Patients with recurrent EOC were generally able to tolerate IP chemotherapy. IP chemotherapy is feasible for recurrent EOC patients with low complications rate and acceptable PFS and OS but warrants further randomized prospective studies.

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BONE MINERAL DENSITY AND FRACTURES AFTER RISK-REDUCING SALPINGO-OOPHORECTOMY: A CROSS-SECTIONAL STUDY

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Aims
Premenopausal risk-reducing salpingo-oophorectomy (RRSO) reduces ovarian cancer risk in *BRCA* mutation carriers. RRSO is assumed to decrease bone mineral density (BMD) and increase fracture risk more than natural menopause. We aimed to compare BMD and fracture incidence after premenopausal RRSO to general population data and identify risk factors for low BMD and fractures after RRSO.
Methods
In an unselected group of women with RRSO at premenopausal age, BMD was measured by dual energy X-ray absorptiometry. Fractures and risk factors for fractures were assessed by a self-administered questionnaire. Fracture incidence after RRSO was compared to the general population by using standardized incidence ratios (SIRs). Risk factors for low standardized BMD-scores and fractures were identified by regression analyses.
Results
In 212 women with RRSO at a median age of 42 (Inter quartile range [IQR] 38–47) and follow-up of 5 years (IQR 4–8), lumbar spine BMD (Z=0.01, *p*=0.870) and femoral neck BMD (Z=0.15, *p*=0.019) were not lower than population BMD. Higher age at time of RRSO and use of hormonal replacement therapy were associated with higher standardized BMD-scores. Current smoking was associated with lower standardized BMD-scores. Seventeen women reported 23 fractures. Fracture risk was significantly

increased compared to the general population (first fracture: 25–44 years: SIR 3.8 [95% CI 1.4-8.2]; 45-64 years: SIR 2.4 [95% CI 1.2–4.4]).

Conclusion

After a median follow-up of 5 years after RRSO, fracture risk is elevated which is not reflected in a lower BMD.

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UPDATED RESULTS OF ARIEL2, A PHASE 2 OPEN-LABEL STUDY TO IDENTIFY OVARIAN CANCER PATIENTS LIKELY TO RESPOND TO RUCAPARIB

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Aims

PARP inhibitors (PARPi) such as oral rucaparib are thought to be effective in cancers with homologous recombination deficiency (HRD), best shown to date in patients with a germline *BRCA1* or *BRCA2* mutation (*gBRCA*^{mut}). Molecular analysis of tumor tissue to assess *BRCA* mutations as well as genomic loss of heterozygosity (LOH), a phenotypic endpoint of HRD, could be a more inclusive method for selection of patients for PARPi therapy.

Methods

The primary objective of ARIEL2, a single-arm, open label study, is to identify a molecular HRD signature in ovarian cancer (OC) associated with clinical benefit from rucaparib treatment. ARIEL2 enrolls women (n=180) with platinum-sensitive, relapsed, high-grade OC and requires measurable disease and a pre-treatment tumor biopsy. Patients are treated with 600 mg bid rucaparib until disease progression. Tumor HRD status is assessed using next generation sequencing, with a HRD algorithm based on *BRCA* status and genomic LOH, developed using *in vitro/in vivo* and TCGA (and similar) bioinformatic data. PFS and response by RECIST v1.1 will be correlated with tumor HRD status. Enrollment of *gBRCA*^{mut} patients is limited to maximize identification of non-*gBRCA*^{mut} response predictors.

Results

Preliminary efficacy data from ARIEL2 indicate RECIST responses in patients who are *BRCA* wild-type and have high tumor genomic LOH as well as in *BRCA*^{mut} patients. Data for approximately 110 patients is anticipated to be available in early November.

Conclusion

Preliminary data indicate tumor genomic LOH as well as *BRCA* mutation analysis may predict OC patients likely to respond to rucaparib.

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EXPRESSION OF OVARIAN CANCER TUMOUR ANTIGENS IN THE TUMOUR TISSUE AND IN PERIPHERAL BLOOD.

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Aims

Ovarian carcinoma is a disease with frequent relapses and high mortality. The project is focused on evaluation of infiltration tumour mass by immune system´s cells, to determine expression of chosen tumour antigens and to bring optimal methodics for assesment of circulating tumour cells in peripheral blood.

Methods

Using real-time quantitative PCR we analyzed the expression of twelve major tumor associated antigens- HER-2/neu, NY-ESO-1, FBP, CA-125, MAGE-A1, MAGE-A2, MAGE-A3, MAGE-A4, MAGE-A6, MAGE-A10, MAGE-A12 and PSMA in tumor cells from patients. To determine which antigens could by immunogenic, we analyzed the presence of antibodies against HER-2/neu, NY-ESO-1, CA-125, MAGE-A3, MAGE-A4 and MAGE-A10 in 45 patients´ peripheral blood samples.

Results

MAGE-A2, MAGE-A3, MAGE-A4, MAGE-A6 and MAGE-A12 were co-expressed in a cluster. There was a positive correlation between the disease stage and the expression of CA-125 (p=0.034), MAGE-A2 (p=0.04) and MAGE-A12 (p=0.036). There was no expression of MAGE antigens in the stage I patients. There was a significant positive correlation between the risk of relapse and expressions of Her-2/neu (p=0.024). The presence of IgG antibodies against NY-ESO-1, Her-2/neu, MAGE-A3, MAGE-A4, MAGE-A10 and CA-125 was analyzed in patients'sera. We only detected antibodies against NY-ESO-1, namely in 16% of patients. The titer of NY-ESO-1 antibodies (expressed as OD) significantly positively correlated with the level of expression of NY-ESO-1 mRNA.

Conclusion

These findings show promising markers for follow-up of patients after anticancer therapy.

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EVALUATION OF EPITHELIAL OVARIAN TUMORS UNDER 40 YEARS

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Aims

Since the most common two histologic subtype of epithelial ovarian cancer (EOC) is serous and mucinous, we evaluated patients with serous and mucinous ovarian cancer under 40 years.

Methods

Clinicopathological data of patients with serous and mucinous ovarian cancer under 40 years between 2003 and 2013 were retrieved from the computerized database of Zekai Tahir Burak Women's Health Education and Research Hospital. We excluded borderline and sero-mucinous tumors from the patient groups.

Results

A total of 21 patients; 14 serous, 7 mucinous cystadenocarcinomas were studied. While serous tumors were bilateral in half of the cases, all the mucinous tumors were unilateral. Ascites was accompanying 12 serous tumors (%85.7%) however only 2 patients with mucinous tumor (28.5%) were accompanied by ascites. Although the tumor size was larger for mucinous tumors and lympho-vascular space invasion (LVSI) was more common for serous tumors, these were not statistically significant. We found a positive correlation between tumor size and preoperative CA-125 levels in serous group (p=0.01). Preoperative CA-125 levels were found to be a determinant factor for LVSI in patients with serous carcinoma (p=0.004). However this correlation was not present for mucinous group.

Conclusion

Epithelial ovarian cancer should not be omitted in young ages. Positive predictive value of CA-125 for LVSI and nodal metastasis in serous tumors could not be underestimated.

Moreover tumor size is also consistent with CA-125 levels. Nevertheless prediction of tumor size and LVSI in mucinous tumors by tumor markers is difficult.

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HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY (HIPEC) IN PRIMARY AND RECURRENT EPITHELIAL OVARIAN CANCER (EOC): A META-ANALYSIS OF OBSERVATIONAL STUDIES

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Aims

To perform a meta-analysis on primary and recurrent EOC patient outcomes after HIPEC.

Methods

Eligible studies evaluating HIPEC in EOC included those with ≥10 patients with overall survival (OS) curves or point estimates on PubMed. Multivariate analysis of OS based on OS point estimates considered duration and temperature of HIPEC, and study year. OS estimates and prediction intervals were plotted based on weighted fixed effects models, with study sample sizes as weights.

Results

Thirty studies met criteria (n=1399 patients); 23 studies had extractable statistics (n=1025): twelve primary (n=428), eleven recurrent EOC studies (n=597). Median follow-up for primary and recurrent EOC were 34 and 21 months, respectively. Three-year OS for advanced EOC was 66.2% (95% CI: 66.2 to 66.9%); 5-yr OS 47.9% (95% CI: 46.0-49.7%); median OS 63 months. For recurrent EOC, 3-yr OS was 46.8% (95% CI: 45.9 to 47.7%); 5-yr OS 25.1% (95% CI: 24.2 to 26.0%); median OS 33 months. On multivariate analysis, more recent studies showed improved OS in recurrent patients. Optimal cytoreduction was achieved in 78.7% and 82.6% of primary and recurrent EOC patients, respectively (complete cytoreduction in 57.8% and 70.7%, respectively). Mortality was 1.9% (0-7%) and 3.4% (0-10%) in primary and recurrent EOC, respectively. Length of stay was 16.5±5.8 and 15.0±6.0 days, respectively. Mean duration for surgery/HIPEC was 7.5 hours for both groups. The most commonly used chemotherapy agent was cisplatin.

Conclusion

In this meta-analysis of 1025 EOC patients, HIPEC carries mortality rates comparable to surgical cytoreduction alone, with favorable OS outcomes for both primary and recurrent EOC.

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RISK FACTORS FOR HYPERSENSITIVITY REACTIONS (HSRS) AMONG OVARIAN CANCER (EOC) PATIENTS TREATED WITH CARBOPLATIN-BASED CHEMOTHERAPY

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Aims

To evaluate risk factors for carboplatin-induced HSRs in women receiving their 6th or subsequent cycle of platinum-based chemotherapy for EOC. To evaluate the efficacy of prophylactic diphenhydramine in preventing HSRs.

Methods

A retrospective chart review of 452 patients with EOC receiving ≥6 cycles of carboplatin-based chemotherapy from 2006 to 2012 at Princess Margaret Cancer Centre in Toronto, ON was performed. Additional diphenhydramine prophylaxis was introduced in 2009 for women receiving ≥6 cycles of carboplatin. This and other potential predictors of HSR were evaluated using the Chi-square, student's T-test and a multivariable regression model.

Results

Carboplatin-induced HSRs occurred in 9% (n=41/452) of patients, 4 of which were anaphylactic. Median age was 57 (range 25-89) and the majority received carboplatin in combination with paclitaxel (74.5%). 158 patients (35%) received diphenhydramine prophylaxis. BRCA testing was performed in 123 patients; 38 had a mutation in BRCA 1 or 2.

Univariable predictors of carboplatin-induced HSRs included 8-10 cycles of carboplatin, history of other drug allergies and the platinum-free interval. BRCA status was not predictive. Use of diphenhydramine prophylaxis did not reduce the incidence of HSRs. Administration of 8-10 cycles of carboplatin [OR 7.5(95%CI 2.8-20.1), p<0.01] and a

carboplatin-free interval >12 months [OR 4.4(95%CI 1.1-17.6), p=0.04] were predictive of HSRs in a multivariable model.

Conclusion

Diphenydramine administration did not reduce the risk of HSR in women with EOC. Further investigation of preventative strategies in women with EOC at high risk of HSR are warranted.

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2-METHOXYESTRADIOL REVERTS EPITHELIAL MESENCHYMAL TRANSITION IN OVARIAN CANCER-INITIATING CELLS REDUCING THEIR INVASIVE CAPABILITY AND SENSITIZING THEM TO CHEMOTHERAPY

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Aims

A subset of cancer cells within the tumor, named "cancer-initiating cells" (CICs) possesses stem cell-like capabilities, high tumorigenic potential, and resistance to chemotherapy. They would be responsable for recurrence. Therapeutic strategies against this subpopulation remain unsolved. Previously we have shown that 2-methoxyestradiol (2ME) induces cell death in ovarian cancer cells. Our goal was to determine 2ME effects on differentiation and sensitivity to chemotherapy of CICs.

Methods

CICs were isolated from ovarian cancer cell lines (HEY, UCI101) by using stem-selecting media and culture under low-attachment conditions. After 7 days, CICs were treated with 2ME (5µM, 6h or 24h). Stemness and EMT markers were studied by Real Time-PCR and W-B. To assess 2ME effects in CIC chemosensitivity, CICs were pre-treated with vehicle or 2ME (5µM, 24h) and then exposed to carboplatin o paclitaxel (IC50 dose for additional 24h). 2ME effects in cell invasion was measured by Boyden chamber assays. Cell death was assessed by Tunnel and detection of cleaved PARP by W-B.

Results

2ME reduces protein expression levels of different EMT and stemness markers in CICs. 2ME also reduced its invasiveness capability. Less invasiveness would be related to an

increase in E-cadherin expression and the loss of transcriptional function of beta-catenin (cytoplasmic location). Finally, 2ME pretreatment increased cell death induced by carboplatin and paclitaxel.

Conclusion

2ME induced mesenchymal epithelial transition (MET) and loss of stemness in CICs. These changes would be associated with less invasiveness and increased sensitivity to chemotherapy. These findings support the potential benefit of 2ME in ovarian cancer treatment.(Fondecyt 1120292)

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CASE REPORTS OF "GROWING TERATOMA SYNDROME OF THE OVARY – A DIAGNOSTIC CHALLENGE"

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Aims

Growing teratoma syndrome' (GTS) is characterized by a growing pelvic mass despite chemotherapy with a germ cell tumour and immature teratomatous component. Diagnostically this represents difficulty as disease recurrence or chemo-resistance can be difficult to distinguish.

Methods

Two cases of GTS are presented

Results

CASE-1: 21 year old lady, with a left adnexal mass, raised serum CA-125 and alpha fetoprotein (AFP). She received 4 cycles of bleomycin, etoposide and cisplatin (BEP). After chemotherapy her markers normalized but the pelvic mass increased in size with extension into the upper abdomen. She underwent fertility sparing surgery. Histopathology revealed a left sided mature teratoma 27x19x10 cms, weighing 5 kg, without immature element.

CASE-2: 22 year old lady, presented after left salpingo-oophorectomy with histopathology showing immature teratoma. After three cycles of BEP, imaging showed a 7.1x4 cms right pelvic mass and normal tumour markers. She underwent laparotomy and removal of the mass. Histopathology confirmed mature teratoma without immature element.

Both **are disease free two and one year post surgery**

Conclusion

GTS is a diagnostic challenge in view of the regrowth of a mass leading to suspicions of recurrence, mass effect , chemoresistance , unnecessary courses of chemotherapy, anxiety and fertility concerns. Radiologically a mass with appearance of fat, calcification,

cystic changes, normal tumor markers post chemotherapy should increase the suspicion of GTS. FDG-PET scan may help confirm the disease.**Appropriate** imaging may help to recognize features of GTS and appropriate treatment planning with avoidance of radical surgery or excessive chemotherapy in the young patient.

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AUTOANTIBODIES AGAINST THE EGF/EGFR AND VEGFA/VEGFR1 ARE PROGNOSTIC BIOMARKERS IN PRIMARY EPITHELIAL OVARIAN CANCER PATIENTS

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Aims
Presence of autoantibodies AA is a serologic marker for autoimmunity**. A**ngiogenesis plays a major role in EOC. The aim of the study was to analyze the predictive value of AA against EGF/EGFR and VEGFA/VEGFR1 in primary EOC.
Methods
In this study 132 healthy women and 201 primary EOC patients were enrolled. Most of the EOC patients had a FIGO IIIc (66%) and high grade serous ovarian cancer (96.4%). All EOC patients were treated with primary tumor debulking and platinum based chemotherapy. Mean follow up period was 62 months (range 19-149). AA against epidermal growth factor (AA-EGF), epidermal growth factor receptor (AA-EGFR), vascular growth factor A (AA-VEGFA) and against vascular growth factor receptor 1 (AA-VEGFR1) were detected in preoperative serum samples using ELISA.
Results
AA-EGF, AA-EGFR and AA-VEGFA, AA-VEGFR1 were detected in both control and EOC patients. AA concentrations were significantly lower in EOC ($p<0.001$). In the multivariate analysis AA-EGF, AA-EGFR, AA-VEGFA,AA-VEGFR1 were a significant predictor for mortality ($p=0.001$, HR=0.75; $p<0.001$, HR=1.08; $p=0.001$, HR=0.73; $p=0.001$, HR=0.738, respectively) and the combined endpoint (mortality or relapse) ($p=0.001$, 95% HR=0.836; $p=0.001$, HR=0.85; $p=0.001$, HR=1.055; $p<0.01$, HR=1.122).
Conclusion

This is the first study that attests the existence of AA against EGF, EGFR and VEGFA, VEGFR1. AAs seem to have a protective role for the development of ovarian cancer. Furthermore higher AAs levels were associated with longer progression free and overall survival in EOC patients.

IGCSM-0992
Poster Shift I - Ovarian Cancer

A REVIEW OF POSTOPERATIVE OUTCOMES FOLLOWING EXTENSIVE RADICAL SURGERY FOR OVARIAN CANCER

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Aims

Ovarian cancer is the second commonest gynaecological malignancy. The majority of patients are diagnosed in the advanced stages resulting in an overall 5-year survival of 42%. Evidence suggests that complete cytoreduction of all visible tumour improves progression-free survival in these patients. In order to look at the morbidity associated with extensive radical surgery for ovarian cancer, a retrospective review was undertaken.

Methods

A retrospective review of all patients who underwent surgery by a single surgeon for advanced ovarian cancer between January 2012 and December 2013 at Nottingham University Hospitals was undertaken. Data was analysed manually.

Results

Data collection has been completed for 2013 and is in progress for 2012. In 2013, 17 patients received neoadjuvant chemotherapy prior to delayed primary surgery (DPS) and 4 had primary debulking surgery (PS) followed by adjuvant chemotherapy. The mean age was 62 years (55-78). Optimal cytoreduction was accomplished in 81.5% of patients. Patients who had DPS had a higher risk of bleeding with an increased requirement for blood transfusion (11 out of 17 patients). Two patients returned to theatre for postoperative bowel obstruction. One patient developed a postoperative abscess and one patient was readmitted with a wound dehiscence. Data collection will be completed for 2012 and presented at the meeting.

Conclusion

Optimal cytoreduction for patients with ovarian cancer is feasible without a significant increase in postoperative morbidity. However, adequate preoperative counselling and careful patient selection is essential.

IGCSM-0995
Poster Shift I - Ovarian Cancer

CLINICAL DIFFERENCES AMONG STAGE IC OVARIAN CARCINOMA: A GEICO PROSPECTIVE EARLY STAGE DATABASE ANALYSIS.

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Aims

In ovarian cancer (OC) early FIGO stage IC comprises several features that are not usually considered in terms of prognosis.

Methods

From GEICO prospective database of early stage (I-IIB), since August 1989 to January 2014, 1151 cases with clinical follow-up were included. Our aim is to present data from different features of IC stage in terms of RFS (relapse free survival) and Cancer Specific Overall Survival (OSS).

Results

Complete staging data were fully available for 481 cases and 85 had not specified the criteria for differences among IC stage. Histologies in decreasing frequencies were endometrioid (26%), serous (25.8%), clear cell (24.3%), mucinous (15.8%), undifferentiated (2.5%) and others (5.6%). Up to 94.8% received adjuvant

chemotherapy. Frequencies of different IC stages were: 1) IC1: stage IC with ruptured capsule or surface involvement (382 (79.4%), 2) IC2 with malignant cells in peritoneal washing and ascites 32 (6.7%) and 3) IC3 with positive peritoneal washing and no ascites 67 (13.9%). Median follow-up was 74 months [1-285]. For stage IC, IC1, IC2 and IC3 respectively, RFS at 5 years was 83%, 86%, 71% and 77% and OSS 94%, 95%, 83% and 87%.

Conclusion

In our series stage IC spread to the abdominal cavity with malignant cells have a worse outcome in terms of RFS and OSS compared to cases with capsular rupture or surface involvment.

IGCSM-0999
Poster Shift I - Ovarian Cancer

HIGH RESOLUTION ANALYSIS OF SHORT TERM MORTALITY OF OVARIAN / TUBAL / PERITONEAL CANCERS: EAST KENT GYNAECOLOGICAL ONCOLOGY CENTRE, UK

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Aims

A UK National Cancer Intelligence Network (NCIN) report in 2013 of newly diagnosed ovarian/tubal/peritoneal cancers revealed 15% 2 month and 31% 12 month mortality. We performed a high-resolution retrospective study to provide clinical detail to augment this epidemiological data.

Methods

We performed a detailed retrospective case review of newly diagnosed ovarian/tubal/peritoneal cancers presenting to the East Kent Gynaecological Oncology Centre during 2011 and 2012.

Results

54/195 cases (27.6%) died within 12 months of diagnosis (short term mortality STM). 30(15%) died within 2 months (very short term mortality VSTM) and 45(23%) within 6 months. The mean STM age was 72.9 (range 54-89). 31(57.4%) STM cases presented via Accident & Emergency and only 12(22.2%) via the recommended rapid access outpatient pathway. 70%(21/30) VSTM cases were diagnosed following emergency hospital admission. 79.6%(43) STM cases were FIGO stage IIIC or more, and 66% had symptomatic ascites. Mean biochemistry for STM vs one year survivors were: Albumin 25.8g/dl vs 35.27g/dl ($p<0.005$), CRP 122mg/l vs 41.5 mg/l ($p<0.005$), CA 125 906.3u/ml vs 759.5u/ml ($p=0.57$). Only 2/30 VSTM cases received cancer treatment (one primary laparotomy, one neoadjuvant chemotherapy). 13/24 surviving beyond 2 months underwent primary laparotomy or neoadjuvant chemotherapy, but none completed the cytoreductive surgery and chemotherapy pathway.

Conclusion

Our experience reflects UK data, showing high short term mortality from ovarian/tubal/peritoneal cancer. Late diagnosis associated with emergency presentation, poor performance status, ascites, high CRP and low albumin, precludes effective treatment. Improved symptom awareness and early referral are crucial to

improve outcomes.

IGCSM-1003
Poster Shift I - Ovarian Cancer

SHOULD WE PERFORM PROPHYLACTIC APPENDECTOMY AND CHOLECYSTECTOMY IN PATIENTS UNDERGOING CYTOREDUCTIVE RADICAL SURGERY WITH PERITONIECTOMY FOR THE TREATMENT OF ADVANCED EPITHELIAL OVARIAN TUMORS?

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Aims

Evaluate patients who underwent prophylactic cholecystectomy and prophylactic appendectomy during radical surgery for the treatment of ovarian cancer, its complications , morbidity and mortality

Methods

We performed prophylatic appendectomy and prophylactic cholecystectomy in twelve patients , without evidence of carcinomatosis in the gallbladder or in the appendix

Results

Patients who performed cytoreductive radical surgery with peritoniectomy will develop multiple abdominal adhesions ,what will hamper abdominal surgery in the future.Appendicitis and gallbladder disease are frequent and if the pacient had a previous peritoniectomy , the surgery will be very difficult

Conclusion

patients had no bile duct injury, no appendiceal stump dehiscence or other complications directly related .Recognition of anatomical variations of the biliary duct and cystic artery are critical to avoid inadvertent injury to biliary duct

IGCSM-1005
Poster Shift I - Ovarian Cancer

COMPLETE STAGING IN THE CARCINOMA IN SITU OF THE FALLOPIAN TUBE

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Aims
Assessing the benefit/risk of the staging surgery with the diagnosis of carcinoma in situ of the fallopian tube
Methods
Prospective study-observational in 12 patients with pathological findings of carcinoma in situ of the fallopian tube in which surgery is performed with a complete staging between the years 2006 and 2013 in the Hospital of Bellvitge.
Results
The indications for primary salpingo-oophorectomy were: 5 prophylactic adnexectomy in patients with BRCA mutation, 1 benign ovarian cyst (mucinous cystoadenoma), 2 endometriosis and 4 uterine pathology. In the 100% was done a complete staging surgery that included hysterectomy, omentectomy, appendectomy, pelvic lymphadenectomy and paraortica. The more frequent approach was robòtic, in 9 cases (75%) and laparotomic in only 3 (25%). The final result of the pathological complete staging was negative in all cases, the disease limited to the fallopian tube. The average hospital stay of the robòtic surgery was 2 days (range 1 to 3 days) and in the laparotomy for 9 days (range from 5 to 17 days). All the patients are still alive and disease-free.
Conclusion
In view ot these results the complete staging in the carcinoma in situ of the fallopian tubes could not be justified. An approach of minimally invassive surgery, as is the robòtic has enabled us to reduce in our center the hospital stay and the postsurgical complications. Necessary future studies with larger samples to corroborate the results obtained.

IGCSM-1006
Poster Shift I - Ovarian Cancer

PLASMA AND TISSUE MICRO-RNA PATTERN PREDICTS OVARIAN CANCER RESPONSE TO TREATMENT

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Aims

Micro-RNAs are small non-codin RNAs that regulate gene expression. Circulating and tumor miRNAs may determine clinical outcome in ovarian cancer. Approximately 30 miRNAs are differentially expressed between normal and cancerous ovary.
To identify the role of circulating and tissue miRNAs in women cured or Long Overall Survivors (LOS) compared to those who died of ovarian cancer named Short Overall Survivors (SOS) post standard therapies

Methods
Using micro-arrays we analyzed patterns of circulating miRNAs collected before surgery and in corresponding tumor samples of 8 LOS (mean age 65; range 51-78) and 14 SOS (mean age 58; range 45-67) patients. Two-sample t-test was used for all 2-sample comparisons and ANOVA followed by Tukey HSD post-hoc test to compare the miRNAs mean differences between LOS and SOS. All tests were 2-tailed and the results with $p<0.05$ were considered statistically significant.
Results
Plasma miR-1290was 14 fold higher in LOS vs SOS and miR-720 was 4 fold higher in SOS vs LOS ($p<0.0006$). Tumor miR-378 was 9 fold higher in SOS vs LOS and miR-34c was 14 fold higher in LOS vs SOS ($p<0.0007$)
Conclusion
Pre-surgical plasma and tumor micro-RNA profiles show significant differences between samples obtained pre-surgically from LOS vs SOS ovarian cancer patients. In agreement with studies by others, we did not find an overlap in circulating and tumor miRNAs that distinguished LOS from SOS suggesting that they are unique in origin. The source and functional role of miRNAs in tumors and circulation is an area of active investigation.

IGCSM-1008
Poster Shift I - Ovarian Cancer

THE ROLE OF RISK OF MALIGNANCY INDEX (RMI) IN CLINICAL APPROACH TO ADNEXIAL MASSES

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Aims
The aim of this study was to evaluate the role of risk of malignancy index in discriminating between benign and malignant in women with adnexial masses, preoperatively
Methods

A total of 569 patients with adnexial mass/ ovarian cyst managed surgically at our clinic between 2006 and 2012 included to current study. . For the assessment of risk of malignancy index (RMI); menopausal status, serum CA-125 level and ultrasonographic findings were used as firstly described by Jacobs. Malignancy status was the gold standard of the surgically removed adnexial mass.

Results

Malignant tumors were more frequent in postmenopausal women (%53 versus %47,P=0.000). All ultrasonographic parameters of RMI were statistically significantly favorable for malignant masses. In our study ROC analysis was provided optimal sensitivity and specificity at level of 79,97 IU/ml for ca-125 and 163,85 for RMI. When we based on cut off level for RMI as 163,85 sensitivity, specificity, PPV, NPV was calculated as %74,7, % 96,2, %94 and %82,6, respectively.

Conclusion
RMI was found to be a significant marker in preoperative evaluation and management of patients with an adnexial mass, and was useful for referring patients to tertiary care centers. Although utilization of RMI provides increased diagnostic accuracy in preoperative evaluation of patient with an adnexial mass, new diagnostic tools with higher sensitivity and specificity are needed to discriminate ovarian cancer from benign masses

IGCSM-1015
Poster Shift I - Ovarian Cancer

SURGERY FOR RECURRENT OVARIAN CANCER IN THE NETHERLANDS BETWEEN 2000-2013: A POPULATION BASED COHORT STUDY

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Aims
The value of secondary cytoreductive surgery (SCS) in patients with recurrent ovarian cancer is still controversial. The aim of this nation-wide population based study was to investigate the role of surgery for recurrent ovarian cancer in the Netherlands.
Methods

Data were retrospectively obtained in 37 hospitals for 404 patients treated with SCS between 2000-2013. Survival curves were estimated using the Kaplan-Meier method and differences in survival were compared using the log-rank test. A Cox regression analysis adjusted for known prognostic factors was used to compare overall survival (OS) between patients who were treated with SCS and chemotherapy and with chemotherapy alone.

Results

Complete SCS was achieved in 292 (72.3%) patients and was associated with a significantly longer survival compared with surgery leaving any residual tumor (median OS 59 months (95% CI 48.9-69.1) vs.28 months (95% CI 20.6-35.4); p<0.001).bAlthough patients who underwent initial SCS (N=282) and interval SCS after neo-adjuvant chemotherapy (N=122) showed similar complete SCS rates (73.4% vs 70.5%) and no relevant differences regarding other important factors for survival , OS was significantly different (54 months (95% CI 45.2-62.8) vs. 40 months (95% CI 29.3-50.7); p=0.024). Moreover, patients treated with both SCS and chemotherapy had a significantly longer survival compared to patients treated with chemotherapy alone (hazard ratio (HR) 0.414; 95% CI 0.279-0.613).

Conclusion

Awaiting the results of three ongoing trials, this study showed that there seems to be a role for SCS in highly selected patients especially when complete SCS can be accomplished. There seems to be no role for interval SCS after neo-adjuvant chemotherapy.

IGCSM-1020
Poster Shift I - Ovarian Cancer

SHOULD WE BE OFFERING WOMEN UNDERGOING ELECTIVE COLORECTAL CANCER SURGERY A PROPHYLACTIC SALPINGO-OOPHORECTOMY?

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Aims
Ovarian masses identified in women following treatment for a colorectal cancer can be due to metastatic or recurrent disease, a separate ovarian primary or benign pathology.We performed a study to investigate the incidence of sychronous or metachronous ovarian surgery due to undetermined adnexal masses with the aim of identifying whether a prophylactic salpingoophorectomy at the time of primary colorectal procedure for bowel cancer would be advisable
Methods
Retrospective study of all female elective colorectal cancer cases conducted at a teaching hospital between 31.01.2000 and 31.12.2003. Women who had undergone previous gynaecological surgery, inoperable disease, defunctioning or emergency surgery for obstruction and/or perforation were excluded. Patients' demographics, histopathological and surgical morbidity data were recorded and elaborated.
Results
We investigated a total of 237 cases. The mean age was 67.6 years old with a range of 32 to 87 years. There was no correlation between cancer of ascending colon, hepatic or splenic flexure and the presence of ovarian pathology. There was a 14.2% incidence of sychronous or metachronous ovarian surgery following primary surgery for a malignancy of the caecum, descending colon, sigmoid and rectum. In 59% of these cases malignant disease was identified as being the cause of the ovarian lesion. There was no difference in the incidence of major complications between joint gynaecological procedures and colorectal surgery only, 5% versus 7.1% respectively ($p>0.05$)
Conclusion
Our results support the option to offer prophylactic BSO in patients who undergo elective surgery for colorectal carcinoma.

IGCSM-1025
Poster Shift I - Ovarian Cancer

EVALUATION OF DIFFERENT METHODS TO ASSESS HOMOLOGOUS RECOMBINATION STATUS AND SENSITIVITY TO PARP INHIBITORS IN OVARIAN CANCER

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Aims

Assessment of homologous recombination (HR) status by Rad51 foci formation correlates with sensitivity to PARP inhibitors (PARPi), platinum sensitivity and survival in ovarian cancer. However, the assay requires primary culture (PC) of ascites and may not be feasible for widespread use. Several methods have been described to assess HR in cell lines. We optimized these in primary tumours and compared with functional HR status.

Methods

PCs generated from ascites were stratified as HR competent (HRC) or HR deficient (HRD) using the Rad51 assay. Sensitivity to the PARPi rucaparib was assessed by SRB assay. The following techniques were evaluated in PCs or paired FFPE samples: DR-GFP reporter assay, PARP activity assay, BRCA1 expression , BRCA1 methylation status and BRCA1/2 mutation analysis.

Results

Of 64 PCs, 46% were HRD by Rad51 assay and correlated with rucaparib sensitivity (PPV-92%, NPV-100%). DR-GFP assay was unreliable in PC due to poor transfection. HRD vs. HRC tumours showed BRCA1 methylation (25% vs. 17%) and BRCA1/2 mutation (21% vs. 0.3%). In a subset of 50 cancers there was reduced BRCA1 expression in the HRD tumours (34.8% vs. 22.7%,) whilst in a further subset of 30 cases there was no difference in endogenous or stimulated PARP activity between HRD and HRC tumours. Combined BRCA1 methylation and BRCA1/2 mutation had 40% PPV and 80% NPV for rucaparib sensitivity.

Conclusion

Assessment of functional HR status by Rad51 foci formation in PC was the best predictor of PARPi sensitivity. Further studies are required to simplify this technique in FFPE.

IGCSM-1026
Poster Shift I - Ovarian Cancer

WEEKLY PACLITAXEL-CARBOPLATIN IS EFFECTIVE IN PLATIN-RESISTANT AND WEEKLY PACLITAXEL-RESITANT OVARIAN CANCER

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Aims

Both weekly paclitaxel carboplatin (TCw) and weekly paclitaxel (Tw) are effective in platin-resistant ovarian cancer (PROC). The efficiency of TCw after weekly paclitaxel is not well established.

Methods

In this study we included all PROC patients who got weekly TCw (weekly 60mg/m² and AUC 2.7, respectively) after Tw (80 mg/m² d1,8,15 q 4 wks).

Results

17 PROC patients received Tw followed by TCw between December 2008 and April 2014. Median progression free survival (PFS) after Tw was 1 month. Median overall survival (OS) after TCw was 7,6 months. Two patients died during TCw because of progressive disease. Response according to the RECIST criteria is summarized in Table 1.

	Tw		**TCw**	
	N = 17		**N = 17**	
	9 cycli	18 cycli	9 cycli	18 cycli
CR	1 (6%)	1 (6%)	0 (0%)	1 (6%)
PR	2 (12%)	1 (6%)	8 (47%)	3 (18%)
SD	3 (18%)	1 (6%)	2 (12%)	2 (12%)
PD	11 (65%)	14 (82%)	7 (41%)	11 (65%)

Table 1: RECIST response on Tw and TCw

Conclusion

TCw in platin-resistant ovarian cancer in a response rate of 47% despite prior treatment with Tw. TCw is an effective treatment option in these heavily pre-treated patients.

IGCSM-1028
Poster Shift I - Ovarian Cancer

RESPONSE TO FIRST LINE TREATMENT TO PLATINUM-RESISTANT OVARIAN CANCER AND PROGNOSIS. WHO SHOULD RECIEVE FURTHER TREATMENT?

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Aims
Platinum-resistant ovarian cancer (PROC) patients have a poor prognosis and low response to chemotherapy. There is no stablished role for second line chemotherapy for these patients. The aim of our work is to test the prognostic value of response to first line chemotherapy as a predictor of better mOS, in order to identify patients that would potentially benefit from further treatment.
Methods
We retrospectevly reviewed data from 118 patients with PROC treated at a tertiary hospital in Brazil from 2003-2013. PROC was defined as disease progression in less then 6 months from the end of last platinum treatment. Data from first line treatment for PROC were colected. Kaplam Meir curves were used to calculate mOS. Identification of prognostic factors for mOS was done using Cox Regression.
Results
Median OS for the entire cohort was 12.5 months. Patients who had a response to first line therapy compared to those who didn't, had a mOS of 31.4 months versus 10.7 months, p = 0.001. In multivariate analysis response to first line treatment remained associated to a worse mOS (HR 2.83, p=0.003) as did ECOG performance status ≥ 2, larger tumor size greater then 30mm and presence of liver metastasis.

Conclusion
Patients with PROC who don't show a response to first line chemotherapy have worse mOS. This should be taken into account together with other prognostic factors identified in these analysis to weihgt the risks of further chemotherapy in PROC after first line.

IGCSM-1029
Poster Shift I - Ovarian Cancer

PROSPECTIVE OBSERVATIONAL STUDY TO ASSESS THE INFLUENCE OF OVERWEIGHT AND OBESITY OVER SURVIVAL FOR PATIENTS WITH OVARIAN CANCER.

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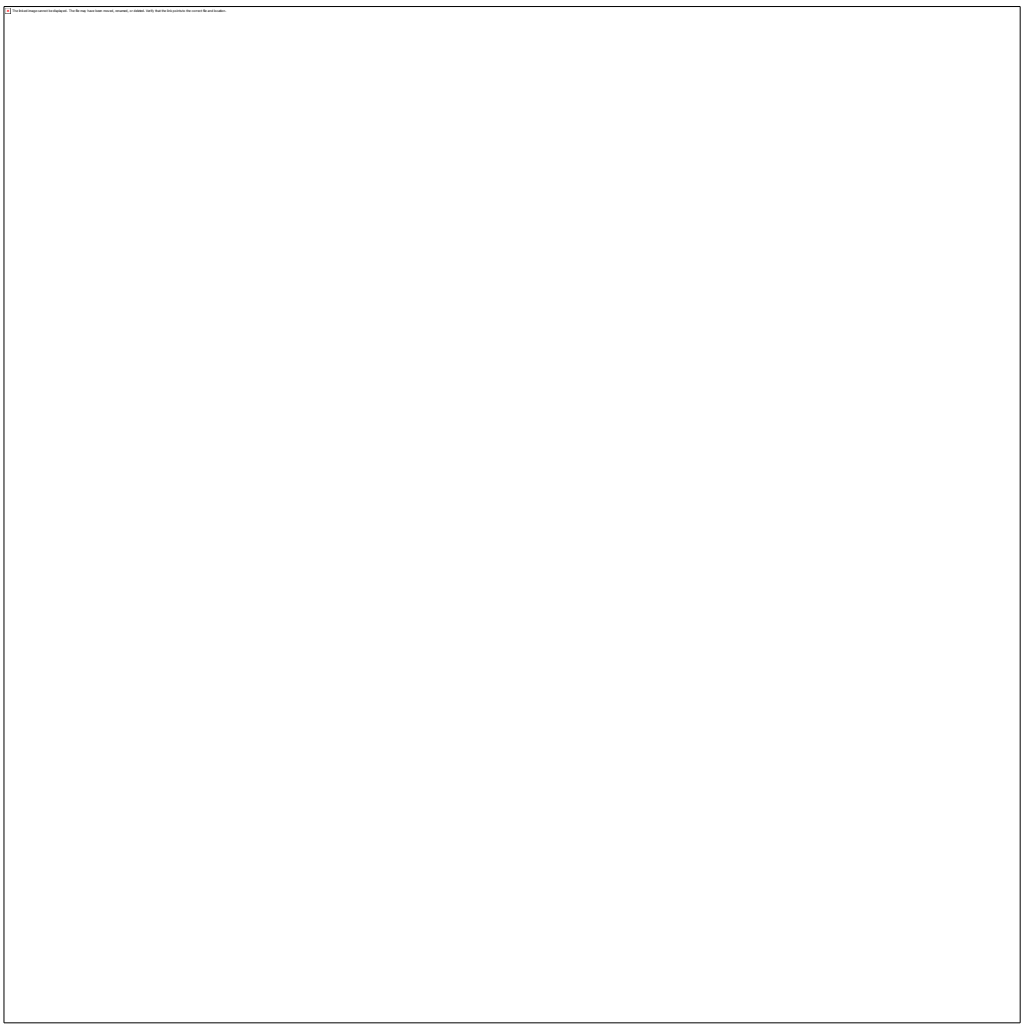
Aims
Up to 20% of cancer deaths are attributable to obesity. Controversy exists regarding the role of obesity in the prognosis of patients with ovarian cancer. This study prospectively evaluated the role of obesity and overweight on the prognosis of patients with ovarian cancer.
Methods
We included all patients with a diagnosis of epithelial ovarian cancer who received first-line chemotherapy between May 2012 and February 2014, obtaining epidemiological data, stage and tumor histology, treatment received, debulking status, height and weight at the beginning of chemotherapy. Patients were grouped according to weight at baseline, being separated into group A (BMI under 25) and group B (BMI 25 or greater). We determined the progression-free survival (PFS) by the Kaplan-Meier method.
Results
54 patients were evaluated. 28 patients (51.9%) in A and 26 (48.1) in B, in which 5 (9.26%) had a BMI over 30. No statistically significant differences regarding the debulking status, tumor stage, histological type or epidemiological variables were found. With a mean follow up of 20 months median survival was 17.9, 19.6 and 14 months for all patients, group A and group B, respectively (log-rank p = 0.1, Figure 1).



Conclusion

About 50 % of the population with advanced ovarian cancer are obese or overweight. In the population analyzed, overweight or obese patients showed a clinically significant trend toward reduced progression-free survival, when compared with normal weight patients. Both groups were comparable regarding the status of debulking , chemotherapy , histological type and other epidemiological data.

IGCSM-1031
Poster Shift I - Ovarian Cancer

WOMEN WITH BORDERLINE OVARIAN TUMORS IN SWEDEN SHOW NORMAL 10 YEAR RELATIVE SURVIVAL.

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Aims
To evaluate the survival of patients with borderline ovarian tumors in the Swedish population.
Methods
Estimation of age-standardized relative survival rate according to time periods for diagnosis in all women diagnosed with borderline ovarian tumor in the Swedish Cancer Register 1960-2007 (n=6252) combined with follow-up in the Swedish Death Registry to 1 July 2009.
Results
10 year relative survival including all borderline tumors diagnosed 2000-2007 was 0.98 (95% CI 0.94-1.02). In women age 64 or younger 10 year relative survival related to age at diagnosis of borderline tumors ranged from 95 to 98 % and was 89 % in women age 65-74. Age standardized relative survival for different decades of the period were found similar and ranged from 88-92 %.
Conclusion
Results of the present study are reassuring about long-term survival in patients with borderline ovarian tumors.

IGCSM-1032
Poster Shift I - Ovarian Cancer

ONE CASE OF OVARIAN SQUAMOUS CELL CARCINOMA (SCC) PRESENT IN THE RENAL LEVEL (EPIGASTRIUM), ACCORDING TO DIAGNOSTIC IMAGING, AND DIAGNOSED AS A SUSPECTED MESENTERIC CYSTOMA.

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Aims

We report on a case of ovarian SCC, in which we carefully examined the image, ruled out a gynecological tumor, and began surgery, treating it as a tumor in the gastroenterological surgical region, but until the results of histopathological diagnosis became available, we had concerns about the diagnosis, which gave the impression that it was a benign tumor.

Methods

66-year-old woman,3G2P.

Results

From about 2 weeks prior, sudden abdominal pain arose, and the patient consulted her local internist. In the ultrasound, a cystic lesion was found in the renal level, and the patient was referred to the internal medicine department at our hospital. In the diagnostic imaging, a multilocular, epigastric, cystic tumor with a diameter of about 13×11 cm was found (suspected to be of mesenteric origin, with a feeling of uterine tugging, and right ovary derivation could also not be ruled out), and upon deliberation, abdominal surgery was performed. The laparotomy findings showed orsion of the pedicle in a right ovary tumor, and there were no adhesions to the surrounding tissue, so RSO was performed. The extirpated tumor appeared, on the macroscopic level, to be benign, but according to the histopathological diagnosis, turned out to be SCC (poorly differentiated). For this reason, after 5 courses of TC therapy, IDS was performed. In the histopathological diagnosis, there was no residual lesion, and a determination of CR was reached.

Conclusion

No relapse was observed, and the patient is currently under follow-up observation on an outpatient basis.

Conflict of interest
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IGCSM-1034
Poster Shift I - Ovarian Cancer

OVARIAN CANCER IN ELDERLY PATIENTS: PATTERNS OF CARE AND TREATMENT OUTCOMES

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Aims

Geriatric population affected by ovarian cancer is growing rapidly. Older women are less likely to receive standard treatments, but the role of age itself has been controversially discussed. We report treatment results of ≥ 70 years old (elderly) patients submitted to first-line treatment.

Methods

A retrospective multicenter study identified 78 elderly ovarian cancer patients treated between 2004 and 2012. Patient demographics, co-morbidities, surgical procedures, chemotherapy administration and treatments complications were obtained and analysed accordingly to age group categories (70-75 vs >75).

Results

In 87% of the patients the performance status was 0 or 1 and 84% had comorbidities. Most patients had serous histotype and were at stage III-IV. Surgery (primary debulking or interval dubulking after NACT) was performed in 83.6% of the cases, first line chemotherapy alone in 16.4%. 76.9% of the patients not fitting for surgery were ≥ 75 years old (p=0.05). Postoperative complication rates were acceptable and no patient died postoperatively. 52.6% of the women received mono-chemotherapy (carboplatin) and 47.4% poli-chemotherapy (mostly carboplatin-paclitaxel). No differences in chemotherapy related toxicity were observed according to age, except less blood transfusions and discontinuations in younger age. With a median follow up of 36 months, the median survival time showed a trend in favour of younger patients (64 versus 41 months).

Conclusion

In our experience, elderly ovarian cancer patients are not numerically negligible and can

be adequately treated. Patients >75 year old are more problematic, but could be treated with benefit particularly with chemotherapy. The challenges lie in the heterogeneity of this patient population.

IGCSM-1035
Poster Shift I - Ovarian Cancer

OVARIAN EPENDYMOMA: A CASE REPORT

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Aims
describe a rare case of ovarian ependymoma(tumor derived from neoplastic transformation of ependymal cells, originating from neuroectodermal tissue in the central nervous system) and its evolution

Methods
A 38 year old patient underwent laparoscopic adnexectomy with the finding of primary ependymoma of the ovary confirmed by immunohistochemistry We performed a new oncologic staging laparoscopy in February 2011 with peritoneal wash, omentectomy, pelvic and retroperitoneal lymphadenectomy

Results
patient had no evidence of residual tumor after laparoscopic staging and she performed adjuvant chemotherapy por six months,with no evidence of disease recurrence at this moment

Conclusion

Although the prognosis of ependymoma is favorable, it can manifest variable and unpredictable, and even being a rare disease, should be considered in the differential diagnosis of ovarian neoplasms.

Document not received **********

IGCSM-1046
Poster Shift I - Ovarian Cancer

VALUE OF BIOMARKERS AND SONOGRAPHY IN PREDICTING MALIGNANCY IN PELVIC MASS PATIENTS. PRELIMINARY RESULTS FROM PROSPECTIVE, MULTICENTRIC, ONGOING STUDY.

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Aims
Despite lately improvement in treatment, survival rates remain poor in epithelial ovarian cancer (EOC) patients. Poor outcome can be explained by lack of early diagnostic tools. Aim of our study was to analyse the role of biomarkers and ultrasound in predicting malignancy in pelvic mass patients.
Methods
Pelvic mass patients, in whom a surgical intervention was planned were enrolled into this study. Ultrasound was performed according to IOTA criteria. Serum samples were obtained at the time of examination. All patients signed the informed consent. The study was approved by the ethic committee at Charité University. Data were documented using a validated eCRF. All blood samples were analysed using HE4 and CA125 Elecsys system in Labor Berlin.
Results
Currently 523 patients have been prospectively enrolled. From 223 patients blood value and histological results have been available. These patients represented the subject of thesepreliminary results. Malignancy has been diagnosed in 45 patients, whereas 176 patients presented a benign disease.
12% of the patients had a positive family history for breast and EOC. Median HE4 and CA125 values were 171.83 UI/ml and 153.83pM, respectively. Within premenopausal patients IOTA LR1 and LR2 reached the largest AUC (0.784 and 0.789) followed by ROMA with 0.762. In the postmenopausal patients CA125 and ROMA had the best sensitivity and specificity (AUC_{CA125}= 0.935 and AUC_{HE4}=0.939). IOTA LR1 and LR2 reached an AUC of only 0.786 and 0.731, respectively.
Conclusion
The results show the predictive role of CA125 and ROMA in postmenopausal patients,

these results should be validated in the whole collective of patients.

IGCSM-1051
Poster Shift I - Ovarian Cancer

THE EPIDEMIOLOGY OF OVARIAN CANCER

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Aims

To study the epidemiology of ovarian cancers over a ten year period.

To identify group of women most affected by the disease.

Methods

The records of all patients presenting with histologic diagnosis of ovarian cancer between 1st January 2004 to 31st December 2013 were retrieved from the histopathology register, theatre and ward records. Information from the folders was extracted and analyzed on Epi-Info.

Results

Seventy- six patients were diagnosed with ovarian cancer . Between 4-13 cases were seen in a year with a tendency to increasing incidence. The patients were between the ages of 7-75 years. The mean age was 36 years. Sixty patients(78.9%) were premenopausal women. Postmenopausal women accounted for only 21. 1% . There were 17 cases (22.3%) of aggressive cancers in patients twenty years or less.

Serous adenocarcinoma accounted for 32(41%) cases. Granulosa cell tumor was the second commonest with 18 cases(23.1%). The mean age of occurrence of serous adenocarcinoma was 31 years and for epithelial ovarian cancers in general it was 33.5 years. Endometroid adenocarcinoma was rare with only one case in ten years.

Factors like parity, age of first childbirth, breast feeding did not appear to be protective to the occurrence of malignant ovarian tumour in this group.

Conclusion

Ovarian Cancers have remained an enigma and research is yet to define the cause or precursor of the disease. Epidemiological studies may provide information that could break grounds in the search for the identity of this group of diseases.

Conflict of interest
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IGCSM-1053
Poster Shift I - Ovarian Cancer

COMPLETE SECONDARY CYTOREDUCTIVE SURGERY IN RECURRENT EPITHELIAL OVARIAN CANCER: VALIDATION OF THE AGO SCORE

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Aims
There seems to be a role for secondary cytoreductive surgery (SCS) in patients with recurrent ovarian cancer especially when complete SCS can be accomplished. The aim of this study was to externally validateThe Arbeitsgemeinschaft Gynaekologische Onkologie (AGO) score that was developed to select patients with a high probability of complete SCS.
Methods
A retrospectively nation-wide population based study was performed. The performance of the AGO score was evaluated in a population of 404 patients treated with SCS in the Netherlands between 2000-2013 . Survival curves were estimated using the Kaplan-Meier method and differences in survival were compared using the log-rank test
Results

There were 394 patients available for external validation of whom 162 (41.1%) patients had a positive AGO score and 232 (58.9%) had a negative AGO score. The rate of complete SCS in all AGO score positive was 100% (162/162) whereas the rate of complete SCS in AGO score negative patients was only 52.2% (111/232). Complete SCS was achieved in 292 (72.3%) patients and was associated with a significantly longer survival compared with surgery leaving any residual tumor (median OS 59 months (95% CI 48.9-69.1) vs.28 months (95% CI 20.6-35.4); p<0.001).

Conclusion

At external validation all AGO score positive patients underwent complete SCS. However more than half of all patients with a negative AGO score were also

managed with complete SCS. This indicates that the AGO score does not provide a very good negative predictive value. SCS in score negative patients therefore should be discussed.

IGCSM-1055
Poster Shift I - Ovarian Cancer

ALOPECIA AS SURROGATE MARKER FOR CHEMOTHERAPY RESPONSE IN PATIENTS WITH PRIMARY EPITHELIAL OVARIAN CANCER: A METAANALYSIS OF FOUR PROSPECTIVE RANDOMISED PHASE III TRIALS WITH 5114 PATIENTS.

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Aims

To test the hypothesis that alopecia is a surrogate marker for response to chemotherapy in cancer-patients.

Methods

We analysed retrospectively the meta-databank of four prospective randomised phase-III- trials with platinum- and taxane-based 1st-line-chemotherapy in patients with advanced epithelial ovarian cancer (EOC) regarding the impact of alopecia overall outcome.

Results

A total of 5,114 EOC-patients had received on median 6 cycles platinum-taxan chemotherapy (range 0-11) with 4430 (86.7%) having completed ≥6 cycles. In the entire study collective worst alopecia grade was 0 in 2.2%, 1 in 2.7%, 2 in 87.1% and not

documented in 0.8% of the patients. In univariate analysis, including all patients, grade-0/1 alopecia was associated with significantly lower complete remission rates, PFS and OS compared to grade-2 alopecia. However when assessing only those patients who completed ≥6 chemotherapy-cycles, and hence eliminating the bias of lower total dose of treatment, alopecia failed to retain any significant impact on survival in the multivariate analysis. Merely the time point of alopecia onset was an independent prognostic factor of survival: patients who developed grade-2 alopecia up to cycle 3 had a significantly longer OS compared to patients who experienced alopecia later during therapy (HR:1.25; 95%CI:1.04-1.50).

Conclusion

Within a large EOC-patients cohort with 1st-line platinum- and taxane-based chemotherapy early onset alopecia appears to be significantly associated with a more favourable outcome in those patients who completed ≥6 chemotherapy cycles. It remains to be elucidated if early onset alopecia is just a surrogate marker for higher sensitivity to chemotherapy or if other biological effects are underlying.

IGCSM-1058
Poster Shift I - Ovarian Cancer

DIFFERENCE IN RESPONSE TO HORMONOTHERAPY IN EPITHELIAL OVARIAN CANCER BY HISTOLOGIC SUBTYPES: CASE SERIES

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Aims
Determine whether the response to hormonal therapy with anastrozole in patients with platinum-resistant ovarian cancer is equal between serous and endometrioid histologies and by age or menopausal status

Methods
The clinical records of patients with ovarian cancer treated during 2012-2013 were reviewed, we selected those who received hormone therapy as palliative treatment, collecting information about age, menopausal status, histologic subtype, duration of response, and previous treatments.

Results
7 patients treated with hormone therapy were found, All patients had recurrent IIIC or metastatic disease from diagnosis and had received standard neoadjuvant chemotherapy and primary cytoreduction or standard primary cytoreduction followed by adjuvant chemotherapy.
They were classified as responders, partial responders and nonresponders. Responder 2 patients both were postmenopausal, with serous histology with a median response duration of 12 months, nonresponders were 4, premenopausal, of endometrioid histology (2), a poorly differentiated and one more serous, with median time to progression of one month, and one patient partially responsive, was postmenopausal, poorly differentiated histology, and median response of 4 months.

Conclusion
The results are only suggestive that serous histology and postmenopausal state could be positive predictors of response to hormone therapy in patients with recurrent or metastatic cancer of the ovary, and to be confirmed in a larger number of study patients and prospective

IGCSM-1060
Poster Shift I - Ovarian Cancer

OUTCOME OF FERTILITY-SPARING TREATMENT OF STAGE I EPITHELIAL OVARIAN CANCER

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Aims

To analyze the outcome of fertility-sparing treatment in stage I epithelial ovarian cancer.

Methods

We retrospectively reviewed the patients who received fertility-sparing treatment of stage I epithelial ovarian cancer between 1980 and 2012. Pathological and clinical factors, initial surgery, adjuvant chemotherapy, site of recurrence, and survival were analyzed.

Results

Seventy-eight patients (aged 17.0-43.6 years) with fertility-sparing treatment for stage I epithelial ovarian cancers were included. The median follow-up time of survivors was 61.8 (6.2-307.3) months. Forty-seven (60.2%) received laparotomy and 31 (39.8%) received laparoscopic surgery initially. Fifty-one (65.4%) received postoperative adjuvant chemotherapy. Twenty-three patients developed recurrence (29.5%) with median time to recurrence of 22.6 months (3.6 – 144.0), and 3-year survival after recurrence (SAR) was 41.5%. The 5-year overall survival (OS) rate was 84.3%. Stage IC was associated with significantly worse outcome than stage IA patients (5-year OS: 76.7% versus 100%, P = 0.015; 5-year recurrence-free survival (RFS): 59.5% versus 92.0%, P = 0.006), and positive cytology was associated with worse RFS (P = 0.046). There were no significant differences of 5-year OS between histologic type, grade, initial surgical method, or adjuvant chemotherapy. Patients with recurrence in ovary alone had significant better survival after recurrence than those with extra-ovarian relapse(s) (3-year SAR: 100% versus 25.4%; P = 0.013). Five out of the 7 patients who had laparoscopic surgery with relapse in trocar site died of disease.

Conclusion

Fertility-sparing treatment of young patients with stage IA epithelial ovarian cancer (even with clear cell carcinoma or grade 3) is feasible.

IGCSM-1071
Poster Shift I - Ovarian Cancer

EVALUATION OF IN VITRO CHEMORESPONSE PROFILES IN WOMEN WITH TYPE I AND TYPE II EPITHELIAL OVARIAN CANCERS: AN OBSERVATIONAL STUDY ANCILLARY ANALYSIS.

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Aims

Type I epithelial ovarian cancers (EOCs) are reported to be relatively chemoresistant. This study sought to compare pretreatment chemoresponse assays in Type I vs. II advanced EOC.

Methods

Women (n=383) with stage III-IV EOC enrolled in an observational study, with known chemoresponse assay results for 7 common therapeutic agents, were included. Type I EOCs included grade 1 serous/endometrioid cancers and all clear cell/mucinous cancers. Type II EOCs were classified as grade 2-3 serous/endometrioid cancers and undifferentiated cancers. Chemoresponse assay results were classified as sensitive (S) or resistant (R). All patients were treated with platinum/taxane therapy following cytoreductive surgery.

Results

Thirty (7.8%) tumors were classified as Type I EOC, and 353 (92.2%) as Type II. Type I patients were younger at the time of diagnosis (median age: 57 vs. 62 years, p=0.018) and had longer progression-free survival (median PFS: 25.8 vs. 16.4 months, HR=1.71, p=0.042) compared to Type II patients. Tumor response to any one agent was not significantly different between Type I and II EOC after adjusting for stage, debulking status, and type of EOC. Multi-drug resistance was twice as likely in women with Type I compared to Type II EOC (pan-R, 14.3% vs 6.8%; pan-S, 35.7% vs 51.2% (p=0.18)), but did not reach statistical significance.

Conclusion

The majority of women with Type I EOC displayed assay sensitivity to at least one

agent. However, multi-drug resistance may be more common in women with Type I EOC. Given the small sample size these findings need to be evaluated further.
Conflict of interest
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IGCSM-1074
Poster Shift I - Ovarian Cancer

THE ROLE OF ADJUVANT ABDOMINO-PELVIC RADIATION(XRT) : POPULATION BASED OUTCOMES OF LOW STAGE MUCINOUS OVARIAN CARCINOMA (MOC) IN BRITISH COLUMBIA

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Aims
High risk low stage MOCs typically receive adjuvant chemotherapy followed by XRT in our institution. We aimed to determine the impact of adjuvant XRT treatment on survival in patients with early stage MOC who received chemotherapy.
Methods

Women with FIGO stage I/ II MOC referred to the British Columbia Cancer Agency between 1984-2008 were reviewed. Chemotherapy (minimum 3 cycles of platinum combination) and XRT was the institutional recommended protocol for stages IA/B grade 2/3 and IC/II any grade. XRT was not given to all eligible patients due to physician bias, allowing for comparisons of patients with regards to XRT treatment. Kaplan-Meier and Cox regression methods were used to correlate XRT (yes/no) with disease free survival (DFS) and overall survival (OS) for stage IC/II patients only.

Results

119 patients were identified. The stage distribution was 47%, 50% and 3% for stages IA, IC and II, respectively. 76 patients received chemotherapy (n=76). The majority had stage IC/II disease (68%), and 43% received XRT (33/76). Among XRT patients, the majority had stage IC/II disease (88% or 29/33). Univariate analysis demonstrated that adjuvant XRT for stage IC/II surface and/or cytology positive patients resulted in improved DFS(p=0.03) and median OS(16.8 vs. 6.3 years,p=<0.001). On multivariate analysis, the benefit persisted for this group, DFS(HR 0.08,95%CI,0.007-0.95,p=0.0454) and OS(HR 0.04,95%CI,0.003-0.45,p=0.009).

Conclusion

The use of adjuvant XRT after chemotherapy may be beneficial in patients diagnosed with stage IC/II MOC defined by surface involvement and/or cytologically positive disease. Further comparative studies are needed to confirm this finding.

IGCSM-1078
Poster Shift I - Ovarian Cancer

THREE CASES OF PRIMARY OVARIAN NEUROENDOCRINE CARCINOMA

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Aims

Neuroendocrine carcinoma in ovary is rare and aggressive tumor with poor prognosis as large cell neuroendocrine carcinoma classified as other tumors in The World Health Organization Histological Classification for ovarian tumors. We report three cases of primary ovarian neuroendocrine carcinoma which showed the result in unfavorable prognosis.

Methods

Complete surgery or optimal surgery was performed with adjuvant or neo-adjuvant chemotherapy to three cases.

Results

The chemotherapy was performed following, Paclitaxel/CBDCA was in the two cases, CPT11/CDDP was in the two cases as both adjuvant chemotherapy and neo-adjuvant chemotherapy. One case was performed in complete surgery as IDS(interval debulking surgery), and one by one case each in suboptimal surgery as PDS(primary debulking surgery) and IDS.

MST(median survival time) is 14 months and the minimum period is 3 months, and the chemotherapy effect criteria is Grade1a.

Conclusion

Although clinically Tumor marker decreased after chemotherapy, the chemotherapy effect criteria is Grade1a. All three tumors were resistant to treatment even after surgery and chemotherapy. The minimum period of MST is 3 months which indicates the tumor control was so difficult. Standard treatment for neuroendocrine carcinoma is not proposed yet, therefore effective treatments and good sensitive chemotherapy are desired.

IGCSM-1079
Poster Shift I - Ovarian Cancer

COMBINATION THERAPY WITH BEVACIZUMAB AND GEMOX FOR PATIENTS WITH RECURRENT OVARIAN CANCERS: A PHASE II STUDY.

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Aims

Combination therapy using gemcitabine with oxaliplatin (GEMOX) showed moderate activity in recurrent ovarian cancers (ROC), however, severe toxicities have been frequently observed. On the other hand, bevacizumab enhances chemotherapeutic efficacy in various cancers. Here we conducted a phase II study to evaluate the effect of weekly low-dose administration of GEMOX in combination with bevacizumab (B-GEMOX) for patients with platinum-resistant ROC.

Methods

Simon's two-stage design was used, and a total number of 25 cases were enrolled in the study. This design yielded a type I error rate of 0.05 and power of 0.8 when the true response rate was 40%. B-GEMOX therapy consisted of 2mg/kg of bevacizumab, 300mg/m2 of gemcitabine, and 30mg/m2 of oxaliplatin, three weeks on and one week off, q4weeks. The treatment was continued until development of severe toxicities or progressive disease. Tumor responses were assessed using the Response Evaluation Criteria In Solid Tumors (RECIST) and Gynecologic Cancer Intergroup (GCIG) criteria.

Results

Median number of the B-GEMOX therapy was five cycles. Response was observed in seven cases (41%) by RECIST, and in 2 cases (29%) by GCIG criteria, resulting in overall response rate of 36%. Clinical benefit including stable disease was obtained in 84% of the patients. Median progression-free survival was 4.5 months (range: 2–18+ months). Toxicities were mild and mainly consisted of hematologic, gastrointestinal, and neuropathy, however, there were no non-hematologic toxicities more than grade 1.

ConclusionWeekly administration of B-GEMOX was active for patients with ROC, and showed mild toxicities. These results warrant further prospective studies for patients with ROC.
Document not received **********

IGCSM-1081
Poster Shift I - Ovarian Cancer

PROGNOSTIC MARKERS FOR HIGH GRADE SEROUS OVARIAN CANCER AND VALIDATION USING LARGE SCALE NANOSTRING EXPRESSION PROFILING: AN OTTA CONSORTIUM STUDY.

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Aims

High-grade serous ovarian cancer (HGSOC) has poor survival. We have established the Ovarian Tumor Tissue Analysis (OTTA) consortium to validate candidate genes of potential clinical significance in a very large series of primary ovarian tumors. This allows stratification by molecular subtype. A meta-analysis, combining expression data from The Cancer Genome Atlas (TCGA) and OTTA studies, will identify prognostic genes for further validation.

Methods

We have performed a meta-analysis of gene expression and survival data from 1516 HGSOC cases that were classified into the TCGA molecular subtypes (361 Differentiated, 330 Immunoreactive, 390 Mesenchymal, 374 Proliferative). TCGA data was used identify putatively prognostic genes within a 1MB region of loci associated with survival ($P<5x10^{-6}$) from the Ovarian Cancer Association Consortium (OCAC).

Results

We have identified 300 putatively prognostic genes and designed a NanoString custom expression panel for validation in 5376 samples. The panel consisted of 200 genes from the meta-analysis for consistent survival affects across studies, adjusted for molecular subtype. In addition we selected 32 genes associated with survival in OCAC, and 68 genes from the literature that may be important predictors of survival or drug response. FFPE RNA samples from the OTTA consortium have been successfully analysed on the NanoString platform in our pilot projects.

Conclusion

Through the OTTA consortium it will be possible to combine germline and somatic genetic profiling data together with clinical and epidemiological risk factor information, to gain novel insights into disease development and the impacts on clinical outcome.

IGCSM-1082
Poster Shift I - Ovarian Cancer

EPIDEMIOLOGY OF OVARIAN CANCER IN ZARIA, NORTHERN NIGERIA. A TEN YEAR REVIEW.

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Aims

To study the epidemiology of ovarian cancers over a ten year period.To identify group of women most affected by the disease.

Methods

All patients presenting with histologic diagnosis of ovarian cancer between 1st January 2004 to 31st December 2013 were retrieved from the records using the histopathology register, theater and ward records. Information from the folders was extracted and analyzed on Epi-Info

Results

Seventy- six patients were histologically diagnosed with ovarian cancer in this period. Between 4-13 cases were seen in a year with a tendency to increasing incidence. The patients were between the ages of 7-75 years. The mean age of patients was 36 years. Sixty patients(78.9%) were premenopausal women. Postmenopausal women accounted for only 21. 1% of the cases. There were 17 cases (22.3%) of aggressive cancers in patients twenty years or less.

Serous adenocarcinoma accounted for 32(41%) cases. Granulosa cell tumor was the second commonest with 18 cases(23.1%). The mean age of occurrence of serous adenocarcinoma was 31 years and for epithelial ovarian cancers in general it was 33.5 years.

Factors like parity, age of first child birth, breast feeding did not appear to be protective to the occurrence of malignant ovarian tumour in this group.

Conclusion

Ovarian Cancers have remained an enigma and research is yet to define the cause or precursor of the disease. Epidemiological studies may provide information that could break grounds in the search for the identity of this group of diseases.

IGCSM-1086
Poster Shift I - Ovarian Cancer

OBSERVATION WITH KRUKENBERG TUMORS - A CLINICAL STUDY.

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Aims
To conduct a clinical study on Krukenberg's tumors of ovary , studying their biological behaviour , the primary cancer from where they have metastasized, their morpho-histopathology,clinical presentation and response to treatment,including survival figures.

Methods
A retrospective study was done in 26 cases of Krukenberg's tumors operated in A.H.Regional Cancer Centre Cuttack,since 2007 and followed up for >5 years. Patient characteristis, like age, symptoms,morpho-histopatholgy of tumors, clinical presentation, treatment (surgery & chemotherapy&/radiotherapy) & treatment response , in form of disease-free survival / recurrence was studied.
Results
The mean age of patients was ,48 years. The site of Primary:7- gastric, 5-colonic , 2 appendix, 1-anorectal, 1 gall-bladder,6-breasts,1 cervix,3 unknown . Morphology: 73% were bilateral,solid/variegated.The average diameter of the tumor was 10.4cms-12.2cms. Histopathology : signet-ring cell in 10 cases, mucinous-adenocarcinoma in 6 cases and mixed adenocarcinoma in 10 cases. Peritoneal deposits with ascitis was present in 81% of cases. The 5 year survival figures showed: survival with no evidence of disease in 33.01%; disease-free-survival > 1 year in 14 patients,3 had recurrence and 2 patients died of disease.
Conclusion

The primary cancer has to be addressed first along with optimal treatment of Krukenberg's tumor. Surgery improves survival if metastasis is limited to the ovaries. The role of chemotherapy and/ radiotherapyis unclear. Therefore in perimenopausal women with bilateral ovarian tumors, suspect, Krukenberg's tumor. The diagnosis remains challenging to the treating physician.

IGCSM-1087
Poster Shift I - Ovarian Cancer

PRESENTATION AND OUTCOME OF EPITHELIAL OVARIAN CANCER IN OMAN

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Aims

We report the presenting features and outcomes of Epithelial Ovarian Cancer (EOC) from Oman.

Methods

Retrospective analysis was carried out on consecutive patients diagnosed to have EOC and treated at a single institution in Oman between January 2000 and April 2014.

Results

A total of 38 patients were identified. Median age was 49 (17-85) years. 11(29%) were 40 years or younger. Histological types were as under: high grade serous 20; high grade mucinous 4; clear cell 2; others 12. 30/38 (79%) patients had high grade tumors. Clinical stages were as follows: Stage IA 9; stage IC 4; stage II 1; stage III 14; stage IV 10. All 7 patients with borderline serous (n=4) or borderline mucinous (n=3) presented with stage IA disease. 23/30 (77%) patients with high grade tumors presented with stage III/IV disease. Two patients also developed breast cancer, while one patient had uterine cancer. All patients with either low grade or borderline EOC were treated with either fertility sparing surgery, or debulking surgery, and none received chemotherapy. Two patients with high grade EOC received neo-adjuvant chemotherapy, all others received debulking surgery followed by chemotherapy, except 3, who had poor PS at presentation, and died before treatment. The median overall survival (OS) for high grade EOC was 56 months.

Conclusion

This is the first report on outcomes of EOC from Oman, and one of the very few from the region. A significant number of patients presented at young age. The median OS is comparable to those reported in global literature.

IGCSM-1090
Poster Shift I - Ovarian Cancer

CARDIAC TAMPONADE AS A COMPLICATION OF RADICAL CYTOREDUCTIVE SURGERY FOR OVARIAN CANCER

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Aims
describe a rare and serious complication in the postoperative period of radical cytoreductive surgery
Methods
51 year old patient with peritoneal cancer index of 19, underwent multivisceral organs resection and peritoniectomy for optimal cytoreduction, has evolved on the third postoperative day with shock and cardiac tamponade
Results
she underwent left thoracotomy with pericardiotomy and pleuropericardial window with placement of a tubular drain .The pathological features demonstrated tumor involvement of the pericardium

Conclusion
although rare ,cardiac tamponade should be remembered as a cause of postoperative shock

IGCSM-1091
Poster Shift I - Ovarian Cancer

IDENTIFYING THE MISSING GENETIC RISK IN OVARIAN CANCER

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Aims
Germline *BRCA1/2* mutations strongly influence the response of women with ovarian cancer (OC) to therapy. Identifying genetic risk in family members is the most successful available preventive strategy in OC. However, *BRCA1* or *BRCA2* mutations account for only ~40% of the heritable fraction. Our aim is to identify additional risk loci, with an emphasis on rare, moderate penetrance alleles in individual families. Identifying the full repertoire of OC predisposition genes could have a major and immediate impact on reducing OC risk in these family members.
Methods
We are using family-based whole exome sequencing to screen women with a personal and strong family history of OC but are negative for mutations in known OC predisposition genes (OvCax families).
Results
WES data from 36 individuals from 26 OvCaX families are currently being analysed to identify candidate genes that can progress to a validation phase. We have also derived germline variant data for ~400 ovarian cancer patients sequenced as part of The Cancer Genome Atlas and this will be used to further prioritize candidates based on the frequency of germline and somatic mutations in the TCGA cases. Access to detailed pedigree, tumour pathology information and DNA from family members through the Variants in Practice study and a national collaboration of Australian familial cancer centres (the ICCon Partnership) will allow us to examine co-segregation of candidate OC predisposition genes.
Conclusion
Preliminary analysis of the data suggests that the missing heritability of ovarian cancer is due to many genes, each responsible for only a small fraction of families.

IGCSM-1096
Poster Shift I - Ovarian Cancer

OCCULT APPENDICEAL LESIONS AT THE TIME OF REMOVAL OF MUCINOUS OVARIAN TUMOURS

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Aims

To investigate the role of appendicectomy at the time of ovarian surgery for mucinous ovarian tumours by identifying the frequency of occult appendiceal pathology

Methods

This was a retrospective review of all patients undergone surgical staging for ovarian tumours with the histological findings of a mucinous neoplasm(s) of the ovary and/or appendix. We excluded 3 staging procedures where appendix was not removed.

Results

A total of 123 cases meeting the criteria were identified. 37 % (n=45) were benign mucinous ovarian neoplasms, 44 % (n=54) were borderline, 9 % (n=11) were mucinous ovarian carcinoma and 10 % (n=13) were metastases ovarian tumours (11 from appendiceal lesions and 2 from colorectal cancers). The overall prevalence of appendiceal pathology was high (24 %, n=29) with 11 % (13/123) of lesions showing primary appendiceal tumours with metastasis to ovary. The prevalence of appendiceal pathology varied from 4.4 % for benign, 20.4 % in borderline and 27.3 % for malignant ovarian lesions. Occult appendiceal pathology i.e. abnormal histopathology with a macroscopically normal appendix, was identified in 10 % (6/60 cases) however, in presence of benign ovarian tumour and normal looking appendix, no occult appendiceal lesions were seen. The median serum CA-125 level was 97.5 kU/L (range 6 – 2,770). In about quarter of cases (24 %), CA-125 level was raised despite subsequent benign histology. Appendicectomy was not associated with any major surgical morbidity.

Conclusion

Surgical staging for suspected mucinous ovarian tumours should include appendicectomy. Appendicectomy can be spared if ovarian lesions is benign and appendix is macroscopically normal looking.

IGCSM-1100
Poster Shift I - Ovarian Cancer

CORRELATION OF PROGRESSION-FREE AND POST-PROGRESSION SURVIVAL WITH OVERALL SURVIVAL IN PHASE III TRIALS OF FIRST-LINE CHEMOTHERAPY FOR ADVANCED EPITHELIAL OVARIAN CANCER

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Aims
Given the growing number of active compounds and being administered appropriately for advanced epithelial ovarian cancer, an effect of first-line chemotherapy on overall survival (OS) might be confounded by subsequent therapies. We examined the relation between post-progression survival (PPS) and OS in phase III trials of first-line chemotherapy for advanced epithelial ovarian cancer.

Methods
A literature search identified 23 trials that were conducted between 1st of January 2000 and 31st of December 2012. We partitioned OS into progression-free survival (PFS) and PPS and evaluated the relation between OS and either PFS or PPS. We also examined whether any association might be affected by the year of completion of trial enrollment.

Results
The average PPS was longer in recent trials than in older trials (26.9 versus 20.2 months, P = 0.0002). For all trials, PPS was strongly associated with OS (r = 0.94), whereas PFS was more moderately but still strongly correlated with OS (r = 0.83). The average proportion of median OS accounted for by median PPS significantly increased from 54.1% in older trials to 60.3% in recent trials (P = 0.0001).

Conclusion
Our findings indicate that, especially for recent trials, PPS is more highly associated than PFS with OS in first-line chemotherapy for advanced epithelial ovarian cancer, with the PPS association being high and the PFS association being only moderate.

IGCSM-1108
Poster Shift I - Ovarian Cancer

HNF1BETA CONFERS RESISTANCE TO OXIDATIVE STRESS OF OVARIAN CLEAR CELL CARCINOMA

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Aims

Ovarian clear cell carcinoma (OCCC) is a histologic subtype of epithelial ovarian cancer (EOC) with unique characteristics including chemoresistance and carcinogenic origins from endometriotic cysts. We previously reported that a high concentration of free iron in endometriotic cysts causes oxidative stress, and that *HNF1β* pathway genes are upregulated exclusively in OCCC relative to the other EOCs. The aim of this study was to verify our hypothesis that *HNF1β* mediates resistance to oxidative stress in OCCC through the cancer-specific metabolic process.

Methods

shRNA-mediated *HNF1β* knockdown in OCCC cell lines (RMGII and JHOC5) was performed following analyses of metabolome, intracellular ROS, intracellular glutathione, IC50 to ferric nitrilotriacetate (a Fe-mediated inducer of oxidative stress), western blots of a cystine transporter SLC3A1. In addition, shRNA-mediated *SLC3A1* knockdown was performed to analyze intracellular glutathione.

Results

In metabolome analyses, *HNF1β* knockdown decreased intracellular lactic acid ($p<0.05$) and increased citric acid ($p<0.01$), indicating that *HNF1β* increases anaerobic glycolysis. *HNF1β* knockdown was associated with increased intracellular ROS ($p<0.05$), decreased intracellular glutathione ($p<0.0005$), and reduced IC50 to ferric nitrilotriacetate ($p<0.05$). Expression of a cysteine transporter SLC3A1 was downregulated by *HNF1β* knockdown. Furthermore, *SLC3A1* knockdown in OCCC cells decreased intracellular glutathione ($p<0.05$).

Conclusion

We found *HNF1β* confers resistance to Fe-mediated oxidative stress. This may be mechanistically driven by decreased TCA cycle activity combined with increased intracellular glutathione through increased expression of SLC3A1. Further investigation of this mechanism may lead to development of new therapeutic modalities against OCCC.

IGCSM-1114
Poster Shift I - Ovarian Cancer

MONEPANTEL (AAD-1566) INHIBITS MAMMALIAN TARGET OF RAPAMYCIN SIGNALING THROUGH INHIBITION OF MAJOR COMPONENTS IN THE MTOR AXIS AND INDUCTION OF AUTOPHAGY IN OVARIAN CANCER CELLS

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Aims
Ovarian cancer is the leading cause of death from gynaecological malignancies. Mammalian target of rapamycin (mTOR) pathway is regarded as one of the most deregulated signalling pathways in many tumors, including ovarian cancer and thus could be considered an attractive drug target. Monepantel (MPL) is the representative of a new class of biologically active compounds called aminoacetonitrile derivatives (AADs) which was recently introduced in veterinary practice for the treatment of nematode infections. We have found that MPL suppresses ovarian cancer cells growth and herein report a companion laboratory study to show that it inhibits mTOR signalling pathway.
Methods
The effects of MPL on ovarian cancer cells was conducted using two human epithelial ovarian cancer cell lines (OVCAR-3 and A2780) along with normal human ovarian surface epithelial cells (HOSE). Autophagy was defined by AO staining, along with light microscopy and immuno-fluorescence morphological study. Other markers such as LC3B, SQSTM1/p62, Beclin-1 and mTOR pathway related proteins were assessed by confocal microscopy, western blotting and ELISA analysis.
Results
MPL induced accumulation of acidic vesicular organelles (AVOs) which was found to be associated with autophagy and inhibition of phosphorylation of mTOR together with its downstream target proteins namely p70S6K and 4E-BP1.

Conclusion
MPL suppression of ovarian cancer growth may be associated with its capacity to block mTOR activation and induction of autophagy.

IGCSM-1116
Poster Shift I - Ovarian Cancer

STUDIES ON SEQUENCED COMBINATIONS BETWEEN PHYTOCHEMICALS IN THE HUMAN OVARIAN TUMOUR MODELS

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Aims
Acquired drug resistance is the major hurdle in cancer chemotherapy in all types of cancer including ovarian cancer. One way of overcoming drug resistance is to employ combination of drugs with different mechanisms of action. The aim of this study is to apply sequenced combinations of paclitaxel and colchicine with curcumin, epigallocatechin gallate (EGCG) and resveratrol using 3 different sequences of administration.
Methods
Three ovarian cancer cell lines, parent (A2780) and resistant ($A2780^{CisR}$) and ($A2780^{ZD0473R}$) were treated with the phytochemicals alone and in binary combinations using three sequences of administration. Individual treatment was done to determine the IC_{50} values (drug concentration required for 50% cell kill). Cell viability was quantified using the MTT reduction assay. Combination index (CI) was calculated as a measure of combined drug action based on the equation derived by Chou and Talalay (1984) with actual calculations being done using Calcusyn software.
Results
The selected phytochemicals are found to inhibit growth of both parent and resistant ovarian cell lines. Combination of phytochemicals show sequence-dependent synergism.
Conclusion
Appropriate sequenced combinations of phytochemical may provide a means of overcoming drug resistance.

IGCSM-1132
Poster Shift I - Ovarian Cancer

KINETICS OF CDX2 AND MDR1 PROTEIN IN OVARIAN MUCINOUS ADENOCARCINOMA CELL LINES

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Aims

In ovarian cancer, resistance for chemotherapy from the first time treatment and the recurrence cases is often observed. It has been reported that Multidrug Resistance 1 (MDR1) gene is overexpressed in drug-resistant cells, and its protein, P-glycoprotein, seems to play a critical role in drug resistance. The CDX2 homeobox transcription factors have been reported to have critical functions in intestinal development, differentiation, and maintenance of the intestinal phenotype. In colon cancer, it has been suggested that CDX2 regulates expression of MDR1. We demonstrated expression of CDX2 and MDR1 protein and their correlation in ovarian mucinous adenocarcinoma. Therefore we have examined expression of CDX2 and MDR1 protein in ovarian mucinous adenocarcinoma cell lines.

Methods

We examined expression of CDX2 and MDR1 by immunohistochemistry, western blot and RT-PCR in the ovarian mucinous adenocarcinoma cell lines (MCAS, RMUG-S, MN-1, OMC-1, OMC-3). To determine whether CDX2 is necessary for MDR1 expression in ovarian mucinous adenocarcinoma cell line, we analyzed the effect of inhibiting CDX2 expression by RNA interference in the level of MDR1 expression.

Results

Both CDX2 and MDR1 expressions were negative in MCAS cell line and were strong positive in OMC-1 cell line. Inhibition of CDX2 expression by siRNA targeting leads to decreased MDR1 expression in OMC-1 cell line. Expression of CDX2 and MDR1 was well correlated in ovarian mucinous adenocarcinoma cell lines.

Conclusion

MDR1 protein may be regulated by CDX2 in ovarian mucinous adenocarcinoma as observed in colon cancer. We are currently performing CDX2 overexpession experiments in order for explaining our hypothesis.

IGCSM-1133
Poster Shift I - Ovarian Cancer

A PHASE II CLINICAL TRIAL OF IMMUNOTHERAPY WITH ANTI-PD-1 ANTIBODY (NIVOLUMAB) IN ADVANCED / RELAPSED, PLATINUM-RESISTANT OVARIAN CANCER

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Aims

Programmed death-1 (PD-1) is a co-inhibitory receptor expressed on activated T cells and relates to regulate anti-tumor immunity.
Nivolumab is a fully human IgG4 that blocks the binding of PD-1 and PD-1 ligand (PD-L1).
In this report we present anti-tumor activity with Nivolumab in ovarian cancer patients.

Methods

Nivolumab was administered every 2 weeks to patients with advanced or relapsed, platinum–resistant ovarian cancer, at the doses of 1 or 3 mg/kg during two cohort examination in each 10 patients. The phase II trial defined 1st endpoint of response rate, and 2nd endpoints of safety, and disease control rate. Patients received Nivolumab up to one year of treatment or until PD or disease progression. Response rate was assessed by RECIST, and adverse events were evaluated by CTCAE. The data were cut-off on 31 March, 2014.

Results

Eighteen patients were treated with nivolumab (1 mg/kg: n=10, 3mg/kg: n=8), and evaluated. There was two patient who had severe adverse drug reaction. One patient had events of fever, disorientation and gait disturbance. Another had severe fever elevation. Clinical response rates were shown in Table 1.

dose	total (n)	CR	PR	SD	PD	NE	PR	DCR
1 mg/kg	10	0	1	2	6	1	1/10 (10%)	3/10 (30%)

3 mg/kg	8	2	0	3	3	0	2/8 (25%)	5/8 (63%)
total	18	2	1	5	9	1	3/18 (17%)	8/18 (44%)

Cutoff date 31/Mar./2014

Conclusion

Nivolumab at 1 mg/kg cohort is well tolerated and has encouraging clinical efficacy for advanced or relapsed, platinum-resistant ovarian cancer patients. 3 mg/kg cohort is now under investigation.

IGCSM-1135
Poster Shift I - Ovarian Cancer

MOLECULAR PHYSIOLOGY MONITORING OF OVARIAN CANCER EX VIVO

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Aims
Epithelial ovarian-cancer is a heterogeneous disease, with a high probability of development of platinum resistance conferring poor prognosis. Understanding the molecular physiology of the cancer cells, as depicted by electric potential, oxygen levels and glucose usage will facilitate understanding the mechanisms of development of platinum resistance. We aim to design implantable sensors that measure the biological signature of values for cancerous and non cancerous tissue in ovarian cancer (OC) patients.
Methods
Surgically removed cancerous and non cancerous omentum from OC-patients is tested *ex vivo*. To test the omentum's electric potential a liquid junction potential measuring system is used. The omentum is cut into 1cm^3 pieces, placed in RPMI cell culture media and the electric potential is measured. The omentum is subsequently digested with dispase to extract cells, which are then stained with cell type specific markers and the proportion of cancerous cells are calculated
Results
A constant substantial difference of ≈45mV of cancerous vs non cancerous omentum was identified. Electrical potential value of for cell culture media (n=7) is 1.8 volts, versus 1.4 volts for macroscopically healthy (n=6) and 0.95 volts for the cancerous omentum (n=3). These data are then cross referenced with the proportion of cancer cells in the sample and the histopathological data to understand the biological changes that influence the measured results.
Conclusion
The characterisation of ovarian cancer parameters that are detectable by electronic sensors will facilitate the development of devices to better monitor the disease and predict treatment outcomes

IGCSM-1143
Poster Shift I - Ovarian Cancer

ADNEXAL MASSES IN CHILDREN AND ADOLESCENTS –A 5 YEAR RETROSPECTIVE STUDY IN A TERTIARY HOSPITAL IN SOUTH INDIA

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Aims

To study the clinical characteristics of adnexal masses in children and adolescents who were treated in our hospital from 2009-2013.

Methods

We performed a retrospective analysis of adnexal masses in girls less than 20 years of age. Medical records were reviewed for symptoms, tumor markers, origin /size of the masses, treatment, histopathology and outcome. Data management and descriptive analysis were performed using SPSS 16.0.

Results

A total of 58 patients were included in the study. 87% of girls were postmenarchal,7% were hypothyroid and 57 were elective admissions. The most frequent symptoms were abdominal pain (82%), swelling (35%) and menstrual disorders (33%). Tumour markers-either LDH, CA125 or CEA were abnormal in 12%. Size of tumor varied from 5-35 cm. The origin of adnexal mass was ovarian in 92% and paraovaraian in 8%. The operations included laparoscopy in 13 cases and laparotomy in 45 cases. The type of surgery performed was ovarian cystectomy (15%), paraovaraian cystectomy (8%), oophorectomy (35%) and salpingoopherectomy (38%). 2 girls had bilateral masses – frozen section showed immature teratoma, one underwent TAH+BSO and the other girl had bilateral ovariotomy done. Ovarian torsion was seen in 25% of cases. Histological examination revealed 23 functional lesions, 33 benign and 2 malignant masses.1 girl was diagnosed with hydatid cyst intraoperatively and was started on Albendazole. Postoperative course was uneventful in all cases.

Conclusion

A multidisciplinary team of paediatrician, gynaecologist and surgical/medical oncologist is needed to manage adnexal masses to optimize outcome. Fertility preservation should be a goal in the surgical treatment.

IGCSM-1145
Poster Shift I - Ovarian Cancer

EVALUATION OF THE ACCURACY OF FROZEN SECTION DIAGNOSIS IN OVARIAN TUMORS- EXPERIENCE FROM INDIA

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Aims

To determine the correlation between the diagnosis of malignant and borderline ovarian tumors by frozen section and permanent histology analyses

Methods

Medical records of 100 consecutive frozen sections carried out for ovarian masses from January 2011 till July 2013 were retrospectively evaluated. The frozen section results were compared to the permanent paraffin section results.

Results

Overall 86% had an accurate diagnosis with frozen section. Frozen section was 98.2% accurate in predicting malignant lesions, 93% accurate in predicting benign lesions and 62.5% accurate in predicting borderline lesions

Conclusion

Accuracy rates of the frozen section diagnosis for distinction between malignant and benign tumours are high and frozen section can be reliably used to decide the extent of surgery. Accuracy rates for borderline ovarian tumors are low compared to diagnosing malignant or benign tumors

IGCSM-1152
Poster Shift I - Ovarian Cancer

TWO CASES OF OVARIAN MIXED-EPITHELIAL PAPILLARY CYSTADENOMA OF BORDERLINE MALIGNANCY OF MULLERIAN TYPE WITH SQUAMOUS OVERGROWTH

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Aims
Mixed-epithelial papillary cystadenoma of borderline malignancy of mullerian type (MEBMM) is characterized by mixed mullerian epithelial types frequently associated with endometriosis. Mixed-epithelial papillary cystadenoma of borderline malignancy of mullerian type with squamous overgrowth (MEBMMSO) is a subtype of MEBMM, which is extremely rare and reported to behave like malignant tumors. We experienced two cases of MEBMMSO and inspected the clinical features.
Methods
We reviewed two patients of MEBMMSO, which was defined as an ovarian cystic tumor composed of mixed mullerian epithelial types with squamous overgrowth.
Results
The first case was a 55-year-old woman with an intra-pelvic cystic tumor with a mural node positive for FDG-PET/CT. The patient was applied to staging laparotomy and histopathologic findings were consistent with MEBMMSO (pT1cN0M0). Relapse occurred after 18 months and surgical exenteration was performed followed by adjuvant chemotherapy. The patient progressed favorably and had no detectable recurrence at ongoing follow-up 32 months later. The second case was a 56-year-old woman referred to gynecology with a history of intra-pelvic cystic tumor. PET/CT detected FDG accumulation at the mural node of the cyst. Primary debulking surgery was performed, which revealed an adhesion between the tumor and the rectum. Hostopathology showed the presence of EBMMSO (pT2cN0M0). Adjuvant chemotherapy was initiated after the surgery and the patient now has been disease free for more than 14 months.
Conclusion
Although MEBMMSO is defined as a borderline tumor, it is highly likely to recur or extend in the pelvis. The management equivalent to malignant ovarian tumor should be considered.

IGCSM-1154
Poster Shift I - Ovarian Cancer

EXPLORATION OF RESISTANCE OF PARP INHIBITOR THERAPY IN HIGH-GRADE SEROUS OVARIAN CANCER PATIENT-DERIVED XENOGRAFTS.

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Aims

Up to half of all high-grade serous ovarian cancers (HGSC) are thought to be defective for DNA repair by Homologous Recombination. Excitingly, the novel therapeutic class of Poly (ADP-ribose) Polymerase (PARP) inhibitors is providing patients with the first molecularly targeted therapeutic option in clinical trials. Unfortunately, not all women with germline *BRCA1/2* mutation respond to PARP inhibitors and some develop secondary resistance. To better understand PARP inhibitor response, we have derived xenografts directly from HGSC and have been assessing each patient-derived xenograft (PDX) in terms of its DNA repair capacity, oncogene expression, response to platinum and to PARP inhibitor. We will explore novel approaches to pre-empt and evade the emergence of resistance to PARP inhibitor therapy *in vivo*.

Methods

In mice bearing HGSC PDX tumours, relevant cytotoxics or inhibitors are administered intravenously or intra-peritoneally, with or without PARP inhibitor therapy. The PDX tumour volume is measured twice-weekly using calipers. PDX tumours > 0.7cm^3 are harvested for *in vivo* analysis. DNA repair genes and pathway machinery are analysed and correlated with outcome.

Results

Preliminary data suggests that certain novel combination therapies induce or enhance PARP inhibitor sensitivity in PDX, not limited to those containing *BRCA1/2* mutations. Characterisation of DNA repair pathways will be presented.

Conclusion

Investigation of drug resistance using HGSC PDX annotated for DNA repair pathways and oncogene expression may improve delivery of PARP inhibitor therapy in the clinic and inform future trials of targeted combination therapy. HGSC PDX models provide a tractable way of addressing hypotheses relating to mechanism of PARP inhibitor resistance in HGSC.

IGCSM-1159
Poster Shift I - Ovarian Cancer

LIGAND-INDEPENDENT ANDROGEN RECEPTORS PROMOTE OVARIAN TERATOCARCINOMA CELL GROWTH BY STIMULATING SELF-RENEWAL OF CANCER STEM/PROGENITOR CELLS

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Aims

Ovarian teratocarcinoma (OVTC) arises from germ cells and contains a high percentage of cancer stem/progenitor cells (CSPCs), which
promote cancer development through their ability to self-renew. Androgen and androgen receptor (androgen/AR) signaling has been reported to participate in cancer stemness in some types of cancer;
however, this phenomenon has never been studied in OVTC.

Methods

In order to determine ligand effect on AR actions, luciferase assay was performed to evaluate endogenous and exogenous AR function in PA1 cells. CD133 stem cell marker antibody was used to identify CSPCs in PA1 cells, and AR expression level in enriched CSPCs was determined. To assess AR effects on CD133+ population progression, stem cell functional assays (side population, sphere formation assay, CD133 expression) were used to analyze role of AR in PA1 CSPCs. In tissue specimen, immunohistochemistry staining was used to carry out AR and CD133 staining in normal and tumor tissue.

Results

AR, but not androgen, promoted OVTC PA1 cell growth. We found AR expression was more abundant in CD133+ cells than in CD133-populations. Moreover, results of the sphere formation assay revealed that AR expression was required to maintain CSPCs populations.
Interestingly, this AR-governed self-renewal capacity of CSPCs was only observed in CD133+ cells. In addition, we found that AR-mediated CSPCs enrichment was accompanied by down-regulation of p53 and p16. Finally, co-expression of AR and CD133 was more abundant in OVTC lesions than in normal ovarian tissue.

Conclusion

The results of this study suggest that AR itself might play a ligand-independent role in the development of OVTC.

IGCSM-1162
Poster Shift I - Ovarian Cancer

HERAPEUTIC EFFECT OF OVARY AND OVIDUCT MALIGNANT EPITHELIAL TUMORS CONSOLIDATION CHEMOTHERAPY:AN ANALYSIS OF 8 CASES

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Aims
To investigate the feasibility and efficacy of consolidation chemotherapy of ovary and oviduct malignant epithelial tumors.
Methods
we have retrospectively analysised eight patients who had been diagnosised ovary and oviduct malignant epithelial tumors and conducted consolidation chemotherapy in Fujian Provincial Maternity and Child Care Center from December of 2003 to December of 2012.
Results
Eight patients are all survival, six of them are ovarian cancer and the other two are carcinoma tubae. Follow-up time of those patients are 44-110 months and median survival time is 102 months.
Conclusion

Consolidation chemotherapy of ovary and oviduct malignant epithelial tumors have certain effect on improving the prognosis and the survival rate of patients but still need to add sample size to perform the further confirmation.

IGCSM-1169
Poster Shift I - Ovarian Cancer

OVARIAN IMMATURE TERATOMA IN PREGNANCY

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Aims
Immature teratoma complicating pregnancy was reported in 23 cases to our knowledge.
Methods
none
Results

A 25 years old, 19th weeks pregnant woman presented to emergency service with abdomino-pelvic pain which started two weeks before and increased for 1 day. Strong abdominal sensitivity and rebound tenderness was found in physical examination. Ultrasound revealed a normal appearance 19 weeks fetus with positive fetal heart rates without cervical shortenence. An 8*4*4 cm solid mass with anechoic cystic areas was seen in the right and posterior sites of the uterus with free fluid in Douglas pouch. Leukocytes was 12,68 10 $^{3/?l}$, Hb: 8,4 g/dl, LDH:160 U/lt(normal), CA125: 39,1 U/ml(elevated) and AFP: 38,74 ng/ml(elevated). An emergent surgical exploration with midline incision was made because of the acute abdominal findings. About 15 cm soft right adnexal mass ruptured spontaneusly. Right salphingooopherectomy was performed. Pathologic investigation was immature teratoma (grade 3) and benign peritoneal cytology, lymphovascular invasion negative.

A planned cesarean section birth performed at the 32th gestational week. The materials of omentectomy, appendectomy and peritoneal biopsies were benign except the residual mass from the Douglas pouche. Chemotherapy with Bleomycin 30 mg, Etoposid 100 mg/m^2, Cisplatin 20 mg/m^2 (BEP) started, she completed the 4th cure of the treatment without relapse.

Conclusion

Conservative surgery and adjuvant chemotherapy for germ cell tumors can achieve favorable outcome in terms of survival and fertility.[2] BEP combined chemotherapy recommended for the treatment of immature teratomas. There is limited number of hopeful data on the use of this medications during pregnancy.

IGCSM-1174
Poster Shift I - Ovarian Cancer

BENEFIT OF NEGATIVE PRESSURE DRAIN WITHIN SURGICAL WOUND AFTER CYTOREDUCTIVE SURGERY FOR OVARIAN CANCER

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Aims

To investigate the efficacy of subcutaneous negative pressure wound drains on wound healing after cytoreductive surgery for ovarian cancer.

Methods

A retrospective study was performed on patients who underwent cytoreductive surgery for epithelial ovarian cancer, between 2012 and 2013. The patients were divided into two groups, according to the using (n=163) and not using (n=37) of subcutaneous wound drains, and wound outcomes were analyzed.

Results

Patients' characteristics were not statistically different, except for the prolonged operative time in patients with wound drains (median, 395 vs. 240 minutes; P=0.001). A lower rate of wound infection (12.9% vs. 27.0%; P=0.032) was observed in drain group. In the multivariate analysis, placement of subcutaneous wound drain was an independent prognostic factor for reducing wound complications: disruption (OR, 0.367; 95% CI, 0.145-0.929; P=0.034) and wound infection (OR, 0.198; 95% CI, 0.068-0.582; P=0.003). Bowel surgery at the time of cytoreductive surgery and prolonged operative time (≥360 minutes) were also associated with higher rates of disruption (OR, 2.845; 95% CI, 1.111-7.289; P=0.029) and wound infection (OR, 4.212; 95% CI; 1.273-13.935; P=0.019), respectively.

Conclusion

Installation of subcutaneous negative pressure wound drain is an effective method to achieve clearer wound healing and less wound complications after cytoreductive surgery for ovarian cancer.

IGCSM-1176
Poster Shift I - Ovarian Cancer

SURGICAL MANAGEMENT OF ADVANCED OVARIAN CANCER: WHAT DOES THE PLASMAJET BRINGS?

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Aims

Complete cytoreduction provided a survival advantage in case of AOC. To improve this rate, extensive surgical techniques have been increasingly utilized. The aim of the study was to determine if the use of the PlasmaJet (PJ) affects rates of complete cytoreduction and safely surgery.

Methods

We conducted a single-center retrospective study. Data concerning 42 cases of AOC treated with PJ were abstracted. 64 patients treated without PJ were randomly chosen from database and were matched for age.... The primary endpoint is the rate of CRS and key secondary endpoints are the rate of CRS in case of diffuse carcinomatosis involving small bowell and upper abdominal areas and the 30 post operative days morbidity rate.

Results

PJ improves the CRS rate in case of carcinomatosis involving supra colic areas or small bowel. The rate of bowel resection is not statistically different in the both group. The morbidity is associated with the extent of surgery and the bowel resection rate. PJ reduces the rate of pleural complication in case of diaphragm stripping and seems to allow treatment of bowel carcinomatosis.

Conclusion

PJ is safe and effective. There seems to be an interest in case of carcinomatosis involving supra colic areas or bowel. Prospectives studies are needed.

Conflict of interest
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IGCSM-1183
Poster Shift I - Ovarian Cancer

INTRAVENOUS PLUS INTRAPERITONEAL CHEMOTHERAPY IN PATIENTS WITH METASTATIC OVARIAN CARCINOMA; A SINGLE INSTITUTION STUDY

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Aims

To assess the safety and 5-year survival of intravenous plus intraperitoneal chemotherapy with Paclitaxel every 3 week in patients with metastatic ovarian carcinoma.

Methods

From February 2010 to January 2013, we retrospectively reviewed medical records of 16 patients with metatatic ovarian carcinoma(krukenberg tumor; pathologically proven signet ring cell carcinoma) were treated with intravenous plus intraperitoneal chemotherapy with Paclitaxel every 3 week in KIRAMS and DIRAMS cancer center. We study to assess the safety and efficacy of intravenous plus intraperitoneal chemotherapy with Paclitaxel.

Results

The primary tumor origin was mostly stomach (16 cases). The duration of median follow-up was 28.6 months (range 3-42 months) and 11 patients died during follow-up period. However, any patient died during the treatment, 9 patients with severe hematologic toxicity, three patient with severe GI toxicity and one patients port site infection were reported. The overall 5-year survival was 7.2% and the median survival time was 15 months.

Conclusion

Although long term follow-up is required to investigate the possible late complications and overall survival, intravenous plus intraperitoneal chemotherapy with Paclitaxel every

3 week post-operative adjuvant chemotherapy had a beneficial effect on survival in selected patients.

IGCSM-1184
Poster Shift I - Ovarian Cancer

PLATINUM FREE INTERVAL PREDICTS RESPONSE TO PLATINUM RECHALLENGE IN PLATINUM-RESISTANT OVARIAN CANCER

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Aims

Once platinum-resistant ovarian cancer (PROC) is defined, patients usually are not retreated with platinum based chemotherapy (PBC). Despite that, some patients do show a response when reexposured to PBC. The aim of this study is to investigate the association between platinum free interval (PFI) and response to platinum retreatment in PROC.

Methods
Retrospective review of data from 35 treatment lines with PBC in the PROC setting. We tested the association of PFI, defined as the interval from the end of last PBC to the beginning of the new PBC, with overall response rate (ORR) and progression free survival (PFS). Mann-Whitney test was used to compare the mean PFI in responders with non-responders, logistic regression to test association of PFI with ORR, and Log-Rank test to test association of PFI with PFS. ROC curve was used to search for an ideal cutoff for PFI.
Results
Mean PFI was 6.5 months in non responders and 13.6 months in responders (p=0.053). Longer PFI was associated to a higher chance of response (HR 1.53, p=0.048). The optimum cutoff value for PFI to predict ORR was 11.5 months. Median PFS was 6.0 months in patients with PFI<12 months and 9.9 months in patients with PFI≥12 months (p=0.031).
Conclusion
PBC is an option to treat PROC patients. In our cohort patients with a PFI≥12 months had the greatest benefit but this topic should be studied in larger populations of PROC in order to establish the timing to rechallenge with PBC.

IGCSM-1197
Poster Shift I - Ovarian Cancer

FEASIBILITY AND SAFETY OF LAPAROSCOPIC SECONDARY OR TERTIARY CYTOREDUCTION IN CAREFULLY SELECTED PATIENTS WITH LOCALIZED RECURRENT EPITHELIAL OVARIAN CANCER

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Aims

To assess surgical outcomes of laparoscopic secondary or tertiary cytoreduction in carefully selected patients with localized or isolated recurred epithelial ovarian cancer.

Methods

This is a retrospective analysis of 13 patients with recurrent ovarian cancer undergoing secondary or tertiary cytoreduction by laparoscopic surgery between July 2009 and December 2013. We analyzed patients characteristics including age, BMI, initial stage, histology and grade, and investigate surgical outcomes such as operative time, recurred mass size, blood loss, length of hospital stay, complications, and disease free survival time.

Results

Thirteen patients were recruited. Three patients had stage I disease, 2 patients had stage II disease and 8 patients had stage III disease at the time of their initial diagnosis. Eight patients (61.5%) underwent secondary laparoscopic cytoreduction, and 5 patients (38.5%) underwent tertiary laparoscopic cytoruduction. Median mass size was 23.9 ± 9.7 mm. The median operating time was 104.9 ± 38.9 min, and the estimated blood loss(EBL) was 135.4 ± 126.6 ml. The median hospital stay was 5.8 ± 3.1 days. One patient had intraoperative complication, who was inserted right ureteral stent due to right ureteral injury during tumor dissection. No postoperative complications occurred. The median progression-free survival was 21 month.

Conclusion

Our study demonstrates that in carefully selected patients with recurrent epithelial ovarian cancer, laparoscopic approach is feasible and safe, and adjuvant treatment may be performed more quickly due to rapid recovery.

IGCSM-1198
Poster Shift I - Ovarian Cancer

CD44 AS A PREDICTOR OF EPITHALIAL OVARIAN CANCER

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Aims
To evaluate the association of CD44 in Epithelial Ovarian Cancer.
Methods
It is a retrospective study of 40 cases of epithelial ovarian cancer who are divided into two group of 20 patient each. The first group are those patients who are late recurrence of survived >2 yrs disease free. The second group are those patient who were either chemoresistant or poor survival. Tissue block of both the group retrieved and IHC analysis done for CD44 stem cell.
Results
10% of the patient in the first group expresses CD44 and 45% in the second group expresses CD44. Six out of nine CD44 positive cases in second group shows resistance to conventional chemotherapy. Mean survival of this group of patient is only nine month.
Conclusion
quantification of the number of EOC stem cell in the tumor can be use as a predictor of disease and could be applied for treatment selection in epithalial ovarian cancer.

IGCSM-1199
Poster Shift I - Ovarian Cancer

RADIATION THERAPY FOR PLATINUM-RESISTANT RECURRENT OVARIAN CANCER DETECTED BY FDG-PET/CONTRAST ENHANCED CT

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Aims

There are no therapeutic strategies for platinum-resistant (PtR) recurrent ovarian cancer (OC) superior to standard single-agent chemotherapy. Radiation therapy (RT) is now recognized as a local palliation, because of severe adverse events (AE) following whole abdominal RT in the 1970s. However, the arrival of FDG-PET/contrast enhanced CT (PET/CE-CT) allows the early detection of smaller lesions, and it may improve local RT without severe AE. In this study, we aimed to evaluate the response rate of local RT and the impact on prognosis in patients with recurrent PtR OC.

Methods

At first, we assessed the accuracy of PET/CE-CT and identified the detectable size of lesions, by following the clinical course of 122 FDG-positive lesions in 52 OC patients. According to the analysis, we performed local RT on 182 lesions in 32 patients with recurrent OC, of whom 26 patients were PtR upon initiation of RT. Response rate of RT was assessed, and the survival rate of PtR patients was estimated.

Results

The accuracy of PET/CE-CT for each lesion was 87.7%, and the detectable size was > 0.5 cm. The response rate of RT was 82%, and tumors lesions were more sensitive than lymph nodes, but no significant difference between PtR and platinum-sensitive patients was observed. Median survival period of PtR patients after recurrence and that after RT was 67 and 20 months, respectively. There were no severe AE.

Conclusion

The prognosis of some patients with recurrent OC including those with PtR may be improved with RT.

IGCSM-1201
Poster Shift I - Ovarian Cancer

IMMATURE OVARIAN TERATOMAS AND GLIOMATOSIS PERITONEI. A REVIEW OF THE TREATMENT AND SURVEILLANCE OF TWO CASES AND THE CURRENT LITERATURE.

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Aims

Gliomatosis peritonei (GP) is a rare complication of immature teratomas defined as the nodular implantation of mature glial tissue on the peritoneal and omental surfaces of patients after surgical resection. There have been relatively few case reports but fortunately the current literature suggests that with a conservative approach GP does not adversely influence prognosis however vigilant follow up is recommended. Here we present two cases managed in our institution that we have followed for more than five years with a review of the current literature with particular reference to the pathogenesis, management and prognosis.

Methods

Two nulliparous patients with immature teratomas – a 31 year old with Grade 1 and 16 year old with Grade 3B - were followed after surgical staging with clinical reviews at 3-6 monthly intervals, imaging in the form of CT/MRI and tumour markers. Repeat surgical resection for adequate sampling and disease minimisation was required in both patients with the higher grade teratoma also requiring adjuvant chemotherapy.

Results

Both patients remain clinically and radiologically free at 5 years.

Conclusion

GP is mostly a benign condition. It occurs in the presence of immature ovarian teratoma and if present GP imparts a better prognosis than without it. Given the occasional reports of malignant transformation ongoing surveillance of patients with GP is vital despite its usually excellent prognosis.

IGCSM-1202
Poster Shift I - Ovarian Cancer

HIGH-GRADE MUCINOUS OVARIAN CANCER: CLINICAL AND MOLECULAR ANNOTATION OF A RARE CANCER, ORIGINS AND THERAPEUTIC POTENTIAL

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Aims

High-grade mucinous ovarian cancer (HG-MOC) represents less than 3% of all epithelial ovarian cancer (EOC); prognosis of advanced stage HG-MOC is extremely poor.

Distinguishing primary high-grade mucinous cancers of presumed ovarian origin from extra-ovarian mucinous (EOM) cancer remains a clinical challenge. Improved therapeutic approaches are urgently needed as HG-MOC are largely resistant to standard platinum based treatment regimens.

Methods

National and international resources are being utilised to identify cases, including via CART-WHEEL.org, a web-based rare tumour database (BioGrid Australia), AOCS and existing tissue banks. Clinical parameters will be analysed in conjunction with expert pathology review and in-depth molecular characterization of advanced stage HG-MOC compared with early stage low-grade mucinous EOC and EOM tumours. Cytokeratin 7 and 20, and HER2 IHC and ISH testing will be performed.

Results

To date, 17/43 cases reviewed of potential HG-MOC have been identified as containing invasive HG-MOC in the frozen specimen available for research (39.5%). Twenty-two cases of EOM have been identified, including putative primary sites from the stomach (n=7), colon (n=4), and 'other' gastrointestinal sites (n=7); 23 cases of psuedomyxoma peritonei (15 with ovarian involvement) have been identified. Ongoing pathology review of cases with fresh and/or formalin fixed tissue (the latter, a cohort for validation purposes) is underway.

Conclusion

Addressing the molecular origins of rare aggressive HG-MOC may contribute to optimisation of systemic treatment approaches. Treatments that better target the regulatory pathways associated with HG-MOC may improve clinical outcomes in this aggressive disease.

IGCSM-1208
Poster Shift I - Ovarian Cancer

POPULATION-BASED CLINICAL AUDIT ON OVARIAN CANCER TREATMENT WITHIN THE CANCER CARE NETWORK OF PIEMONTE AND VALLE D'AOSTA.

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Aims

The prognosis of epithelial ovarian cancer (EOC) is closely associated with the quality of the treatment. The aim of this population-based clinical audit is to investigate the appropriateness of the EOC management in the Piedmont cancer care network, according to current evidence based clinical guidelines.

Methods

Incident ovarian cases in Piedmont (Italy) in 2009 were identified through an algorithm based on ICD-9 in administrative electronic database. The following quality of care indicators were identified through clinical records: ultrasound and CT scan of the abdomen and pelvis; tissue diagnosis by histology; Surgical staging before or after chemotherapy, with complete resection of all macroscopic disease.

Results

The algorithm identified 464 patients with EOC: 348 out of 464 (81.5%) were incident cases. FIGO stage was reported for 282 patients (81%): 209 patients (74%) suffered from advanced stage disease (FIGO III-IV).
27 (12.9%) out of 209 advanced stage patients were treated with surgery alone, 20 (9.57%) with chemotherapy alone and 138 (66%) with surgery and chemotherapy. 29 patients underwent neo-adjuvant chemotherapy and interval debulkung surgery, while primary debulking surgery was performed in 161 patients.

Conclusion

The algorithm used to identify incident cases revealed a good performance. Preliminary analyses show some inconsistencies among clinical practice and current guidelines. Further analyses on other quality of care indicators and agreement with guidelines are needed for a comprehensive description.

IGCSM-1209
Poster Shift I - Ovarian Cancer

ASSESSMENT OF CLINICAL OUTCOME OF PATIENTS WITH ADVANCED OVARIAN CANCER WITH NEOADJUVANT CHEMOTHERAPY VERSUS PRIMARY DEBULKING SURGERY

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Aims
The aim of this study is to evaluate the results of neoadjuvant chemotherapy (NACT) and the impact of interval debulking surgery (IDS) on clinical outcomes of patients with advanced-stage ovarian cancer.
Methods

We performed a retrospective analysis on 92 patients with advanced ovarian cancer admitted to Vali-Asr Gynecologic oncology departments during 1996–2002. The result of neoadjuvant chemotherapy of 24 patients with unresectable advanced epithelial ovarian cancer treated with platinum- based NACT followed by IDS was compared to. Clinical outcomes of 68 consecutive stage III and IV ovarian cancer patients treated with primary cytoreduction followed by platinum-based adjuvant chemotherapy.

Results

The chance of primary cytoreductive surgery caused a longer survival compared to neoadjuvant chemotherapy. Patients who underwent optimal interval debulking surgery (IDS) had a more progression free survival (PFS) (p=0.002) and overall survival (p=0.03) than those who did not. There were not significant difference between two groups in complications of surgery .

Conclusion

NACT followed by successful IDS can lead to high survival percentage in patients with chemo responsive advanced ovarian cancer; although the result is more effective in those with optimal primary cytoreduction, we still got the same results with to those with suboptimal primary cytoreduction.

IGCSM-1210
Poster Shift I - Ovarian Cancer

RADIOTHERAPY (RT) AND SURGERY AS INTEGRATED TREATMENT FOR RECURRENT OR PERSISTENT OVARIAN AND TUBAL CANCER: LONG-TERM OUTCOMES

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Aims

We report the long-term outcomes of RT used with curative intent in 62 women with recurrent/persistent ovarian and tubal cancer. Factors associated with long-term disease-free survival are also analysed.

Methods

From 1979-2010, 59 women with ovarian and 3 with tubal cancer received RT with curative intent (>45Gy). Cancer was recurrent in 43 and persistent (found at second-look laparotomy) in 19. Surgery to debulk (+/-restage) was integrated into the management of 55 patients.

Results

Eighteen (29%) women were disease-free at the time of their last contact at a median interval of 14yrs (8.5-32) after RT. Multivariate analysis showed the following factors to be significantly associated with long-term disease-free survival -

- No macroscopic residual tumour before RT (vs.macro)
- Simple RT field (vs.extended/complex)
- Clear cell or endometrioid histology (vs.serous)
- ChemoRT (vs.RT)
- Stage 1 (vs.higher)

Age, grade, diagnosis to RT interval, peritoneal cytology, RT after first-relapse (vs.subsequent) and platinum sensitivity did not correlate with survival.

Thirteen of 56 (23%) patients who received RT to the pelvis (+/- abdomen) developed G3 or 4 bowel toxicity usually due to a combination of RT damage and tumour. One long-term NED survivor developed G4 bowel toxicity due purely to the RT. Four patients subsequently developed a second malignancy (bowel 3, leukaemia 1).

Conclusion
RT offers long-term survival and possible cure in selected cases of recurrent or persistent ovarian or tubal cancer. Surgery has a role to debulk but also to define the extent of tumour to be irradiated.

IGCSM-1213
Poster Shift I - Ovarian Cancer

TREATMENT-RELATED GENETIC REFERRAL AND TESTING PRACTICES FOR PATIENTS WITH OVARIAN CANCER: A GCIG HARMONIZATION SURVEY

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Aims

PARP inhibitors for treatment of ovarian cancers (OC) with BRCA abnormalities are rapidly advancing in the research pipeline, several phase III trials underway. The Harmonization Committee of Gynecologic Cancer InterGroup (GCIG) sought to describe international practices for treatment-related genetic testing (GT) and counseling (GC), and patient and/or operational barriers to study conduct.

Methods

Online survey regarding national group GC and GT practices for patients with OC-was distributed to operations representatives of all (27) member groups.

Results

Preliminary results from (11) GCIG groups from (10) countries reported here. (6) groups refer for GT based on cancer family history and/or histology: (2) groups refer all OC patients. (9) of (11) practices require GC prior to GT; (4) of these are legally mandated. GT is done in-house in (6) groups while external facilities are used for the others (5). Median time to obtaining results is (3) months (range 2 weeks to 9 months). Fast tracking is in place for clinical trials participants or whenever requested for 50% of groups. Costs of GT are paid by national health care systems in (9) countries.. All groups reported that patients are informed of test results by genetic counselors, sometimes together with oncologist. The reason most often cited by patients for refusal of testing is potential impact on family members

Conclusion

GC and GT practices differ widely among research groups. Time until test results and mandatory GC without fast-track procedures may cause delays. A better knowledge of national practices will ensure more efficiency for conducting clinical trials requiring GT for treatment decisions.

IGCSM-1215
Poster Shift I - Ovarian Cancer

MANAGEMENT OF MUCINOUS ADENOCARCINOMA OF THE OVARY: A RETROSPECTIVE REVIEW OF CASES

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Aims
Primary mucinous adenocarcinoma of the ovary are rare tumours accounting for approximately 2.4 to 6.7% of primary epithelial ovarian tumours. The five year survival in this group of patients is thought to be 87% for those with stage 1 disease. A retrospective study was undertaken within Nottingham University Hospitals to ascertain the incidence and survival in this group of patients.
Methods
Patients diagnosed with mucinous adenocarcinoma of the ovary between January 2008 and December 2012 were identified from the pathology database. Information was collected from the medical records regarding patient demographics, stage, grade, treatment, survival and recurrence. Data will be analysed using SPSS.
Results
This is currently in the data collection phase and results will be available at the time of the meeting.
Conclusion
Mucinous adenocarcinoma of the ovary is an uncommon ovarian malignancy that carries a poor prognosis. Evidence for the management of these tumours is scarce and there should be more emphasis on research and development looking at best management strategies in these patients.

IGCSM-1220
Poster Shift I - Ovarian Cancer

SURVIVAL IMPACT OF SURGICAL SPILLAGE IN STAGE I CLEAR CELL CARCINOMA OF OVARY: KOREAN MULTICENTER STUDY

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Aims
To demonstrate survival impact of intraoperative rupture of tumor apparently confined to ovary without capsular involvement (stage IA/IB) in women with clear cell carcinoma of ovary (CCC).

Methods
A total of 202 patients with stage I CCC who underwent staging operation followed by adjuvant platinum-based chemotherapy ≥3 cycles were retrospectively reviewed. Survival analysis was performed and compared between three stage groups: IA/IB, IC1, and IC2/IC3.

Results
Median age was 47 years (range 26-71). Median follow-up was 54 months (range 1-184). There were 75, 53, and 74 women with CCC in stage IA/IB, IC1, and IC2/IC3, respectively. Numbers of adjuvant chemotherapy were not different between the groups. Patients with stage IC2/IC3 had poorer progression-free survival (PFS) (5-year PFS, 65.0% versus 89.5%; p<0.001) and overall survival (OS) (5-year OS, 79.0% versus 94.0%; p=0.001) than those with stage IA-IC1. However, there was no significant difference of PFS (5-year PFS, 85.0% versus 86.0%; p=0.340) and OS (5-year OS, 92.5% versus 93.0%; p=0.514) between IA/IB and IC1. PFS and OS were not different between chemotherapy cycles ≥ 6 and < 6, regardless of stage. Intraoperative tumor rupture occurred in 66 (32.7%) patients. Neither laparoscopic approach nor large tumor size >10cm and presence of adhesion was associated with intraoperative tumor rupture. Gross endometriosis was associated with intraoperative tumor rupture (p=0.004).

Conclusion

Surgical spillage of tumor does not appear to have a negative impact on survival outcomes of women with apparent stage IA/IB CCC who received adjuvant platinum-based chemotherapy ≥ 3 cycles.

IGCSM-1224
Poster Shift I - Ovarian Cancer

ENDOMETRIOSIS AND OVARIAN CANCER: AN INTERNATIONAL POOLED ANALYSIS

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Aims
We undertook the largest-yet international analysis of the association between self-reported endometriosis and diagnosed ovarian cancer, allowing us to look at endometriosis and ovarian cancer histological subtype, grade, and stage.

Methods

From the Ovarian Cancer Association Consortium, all 13 eligible case-control studies (with data on histologic subtype) were included. Logistic regression analyses were conditioned on age, ethnic origin, and study site, and adjusted for parity, and duration of oral contraceptive use.

Results

7911 cases with invasive ovarian cancer, 1907 women with borderline ovarian cancer and 13,266 controls were included in this analysis. Endometriosis was associated with clear cell (OR 3.05, 95% CI 2.43-3.84), endometrioid (OR 2.04, 95% CI 1.67-2.48) and low-grade serous (OR 2.11, OR 1.39-3.20) ovarian cancers. No significant association was found for high-grade serous, mucinous, or borderline tumors. Among women with clear cell, low-grade serous and endometrioid invasive ovarian cancers, stage and grade were not different among women with and without endometriosis. Our results thus replicate previous findings associating endometriosis and endometrioid and clear cell ovarian cancers. They add low-grade serous tumors to the list of those putatively linked to endometriosis.

Conclusion

The consistency and specificity of these links suggest that endometriosis is a precursor lesion for ovarian cancer. Although most women with endometriosis will not develop

ovarian cancer, trials to test interventions such as oophorectomy among such women with high levels of anxiety about ovarian carcinogenesis are needed.

IGCSM-1225
Poster Shift I - Ovarian Cancer

LIFETIME RISK OF OVARIAN CANCER BASED ON ENDOMETRIOSIS AND OTHER RISK FACTORS

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Aims

Ovarian cancer is rare but deadly. We identified combinations of known risk/protective factors that put women at low and high risk for ovarian cancer in order to create risk strata.

Methods

We applied published risk estimates for risk/protective factors to multiplicative models to calculate every possible combination. To convert to absolute risks we divided each combination-specific relative risk by the frequency-weighted average of all the combination-specific relative risks and scaled to a weighted average of unity.

Results

214 combinations of risk/protective factors were observed among 4497 cases and 4497 controls. As compared to a U.S. registry average lifetime risk of 1.37%, lifetime risks here ranged from 0.35% to 8.78%. Women in the lowest five categories (<0.5% lifetime risk) all used OCs 5+ years, bore children, and had no family history and no endometriosis. Women with the highest lifetime risk ($\geq$ 5%) all had either a family history or endometriosis; no tubal ligation; never used OCs (7/8 categories). Genetic risk profiles were diverse. Comparing lifetime risks showed, for example, a woman at moderate risk (4.3%) because of no tubal ligation and nulliparity (but no family history and no endometriosis) would reduce her risk to 1.7% if she used OCs for 5+ years.

Conclusion

A >20-fold differential in risk resulted from various risk/protective combinations. Although relatively uncommon, some women had substantial lifetime risk based on reported risk factors and lack of behaviorally modifiable choices.

IGCSM-1227
Poster Shift I - Ovarian Cancer

CHARACTERISING PHENOTYPICALLY RELEVANT INTRATUMOURAL HETEROGENEITY IN HIGH GRADE SEROUS OVARIAN CANCER

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Aims

High-grade serous ovarian cancer is characterized by high degrees of genomic instability and heterogeneity, with the majority of patients eventually acquiring resistance to platinum chemotherapy. Platinum resistant tumour cells can be resensitised to platinum chemotherapy using targeted agents, however matching best treatment options to patient tumour remains problematic due to diverse platinum resistance mechanisms and limited effective predictive biomarkers. The objective of this study is to understand the extent of intratumoural heterogeneity (ITH) in advanced stage HGSC, at presentation, and to define the link between ITH at the molecular and phenotypic levels.

Methods

Advanced ovarian cancer patients (n=11) receiving radical upfront debulking surgery underwent a tumour mapping of their tumour dissemination patterns. Biopsies from tumour deposits were taken from predefined anatomical regions. Tumour cells were extracted from multiple tumour deposits, placed in short-term culture and treated with cisplatin alone and in combination with a DNA-PK inhibitor. Apoptotic response and cell viability was measured after 24hrs. Cellularity was assessed using immunofluorescent microscopy for common tumour and stromal cell markers.

Results

Cellularity was assessed for each deposit and tumour cell content >70% was accepted for phenotypic assay analysis and subsequent exome-SEQ and proteomic analysis. Preliminary data from phenotypic assays exhibit clear differences in platinum response between the tumour deposits in each case examined, visibly demonstrating phenotypic heterogeneity in therapeutic response within different tumour deposits.

Conclusion

This data coupled with future proteomic and genomic analysis of tumour deposits from each case will provide a definitive description of ITH and clonally evolved chemoresistance in HGSC.

IGCSM-1233
Poster Shift I - Ovarian Cancer

THE IMPACT OF AN INTERNATIONAL NETWORK FOR CLINICAL RESEARCH (GCIG) ON GLOBAL CAPACITY FOR GYNECOLOGIC CANCER CLINICAL TRIALS.

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Background and Aims: The mission of the Gynecologic Cancer InterGroup (GCIG) has been to enhance global impact of clinical trials in gynecologic cancer. The GCIG is comprised of 27 international member organizations. The primary focus has been the conduct of high quality phase III clinical trials. The purpose of this study is to measure this impact and demonstrate how the GCIG has increased global capacity for trials in this domain.

Methods: The output of the GCIG is reviewed including clinical trials completed and open, publications, consensus statements and networks. The journals in which these publications have been made are reviewed with regard to impact factor and citation index. A social network map is developed for these publications in order to identify how the GCIG has increased capacity for clinical trials globally.

Results: Since being formed in 1997, the GCIG has grown to include 26 international member organizations and 11 Pharma/Biotech partners. Over the past 10 years, 74 manuscripts have been published. There are currently 37 open GCIG trials. The citation index and impact factor of these publications in aggregate reflect the high quality of well-conducted international cooperative clinical trials. The social network map demonstrates how the GCIG has increased capacity at a global level for the timely conduct of well-designed trials. Trial design has been informed by 4 quinquennial ovarian cancer consensus conferences.

Conclusions: In the 17 years since its inception, the GCIG has increased global capacity for high quality trials in the population of women affected by gynecologic cancer.

IGCSM-1235
Poster Shift I - Ovarian Cancer

INTERNATIONAL HARMONIZATION OF OVARIAN CANCER PATIENT TUMOR ASSESSMENTS - A GYNECOLOGIC CANCER INTERGROUP (GCIC) STUDY

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Aims
There are no internationally agreed upon guidelines for optimal follow-up during and following first-line ovarian cancer therapy. Timing of follow-up and types of assessment/exams are trial specific, and may differ from national guidelines (possibly impeding trial participation).
Methods
The GCIG Harmonization Committee (HC) conducted a survey of its 27 member groups in 20 countries to seek to describe both timing and types of follow up assessments routinely performed during and after completion of first-line chemotherapy. The survey consisted of six questions posed to the HC representative of each GCIG member group to ascertain the following: existence of national or group- specific guidelines; type and frequency of assessments performed at baseline, during, and after therapy; whether the assessments can be performed more frequently than the group's standard practice; if there were differences for non EOC patients; and if any trials utilize independent assessment vs. investigator analysis.
Results
The survey is ongoing. Preliminary findings of eleven groups in ten countries are presented: 8/11 groups have national guidelines governing assessment procedures. During treatment, all eleven perform PE and CA-125, 9/11 groups employ CT/MRI at some point, 4/11 use ultrasound, and only 1/11 use PET. Follow-up assessments range from Q3 months to annually, depending on observed window. Additional concerns include ethics approvals, radiation exposure/risk assessment, and costs.
Conclusion
Preliminary results from this questionnaire indicate that there are not standard assessment procedures or follow-up schedules across countries. These factors need to be considered when planning international trial collaboration with a goal toward harmonization.

IGCSM-1238
Poster Shift I - Ovarian Cancer

TUMOR PLOIDY IN EPITHELIAL OVARIAN TUMORS

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Aims

To determine the ploidy characteristics of epithelial ovarian cancers.

Methods

Inclusion criteria include patients with histopathology of epithelial ovarian cancer who were surgically staged. Paraffin blocks should be available for flow cytometry analysis. Patients who received prior treatment, those with concomitant malignancy and who received treatment for a previous malignancy were excluded.
The list of epithelial ovarian cancer cases from 2008 to 2012 were obtained. Clinical data from the Medical Records, documents from Cancer Institute and Surgical Pathology Census were reviewed. The patient characteristics obtained were age, gravidity, tumor size and final stage. Histopathologic reports, paraffin blocks and slides were obtained from Pathology Section and sent to the Immunology Section for tumor ploidy testing.

Results

Patients with primary epithelial ovarian cancer were included. In 225 of epithelial ovarian tumors, aneuploidy was established in 12 (5.3%). Most anueploid were poorly differentiated histologic grade (2.2%). The average age of patients with aneuploid pattern was 44.4. Of the 12 patients with aneuploid pattern, 5 had a tumor size of >20 cm (2.2%). The histopathologic distribution among the 12 epithelial ovarian tumors with aneuploid pattern were as follows: 1 from mucinous cystadenoma of LMP (0.4%), 5 from serous cystadenocarcinoma (2.2%), and 6 from endometrioid adenocarcinoma (2.7%). Most of the patients with aneuploidy had final stage of I (2.2%), followed by II (1.3%) and III and IV (0.9%).

Conclusion

There was no correlation between aneuploidy with other clinicopathologic variables such as tumor size, age and stage.

IGCSM-1241
Poster Shift I - Ovarian Cancer

TOTAL COLECTOMY TO ACHIEVE CYTOREDUCTION IN ADVANCED OVARIAN CANCER: A THREE-ARM MATCHED COHORT STUDY.

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Aims

To determine survival outcomes, morbidity and time to chemotherapy for women requiring total colectomy in order to achieve cytoreduction in ovarian cancer.

Methods

A retrospective matched cohort study was conducted in the Northern Gynaecological Oncology Centre, Gateshead, UK amongst women undergoing surgery for advanced epithelial ovarian cancer from 2005-2012.

Twenty women undergoing total colectomy with end ileostomy were compared with two groups of matched controls with the same surgical endpoint (<1cm residual disease (near-optimal) or complete (optimal) cytoreduction): 1) those requiring bowel resection, but not total colectomy and 2) those not requiring bowel resection.

Main outcome measures were: Overall survival (OS), recurrence free survival (RFS), postoperative morbidity and time to chemotherapy.

Results

The median age of the total colectomy group was 68years (range 34-77years). Fifteen total colectomies were performed during primary debulking and five following neoadjuvant chemotherapy. Near-optimal or optimal cytoreduction was achieved in all 20 cases.

The median OS and RFS for the total colectomy cohort were 36 months (95% CI 27-45) and 20 months (95% CI 15-25) which was comparable to the controls (p=0.239 and p=0.806 respectively). Postoperative morbidity included mainly grade II complications and there were no delays in chemotherapy compared to controls (median 37days, range

20-77,p=0.139).

Conclusion

We present the only matched cohort study of women undergoing total colectomy for advanced ovarian cancer to achieve near-optimal or optimal cytoreduction. OS and RFS are not reduced; morbidity is acceptable; and there is no delay in chemotherapy.

IGCSM-1242
Poster Shift I - Ovarian Cancer

TRABECTEDIN PLUS PEGYLATED LIPOSOMAL DOXORUBICIN (PLD) PRIOR TO SUBSEQUENT PLATINUM-BASED CHEMOTHERAPY IN RECURRENT OVARIAN CANCER (ROC): RESULTS FROM OVA-301 FOLLOW-UP

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Aims

OVA-301 was a randomized phase III trial that showed superiority of trabectedin/PLD over single-agent PLD in terms of longer progression-free survival (PFS) and overall survival (OS) in 672 patients with ROC. Based on *in vitro*, *in vivo* studies and clinical data, trabectedin may lead to an increased sensitivity to subsequent platinum in ROC.

We aimed to evaluate if the intercalation with trabectedin/PLD prior to subsequent platinum retreatment may prolong PFS and OS in all platinum-sensitivity subsets of patients according to preclinical findings.

Methods

An exploratory analysis of PFS and OS, counted from the administration of trabectedin/PLD or PLD until disease progression or death, was performed in patients retreated with 3rd-line platinum after OVA-301.

Results

Similar proportions of patients in each arm received subsequent platinum (trabectedin/PLD:207/337, 61.4%; PLD:206/335, 77.6%). After OVA-301, in platinum-sensitive patients trabectedin/PLD resulted in a significantly larger PFS compared with PLD (p=0.0019).

In all subsets of patients pretreatment with trabectedin/PLD followed by the subsequent reintroduction of platinum resulted in an at least 6-months favorable trend toward longer OS compared with PLD alone.

PFS	PFI (months)	Arm	Number (censored)	**PFS (months)**	Hazard ratio (95% CI)	*p*-value
Plat.-resistant (PR)	<6	T+PLD	27(3)	5.6	0.58(0.33-1.04)	0.06
		PLD	32(3)	5.0		
Plat.-sensitive (PS)	>6	T+PLD	90(28)	10.4	0.607(0.44-0.84)	0.0019
		PLD	114(15)	7.0		
Partially PS	6-12	T+PLD	49(15)	9.6	0.63(0.39-1.00)	0.0483
		PLD	45(5)	7.5		
Fully PS	>12	T+PLD	41(13)	10.8	0.58(0.37-0.92)	0.0172
		PLD	69(10)	6.0		
OS				**OS (months)**		
Plat.-resistant (PR)	<6	T+PLD	27(4)	22.2	0.62(0.36-1.06)	0.08
		PLD	32(0)	15.5		
Plat.-sensitive (PS)	>6	T+PLD	90(24)	32.2	0.83(0.59-1.114)	0.2428
		PLD	114(28)	26.0		
Partially PS	6-12	T+PLD	49(10)	27.7	0.58(0.37-0.91)	0.0153
		PLD	45(6)	18.7		
Fully PS	>12	T+PLD	41(14)	38.5	0.92(0.57-1.48)	0.72
		PLD	69(22)	32.5		

Conclusion

Our results provide further supportive clinical evidence for the sequential combination of trabectedin/PLD and platinum in the clinic. The OS advantage of trabectedin/PLD may be related to an increased (re)sensitization to platinum after treatment with trabectedin. This effect might have a bigger impact in patients with partially platinum-sensitive disease.

Conflict of interest
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IGCSM-1249
Poster Shift I - Ovarian Cancer

AN OPEN-LABEL, RANDOMIZED PHASE II STUDY ON TRABECTEDIN AND BEVACIZUMAB WITH OR WITHOUT CARBOPLATIN IN PARTIALLY PLATINUM-SENSITIVE (PPS) OVARIAN CANCER

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Aims

The results of a phase III OVA-301 trial demonstrated the superiority of trabectedin (Yondelis®) and pegylated liposomal doxorubicin (PLD) over single-agent PLD in the overall population (n=672) of patients with relapsed ovarian cancer (ROC). Particularly remarkable were the outcomes in the PPS patients, with platinum-free interval (PFI) 6-12 months (n=214), that showed a statistically and clinically significant survival advantage (median OS: 22.4 *vs*. 16.4; *p*-value: 0.0027). Bevacizumab is an antiangiogenic monoclonal antibody, which based on the results of OCEAN study has been approved for the treatment of patients with first recurrence of platinum-sensitive ROC in combination with carboplatin/gemcitabine.

The proposed on-going IRFMN-OVA-6152 (ClinicalTrials.gov Identifier: NCT01735071) two-stage, open-label, randomized phase II trial aims to compare the efficacy and safety of trabectedin plus bevacizumab +/- carboplatin in adult PPS patients, with first recurrence occurred 6-12 months after the end of the first platinum-containing regimen.

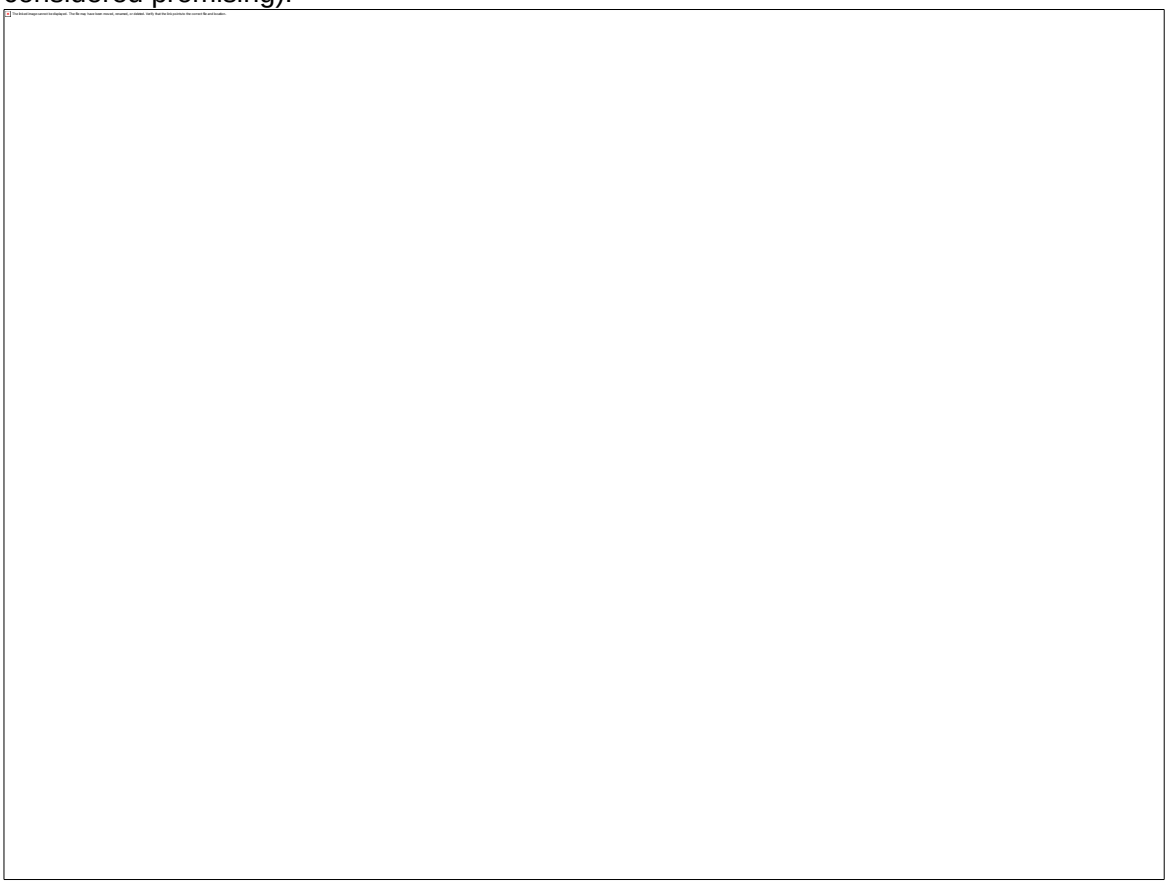
Methods

The primary objective is to evaluate the progression-free survival at 6 months (PFS-6), and the proportion of patients with severe toxicity at 6 months. Secondary endpoints comprise: PFS, 12-month overall survival, clinical benefit, safety profile.

Results

For the primary analysis (PFS-6) in Arm A and B, a 65% and 70% of patients will be required to be alive and progression-free, respectively, while for both arms, a severe toxicity ≥30% will be considered unacceptable (severe toxicity ≤10% will be

considered promising).



Conclusion

Trial in progress.

IGCSM-1250
Poster Shift I - Ovarian Cancer

TRABECTEDIN AND PEGYLATED LIPOSOMAL DOXORUBICIN (PLD) VERSUS CARBOPLATIN AND PLD IN PARTIALLY PLATINUM-SENSITIVE OVARIAN CANCER PATIENTS: INOVATYON STUDY

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Aims
The results of a phase III OVA-301 trial demonstrated the superiority of trabectedin (Yondelis®)/ PLD over single-agent PLD in the overall population of 672 patients with relapsed ovarian cancer (ROC). Particularly remarkable were the outcomes observed in the partially platinum-sensitive patients (PPS; n=214), with platinum-free interval (PFI) 6-12 months, that showed a statistically and clinically significant survival advantage. In the trabectedin/PLD arm the administration of subsequent platinum was delayed and these patients survived significantly longer after subsequent platinum. The non-inferiority CALYPSO study in ovarian cancer patients with disease recurrence >6 months reported that the combination of PLD/carboplatin, in the PPS subset, showed longer progression-free survival and less toxicity than the standard carboplatin/paclitaxel combination. The proposed INOVATYON (INternational OVArian cancer patients Treated with YONdelis) phase III, randomized trial compares PLD/carboplatin *vs*. the non-platinum trabectedin/PLD combination in the PPS population.
Methods
INOVATYON is prospectively designed with the aim to demonstrate that extending PFI with a non-platinum combination prolongs response to subsequent platinum and survival in patients with relapsed PPS ovarian cancer. The enrollment to INOVATYON (EudraCT: 2010-022949-17) has been ongoing from the beginning of 2011. The primary objective is to demonstrate that trabectedin/PLD prolongs overall survival over carboplatin/PLD. Randomization 1:1 and stratification by center, chemotherapy line (2^{nd}/3^{rd}), measurable disease (yes/no) and previous anthracyclines-based chemotherapy (yes/no) has been performed. A futility analysis (~100 events) and an interim analysis (~two/thirds of events) controlling type I error are pre-specified. An independent data monitoring committee (IDMC) oversees study conduct.
Results
Trial in progress.
Conclusion
Trial in progress.

IGCSM-1252
Poster Shift I - Ovarian Cancer

SECONDARY SURGICAL CYTOREDUCTION IN SELECT GROUP OF RECURRENT EPITHELIAL OVARIAN CANCER - A VIABLE OPTION?

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Aims

To study the survival benefit of secondary surgical cytoreduction in recurrent ovarian cancer.

Methods

Fifteen patients of recurrent epithelial ovarian cancer with intra-abdominal disease were selected for secondary surgical cytoreduction between 2007 and 2011. All underwent primary/interval cytoreduction and adjuvant/neoadjuvant platinum based chemotherapy.

All had disease free intervals of > 12 months . 10 experienced 2 or more relapses and were treated with chemotherapy prior to secondary cytoreductive surgery. Ages ranged from 34 to 68 years. Site of recurrence was pelvis in 11, para-aortic lymphnodes in 3, small bowel with peritoneal in 3, undersurface diaphragm 2, peritoneum 2. Site was more than 1 in 6 patients.

Surgical procedures included rectosigmoid resection and anastomosis in 11, excision of pelvic mass 3, retroperitonial lymphadenectomy 6, small bowel resection anastomosis in 2, right hemicolectomy 1, excision of gastrocolic momentum 5, diaphragmatic stripping 2, peritoneal stripping 2.

Results

Residual status of no gross disease achieved in 9 & < 1 cm in 6 patients.

Intra operative complication of bladder injury occurred in 2, post operative complication of recto sigmoid anastomotic leak occurred in 1 and were managed successfully.

5 patients were NED at 48 - 72 months, 5 patients recurring at 12 - 24 months are surviving with disease. 2 recurred at 4, 6 months & died of the disease at 8, 9 months. 3 patients died of disease at 18-26 months.

Conclusion

Long term disease free survival may be achieved with secondary surgical cytoreduction in recurrent epithelial ovarian cancer having localized intra abdominal disease and can be considered as an option.

IGCSM-1253
Poster Shift I - Ovarian Cancer

SWITCHING FROM STANDARD TO DOSE DENSE CHEMOTHERAPY IN FRONT LINE TREATMENT OF ADVANCED OVARIAN CANCER (OC): A RETROSPECTIVE STUDY OF FEASIBILTY AND EFFICACY

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Aims
Current standard neoadjuvant treatment for advanced ovarian cancer (OC) is three-weekly platinum-based chemotherapy (CT3w). Patients unable to have interval debulking surgery (IDS) or with significant residual disease have poor outcomes to CT3w treatment. We investigated the outcome of patients who were switched to dose-dense (DD) chemotherapy after a poor response to neoadjuvant CT3w, or who were unable to proceed to IDS
Methods

We retrospectively analysed 30 patients treated at UCLH 2009-2013, who switched to DD after neoadjuvant CT3w, having achieved a poor response/progressed (N=21) and unable to proceed to IDS, or with >1cm residual disease after surgery (N=9). Treatment was 3-weekly carboplatin and weekly paclitaxel (N=23), or both drugs weekly (N=7). For comparison, we included 30 matched patients treated with CT3w followed by IDS (without residual disease N=24; with >1cm residual disease N=6).

Results
Characteristics were similar in both groups. The response rate to DD was 70% (GCIG criteria). Median PFS was 15 months in DD patients (25 events), higher than expected and the same as in the controls (24 events); p=0.30. Median PFS in patients with post-surgery residual disease, was 15 (DD) and 9 months (controls); p=0.006. PFS in DD patients who did not have surgery was 10 months. Median OS was 27 (DD) and 59 months (controls); p=0.03. DD was well tolerated: only 3 patients interrupted treatment due to toxicity
Conclusion

Switching to DD chemotherapy in patients who failed to respond to CT3w neoadjuvant chemotherapy appears to be an effective strategy, requiring further investigation.

IGCSM-1258
Poster Shift I - Ovarian Cancer

GENE EXPRESSION SIGNATURES OF ENDOMETRIOID AND CLEAR CELL OVARIAN CANCER OF ADVANCED STAGE AND HIGHER GRADE

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Aims

It is unclear whether high grade serous ovarian cancer (HGSOC) transcriptional subtypes described by the TCGA can be applied to other histological subtypes such as clear cell or endometrioid OC. Here we aim to delineate transcriptional profiles of high grade and advanced stage clear cell or endometrioid OCs.

Methods
We used Agilent microarrays to determine gene expression profiles of 208 well annotated OCs including 34 advanced (≥ FIGO Stage II) and high grade (≥ G2) clear cell and endometrioid OCs. An unsupervised method was devised to build a *de novo* classification. The accuracy of the model was evaluated using signatures developed by the TCGA. Both classifiers were validated in an independent cohort of 241 OCs including 37 advanced and high grade clear cell and endometrioid tumors.
Results
We confirm the presence of four HGSOC transcriptional subtypes using a *de novo* classification. We also demonstrate that advanced high grade endometrioid and clear cell tumors form separate clusters with distinct gene signatures. Survival differed significantly for these groups ($p<0.001$). Median survival was best for the endometrioid subtype (108 [95%CI65-152] months) followed by the immunoreactive-like (52 [95%CI19-84] months), clear cell subtype (42 [95%CI1-102] months), differentiated-like (33 [95%CI22-43] months), proliferative-like (32 [95%CI20-45] months) and mesenchymal-like (27 [95%CI6-47] months). Data validating these findings in the second independent cohort of 241 OCs will be presented.
Conclusion
Transcriptional profiling confirms four molecular HGSOC subtypes with prognostic relevance and suggests that advanced and high grade clear cell or endometrioid OCs

represent distinct molecular subtypes.

IGCSM-1259
Poster Shift I - Ovarian Cancer

HEPATIC SURGERY DURING CYTOREDUCTION FOR PRIMARY OR RECURRENT OVARIAN CANCER

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Aims

Optimal cytoreduction affects outcome in ovarian cancer (OC) patients. Liver disease is considered a limit to an optimal cytoreduction. Aim of this study was to determine the perioperative outcome of liver resection during surgery for OC.

Methods

A retrospective analysis of patients undergoing liver resection during cytoredution for OC between January 2007 and January 2014.

Results

Nineteen patients were identified. Median age was 61 years. Patients underwent primary, interval, secondary and tertiary cytoreduction in 8, 5, 5 and one case respectively. Eleven patients had isolated lesions. Resection involved 2 or more segments in 8 patients. Additional surgical procedures included diaphragm resection (71%), hysterectomy with BSO (62%), extensive peritonectomy (62%), omentectomy (57%), pelvic lymphadenectomy (48%), paraaortic lymphadenectomy (43%), large bowel resection (43%), splenectomy (29%), pacreasectomy (29%), celiac trunk lymphadenectomy (19%), cholecistectomy (19%), appendectomy (14%), small bowel resection (10%) and resection of the pericardium (5%). No residual disease was achieved in 16 cases. In the remaining 3 patients, residual tumor was below 2 cm. Mean operative time was 257 min and mean hemoglobin drop was 2,5 g/dl. Five patients required blood transfusions. Median postoperative stay was 7 days (range 3-12). Severe complications included relaparotomy for hemostasis unrelated to the liver resection in two cases, A-Fib and cardiac arrest in a case and a pancreatic fistula requiring drainage in a case.

Conclusion

No residual disease was achieved in the majority of the cases in this series. Perioperative morbidity appears acceptable and severe complications were not related to liver surgery.

IGCSM-1275
Poster Shift I - Ovarian Cancer

PREDICTIVE FACTORS FOR HBOC SYNDROME DETECTION IN OVARIAN CANCER SURVIVORS.

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Aims
Recognize ovarian cancer survivors at risk to HBOC syndrome is extremely important to the gynecologic oncologist,to prevent this lethal neoplasia in their related at risk.
Methods
Our group started to screen systematically the patients to genetic counseling on 2011. All ovarian cancer survivors confirmed with high grade serous or undifferentiated ovarian cancer are scheduled a consult in the Oncogenetic department. We prospectively collect the following data: age,other primary cancer,family history for breast and/or ovarian or lynch related cancer (stomach,colon,renal,endometrial) and Jewish origin. Was analyzed the correlation between these categorical variables with BRCA1 or BRCA2 positivity using Fisher`s exact test,and continue variable was analyzed using Mann-Whitney test,a p value <0.05 was considered significant.
Results
From 2011 to 2013, twenty-five ovarian cancer survivors were tested to BRCA1/2. Mean age from all cases was 57.3 years old (range 28-76). Eight women (32%) had BRCA1 mutation and one (4%) had BRCA2 mutation. The PPV to BRCA1/2 mutation by variables were:previous personal breast cancer 100% (p=0.04),first degree history of cancer 42.9% (p=0.41),family history for breast and/or ovarian cancer 45.5% (p=0.38),family history for lynch related cancer 46.2% (p=0.26). No Jewish origin were detected. Mean age in mutated women was 54.7 years old (range 32-76) and in not mutated women was 51.6 years old (range 28-71) and was not correlated with mutation detection (p=0.57).
Conclusion
No predictive factor was determined in this study by family history. This result shows that test for BRCA1/2 mutation could not be established based on familiar history to cancer.

IGCSM-1282
Poster Shift I - Ovarian Cancer

SERIAL CA125 CAN DETECT OVARIAN CANCER IN THE ABSENCE OF ULTRASOUND ABNORMALITIES

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Background: Current practice is to undertake surgery for suspected ovarian cancer only if a mass is detected. However, data from the UK Collaborative Trial of Ovarian Cancer Screening (UKCTOCS) suggests that serum marker levels can rise in the absence of an adnexal mass on ultrasound.

Method: In UKCTOCS, women in the multimodal group underwent annual screening with serum CA125. The results were interpreted using the Risk of Ovarian Cancer Algorithm (ROCA). Women with elevated risk undergo repeat CA125 and transvaginal ultrasound (TVS) in 6 weeks (Level 2 screen). In those women who have a normal or unsatisfactory TVS, the screen was repeated in 6 weeks. All women were followed up via cancer registry and postal questionnaire till 13th June 2013 for this analysis.

Results: 347,013 annual multimodal screens were undertaken between 2001 and 2011. 2732 women underwent a repeat Level 2 screen. 366 had a previous history of cancer and 13 did not have a repeat CA125. Of the remaining 2353 women, 118 had an abnormal TVS, of whom 7 had primary ovarian/tubal/peritoneal cancer. Of the remaining 2235 women with normal or unsatisfactory scans, 278 (11.9%) were classified by ROCA to have severe risk (>1 in 5) based on repeat CA125. 58 women were found to have non ovarian malignancies. 24 of 220 (11%) remaining women had ovarian/tubal/peritoneal malignancies.

Conclusion: Serial CA125 monitoring using ROCA can detect ovarian cancer in the absence of ultrasound abnormalities. Clinician's understanding of the disease needs to change to avoid treatment delays in these patients.

Conflict of interest
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IGCSM-1284
Poster Shift I - Ovarian Cancer

RECHALLENGE WITH PLATINUM-BASED CHEMOTHERAPY AFTER TRABECTEDIN IN HEAVELY PRE-TREATED PATIENTS WITH PLATINUM-RESISTANT/REFRACTORY (PRR) AND PARTIALLY PLATINUM-SENSITIVE RECURRENT OVARIAN CANCER (PPS-ROC)

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Aims

Platinum-resistant ROC has a poor prognostic. Prolonging the platinum-free interval (PFI) is a potential strategy to improve survival in patients with PPS-ROC. Trabectedin (Yondelis®) is a minor groove DNA-binder which, through its activity over nucleotide excision repair pathways, may play a role in reverting platinum resistance in patients with PRR and PPS-ROC.

Methods

From 2004 to 2014, we retrospectively analyzed 28 patients treated with trabectedin 1.1-1.5 mg/m^2, given as a 3-hour infusion every 3-week (premedication with antiemetics and steroids). Tumor response was assessed every 12 weeks according to RECIST and GCIC criteria (CA-125 levels).

Results

Median age: 63 years (range:45-81). Median of prior chemotherapy lines: 5 (range:1-9). A median of 3.5 trabectedin cycles (range:1-14) were administered. Twenty-four patients were assessable for response, ORR (CR+PR) was 17%, SD was 38%, median TTP was 15.57 weeks (IC95%: 9.14-21.99) and median OS of 21.26 months (IC95%: 15.05-27.48). After trabectedin progression, 15 patients were retreated with platinum and yield an ORR of 47% and SD of 20% for a clinical benefit of 67%. The median post-trabectedin PFI was 10 weeks. Median OS after platinum rechallenge was 12.2 months (IC95%: 2.85-21.54).

Conclusion

Sequential treatment with trabectedin as single agent before subsequent platinum rechallenge may contribute to extend PFI and to re-sensitize the patients with PRR and PPS-ROC. Further prospective studies are warranted to determine the role of sequential treatments including trabectedin in heavily treated patients.

IGCSM-1286
Poster Shift I - Ovarian Cancer

POPULATION-BASED TESTING FOR BRCA MUTATIONS (COMPARED TO FAMILY-HISTORY BASED TESTING) MAY BE COST SAVING IN ASHKENAZI-JEWS: A HEALTH-ECONOMICS DECISION ANALYTICAL MODEL

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Aims

Population-based testing for high-penetrance dominant mutations detects many carriers who are not identifiable by conventional family-history (FH)-based testing, but its cost-effectiveness remains unknown. We compare the cost-effectiveness of population-based BRCA testing with the standard FH-based approach in Ashkenazi-Jewish(AJ) women in the UK.

Methods

A decision analytic model developed compares lifetime costs and effects of population-based and FH-based screening of UK AJ women ≥30years for BRCA founder-mutations. All women in the population screening arm and only those with a strong FH (≥10% mutation risk) in the FH-arm undergo genetic counselling and genetic-testing for BRCA mutations. BRCA carriers identified are offered risk reducing salpingo-oophorectomy(RRSO) and MRI/mammography screening (+/-chemoprevention: Tamoxfien/Raloxifene) or risk-reducing mastectomy(RRM). Model probabilities are derived from the GCaPPS trial and published literature. Costs are reported at 2010 prices. Total costs and effects in terms of Quality-Adjusted-Life-Years(QALYs), incremental cost-effectiveness ratio(ICER), cancer incidence and population impact were calculated. Costs and outcomes were discounted at 3.5%. Deterministic and probabilistic sensitivity analysis evaluated model uncertainty. Utility-scores/probabilities were varied by confidence-interval/range and costs by ±30%.

Results

Compared to FH-based testing population-based screening saved more life-years and QALYs. ICER analysis shows that population-based screening was highly cost-effective compared with current NHS policy and was found to actually be cost saving. Population-based screening lowered ovarian and breast cancer incidence leading to a potential overall impact of 419 fewer ovarian cancer cases and 760 fewer breast cancer cases in the UK.

Conclusion

Population-based screening for BRCA-mutations is highly cost-effective compared to a FH-based approach in AJ women ≥30years.

IGCSM-1299
Poster Shift I - Ovarian Cancer

THE ROLE OF SURGERY FOR COLORECTAL CANCER WITH OVARIAN METASTASES

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Aims

The aim of the study was to identify clinical features of presentation and prognostic factors and outcome in patients with colorectal cancer (CRC) with ovarian metastases at the time of initial diagnosis.

Methods

Patient collection: A retrospective chart review of patients treated for CRC from January 2001 to December 2012 was conducted under institutional approval. The patients were characterized by timing of presentation as either synchronous (n=58) or metachronous (n=31). Data abstracted from the charts including age, location of primary tumor, initial presentation, recurrence and death.Statistics: The univariate analysis was carried out by the Kaplan-Meier method, and the statistical significance of the different groups was tested by the log-rank test. We used the Cox proportional hazards model with the stepwise forward procedure for multivariate analysis. A p value < 0.05 was statistically significant.

Results

There was no difference between synchronous and metachronous patients in demographics. Fifty-eight percent presented at the time of diagnosis were grouped as syncornous metastasis. Of these, 33% were initially diagnosed as ovarian cancer. 8 patients were menopause and 11 patients were pre-menopause including 2 pregnant patients. Univariate analysis identified extent of metastases at presentation as a factor associated with overall survival (OS).

Conclusion

About 4.06% female patients with CRC had KT. Two thirds of the patients had synchronous KT and others had metachronous KT. About 33 % of patient with

synchronous colorectal ovarian metastasis wound be mistaken as primary ovarian cancer. Surgeons should have a high suspicions of a possible primary CRC before treating patients with ovarian tumors.

IGCSM-1300
Poster Shift I - Ovarian Cancer

RISKY FACTORS IN OVARIAN CANCER

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Aims
Our aim was to be researched the most common risky factors for ovarian cancer development.
Methods
Patients were evaluated for 10 years period for the most protective and the most risky factors for ovarian cancer development. Our data were compared with the data of prominent foreign clinics in the field.
Results
According to our research work the most protective factors are: the oral contraceptives, ligation of the tubes, lactation, pregnancies, oophorectomy and salpingoophorectomy. The most common risky factors according to our work were: infertility, mutations in BRCA1 and BRCA2 genes, Ashkenazi and Lynch syndomes, family cancer, endometriosis, breast cancer, some estrogen hormone replacement therapy.
Conclusion
Future clinical trials and research work will give more data and light on this topic.

IGCSM-1301
Poster Shift I - Ovarian Cancer

PHASE I STUDY OF THE EORTC-GCG ON PAZOPANIB WITH WEEKLY PACLITAXEL AND CARBOPLATIN IN PLATINUM-RESISTANT OVARIAN CARCINOMA

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Aims

We assessed the maximum tolerated dose (MTD) and dose-limiting toxicities (DLT) of Pazopanib with weekly Carboplatin/Paclitaxel in patients with platinum-refractory/resistant ovarian, fallopian tube or peritoneal carcinoma after at least one line of platinum-based treatment.

Methods

Patients received Paclitaxel followed by Carboplatin intravenously weekly concurrently with daily Pazopanib orally (except during the first course and on day 1 of each subsequent course) for a maximum of 18 weeks and, in absence of progression, continued Pazapanib 800 mg/d until progression. Six dose levels were established at C (AUC)/P (mg/m^2) q 1 week/P (mg daily): 1.5/30/400; 2.0/30/400; 2.0/30/800; 2.0/45/800; 2.7/45/800; 2.7/60/800.

Results

A total of 28 patients were enrolled of which 23 were evaluable for DLT; 5 patients were excluded due to lack of Pazopanib exposure. Three out of six patients experienced DLTs at the dose level 3 Carboplatin AUC 2.0/Paclitaxel 30/Pazopanib 800). An intermediate dose level (2.0/30/600) yielded two DLTs out of 6. No DLTs were observed on dose level 2 (2.0/30/400). Notable toxicities up to week 6 included neutropenia, fatigue, hypertension, vomiting and liver enzyme elevations. Out of the 23 evaluable patients, 8 (35%) achieved a RECIST response (6 partial and 2 complete responses).

Conclusion

Pazopanib 400 mg per day can be combined with Carboplatinin AUC 2.0 and Paclitaxel 30 mg/m^2 weekly. The activity of the regimen will be assessed in a phase II trial of the

EORTC-GCG trial randomized against Carboplatin AUC 2.7 and Paclitaxel 60mg/m² weekly.

IGCSM-1310
Poster Shift I - Ovarian Cancer

SQUAMOUS CELL CARCINOMA ARISING IN MATURE CYSTIC TERATOMA OF THE OVARY – EXPERIENCE FROM A REGIONAL CANCER INSTITUTE IN INDIA.

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BACKGROUND

Germ cell tumors account for 20-25% of ovarian neoplasms. Mature cystic teratoma(MCT) is the most common ovarian germ cell tumor. Malignancy in MCT is seen in 1-2% of cases. Squamous cell carcinoma(SCC) accounts for 80% of cases.

AIM

To study the clinicopathological factors, management protocols and its outcome.

MATERIAL AND METHODS

Case records reviewed from August 2006 to August 2011 at our institute identified 10 women with SCC in ovarian MCT. Staging done according to FIGO guidelines. Primary surgery followed by adjuvant treatment with platinum based chemotherapy was given.

RESULTS

Median age was 53.5 years. Eight out of 10 patients were postmenopausal and aged at or above 50 years. Pain abdomen and mass per abdomen were the most common presenting symptoms. According to FIGO: two in stage 1, five in stage 2, two in stage 3 and one in stage 4. Among six optimally cytoreduced patients, 3(50%) have no evidence of disease and other 3 (50%) had recurrence at a mean time of around 11 months. All four(100%) suboptimally cytoreduced patients had progressive disease within 3 months of surgery.

CONCLUSION

Squamous cell carcinoma in MCT of ovary is a rarity and carries poor prognosis, especially in advanced stages and suboptimally cytoreduced patients. Platinum with or without taxane based chemotherapy may be useful as adjuvant treatment. However, further studies and standardization of treatment protocols are required for any recommendations.

IGCSM-1313
Poster Shift I - Ovarian Cancer

ROCKETS- REFINING OVARIAN CANCER TEST ACCURACY SCORES A TEST ACCURACY STUDY TO VALIDATE NEW RISK SCORES IN WOMEN WITH SYMPTOMS OF SUSPECTED OVARIAN CANCER

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Introduction:
Ovarian cancer has a poor 5 year survival rate of 40%. In the UK, General Practioners screen women with symptoms of bloating/ abdominal discomfort with a blood test CA125 and then a pelvic USG.. If both are abnormal, women are referred to hospital. However, CA125 can be raised in many benign conditions/ in younger women, non-cancerous cysts on the ovary are very common leading to abnormal USG results/ Conversely CA125 is only raised in half the women with early OC. This means that many women are referred who actually have a very low risk of cancer, and others may not be referred until their cancer has reached a more advanced stage.

Objectives: 1. To validate tests and clinical risk scores (risk prediction models) that estimate the probability of having OC for post- and premenopausal women with symptoms

2. To define thresholds of predicted risk that inform decisions for patient management.
Methods/Results/Conclusion

ROCkETS is a complex project that has been funded by the UK NIHR to derive and validate models that improve on the Risk of Malignancy index. The project will be conducted in 4 interlinked phases - Phase 1. Systematic reviewsto identify best tests and models, Phase 2. re-analysis of datasets UKOPS, UKCTOCS, IOTA to develop new models, Phase 3- prospective study of 2450 women with symptoms to validate models generated in Phase 2, Phase 4. Analysis, generation of optimal pathways and cost utility analysis. ROCkeTS commences in Oct 2014 and will provide pathways for primary and secondary care.

Conflict of interest
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IGCSM-1314
Poster Shift I - Ovarian Cancer

STUDY ON THE INDUCED RESISTANCE REVERSAL BY JAK2 RNAI AND INHIBITOR AG490 IN OVARIAN CANCER PACLITAXEL-RESISTANT CELLS

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Objective: To explore the influence on OC3/TAX300 cell line and the change of chemosensitivity to paclitaxel after inhibiting JAK2 gene expression and using JAK2 inhibitor AG490 .
Methods: Use different concentration of AG490 solution to culture paclitaxel-resistant cell line OC3/TAX300 of ovarian cancer; JAK2 and STAT3 mRNA and protein expression level were detected by Real-time PCR and Western blot.
Results: The JAK2 siRNA could significantly inhibits the expression of JAK2 mRNA and protein. The cell growth of JAK2 gene silencing group was significantly inhibited by taxol treatment after 48h and 72h ($P<0.01$); Typical apoptotic cells could be found in JAK2 gene silencing group;Both cell apoptosis rate and the cell cycle in G2/M phase proportion increased significantly in JAK2 gene silencing group ($P<0.01$); The expression level of STAT3 protein decreased after JAK2 gene silencing($P < 0.05$). The expression of JAK2 and STAT3 mRNA and protein were inhibited with varying degrees after using different concentration of AG490 to culture cells($P<0.05$). MTT results showed that AG490 could enhance the sensitivity of cells to taxol($P<0.05$); Typical apoptotic cells were observed in AG490 groups; The application AG490 could obviously increase the cell apoptosis and the cell cycle in G2/M phase proportion induced by paclitaxel($P<0.05$).

Conclusion: The JAK2 siRNA and AG490 can restrain the JAK2 and STAT3 expression in OC3/TAX300 cells. By restoring the paclitaxel effect on cell cycle block, AG490 could inhibit cell proliferation, induce cell apoptosis and strengthen the resistant cells of paclitaxel chemotherapy sensitivity. JAK2-STAT3 signal transduction pathway may be involved in the process.

IGCSM-1316
Poster Shift I - Ovarian Cancer

HIGHEST EVER CA125: YET 'LOOK BEFORE YOU LEAP'!

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Background & Aim: We report the highest level of CA125 ever reported in a case of endometriosis in English literature, posing a diagnostic and management dilemma with an aim to reemphasize the fact that tumor markers should be interpreted with care.

Material and Methods: A case with a teaching objective is reported. Literature in various scientific search engines namely Medline, PubMed, CINAHL, the Cochrane Library, Current Contents, and EMBASE was reviewed.

Results: A 23 year old sexually naïve lady was referred to us with CT scan findings suggestive of ovarian malignancy. We found her CA125 and CA19.9 to be markedly elevated, to an extent that this high CA125 (25, 149 U/ml) has never been reported till date in the literature. However her clinical presentation was not fitting into the diagnosis of malignancy. Based on our past experience, with a diagnosis of ruptured endometrioma laparoscopy was performed, which confirmed the diagnosis. Thus, we proceeded with conservative surgery laparoscopically (endometrioma enucleation and adhesiolysis). In the literature there have been many reports where similar cases of ruptured endometrioma mimicking ovarian malignancy have been treated radically with extensive surgery or chemotherapy.

Conclusion: We suggest in cases of suspected ovarian malignancy where all the Rubic's cubes are not fitting well together, it is worthwhile to perform a diagnostic laparoscopy before planning for a more radical approach.

IGCSM-1319
Poster Shift I - Ovarian Cancer

THE OVARIAN CANCER FAMILIAL CANCER CLINIC (OVFCC): A TREATMENT FOCUSED GENETIC ASSESSMENT AND TESTING OF SEROUS OVARIAN CANCER PATIENTS

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Aims: To establish a treatment focused ovarian clinic within a familial cancer clinic (FCC).

Methods: The databases from The Royal Women's (RWH) and Royal Melbourne Hospital's (RMH) FCC were reviewed for high grade serous ovarian cancer patients. Referral trends and outcomes were documented and explored.

Results: The OVFCC commenced in November 2009 initially as a collaborative clinic between RWH and RMH, bringing together specialities in Gynaecology, Oncology and Genetics with expansion to now include external referrals. A total of 123 women have been seen: mean age 58yrs (33-82yrs) including 122/216 women (56.5%) referred to RWH for management of serous ovarian cancer (<70 years). 62 (50.4%) had a family history of breast or ovarian cancer. 107 women completed BRCA1/2 mutation detection with 14 also completing p53 and PTEN testing. Pathogenic mutations in BRCA1 or BRCA2 were detected in 30 (28%), with 10 (9%) unclassified variants (UCV) and one UCV in PTEN. The volume of referrals has increased 8-fold since its initiation: 7 in 2009 to 62 in 2014 with an increasing percentage within 12 months of diagnosis (33% in 2009 to 88% in 2014). 23/30 (76.7%) of these new mutation positive families have had additional family members referred for predictive testing (N=83).

Conclusions: This predominantly treatment focused clinic identifies new challenges to traditional FCC models, and as a consequence has driven changes in: processing new referrals, the timing of, coordination and discussion of genetic testing, communication modalities utilised with treating teams, and medical and counselling discussions with patients.

IGCSM-1324
Poster Shift I - Ovarian Cancer

CORRELATION BETWEEN OVARIAN TUMOR SIZE AND CLINICAL FEATURES AND PROGNOSIS OF OVARIAN SEROUS CARCINOMA

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Aims: Recent studies have revealed heterogeneity in ovarian serous carcinoma regarding its origin and pathogenesis. Ovarian serous carcinoma varies in clinical manifestation and biological behavior according to its tumor size. We investigate the correlation between ovarian tumor size and clinical features, including the prognosis of ovarian serous carcinoma.

Methods: 193 cases of historically confirmed ovarian serous carcinoma were enrolled in this study. Patients were assigned to the small or large ovary group using five-centimeter as a cut-off value for tumor size. Differences in the clinical features and prognosis between the two groups were analyzed.

Results: 64 cases (33%) were assigned to the small ovary group, while 129 cases (67%) were assigned to the large ovary group. Small ovary size correlated with higher serum CA125 level, advanced FIGO stage (p=0.001), worse differentiation (p=0.045), more widely disseminated tumor, higher percentage of neoadjuvant chemotherapy, and suboptimal cytoreductive surgery (p=0.003). Small ovary tumor size also yielded a worse prognosis, with a mean PFS of 26 months and mean OS of 57 months, in contrast to the large ovary group that had means of 57 months and 100 months (p=0.021 and p=0.031), respectively. Multivariate analysis of overall survival revealed that FIGO stage, debulking outcome and ovarian tumor size were independent prognostic factors in ovarian serous carcinoma.

Conclusions: Tumor size is a significant factor for ovarian serous carcinoma. The identification of small ovary carcinoma from large ones should advance our understanding of ovarian carcinogenesis, and provide strategies for cancer screening and individualized therapy.

IGCSM-1333
Poster Shift I - Ovarian Cancer

AKT-ACTIVATED ENDOTHELIUM CONSTITUTE THE NICHE FOR RESIDUAL DISEASE AND RESISTANCE TO BEVACIZUMAB IN OVARIAN CANCER

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Aims. Anti-vascular therapy have been evaluated in ovarian cancer to overcome resistant disease. Despite *in vitro* and *in viv*o successes, with bevacizumab targeting VEGF has limited efficacy. Anti-angiogenic treatment increases hypoxia, and might lead to tumor rebound and drug resistance. We hypothesized that abnormalities in tumor endothelium may contribute to treatment resistance and produce and promote a residual microscopic disease.

Methods. We showed that Akt pathway is activated *in vitro* and *in vivo* in ovarian cancer endothelium. We used Akt-activated endothelial cells (EC) that replicate tumor endothelium biology, and their control, HUVEC to investigate the anti- angiogenic activity of bevacizumab by angiogenesis and migration assays. We conducted XTT assay to examine the effect of bevacizumab on proliferation of EC. Expression of FGF-2, phospho-AKT, and the molecular events underlying bevacizumab resistance was assessed by western blotting or phospho- flow cytometry. Finally, using a feeder-free matrigel and spheroid models of ovarian cancer we examined the effect of bevacizumab on residual disease.

Results. We demonstrated that ovarian cancer cells (OCC) activate Akt phosphorylation in EC inducing resistance to bevacizumab. Bevacizumab had no effect on the proliferation of Akt-activated EC, but significantly inhibited angiogenesis and delayed wound healing in HUVEC. We showed the existence of an autocrine loop based on FGF-2 secretion. We demonstrate the role of Akt-activated EC in supporting expansion and self-renewal of OCC in a residual disease context.

Conclusion. Our data point out the role of an activated endothelium in the constitution of the residual disease and resistance to bevacizumab

IGCSM-1340
Poster Shift I - Ovarian Cancer

CLASSIFICATION OF OVARIAN CANCER SURGERY (COVA) AT A GYNECOLOGICAL MULTI-DISCIPLINARY TEAM OPTIMIZES TREATMENT PLANNING DURING HOSPITAL STAY.

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AIMS

Surgeons, anesthesiologists and personnel in the operation theatre and intensive care unit cooperate in the course of primary surgery for ovarian cancer. The aim of this study is to evaluate a classification system for ovarian cancer surgery (COVA) used for optimizing the hospitalization course for these patients.

METHODS

418 patients were allocated into 3 "pre-COVA" (pre-operative) groups based on the expected extent of surgery from standard to extensive procedures as decided at the multi-disciplinary team (MDT) meeting. At the end of surgery patients were allocated into 3 corresponding COVA groups for care, COVA 3 being most extensive. Pre-COVA was compared to the actual COVA. The outcome measure was to evaluate the predictive value of the pre-COVA score.

RESULTS

84 % were allocated to pre-COVA 1 + 2 (51 % pre-COVA 1 and 33 % pre-COVA 2), and 78 % had COVA 1 + 2 type surgery performed (40% COVA 1 and 38% COVA 2). At the individual level 50.7 % were correctly pre-classified. COVA 1 and -2 had 51.6 % and 52.2 % predicted, for COVA 3 the score was less namely 32,6 %. Pre-COVA classification could predict the actual COVA group with an accuracy of 55.7 % for FIGO stage I-IIIB. In advanced cancer FIGO stage IIIC-IV the accuracy was 44.7 %.

CONCLUSION

Pre-COVA classification usefully predicts the final COVA with an accuracy of 51 %, and deviations from exact predictions are minor with regards to treatment of the vast majority of patients, including 84 %.

IGCSM-1341
Poster Shift I - Ovarian Cancer

THE ROLE OF ADDING HE4 TO CA125 FOR WOMEN REFERRED TO SECONDARY CARE WITH SUSPECTED OVARIAN CANCER IN FACILITATING MANAGEMENT DECISION MAKING: A PROSPECTIVE PILOT STUDY.

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Aims: To evaluate whether the addition of HE4 to CA125 testing for women referred/presenting to secondary care can improve management of suspected ovarian malignancy.

Methods: During a 3-month period, HE4 was performed alongside Ca125 for women referred to secondary care and was used to calculate the risk of malignancy algorithm(ROMA). Women with known ovarian cancer were excluded. Outcome measures included imaging and histology results.

Results: During the study period 158 women met the inclusion criteria.

Of those, 101(64%) had a normal Ca125; of which ROMA was normal in 81(80%) and raised in 20(20%).

A total of 57(36%) had an abnormal Ca125; of which 46(80%) had an abnormal and 11(20%) a normal ROMA result.

Of the 158, 48(30.4%) patients were found to have malignant disease -26(54%) ovarian, of which 9 borderline, and 22(46%) of other origin. Of the 26 patients with ovarian cancer, 21(80%) had an abnormal Ca125 and ROMA, 1(4%) (borderline) had abnormal Ca125 and normal ROMA and in 4(16%) (2 borderline and 2 invasive) both results were normal.

Of the 11patients with abnormal Ca125 but normal ROMA score,1 was excluded (endometrial cancer), 1 had a borderline tumour and 9 had surgery/imaging suggesting benign disease. The NPV of ROMA in patients with raised Ca125 for predicting ovarian malignancy was 90%, and for invasive ovarian cancer 100%.

Conclusions: For women seen in secondary care with raised Ca125+/-abnormal ultrasound scan, a normal ROMA score provides an excellent negative predictive value enabling the options of a laparoscopic approach or conservative management without surgery.

IGCSM-1345
Poster Shift I - Ovarian Cancer

THE EFFICACY OF 5-AMINOLEVULINIC ACID MEDIATED-PHOTODYNAMIC DIAGNOSIS AND PHOTODYNAMIC THERAPY FOR IN VIVO OVARIAN CANCER DISSEMINATION MODELS.

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Photosensitizer is used in photodynamic therapy (PDT) which is useful as minimally invasive procedure to treatment cancer. The agent accumulated in cancer tissue is activated by excitation light of a specific wavelength and kills the cancer cells. Visible light emission from the tumor is used as diagnosis of cancer when it is irradiated with excitation light (photodynamic diagnosis: PDD). 5-Aminolevulinic acid (ALA) is the precursor of protoporphyrin IX (PpIX) which is photosensitizer. In this study, we examined the utility of the diagnosis of microscopic peritoneal dissemination by ALA-PDD and the effect of ALA-PDT in mouse ovarian cancer dissemination models.

Female BALB/c nude mice were intraperitoneally injected with 5×10^6 SKOV-3 cells. Two weeks later, xenograft mice were injected intraperitoneally with ALA 40 mg/kg and were performed PDD, PDT by light-emitting diodes (LEDs). Under inhalation anesthesia, laparotomy in mice was performed. Irradiating a blue light of 415nm was used in PDD for peritoneal dissemination. Red LEDs with 635nm was used for treatment. We investigated survival between ALA-PDT group and non-PDT group. Overall survival curves were calculated using the Kaplan-Meier method.

Peritoneal dissemination was confirmed as red fluorescence by irradiating a blue light of 415nm. The emission of light sites were resected and had a diagnosis of carcinoma pathologically. The overall survival rate of ALA-PDT group was higher than non-PDT group.

Our results suggested that ALA-PDD, PDT were effective method for peritoneal dissemination of ovarian cancer in mice model. ALA-PDT has great potential to become an alternative treatment for peritoneal dissemination ovarian cancer.

IGCSM-1348
Poster Shift I - Ovarian Cancer

SUPRAGASTRIC LESSER SAC (SGLS): A SITE FOR OCCULT METASTASIS IN EPITHELIAL OVARIAN CARCINOMA (EOC) WARRANTING EXPLORATION DURING CYTOREDUCTIVE SURGERY

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Background

Metastasis to the supragastric lesser sac (SGLS) may be considered a barrier to complete cytoreductive surgery (CRS) for EOC. The objective of this pilot study was to evaluate the occurrence and resectability of SGLS metastasis (SGLSM) during CRS.

Methods:

At laparotomy, the SGLS was systematically evaluated naked eye and with a laparoscope via the greater and lesser omenta and foramen of Winslow (FOW).

Results: 27 patients were evaluated. SGLSM was present in 18/27 (67%) EOCs, 16/22 (73%) high grade serous disease, 18/23 (78%) stage ≥ 3 disease, 15/17 (88%) with PCI score ≥ 15, 11/14 (79%) with ascites ≥ 500 ml, 12/17 (71%) at primary surgery and 6/8 (75%) at interval surgery. Sites: lesser omentum (10), caudate lobe (10), groove of ligamentum venosum (6), floor (17), upper recess (6), subpyloric space (6), FOW (13), coeliac axis (5), porta hepatis (5), retro-pancreatic (2). Size of metastases: < 2.5mm =3, <1cm = 8, ≥1cm =7. Pre –operative CT scan identified 3/18 (17%) cases.

In 16/18 patients SGLSM was completely resected or ablated; there were no complications. End Result: Optimal 24/27 (89%) including no visible disease = 17, <2.5mm =4, <1cm = 3 and suboptimal >1cm = 3. 15/18 cases would have been ≥ 2.5mm residual disease if SGLS was not evaluated / treated.

Conclusion:

EOC frequently metastasizes to the SGLS and is resectable. Lack of meticulous examination may result in incomplete resection; evaluation should be performed at least in stage ≥3 disease when the surgical intent is total clearance of disease.

IGCSM-0011
Poster Shift II - Cervical Cancer

THE ERCC1 AND DNA PLOIDY ARE BIOMARKERS ASSOCIATED WITH THE SENSITIVITY OF NEOADJUVANT CHEMOTHERAPY FOR LOCALLY ADVANCED CERVICAL CANCER

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Aims
To assess whether the expression of ERCC1 and DNA ploidy can be used as biomarkers to evaluate the effect of neoadjuvant chemotherapy (NACT) for locally advanced cervical cancer (LACC) and provide the theoretical basis for patients selection.

Methods
60 cases of biopsy specimens from LACC patients were collected before chemotherapy. All primary cervical cancer tissues were paraffin-embedded for use. Applied PCR combined with the fluorescence probe technique was performed to analyze the expression of ERCC1 and adopted the DNA quantitative analysis technique was used to analyze the expression of DNA ploidy. The relationship between the expression of ERCC1 and DNA ploidy and the NACT sensitivity of LACC was analysized by statistics.

Results
In all 60 patients, 33 cases were found to be effective for chemotherapy, and the effective rate was 55 % (33/60). Compared to the effective group, the expression of ERCC1 gene in the invalid NACT group was significantly higher ($t = -8.736$, $P<0.05$). In addition, a correlation between DNA ploidy and the curative effect of NACT was also found ($\chi 2=4.972$, $P<0.05$,$\gamma=0.288$). Furthermore, we also demonstrated that the patients with higher expression of DNA diploid were much more sensitive to chemotherapy. However, no relationship was found between ERCC1 expression and DNA ploidy ($z = -1.922$, $P>0.05$).

Conclusion
Our findings indicate that the expression of ERCC1 and DNA ploidy are biomarkers associated with the sensitivity of NACT in LACC patients and these two markers can be used to monitor chemotherapy of LACC.

IGCSM-0018
Poster Shift II - Cervical Cancer

THE PREVALENCE AND PROGNOSTIC FACTORS OF REMAINED DYSPLASIA AFTER TREATMENT OF CERVICAL INTRAEPITHELIAL NEOPLASIA WITH COLD KNIFE CONIZATION

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Aims
To study the prevalence and prognostic factors of remained dysplasia after treatment of cervical intraepithelial neoplasia with cold knife conization.
Methods

in this clinical trial, 25 patients with cervical dysplasia in colposcopy amenable to conization were selected and underwent conization with cold knife. They were followed every 3 month with Pap smear for 12 months. Patients with positive results and every grade of dysplasia in 1 year, whether detected in follow up colposcopy or in hysterectomy specimens were considered as remained disease and variables like age, Parity, grade of dysplasia and margin status on conization specimens were studied.

Results

among 25 patients only one conization specimen margin was positive for dysplasia that was appeared to be invasive SCC in hysterectomy. In remained 11 patients whom underwent hysterectomy, despite negative margin in conization, 4 patients (36.3%) have high grade dysplasia (CINIII) ,1 patient (9%) have low grade dysplasia (CINI) and 6 patients were free of remained dysplasia after conization.

Therefore, in 24 percent of patients, the disease was more extensive in hysterectomy specimens than specimens of cervical conization.

Conclusion

patients with high grade dysplasia should be closely followed up after conization due to higher probability of remained dysplasia.

IGCSM-0021
Poster Shift II - Cervical Cancer

SENSITIVITY AND SPECIFITY OF PAP SMEARS TAKEN BY WOODEN SPATULA AND CERVIX BRUSH

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Aims

There are 530,000 new cases of cervical cancer annually worldwide. In Iran, cervical cancer is the second most common female cancer. One of the most important factors in increasing the quality of Pap smear and reducing false-negative result is the sampling instrument. Wooden spatula is the routine sampling tool in health centers in Iran.

Methods

This study was an observational, evaluation study aimed to determine the sensitivity and specifity of Pap tests by wooden spatula and cervix brush. The result from both sampling tools were compared and evaluated regarding the sensitivity and specifity by using Colposcopy as a golden standard test.

Results

In all 97 cases, inadequate smears decreased from 18.6% with wooden spatula to 2.1% with cervix brush (p=0.002). 32% of samples with wooden spatula VS 13.4% of samples with Cervix Brush were obscured by blood (p=0.003). By using colposcopy, sensitivity of wooden Spatula was %50 and its specifity was %98 while cervix brush has a sensitivity and specifity of %100 and %98/9, respectively that showed significant difference between sensitivity of tools (p< 0.001).

Conclusion

Using Cervix Brush instead of wooden spatula can have important role in better screening. Actually, in developing countries if screening can be organized well by health system authorities, cervical cancer incidence can be reduced dramatically as it was implemented in developed countries. Using appropriate sampling tool is the effective pace to reach this aim.

IGCSM-0046
Poster Shift II - Cervical Cancer

TREATMENT OUTCOME OF PATIENTS WITH STAGE IB1 NEUROENDOCRINE CARCINOMA OF THE CERVIX

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Aims
To evaluate the outcome of patients with stage IB1 neuroendocrine carcinoma of the cervix (NEC) who had received multimodality therapy at Kandang Kerbau Hospital (KKH)

Methods
Retrospective analysis of NEC patients treated at KKH between Sept'98 and April'12 was carried out. Histology was reviewed. There were 42 patients and the stages were IB1-14, IB2-2, IIA1-1, IIA2-1, IIB-3, IIIB-4 and IVB-17.

Results
Fourteen patients had stage IB1 NEC. Histology was purely neuroendocrine-7 or mixed histology-7. Twelve patients underwent Wertheim's radical hysterectomy, bilateral salpingooophorectomy and pelvic nodal dissection. Four had metastases to the pelvic node (N1). Except 2, all had 4 cycles of etoposide/cisplatin (EP) chemotherapy. Eight had high GOG score and had pelvic radiation(RT). Two had renal impairment or hypersensitivity reaction with EP and received other chemotherapy subsequently. Five patients developed recurrences (local-2 and distant-3) at median 21 months (2-42) after therapy. The 4-year disease-free survival (DFS) of the node-negative patients is 62.5%. The 4-year DFS of the N1 patients is 25% (1 died from TB peritonitis 23 months later but without NEC disease).
Two patients refused surgery but received EP and RT.
At median follow-up of the survivors of 86 months (31-147), the overall survival is 64.3%.

Conclusion
In stage IB1 disease, the incidence of nodal metastasis is 33%. With multimodality therapy, the 4-year DFS of the node-negative and N1 patients are 62.5% and 25% respectively.

IGCSM-0059
Poster Shift II - Cervical Cancer

THE FAILURE OF SURGEON IN PATIENTS WITH CERVICAL CANCER

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Aims
to determine the failure of surgeon's treatment that results in imposing a combined method of surgery and radiotherapy on the patient.
Methods

Medical records of all the referred patients to tumor clinics of Ghaem and Omid hospital from 1988 to 2008 were reviewed retrospectively to determine the reasons for inappropriate hysterectomy; these patients suffered from cervical cancer and had undergone hysterectomy as the chosen treatment. 93 files that was eligible in terms the patient's status at first reference was submitted to postoperative radiotherapy at our university. We decided to study with a focus on follow-up after radiotherapy, surgeon's errors, and the rate of recurrence or death; the evaluation of factors related to survival were also recorded and the cumulative 3 -5-year disease free survival (DFS) rate and overall of survival rate (O.S) was analyzed by Kaplan -Mayer test.

Results
Totally, surgeon errors were determined (41%). The most common error related to surgeon was inappropriate surgery due to unawareness of the surgeon about the cervical cancer. 3-year disease free survival rate in the group without errors and in the group with errors were 86% and 64% respectively; the 5-year disease free survival rate in the group without failure was 53 % Vs. 47% in the group with failure (P=0.05).
Conclusion
Determined and precise treatment management with proper pretreatment evaluation is necessary to avoid catastrophic results caused by inappropriate surgery.

IGCSM-0067
Poster Shift II - Cervical Cancer

THE ASSESSMENT OF THE EFFECT AND THE TOLERANCE OF RADIATION THERAPY IN PATIENTS SUFFERING FROM CERVICAL CANCER AND ENDOMETRIAL CARCINOMA RADIATED WITH ITV-IMRT TECHNIQUES

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Aims

The purpose of the research is to assess the effects and postradiation reaction in patients suffering from cervical cancer and endometrial carcinoma irradiated with IMRT and ITV-IMRT techniques followed by brachytherapy HDR 3x5Gy of the apex of vagina.

Methods

The object of the analysis constituted a group of 86 patients diagnosed with endometrial carcinoma and cervical cancer (stages I b to II a) in good conditions. 43 patients were radiated with ITV-IMRT, and 43 ones were radiated with IMRT. The radiotherapy 50,4 Gy in the 28 fractions included the lymph nodes of pelvis minor and the vaginal stump followed by brachytherapy HDR 3x5Gy of the vaginal apex.

Results

None of the patients suffered local and regional recurrence during the minimal six months long observation. The patients radiated with ITV-IMRT and IMRT techniques developed similarly frequent post-radiation reactions in the rectum, in the case of ITV-IMRT the first degree, and in the case of IMRT the second degree. Equal incidence of early post-radiation reactions were also observed in the urinary bladder, intensity of which also did not exceed the 2nd degree. The X2 and Mann-Withney analysis did not demonstrate statistic differences between the two groups of patients.

Conclusion

The planning of IMRT radiotherapy based on the fusion of CT with the full and empty bladder in patients diagnosed with cervical cancer and endometrial carcinoma does not

significantly influence the risk of post-radiation reactions, in comparison with IMRT. Radiation therapy with the modulated intensity of beams enables the elimination of early and late post-radiation reactions of 3rd and 4th degree.

IGCSM-0077
Poster Shift II - Cervical Cancer

ANTIADHESIVE FILM MIMICKING LOCAL RECURRENCE DURING CLINICAL FOLLOW UP AFTER SURGICAL TREATMENTOF GYNECOLOGIC MALIGNANCY: A CASE REPORT

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Aims

We report the case with confusion between local recurrence and foreign body caused by antiadhesive film during the critical period.

Methods

review of case report

Results

A 51 year-old woman, received a total hysterectomy, bilateral salpingoophorectomy, pelvic and paraaortic lymph node dissection, and multiple excision of seeding tumors on cul-de sac. Before closing abdominal wall, polylactic acid (SurgiWrap®) was placed. Pathologic report showed undifferentiated endometrial carcinoma with metastasis to right pelvic lymph nodes. FIGO stae IIIC1 was confirmed Pathologically and the patient received adjuvant pelvic radiotherapy.

After finishing adjuvant radiotherapy, there was no evidence of tumor recurrence until next follow up date. Three months later after treatment, a regular follow up image, AP-CT showed a 2.5-centimeter vaginal stump mass presumed to be local recurrence (Fig. 1). To confirm the lesion pathologically, a diagnostic laparoscopic exploration was performed and the brownish tanned, aggregated tissue was excised (Fig. 2). Complete pathologinc examination disclosed no evidence of malignancy, with the contents of the stump “mass” as an foreign body material combined with chronic granulomatous inflammation (Fig. 3).

The patient was discharged two days after the laparoscopic operation without any complications.

Conclusion

Considering that anti-adhesive agents can make inflammatory change and imaging artifact has great significance to reduce unessential surgery. Also, on the operation of

malignancy, careful deliberation should be given to suspend using polylactic acid owing to the possibility of confounding image for assessing recurrence.

IGCSM-0078
Poster Shift II - Cervical Cancer

TAILORED NEOADJUVANT CHEMOTHERAPY FOR LOCALLY ADVANCED CERVICAL CANCER: A NOVEL THERAPEUTIC STRATEGY, A PILOT STUDY

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Aims
To evaluate the efficacy and safety of the tailored neoadjuvant chemotherapy (NACT) in patients affected by locally advanced cervical cancer.
Methods
Between June 2012 and February 2014, all patients with a diagnosis of locally advanced cervical cancer (IIB) were eligible for this protocol. The new technology, histoculture drug response assay (HDRA) was performed in all case before neoadjuvant chemotherapy. Using HDRA reports, the best responsible chemotherapeutic drugs were determined (tailored regimen). All patients have received 3 cycles of the each tailored regimen in neoadjuvant setting. The NACT induced toxicity and the response to treatment were evaluated according to the World Health Organization (WHO) criteria.
Results
After NACT, all patients with complete or partial response were submitted to classical radical hysterectomy type III or C2, according to different classifications (10 cases in laparoscopic radical surgery 83.3 % and 2 cases in laparotomic radical surgery 16.7%). Twelve patients with locally advanced cervical cancer were considered. A total of 12 patients completed 3 cycles of NACT. The overall clinical response rate after NACT was 91.6 % including 25.0 % (n =3) with complete response, 66.6 % (n =8) with partial response, 8.3 % (n=1) with stable disease and 0% of those who suffered disease progression. The most common toxicity was haematologic, nausea/vomiting and neuropathy with grades 1 and 2 and occurred in 33.3, 58.3 and 8.3 %, respectively. No renal toxicity was registered.
Conclusion

Tailored neoadjuvant chemotherapy represented higher response rate and higher rate of laparoscopic radical surgery in the patient with locally advanced cervical cancer.

IGCSM-0114
Poster Shift II - Cervical Cancer

PROGNOSTIC VALUE OF HYDRONEPHROSIS IN IIIB CERVICAL CANCER

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Aims
To evaluate the predictive value of hydronephrosis in definitive RT of stage IIIB cervical cancer
Methods

Non randomized prospective trial. 92 stage IIIB cervical cancer patients were treated in HCM city Oncology Hospital by combined EBRT and brachytherapy in 2006-2007. EBRT was delivered by linac to whole pelvis in 40Gy/20 fractions, followed by parametrial boost to 50Gy. HDR brachytherapy was delivered 21Gy/3 fractions. Hydronephrosis was evaluated by ultrasound and/or CT scan/MRI before treatment.

Primary end point was 5 years disease free survival (5y DFS).
Results

14 cases had hydronephrosis in 92 cases stage IIIB cervical cancer (15.2%). Hydronephrosis cases were higher rate of pelvic lymph node in ultrasound/CT scan (28.6% vs 11.5%, p=0.034), higher rate of moderate to severe amenia before treatment (42.9% vs 11.5%, p=0.010).

5y DFS was 39.8%. 5y DFS in patients had hydronephrosis and no hydronephrosis were 10.7% and 45.5% (p=0.0062); 5y DFS in patients had pelvic lymph node and no pelvic lymph node in ultrasound/CT scan were 8.4% and 45.1% (p=0.000). Prognostic factors in univariable analysis were: hydronephrosis, pelvic lymph node in ultrasound/CT scan, vaginal involvement, and histopathology. In multivariable analysis, pelvic lymph node in ultrasound/CT scan and histopathology were independent prognostic factors.

Conclusion
Hydronephrosis is related to poor prognosis but not independent prognostic factor in stage IIIB cervical cancer.

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IGCSM-0120
Poster Shift II - Cervical Cancer

CLINICAL USEFULNESS OF S-1 FOR ADVANCED OR RECURRENT CERVICAL CANCER.

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Aims
The prognosis for patients with advanced or recurrent cervical cancer remains poor. New agents with activity in cervical cancer are needed. We evaluated the efficacy and safety of S-1 in patients with advanced or recurrent cervical cancer.
Methods
We retrospectively analyzed date obtained in a total of 28 cases of advanced or recurrent cervical cancer between April 2011 and September 2013. S-1 (Taiho Pharmaceutical Company, Tokyo, Japan) is an oral anticancer drug that combines tegafur (a prodrug of fluorouracil) with 5-chloro-2, 4-dihydropyrimidine (CDHP) and potassium oxonate in a molar ratio of 1:0.4:1. Patients with a measurable disease received two oral doses of S-1 35mg/m^2 daily for 4 weeks of a 6-week cycle or 2-weeks of a 3-week cycle.

Results
Two patients (7.1%) had partial response, and 10 patients (35.7%) had stable disease. Ten patients (35.7%) discontinued the therapy because of progressive disease. The response in 5 patients could not be evaluated because the termination of treatment in the middle of first cycle. The disease control rate was 42.8%. The median time to progression was 4.2 months (95% CI 2.7-5.4) and the median overall survival was 9.92 months (95% CI 9.20-NA). Two patients with partial response had received less prior chemotherapy.
Conclusion
S-1 therapy in patients with advanced or recurrent uterine cervical cancer demonstrated favorable antitumor activity. Treatment of S-1 may be useful and tolerated.

IGCSM-0122
Poster Shift II - Cervical Cancer

TREATMENT RESULTS AFTER SURGICAL AND RADIOSURGICAL MANAGEMENT OF CERVICAL CARCINOMA STAGE IIB

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Aims

To establish the overall and disease-free survival and the role of surgery as well as in cervical cancer stage IIB (FIGO) patients submitted to combined radiotherapy and surgery.

Methods

Between 2003-2011 86 patients with cervical cancer stage IIB had been operated on. Five patients were operated on after neoajuvant chemotherapy. Thirty one women (group 1) had primary pelvic surgery (radical hysterectomy class III and lymphonodulectomy) and adjuvant RT until 52 Gy and 50 women were operated on after preoperative RT (30 Gy) and were submitted to adjuvant RT until 52 Gy (group 2).

Results

After median follow of 45 months the acturial overall and disease-free survival (OS and DFS) were estimated as 75,6% and 77,9% respectively for all patients staged IIB (FIGO). In group 1 the incidence of local relapses and distant metastases was 9,7% and 12,9%, respectively ?nd in group 2 – local and distant recurrences were 6% and 14% , respectively . The acturial OS and DFS for group 1 were 80,6% and 77,5%, respectively and for group 2 – 76% and 80% (NS).

Conclusion

Combinated treatment (RT and pelvic surgery) produce reliable local control of the disease (cervical cancer IIB stage) but is ineffective for metastases outside the small pelvis which is the cause of worse survival of patients with cervical cancer stage IIB (FIGO). Preoperative RT (group 2) doesn't change the OS and DFS significantly. The main indication for surgery in patients with cervical cancer stage IIB is the surgical

staging (pelvic and paraaortic lymph node dissection) which enables the appropriate individual treatment planning.

IGCSM-0123
Poster Shift II - Cervical Cancer

THE ROLE OF NERVE-SPARING SURGERY IN THE MANAGEMENT OF CERVICAL CANCER PATIENTS

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Aims
To study the feasibility of the nerve-sparing radical hysterectomy (NSRH) stage by stage in cervical cancer and its impact on the blood loss, the duration of RH as well as on bladder disfuction in irradiated and non-irradiated patients.
Methods
Between XI.2002 and IX.2011 294 consecutive patients with invasive cervical cancer (IB1, IB2, IIB) were operated on. The performed surgery was radical hysterectomy class III and pelvic lymphadenectomy. 77 patients were submitted to NSRH (26,19%) – 56 patiets – non-irradiated (gr.1) and 21 – after preoperative radiotherapy (gr.2)
Results
NSRH is associated with minimal blood loss during RH (280ml vs 600 , $p<0.005$), fast recovery to spontaneous voiding (16^{th} day vs 24 , $p<0.005$) and is little more time – consumpting procedure (75min. vs 60min. , NS)
Conclusion
NSRH is feasible technique in stages IB1, IB2, IIB before or after radiotherapy. NSRH doesn't compromise the radically of the RH. Preoperative radiotherapy doesn't change the benefits of NSRH.

IGCSM-0133
Poster Shift II - Cervical Cancer

PATTERNS OF RECURRENCE AND SURVIVAL AFTER ABDOMINAL VERSUS LAPAROSCOPIC/ROBOTIC RADICAL HYSTERECTOMY IN PATIENTS WITH EARLY CERVICAL CANCER

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Aims

This study was aimed to investigate the patterns of recurrence and identify the clinico-pathologic prognostic factors for patients with early cervical carcinoma treated with abdominal radical hysterectomy (ARH) and laparoscopic/robotic radical hysterectomy (LRH/RRH).

Methods

We conducted a retrospective analysis of 239 patients with FIGO stage IB and IIA cervical cancer. All patients had no definite evidence of parametrial invasion and lymph node metastasis in preoperative examination, and underwent ARH or LRH/RRH with retroperitoneal lymphadenectomy between February 2006 and December 2013. Sites of disease recurrence and all possible clinico-pathologic factors related to the risk of disease recurrence were analyzed.

Results

Of the 239 patients, 111 patients (46.4%) and 128 patients (53.6%) received ARH and LRH/RRH, respectively. We categorized the LRH/RRH group into LRH through vaginal colpotomy (LRH-VC; 79 patients) and LRH/RRH through intracorporeal colpotomy (LRH/RRH-IC; 49 patients) according to the colpotomic approaches. Multivariate analysis in MIS group demonstrated that colpotomy through total laparoscopic/robotic approach ($p<0.041$, OR = 7.038, 95% CI = 1.059 – 15.183) represented a strong prognostic factor related to disease recurrence. Five-year disease-free survival rates were 88.1% in the ARH group and 88.7% in the LRH/RRH group ($p=0.940$), respectively. However, disease recurrence was higher in the LRH/RRH-IC group than in the LRH-VC group (16.3% vs 5.1%, $p=0.057$), showing that 5 patients in the LRH/RRH-IC group had intraperitoneal spreads.

Conclusion

It remains to be elucidated that colpotomy through total laparoscopic/robotic approach might be related to disease recurrence including intraperitoneal spreads in cervical cancer during laparoscopic surgery.

IGCSM-0137
Poster Shift II - Cervical Cancer

PRETREATMENT NEUTROPHIL-TO-LYMPHOCYTE RATIO PREDICTS THERAPEUTIC RESPONSE OF RADIATION THERAPY AND CONCURRENT CHEMORADIATION THERAPY IN CERVICAL CARCINOMA

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Aims
Recent reports have shown that pretreatment neutrophil-to-lymphocyte ratio (NLR) can predict survival in various cancers. However, NLR was not a prognosticator in patients with uterine cervical cancer treated with neoajuvant chemotherapy and radical hysterectomy. The aim of this study is to investigate the prognostic role of the NLR in cervical cancer treated with radiation therapy (RT) alone or concurrent chemoradiation therapy (CCRT) as a pretreatment marker.
Methods
58 patients with squamous cell carcinoma (SCC) of the uterine cervix treated with RT or CCRT between 2005 and 2013 at our hospital were retrospectively identified using electronic databases. They were divided into the high NLR group (?2.5) and the low NLR group (<2.5). The efficacy of RT and CCRT was compared between two groups. Both of normal finding of histological examination and disappearance of the tumor by imaging examination were defined as a complete response (CR).
Results
Of 58 patients, 39 and 19 were included in the high and low NLR groups, respectively. Low NLR was significantly associated with achieving CR as compared to high NLR ($P < 0.001$). When stages were divided into stage I/II and III/IV, patients with low NLR had a significantly better therapeutic result than those with high NLR ($P < 0.05$, respectively).
Conclusion

These results showed that pretreatment low NLR could predict a good response to RT or CCRT in uterine cervical cancers of all stages. NLR may be a promising biomarker to choose therapeutic strategy for SCC of the uterine cervix.

IGCSM-0141
Poster Shift II - Cervical Cancer

ROBOTIC PELVIC EXENTERATION IN CASES OF CERVICAL CANCER

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Aims

The use of minimally invasive techniques in the treatment of cervical cancer is a challenge. We present a review of the role of robotic technology in pelvic exenteration cases of cervical cancer.

Methods

Articles from PubMed and Scopus databases examining the use of robotic technology for pelvic exenteration in cases of cervical cancer were included.

Results

Four studies were included. Most cancers treated with robotic-assisted pelvic exenteration were squamous cell carcinomas of the cervix. The stage of primary cancer ranged fromIB2 to IVA. In 7 of the 8 patients, anterior pelvic exenteration was performed; the other patient underwent total pelvic exenteration. Procedure duration ranged from 375 to 600 minutes; blood loss was 200–550 mL. Postoperative complications occurred in 2 of the 8 patients and included perineal abscess, Miami pouch fistula, and ureteral stenosis. Postoperative hospital stay ranged from 3 to 53 days, and postoperative follow-up ranged from 2 to 31 months.

Conclusion

The gold standard remains the open surgical approach; however, the application of robotic technology could be a challenge in experienced hands.

IGCSM-0143
Poster Shift II - Cervical Cancer

THE RECURRENCE OF CERVICAL CANCER AT POST PARTUM EPISIOTOMY SCAR

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Aims

The aim is to present a review of the current literature data on cervical cancer recurrence in episiotomy scars after vaginal deliveries.

Methods

A systematic search was performed in PubMed and Scopus.

Results

10 case reports and 3 case series with total 18 patients were included. The mean age of the patients was 33.3 years. One of them was diagnosed one year before her pregnancy, 2 of them were diagnosed during pregnancy, 6 of them during labor and 8 patients at postpartum follow-up appointments from 1 week to 8 months postpartum. Twelve cases were squamous cell carcinoma, 5 cases adenocarcinoma and 1 case adenosquamous carcinoma with the majority of them staged as Ib1-2. The interval time from initial diagnosis to detection of recurrence had a wide range from 5 weeks to 5.5 years. The diameter of the recurrence was also ranging (5-60 mm). The management of such a recurrence included different extent of wide local excision or chemotherapy or radiotherapy or combinations of them.

Conclusion

Clinicians should be aware about the importance of carefully examining not only the cervix at the time of labor, but also the episiotomy scar in women who were diagnosed with cervical cancer during pregnancy or labor.

IGCSM-0149
Poster Shift II - Cervical Cancer

CORRELATION OF PAP SMEAR AND HISTOPATHOLOGICAL STUDY OF CERVICAL LESIONS

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Aims

To study various types of cervical lesions with relevant factors such as age, parity, to classify cervical lesions into malignant & benign groups and to correlate the cytological with histopathological findings.

Methods

This study was conducted on 200 cases of Pap smears and cervical biopsies, along with resected specimens. After fixation and staining, smears and cervical biopsies were processed and examined under microscope.

Results

Age wise maximum number of patients were in fourth decade (54.50%), followed by fifth decade. On cytology, 59% were inflammatory smears and frank malignancy was reported in 10% cases. LSIL and HSIL were reported in 9% and 8.50% respectively. Maximum number of cases on biopsy was those of infections (57.50%), 27% cases were those of frank malignancy; most common being invasive squamous cell carcinoma (23%) and adenocarcinoma in 2%. Mean age among cancer cases was high (51.94±12.30 years) compared to those who did not have cervical cancer (39.53±9.66 years). Cervical cancer was seen in 39.65% of patients with having ³3 children. 10% cases diagnosed on cytology turned out to be malignant on biopsy.

Conclusion

Pap smear followed by cervical biopsy is an effective method for detection of pre-cancerous, cancerous and non-cancerous lesions in the cervix.

IGCSM-0151
Poster Shift II - Cervical Cancer

PREDICTORS OF POSTOPERATIVE MORBIDITY AFTER LAPAROSCOPIC VERSUS OPEN RADICAL HYSTERECTOMY PLUS EXTERNAL BEAM RADIOTHERAPY: A PROPENSITY-MATCHED COMPARISON

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Aims
Identification of peri-operative variables predicting postoperative morbidity may improve postoperative patients' care. We aimed to identify patients' characteristics and operative factors predictive of early (≤30-day) and late (≤6-month) morbidity in cervical cancer patients undergoing surgery plus external beam radiotherapy (EBRT).
Methods

We studied 45 propensity-matched patient pairs (90 patients) undergoing laparoscopic radical hysterectomy (LRH) plus EBRT vs. abdominal radical hysterectomy (RAH) plus EBRT. Basic descriptive, multivariable and artificial neuronal network analyses (ANN) were used to design predicting models influencing outcomes. Postoperative complications were graded per the Accordion severity system. Martin criteria were applied to improve quality control in complication reporting.

Results
Baseline characteristics of the study populations were similar. Patients undergoing LRH experienced lower blood loss (200 (range, 10-700) vs. 400 (range, 100-2000) ml; p<0.001), shorter length of hospital stay (4 (range, 1-10) vs. 8 (range, 5-52) days; p<0.001) and similar operative time (235 (±67.3) vs. 258 (±70.2) minutes; p=0.14) than patients undergoing RAH. We observed that, at multivariate analysis, open approach correlated with overall (OR: 1.2; 95%CI: 1.03-1.46), early (OR: 1.14; 95%CI:0.99-1.3) and late (OR: 1.13; 95%CI: 1.001-1.28) postoperative complications. Additionally, ANN suggested that open approach is the most important variable predicting overall (importance: 0.178), early (importance: 0.18) and late (importance: 0.158) postoperative morbidity.

Conclusion
Open approach is the main predictor for developing morbidity among cervical cancer patients undergoing radical hysterectomy followed by adjuvant radiotherapy. Laparoscopic surgery enhances peri-operative surgical results and minimizes the occurrence of late complications.

IGCSM-0161
Poster Shift II - Cervical Cancer

LAPAROSCOPIC NERVE SPARING RADICAL HYSTERECTOMY AS A MINIMALLY INVASIVE FUNCTION-PRESERVING SURGERY IN EARLY STAGE CERVICAL CANCER

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Aims

This study aimed to evaluate the feasibility and efficacy of type III nerve sparing laparoscopic radical hysterectomy (NS-III LRH) for patients at low risk of recurrence with early stage cervical cancer.

Methods

Risk of recurrence was evaluated by a postoperative pathological diagnosis which included factors such as lymph node metastasis, lymph-vascular space involvement, deep stromal invasion and tumor size. Consequently, 21 patients considered retrospectively to have been at low risk for recurrence who underwent either a type II, III or NS-III LRH were included in this study. To evaluate the surgery, surgical parameters were investigated. Laparoscopic sentinel node (SN) identification was also performed in some patients to evaluate whether systematic pelvic node dissection could be avoided.

Results

There were 5 pTIa and 16 pTIb1 patients based on the pTNM classification. Maximum tumor diameter was 25 mm or less in all patients. Eight underwent a standard III LRH while NS-III LRH including 4 II LRH was performed on 13 patients. Median time of surgery and blood loss was less in patients who underwent III LRH compared to those underwent NS-III LRH. SN detection rate was 87.5% in the 8 patients who underwent NS-III LRH and showed no metastasis in SN or other pelvic lymph nodes.

Conclusion

In patients with early stage cervical cancer, considered to be low risk for recurrence due to small tumor size and negative SN identification, NS-III LRH is a feasible and effective minimally invasive procedure for preserving urinary function compared to III LRH.

IGCSM-0166
Poster Shift II - Cervical Cancer

IMPACT OF RISK FACTORS ON PREVALENCE OF ANAL HPV INFECTION IN WOMEN WITH SIMULTANEOUS CERVICAL LESION

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Aims
The aim of our study was to determine the risk factors associated with anal HPV infection in HIV-negative women with high grade cervical lesion.
Methods
The study group included 172 “high-risk” women who underwent conization for high grade cervical intraepithelial lesion or microinvasive cervical cancer (CIN 2+). The control group consisted of 100 “low-risk” women with non-neoplastic gynecologic diseases. All participants completed a questionnaire detailing medical history and sexual risk factors and were subjected to anal and cervical HPV genotyping.
Results
Concurrent cervical and anal HPV infections were detected in 42.4% (73/172) women of the study group, and in 8.0% (8/100) of women in the control group, respectively. The subgroup with concurrent HPV infections (n=73) dominated women with CIN 3 and microinvasive cancer and anal HPV 16 infections (n=53). „High-risk“ women with concurrent infections more frequently reported any type of sexual contact with the anus including non-penetrative anal sex (OR 2.62, p=0.008). Reporting >5 lifetime sexual partners (OR 2.43, p=0.041), smoking $\geq$ 60 cigarettes per week (OR 2.33, p=0.048), and a history of penetrative anal intercourse (OR 3.87, p=0.002) were observed as the significant risk factors in women with multiple concurrent HPV infections.
Conclusion

Our data support anal HPV testing and anal Pap smear screening in all women with severe cervical lesions caused by HPV 16 and a history of any sexual contact with the anus, heavy smoking and/or more than 5 lifetime sexual partners.

IGCSM-0178
Poster Shift II - Cervical Cancer

LAPAROSCOPIC AND OPEN ABDOMINAL RADICAL HYSTERECTOMY FOR CERVICAL CANCER: A MINIMUM 3-YEAR FOLLOW-UP STUDY FROM A PROPENSITY-MATCHED COMPARISON

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Aims

To compare peri-operative and long-term outcomes related to laparoscopic and open abdominal surgical treatment of cervical cancer patients.

Methods

Consecutive women who underwent laparoscopic radical hysterectomy (LRH) were compared with a historical cohort of patients who had abdominal radical hysterectomy (RAH) before the adoption of the laparoscopic approach at our Institution. Patients achieving at least 3-year of follow-up were included. Propensity-matched comparison was performed in order to reduce possible allocation biases. Postoperative complications were graded per the Accordion severity classification. Martin criteria were applied to improve quality in complication reporting. Survival outcomes were evaluated within 5-year after surgery.

Results

Baseline characteristics of the study populations were similar. In the LRH group two (2%) patients were converted to open surgery. Patients undergoing LRH experienced lower blood loss (200 vs. 500 mL; $p<0.001$), lower transfusion rate (6% vs. 22%; $p=0.02$), similar operative time (245 vs. 259.5; $p=0.26$) and shorter length of hospital stay (4 vs. 8 days; $p<0.001$) in comparison to patients undergoing RAH. No between-group differences in intraoperative complications were recorded ($p=1.0$); while a trend towards lower postoperative complication (Accordion grade 3 or worse) rate for LRH in comparison to RAH was observed (4 (6%) vs. 12 (18%); $p=0.059$). Five-year disease-free ($p=0.6$, log-rank test) and overall ($p=0.31$, log-rank test) survivals did not differ statistically between women undergoing LRH and RAH.

Conclusion

Laparoscopy ensures the same results of open surgery in terms of radicality and long-

term survival. The use of laparoscopic approach is associated with improved short-term results, minimizing the occurrence of severe post-operative complications.

IGCSM-0180
Poster Shift II - Cervical Cancer

ANTI-TROP2 CONJUGATED HOLLOW GOLD NANOSPHERES FOR TARGETED PHOTOTHERMAL DESTRUCTION OF CERVICAL CANCER CELLS

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Aims
to evaluate if trop-2 targeted **Hollow Gold Nanospheres** induce apoptosis in cervical cancer
Methods
we conjugated HGNs with monoclonal antibody (anti-TROP2) to target cervical cancer cells (HeLa) through the Trophoblast cell surface antigen 2 (TROP2), which is confirmed to overexpressed on the surfaces of cervical cancer cells. The efficient uptake and intracellular location of these functionalized HGNs were assayed using inductively coupled plasma atomic emission spectroscopy (ICP-AES) and transmission electron microscopy (TEM), while cytotoxicity induced by PTA was measured using CCK-8 assay.
Results
we have demonstrated the anti-cancer potential of HGNs which have a thin gold wall and hollow interior with an average diameter length of 51.6 nm and a strong absorption peak at 780nm,
HeLa cells incubated with PEGylated HGNs (0.3-3nM) within 48h did not show obvious cytotoxicity. Under laser irradiation at suitable power, anti-TROP2 conjugated HGNS resulted in a significant growth inhibition, compared with non-specific PEGylated HGNs ($P<0.05$). γH2AX assay results revealed higher DNA-DSBs with anti-TROP2 conjugated HGNs plus laser radiation as compared to treatment with laser alone. Flow cytometry analysis have shown the cell apoptosis changed after laser irradiation with anti-TROP2 conjugated HGNs ($P<0.05$). Anti-TROP2 conjugated HGNs resulted in deregulation of Bcl-2 and upregulation of Bax.
Conclusion
All the finding in our study confirmed that anti-TROP2 conjugated HGNs can selectively destruct the cervical cancer cells and induce its apoptosis and DNA damage, which may have potentials to mediate targeted cancer treatment.

IGCSM-0181
Poster Shift II - Cervical Cancer

BEHAVIORAL RISK FACTORS AND THE PREVALENCE OF SEROPOSITIVE AND VIRAL DNA POSITIVE HUMAN PAPILLOMAVIRUS (HPV) INFECTIONS AMONG THE HEALTHY YOUNG FEMALES IN TAIWAN

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Aims

Describe the prevalence of behavioral risk factors and HPV infection in Taiwan population.
· Assess the association between behavioral risk factors and presence of HPV infection in Taiwan population.

Methods

Study cohort
· The participants in this study were the subset of the PATRICIA trial in Taiwan. Healthy female aged 15 to 25 years at the time of first vaccination were enrolled in the trial.
Procedure
· The behavioral questionnaires from participants were collected between May 2004 and June 2005. The behavioral questionnaires were administered to all subjects through an interview by study personnel one month after study entry.
· The cervical samples were collected for PCR based HPV typing and the blood samples were collected for HPV-16 and HPV-18 serotyping.

Results

· We found that smoking history including first smoking experience at age under 18, first sexual intercourse at the age under age 16, and pregnant experience are the most prominent risk factors of HPV-16/18 infection.
· The 10 most prevalent HPV types, in either single or multiple infections, were 52, 16, 39, 51, 58, 68, 18, 66, 31, and 56. These types of HPV infected 76.44% of the overall HPV infected participants.
· Most participants (82.6%) had no evidence of HPV-16/18 infection. A number of 256 (17.4%) participants had current or past infection . The infection rates of HPV-16 and HPV-18 are similar.

Conclusion

· Young females should have HPV vaccination to prevent HPV infection and lower the possible risk of cervical cancer before the first sexual experience.

IGCSM-0188
Poster Shift II - Cervical Cancer

ROLE OF HUMAN PAPILLOMAVIRUS (HPV) LOAD FOR PREDICTING NATURAL PROGRESS OF HIGH-GRADE CERVICAL INTRAEPITHELIAL LESIONS

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Aims

To investigate a natural progress of high-grade cervical intraepithelial neoplasia (CIN) and determine the role of HPV for predicting the progress of the lesions

Methods

We retrospectively reviewed patients with a biopsy-confirmed CIN2 or 3 between 2006 and 2013. Progress of CIN was assessed compared to the pathology of cervical conization, and the cases without conization results were excluded. Clinico-pathologic data were collected including HPV infection and viral load.

Results

385 patients were identified. The median period from biopsy to conization was 27 days (4-314), and the rate of pathologic regression, no-change, and progression was 28.1%, 43.9%, and 28.1%, respectively. When a regression was defined as the change into CIN1 or less, the regression rate was 16.8%, 33.9%, and 17.2% in cases with the time period of <1 month, 1-2 months, and >2 months, respectively. The disease progress was related with the viral load of high-risk HPV (p=0.025) as well as the results of cytology and biopsy. The level of viral relative light unit (RLU) higher than 230 was an independent predictor for CIN progression (OR=1.646, 95%CI 1.028-2.634). The progression was also associated with the involvement of resection margin by CIN on conization (p<0.001).

Conclusion

Among patients who undergo conization for high-grade CIN after 1-2months from diagnosis, one third may have a low-grade CIN. The high level of high-risk HPV load is a predicting factor for CIN progression. If RLU is higher than 230, treatment for CIN should not be delayed and more attention is required to achieve negative resection margin on conization.

IGCSM-0192
Poster Shift II - Cervical Cancer

CERVICOGRAPHY, CYTOLOGY, AND HUMAN PAPILLOMAVIRUS TESTING FOR CERVICAL CANCER SCREENING IN KOREAN WOMEN

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Aims

We reviewed cervicography, cytology, human papillomavirus (HPV) testing, and colposcopic biopsy to evaluate correlations between individual tests and to investigate the status of HPV infection in Korean women who showed abnormal cervicography results.

Methods

A total of 1,010 women who showed abnormal findings on digital cervicography performed at private clinics were referred to hospitals affiliated with medical colleges in Korea for colposcopic biopsy between January 2004 and December 2010 were analyzed retrospectively. Patient age, cervicography results, HPV testing results, and pathologic findings of colposcopic cervical biopsy specimens were reviewed, and their sensitivity, specificity, negative predictive value (NPV), positive predictive value (PPV), and concordance rate were calculated.

Results

In the case of abnormal cytologic findings, such as ≥low-grade squamous intraepithelial lesion (LSIL), their sensitivity, specificity, PPV, and NPV were 44.6%, 98.8%, 92.9%, and 84.1%, respectively. In the case of abnormal findings on cervicography, such as ≥ compatible low-grade lesion, their sensitivity, specificity, PPV, and NPV were 58.8%, 98.8%, 94.5%, and 87.7% respectively. In the case of high-risk human papilomavirus infection, their sensitivity, specificity, PPV, and NPV were 86.3%, 56.2%, 40%, and 92.4%, respectively. When a combination of cervicography and cytology was performed in patients with CIN ≥ II, its sensitivity and specificity were 82% and 90.7%, respectively.

Conclusion

Cervicography and HPV testing are adjuvant methods for complementing primary screening for cervical dysplasia or for assisting in the management of women with

abnormal cytology results. Cervicography can detect HPV-associated premalignant lesions of the cervix and vagina that are not detected by cervical cytology.

IGCSM-0206
Poster Shift II - Cervical Cancer

IS IMRT THE FAIREST ONE OF ALL? COMPARISON OF TWO RADIATION TECHNIQUES IN PATIENTS WITH ADVANCED CERVICAL CANCER RECEIVING CONCURRENT RADIOCHEMOTHERAPY.

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Aims

The aim of our study was to compare the tolerance of two techniques of radiotherapy, combined with chemotherapy, in patients with advanced cervical cancer.

Methods

227 patients diagnosed with cervical cancer IIIB, aged 26-78 (median 55), were treated between January 2009 and December 2013. The treatment consisted of external beam radiation therapy (EBRT) combined with concurrent chemotherapy (cisplatin weekly), and followed by HDR brachytherapy (dose depended on EBRT dose)

Patients were analysed in 2 groups:

1. 119 women, treated in 2009-2010 using two opposed fields technique (87 patients) or box technique (32 patients), with a midline shield (after 15 fractions). Treatment planning based on CT scans. Median whole pelvis total dose was 54 Gy.

2. 108 women, treated in 2011-2013 using IMRT technique (based on PET/CT and MRI). Median total dose to PTV was 54 Gy.

Results

91% of patients in group 1 and 94.4% of patients in group 2 completed the treatment.

Severe haematological toxicity (grade 3 or 4; CTCAE v. 4.03) was observed more often in group 2 (37% of patients) than in group 1 (25.2% of patients).

Grade 3 or 4 early toxicity of the bowel: ileus was observed in 3 (2.5%) patients in group 1 and in no patients in group 2; diarrhea – in 16 (13.4%) and 4 (3.7%) patients, respectively.

Conclusion

The IMRT technique provides excellent improvement in radiation treatment. Although the haematological toxicity was higher in the IMRT group, 94.4% of patients completed the treatment due to a significant improvement in supportive treatment.

IGCSM-0209
Poster Shift II - Cervical Cancer

TREATMENT STRATEGIES FOR NEUROENDOCRINE CARCINOMA OF THE CERVIX: A CLINICAL REVIEW OF A SINGLE INSTITUTION.

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Aims
We conducted a single institutional retrospective review to explore the patterns of treatment and outcomes and to clarify an optimum treatment strategy of neuroendocrine carcinoma (NEC) of the cervix.
Methods
Women with small cell neuroendocrine carcinoma (SCNEC) or large cell neuroendocrine carcinoma (LCNEC) of the cervix diagnosed at Hyogo Cancer Center between 1997 and 2013 were identified. Pertinent information including clinical and pathological characteristics, treatment, and survival data was collected from clinical chart or phone survey. Pathological review was conducted by a pathologist specializing in gynecologic cancer.
Results
A total of 25 women (13 SCNEC, 12 LCNEC) met inclusion criteria. Twenty with FIGO stage I/II received radical hysterectomy with pelvic lymphadenectomy. After surgery, 9 received adjuvant chemotherapy (7 irinotecan plus cisplatin, 2 etoposide plus cisplatin), 9 received concurrent chenoradiation therapy (CCRT) (8 nedaplatin, 1 cisplatin), and 2 received radiation therapy (RT). Women who received adjuvant chemotherapy had better overall survival than who received CCRT or RT (HR: 0.1627 (95% CI: 0.0357 to 0.743), *P*-value =0.0191). The 5-year overall survivals were 100% in women with adjuvant chemotherapy, and 36% in CCRT or RT. In the remaining 5 women, 2 with FIGO stage III and 1 with stage IVa who had lymph node metastasis received CCRT, and 2 with stage IVb received palliative RT or chemotherapy. All 5 women with FIGO stage III/IV died of disease within 30 months.
Conclusion
Long-term survivorship may be possible with radical hysterectomy followed by platinum based chemotherapy especially irinotecan and cisplatin combination in patients with early stage NEC of the cervix.

IGCSM-0226
Poster Shift II - Cervical Cancer

THERAPEUTIC HPV 16/18 DNA VACCINE, GX-188, INDUCES A HIGH RATE OF NOT ONLY CLEARANCE OF HPV INFECTION BUT ALSO REGRESSION OF CERVICAL INTRAEPITHELIAL NEOPLASIA III

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Aims

We conducted phase I clinical trial of a novel therapeutic HPV DNA vaccine, GX-188, which encodes engineered HPV16/18 E6 and E7 antigens, to see the complications and preliminary therapeutic effects.

Methods

GX188 DNA vaccine was administered by *in vivo* electroporation (GX188E) in nine subjects who had a biopsy-proven cervical intraepithelial neoplasia grade 3 (CIN3, severe dysplasia or carcinoma in situ) with HPV 16/18. After injecting three times(0,4,12weeks) with GX188 DNA vaccine all patients were followed up with colposcopic biopsy and HPV DNA test after 8 weeks from the last injection.

Results

All patients immunized with GX188E had elevated T-cell responses to HPV16/18 E6 and E7 peptide pools as detected by IFN-g enzyme-linked immunosorbent spot (ELISPOT) compared to pre-vaccination baseline levels, which correlated with regression from CIN3 to cervicitis on colposcopic biopsy & disappearance of HPV DNA. The injection-site pain was tolerable with mean VAS score of 1.9 ten minutes after injection, and none of the patients presented significant adverse events.

Conclusion

These results demonstrate that a novel therapeutic HPV DNA vaccine, GX-188, is highly effective for the treatment of CIN III and even can be safely used for a high rate of clearance of HPV infection.

Conflict of interest
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IGCSM-0227
Poster Shift II - Cervical Cancer

FUNCTIONING OF URINARY AND REPRODUCTIVE SYSTEMS IN PATIENTS WITH INFILTRATIVE CERVICAL AFTER NERVE-SPARING RADICAL HYSTERECTOMY

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Aims

To evaluate the influence of nerve-sparing radical hysterectomy (NSRH) on functions of urinary and reproductive systems (RS) in patients with infiltrative cervical cancer (CC).

Methods

46 patients with infiltrative CC which underwent radical hysterectomy (RH) at the Gynecologic Oncology Department of National Cancer Institute in Kyiv during 2012-2014. NSRH was performed in 23 patients (1st group). Other 23 patients received standard surgery (control group).

Results

The difficulty of urination in first group of patients was observed in 3 (12.9%) patients. Dysfunction of urinary system (DUS) was found in 17.2% patients. Enuresis (En) was observed in 1 (4.3%) patient. Dysfunction of vaginal secretion (DVS) was observed in 2 (8.6%) patients. Pain syndrome (PS) during sexual contact was observed in 1 (4.3%) patient. Feeling of fear to have sexual contact was observed in 2 (8.6%) patients. Sexual dysfunction (SD) in general has been found in 21.5% patients.

The difficulty of urination in control group of patients was observed in 14 (60.7%) patients. En was found in 4 (17.2%) patients. 77.9% of control patients had DUS. DVS was observed in 7 (30.3%) patients. Feeling of fear to have sexual contact was observed in 8 (34.6%) patients. SD was observed in 86.5% control patients.

Conclusion

In patients with infiltrative CC with preservation of pelvic plexus after RH the percentage of DUS and sexual life was significantly less (17.2% and 77.9%, respectively) compared to control group of patients (21.5% and 86.5%, respectively). These results prove the significant impact of NSRH on functions of urinary and RS.

IGCSM-0229
Poster Shift II - Cervical Cancer

ASSESSMENT OF CONTRACTILE FUNCTION OF URINARY BLADDER IN PATIENTS WITH INFILTRATIVE CERVICAL CARCINOMA AFTER NERVE-SPARING RADICAL HYSTERECTOMY

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Aims

Access the contractile function of urinary bladder in patients with infiltrative cervical carcinoma (ICC) after nerve-sparing radical hysterectomy (NSRH).

Methods

46 patients with ICC underwent RH. Among them, 23patients (I group) underwent NSRH and 23 patients (II group - control) underwent RH according to the standard procedure. All patients were treated in National Cancer Institute in 2012-2014. Prognostic predictors were similar in both groups. In early postoperative period all patients have undergone cystometry.

Results

The distensibility of the bladder was considered as a change in detruzor pressure at certain change of filling volume and was calculated by the formula:

K=V/P, where K – distensibilty of the bladder wall; V — change in volume, P– change of detruzor preasure in the moment of volume change. The distensibility of bladder was calculated in ml/ cm.wat.col. Under maintaining the pelvic plexus nerve sdistensibility of the bladder was more then 10 ml/sm.war.col. with the volume to 100ml and 25 ml/sm.wat.col. with the volume to 500 ml.

In 80% of cases in patients of I group contractile function of urinary bladder fully restored on 2-3 days after surgical operation whereas in control group – only in 20% of cases. Normal function of lower urinary tracts after NSRH restored in all patients of 1 group after 5-7 days and in patients of 2 group in 7-21.

Conclusion

NSRH in patients with ICC allows preserving the function of lower urinary tract what has been confirmed by indicators of cystometry performed in early postoperative period.

IGCSM-0237
Poster Shift II - Cervical Cancer

UTERINE CERVICAL CANCER SCREENING IN KITAKYUSHU CITY : THE EFFICACY OF FREE COUPONS

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Aims

Conventional cervical screening Pap test has been shown to be extremely effective in reducing cervical cancer incidence and mortality, but the consultation rate for cancer screening in Japan is markedly low, at 20% of prescribed subjects, in comparison with other developed countries. The purpose of current study is to evaluate the efficacy of free coupons for uterine cervical cancer screening,

Methods

The data obtained from uterine cervical cancer screening surveillance, Kitakyushu medical association were examined retrospectively.

Results

In 2001, 15,501 women (6.8%) received a Pap test in Kitakyushu city. From 2009, free coupons for uterine cervical cancer screening were distributed to Japanese woman who were 20,25,30,35 or 40 years of age. The rate of participation in Pap testing was 22.3% in 2012, with 31,970 women receiving cervical tests. Extensive molecular biological and epidemiological research has confirmed certain human papillomavirus (HPV) types to be carcinogenic in the uterine cervix, and sexual practice is one of the most powerful risk factors associated with the incidence of cervical cancer. The rate of early cervical neoplasms and invasive cancers is currently increasing in young women. Abnormal Pap tests were detected in 2.3 % of the women in 2008.

Conclusion

To increase the populations participation in this important screening process, a cost-effective and efficient system should be established. National and local governments, medical institutions, companies, and educational institutions must have an accurate

understanding of the current situation, and take an assertive approach in order to decrease the mortality rate of uterine cervical cancer.

IGCSM-0243
Poster Shift II - Cervical Cancer

CERVICAL INTRAEPITHELIAL NEOPLASIA WITHOUT HUMAN PAPILLOMA VIRUS INFECTION

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Aims

Infection with HPV is an established cause of Cervical Intraepithelial Neoplasia and cervical cancer. But is this the only reason for this type of neoplasms? The purpose of this study is to determine whether infection with HPV is the only reason for CIN.

Methods

The study included 421 women aged 18 to 45 years whom was performed gynecological examination, a medical history and Pap smear were collected, colposcopy and HPV test were performed. In those cases where were found colposcopy and cytological evidences of atypism we conducted biopsy or abrasion from uterus cervix. GenoFlow HPV Array Test Kit (FT-PRO) was used to analyze the HPV status in cervical samples collected during the 3-year study period.

Results

From all included 421 women – one or more HPV genotypes were identified within 177 (42%) and HPV (-) in 244 (58%) women. From HPV (+) group, CIN have 57(13.5%) women, from HPV (-) – 44 (10.5%) women. There is a statistical significance between HPV (+) and developing CIN (p-0.001), but we didn't find statistical difference between HPV (+) and HPV (-) groups in developing CIN (p-0.067).

Conclusion

Our results indicate that infection with HPV is probably not the only reason for development of CIN. Based on the results from the study, we cannot accept implementing a change of cytological tests (PAP smear) and cervical colposcopy in cancer screening for cervical cancer with the tests for HPV.

IGCSM-0250
Poster Shift II - Cervical Cancer

LYMPHOMA OF FEMALE GENITAL TRACT: 12-YEAR EXPERIENCE AT THE UNIVERSITY HEALTH NETWORK

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Aims

Extranodal lymphoma of the female genital tract is a rare and unexpected finding. The overlapping and nonspecific clinical presentation and imaging characteristics often lead to a delayed diagnosis. The clinicopathological findings have mainly been described in case reports and limited case series. Our aim is to add to the current literature in this matter.

Methods

This is a retrospective study done in a large tertiary care institution. In a 12-year period we identified and reviewed the clinicopathological features of all new cases of primary and secondary lymphoma in the female genital tract (uterus, cervix, ovary, fallopian tube, vagina and vulva).

Results

We identified 21 patients with average age of 54.7 (range 17–78 years). 10 patients had primary lymphoma (stage 1-2 E), 5 patients had stage 4 which was presumed to be primary due to the presence of the bulk of disease in the genital tract and 6 patients had confirmed secondary lymphoma.

In contrast to the current literature, in our series, cervix was the most common organ involved (52%), followed by ovary (38%) and vagina (33%). All the vaginal lymphoma had concurrent cervical involvement. 3 patients had locally advanced disease with extensive involvement of the genital tract. All cases were mature B-cell lymphomas and DLBCL was the most common subtype followed by follicular lymphoma.

Conclusion

The literature with regard to lymphoma of the female genital tract is still evolving and assessment of available data is of value to better characterize the clinicopathological features of this rare entity.

IGCSM-0254
Poster Shift II - Cervical Cancer

ADVANTAGES AND EFFECTIVENESS OF INTENSITY-MODULATED RADIATION THERAPY (IMRT) FOR RECURRENT GYNECOLOGIC CANCER

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Aims
There are no established treatment guidelines for recurrent gynecologic cancer. Treatment of recurrent cases is generally difficult, and the prognosis is poor. We examined the advantages and effectiveness of IMRT for recurrent gynecologic cancer.
Methods
The study subjects comprised 8 patients with recurrent gynecologic cancers who underwent IMRT between January 2011 and August 2013. Therapeutic efficacy (response rate by RECIST, progression-free survival [PFS]) and adverse events (AEs) were analyzed retrospectively.
Results
The primary lesions in the 8 recurrent cases were 4 cervical cancer, 2 endometrial cancer, 1 ovarian cancer, and 1 vaginal cancer. The histological types were 4 squamous cell carcinoma, 2 carcinosarcoma, 1 adenosquamous carcinoma, and 1 endometrioid adenocarcinoma. The treatment effects were 4 CR, 1 SD, and 3 PD. The disease control rate was 62.5%. The median age was 71.5 y.o in CR group, 59y.o. in non-CR group. The Performance Status (PS) was 0 in all CR, 1-3 in non-CR group($p=0.0143$). The tumor size was < 4 cm in CR, ≥ 4 cm in non-CR group($p=0.0143$). The median PFS following IMRT was 25 month in CR, 5.5 month in non-CR group($p=0.0040$). AEs due to the IMRT occurred in 2 of the 8 cases, and they were all grade 1.
Conclusion
IMRT was performed safely even in elderly patients, with few AEs. Moreover, it appears that therapeutic efficacy can be expected in patients with a good PS and tumors smaller than 4 cm. IMRT appears very safe and represents a good therapeutic option for recurrent gynecological tumors.

IGCSM-0259
Poster Shift II - Cervical Cancer

PROGNOSIS AND RECURRENCE PATTERN OF PATIENTS WITH CERVICAL CARCINOMA AND PELVIC LYMPH NODE METASTASIS

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Aims
To investigate the prognostic risk factor(s) and pattern of disease relapse of patients with cervical carcinoma and pelvic node metastasis.
Methods

One hundred twenty four cases of FIGOIB1~IIA cervical carcinoma with pelvic node metastasis treated from January 1991 to December 2001 were selected for this study. Prognosis and recurrence were retrospectively analyzed using the clinico-pathological data.

Results

The overall 5 year survival and disease-free survival (DFS) was 63.3% and 61.4% respectively. Overall recurrence rate was 39.5% (49/124). Intra-pelvic relapse (25/41, 61.0%) was significantly more frequent than extra-pelvic relapse (13/41, 1.7%, P=0.008). Multivariate analysis identified involvement of common iliac node as independent prognostic factor (P=0.035). According to this factor, node-positive patients could be divided into low risk group (without common iliac node involvement, 104 cases) and high risk group (with common iliac node involvement, 20 cases). The DFS were 69.4% and 24.5% respectively, and the difference was significant (P=0.003). Intra-pelvic relapse was observed in 22.1% of low risk and 25.0% of high risk group respectively, the difference was not significant (P>0.05), however extra-pelvic relapse was seen in 7.7% of low risk and 40.0% of high risk group, and the difference was significant (P<0.001).

Conclusion

Common iliac node involvement is the significant factor that influences the prognosis of patients with cervical carcinoma and pelvic node metastasis. According to this factor, survival and recurrence pattern differs significantly. These findings provide important reference for individualized modification and investigation of treatment mode.

IGCSM-0262
Poster Shift II - Cervical Cancer

EXPRESSION OF SIRTUIN 1 PREDICTS THE EFFICACY OF NEOADJUVANT CHEMOTHERAPY FOR LOCALLY ADVANCED UTERINE CERVICAL CANCER

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Aims

Successful neoadjuvant chemotherapy (NAC) can enable hysterectomy to be performed for patients with locally advanced cervical cancer. Sirtuin1 (SIRT1) deacetylates histones and several non-histone proteins and allows cell survival under stress through deacetylation of key cell cycle and apoptosis. It is said over-expression of SIRT1 induces tumorigenesis or resistance to chemotherapy owing to disturbance of apoptosis. The aim of this study is to examine whether the expression of SIRT1 is related to the efficacy of NAC for locally advanced cervical cancer.

Methods

We reviewed 62 cases of locally advanced uterine cervical cancer (stage IIIA and IIIB) from 1995 to 2010. Tumor samples were obtained by biopsy prior to NAC. Cases were divided into two groups: one group in which NAC was effective, surgery was possible and radiotherapy was performed (NAC+OP+R group; n=35), and another group in which NAC was ineffective and radiation therapy was performed (NAC+R group; n=27). SIRT1 expression was examined immunohistochemically

Results

The expression of SIRT1 was significantly higher in the NAC+R group than in the NAC+OP+R group ($P<0.001$). The overall survival of NAC+OP+R group was significantly better than of NAC+R group ($P=0.001$). Low SIRT1 expression group might be responsive to NAC and show better overall survival than High SIRT1 group.

Conclusion

It is suggested that the expression of SIRT1 may predict the efficacy of NAC as a treatment for locally advanced uterine cervical cancer.

IGCSM-0263
Poster Shift II - Cervical Cancer

AGE DISTRIBUTION OF ABNORNMAL PAP SMEAR IN A SECONDARY HOPITAL IN SOUTH-WEST NIGERIA

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Aims
To determine the age distribution of pattern of abnormal smears in all patients screened over a period of five years with a view of using the pattern to advise local authorities on the best points of entry and exit from cervical cancer screening protocol.
Methods

In this retrospective review, the 102 clients who had abnormal smear out of the total 629 clients who had Pap's smear at the State Specialist Hospital, Akure over a period of 5years (2008-2012) were analyzed for specific diagnosis and their age distribution.

Results

Among the clients with abnormal smear, 57 (55.9%) had ASCUS, 34 (33.3%) had LSIL and 9 (8.8%) of the clients had HSIL. A client each had AGCUS and cancer cytology and was 50 and 60 years old respectively. ASCUS, LSIL and HSIL were found across all age groups except 30years and below where few LSIL were seen.

Conclusion

Screening uptake is still low in our environment and because only few LSIL were seen in clients ≤30years, it may be cost effective to start screening from 30years and to exit screening at 70years since abnormal smears were still found in women ≥70years.

IGCSM-0270
Poster Shift II - Cervical Cancer

ACCEPTABILITY OF SELF-SAMPLING HPV TESTING AMONG WOMEN ATTENDING IN AN INSTITUTION FOR CERVICAL CANCER SCREENING

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Aims

The incidence of cervical cancer in Thailand is high because screening coverage is very low. The obstacle of Pap test is embarrassment and fear of vaginal examination. Women from most countries accept that Self sampling device is convenience and less embarrassment but some do not accept. The reason for unaccepted is based on cultural differences. Some cultures of Thai women are also difference from Western country.

Methods

Data collection was performed during January 2014 to April 2014. The participants were assigned to do the Pap test by physicians and after that brush type self-sampling HPV testing instruments were assigned. Then, the participants had to answer the questions. The questionnaire contains 2 parts. Part one is general information and part two is the acceptability questions. The questions used Likert's scales for scoring.

Results

Mean age was 40.6 years. Incidence of hr-HPV infection in this study is 16%. Average income of the subjects was 10,000-30,000 Baht/month (32.59 Baht= 1USD) . About 80 % of the subjects feel less embarrassment, 82% of them feel less pain. However, only 63% of the participants feel confident in this device which is quite low comparing to other aspects of the questionnaire. According to the price of the test, if the price is less than 1000 Baht, 82% of the subject will use it.

Conclusion

The acceptability of self-sampling device in this study is good but the reliability of the test is questioned. The price of the test in Thailand may Influence the acceptability of the test.

IGCSM-0271
Poster Shift II - Cervical Cancer

PARAMETRIAL BOOST DOES NOT REPLACE OPTIMAL BT TREATMENT IN 102 PATIENTS WITH LOCALLY ADVANCED CERVICAL CANCER (LACC)

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Aims

We report 102 patients with LACC, treated by concomitant cisplatin-based chemoradiotherapy (CCRT) and brachytherapy (BT). We focus on the identification of variables that can predict late morbidity and recurrence.

Methods

Between 2006 and 2013 102 consecutive patients with FIGO stage 1B1 N+ or ≥ 1B2 LACC were treated by CCRT-BT. Staging lymph node dissection was performed in 61 patients The total dose of external beam radiation therapy (EBRT) was respectively 50,4 Gy (n=71) and 60 Gy (n=31) when a parametrial tumor boost was delivered without interstitial BT. Dose delivered by BT varied accordingly from 25 to 35 Gy. Past medical history including abdominal surgery, smoking, diabetes and age were recorded. Univariate analysis of factors linked to CCRT-BT responsible for Grade I/II and Grade III/IV morbidity was performed.

Results

With the a medium follow-up of 22 months, recurrence was observed in 27 patients. It was associated with two factors : tumor size ≥ 6 cm (OR=0,29 ; p=0,017) and BT dose <35 Gy (OR=4,61 ; p=0,0014). The Grade III/IV late toxicity profile was the following : 11 gastrointestinal, 4 genitourinary and 10 vaginal. No correlations were found between any medical factors or radiation dose and techniques, and late toxicity.

Conclusion

Decreasing BT dose even if compensated by EBRT has an unfavorable impact on rate of recurrence. These conclusions await confirmation on larger series of patients with prospective evaluations.

IGCSM-0273
Poster Shift II - Cervical Cancer

ULTRASOUND GUIDED CONFORMAL BRACHYTHERAPY OF CERVIX CANCER: SURVIVAL, PATTERNS OF FAILURE AND LATE COMPLICATIONS

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Aims

The aim of this study was to report on the long term results of trans-abdominal ultrasound guided conformal brachytherapy of cervix cancer patients with respect to patterns of failures, treatment related toxicities and survival.

Methods

Three hundred and nine cervix cancer patients who presented to Institute between January 1999 and December 2008 were staged with MRI and PET and treated with external beam radiotherapy (EBRT) and high dose rate conformal image guided brachytherapy (HDRc) with curative intent. Follow-up data relating to sites of failure and toxicity was recorded prospectively.

Results

Two hundred and ninety two patients were available for analyses. The median (IQR) follow-up time was 4.1 (2.4-6.1) years. Five year failure free survival (FFS) and overall survival (OS) were 66% and 65%, respectively. Primary, pelvic, para-aortic and distant failure were observed in 12.5%, 16.4%, 22% and 23% of patients respectively. In multivariate analysis, tumor volume and nodal disease related to survival, whereas local disease control and Point A dose did not.

Conclusion

Ultrasound guided conformal brachytherapy of cervix cancer has led to optimal local control and OS. The Melbourne protocol compares favorably to the more technically elaborate and expensive GEC-ESTRO recommendations. The Melbourne protocol's

technical simplicity with real-time imaging and treatment planning makes this a method of choice for treating cervix cancer patients.

IGCSM-0274
Poster Shift II - Cervical Cancer

MAY PELVIC PET NODAL STATUS IMPACT ON INDICATION OF SURGICAL PARA-AORTIC NODE STAGING IN PATIENTS WITH LOCALLY ADVANCED CERVICAL CANCER?

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Aims

Locally Advanced Cervical Cancer (LACC) is treated by concurrent chemoradiotherapy (CCRT). Prior to initiation of treatment, para-aortic (PA) nodal status is evaluated to adapt EB-planning. PET-CT or para-aortic node dissection can be proposed. We report our experience with Transperitoneal Para-Aortic Node Staging (TPPANS) and confront it to the metabolic nodal status.

Methods

Between 2006 and 2013, 39 patients treated for FIGO ≥1B2 cervical cancer by CCRT at the University of Liege underwent a PET-CT followed by TPPANS. Para-aortic PET data were compared to the definitive histological status. Sensibility, specificity, positive and negative predictive value were generated. Finally the accuracy of PA PET was evaluated at the light of the pelvic nodal PET status.

Results

FIGO stage varied from 1B2 to 4A. The performance of para-aortic PET-CT was as follows.

	Para-AO Histo+	Para-AO Histo-	
Para-AO PET+	**2**	**1**	PPV : 2/(2+1)= **0,667**
Para-AO PET-	**3**	**33**	NPV : 33/(3+33)= **0,916**
	Sensibility : 2/(2+3) = **0,4**	Specificity : 33/(33+1) =**0,97**	

If pelvic PET-value is taken into consideration, patients with pelvic PET - status and para-aortic PET -status have a risk of PA PET false negativity of 5.5%. Patients with pelvic PET + status and para-aortic PET- status have a corresponding risk of 11%.

Conclusion

Para-aortic nodal status contributes to optimally plan LACC. In our experience, PA PET-CT has limited sensitivity (40%). The pelvic PET-status may help predict the rate of falsely negative PA PET results (5.5% (pelvic PET negative) versus 11% (pelvic Pet positive)). This may impact on our decision to surgically stage para-aortic nodes in LACC.

IGCSM-0277
Poster Shift II - Cervical Cancer

ENDOCERVICAL ADENOCARCINOMA : PATTERN-BASED CLINICAL CLASSIFICATION SYSTEM

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Aims

Since Endocervical Adenocarcinoma (EAC) spreads mainly by lymphatic route, treatment should assess both the primary tumor, the adjacent tissues and lymph nodes. The purpose of our study is to identify pathologic factors that could evaluate better EAC patients at risk of developing LN metastases.

Methods

Retrospective review of patients with EAC treated in our institution. Clinical and pathologic features, such as Depth of Invasion (DOI), tumor size, Lymphovascular Space Invasion (LVI) and pattern of tumor invasion were evaluated. Parameters were categorized: Pattern A: well demarcated glands, disregarding DOI, no LVI, Pattern B: early invasion of stroma, arising from well demarcated glands, Pattern C: diffuse, destructive invasion.

Results

A total of 103 women aged 21-79 (mean 50.67years) were identified with EAC. All patients were staged between IA2 to IV, DOI ranged from 3.5to>40mm, whereas LVI was involved in 42 cases. Standards staging using DOI and the suggested patterns were compared.

Conclusion

As it was confirmed, Pattern A EAC is low risk for nodal disease (19.4% of patients, would not need LN resection).Pattern B, rarely has LN metastases since 71.4% have stage I disease. Pattern C is clearly a significant risk factor for nodal disease and should receive an aggressive treatment based on the fact that 22.9% of them have LN involvement. Additionally, most patients of higher stage disease have tumors referring to

Pattern C. Therefore, our data suggest that this new pattern-based method of classifying EAC could be clinically significant since it is simple, utile, and consistent.

IGCSM-0279
Poster Shift II - Cervical Cancer

FERTILITY SPARING SURGERY FOR CERVICAL CANCER DURING PREGNANCY: CASE REPORT OF RADICAL ABDOMINAL TRACHELECTOMY AT 15TH WEEK OF GESTATION

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Aims

Treatment of pregnancy complicated by malignancy constitutes a great clinical challenge between optimal maternal therapy and fetal viability. Radical abdominal trachelectomy is a fertility-preserving alternative.

Methods

A 29 year's old woman (P0G0), during routine Papanicolaou smear test, was diagnosed with ASCUS. Biopsy sampling (colposcopicaly directed) revealed squamous cell carcinoma, with moderate differentiation (CIN3, compatible with HPV). A Magnetic Resonance Imaging followed, showing a tumour sized 2.1 cm at a range of 7 mm from the internal cervical os. The patient was thoroughly informed about the current treatment of cervical cancer and the possible complications. Due to patient's strong desire to preserve the pregnancy, she was given the alternative option of radical trachelectomy. The disease was reassessed at the 14th week of gestation. Tumour size was already 2.9 cm at a range of 5mm from cervical os.

Results

Radical abdominal trachelectomy, bilateral lymphadenectomy and a double loupe in the lower uterine segment, was performed. The histological examination showed adenosquamous cell cervical carcinoma, sized 3.5x2.9x0.7 cm, with poor differentiation, free surgical margins, at a range of 4mm from the upper border. Moreover, an extra segment was removed, sized 2.5x2 mm, marked also as free from disease.

Conclusion

Radical trachelectomy can widen the therapeutic approach of early stage cervical cancer in pregnant women who wish to preserve their fertility, providing a possibility of receiving the proper treatment with no delay.

IGCSM-0283
Poster Shift II - Cervical Cancer

RESIDUAL DISEASE AT MRI PREDICTS PFS AND OS IN PATIENTS WITH LACC TREATED BY CHEMORADIATION : A SINGLE INSTITUTION EXPERIENCE

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Aims

CCRT is the optimal treatment approach for Locally Advanced Cervical Cancer. Early post-treatment response is currently evaluated by either clinical examination, MRI or PET CT or a combination of those. No consensus exists regarding the optimal post RT evaluation and the follow-up of patients with LACC.

Methods
Between 2007 and 2012, 31 patients with LACC were treated at the CHU of Liège by CCRT and benefited from a detailed pre and post therapeutic work-up including clinical, metabolic (PET CT) and morphologic (MRI) evaluation. Variables predicting PFS and OS were calculated.
Results
After a median follow-up of 23,5 months, 9 patients recurred. Median DFS was 57 months and median OS was 73 months. Post treatment clinical evaluation and PET CT were not predictive of the patients risk of relapse and survival. Only post RT residual disease status (neg vs pos) at MRI was statistically correlated to patient's outcome (PFS p=0,021 and OS p=0,026).
Conclusion
CCRT offers optimal outcome to patients with Locally Advanced Cervical Cancer. Accurate post treatment assessment is mandatory in order to plan observation vs further therapy and to determine patients' prognosis. Clinical examination and PET CT appear suboptimal in this single institution experience. Post RT residual disease at MRI is discriminant in terms of OS and PFS.

IGCSM-0286
Poster Shift II - Cervical Cancer

PERIOPERATIVE OUTCOMES OF RADICAL TRACHELECTOMY IN EARLY-STAGE CERVICAL CANCER: VAGINAL VERSUS LAPAROSCOPIC APPROACHES

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Aims
To compare the vaginal (LARVT) versus laparoscopic (LRT) surgical approaches and provide outcome data on patients who have undergone radical trachelectomy.
Methods
We identified patients who had undergone LARVT or LRT at Samsung Medical Center between January 2005 and March 2013.
Results
A total of 38 patients were identified, and 21 patients had undergone LARVT, whereas 17 patients had undergone LRT. The median age was 32 years for both groups. The majority of patients had a squamous cell carcinoma (68.4%) and FIGO stage IB1 disease (76.3%). Twenty of 38 patients (52.6%) had tumor size greater than 2 cm. There was no significant differences between groups in the baseline characteristics except for the tumor size. Patients undergoing LRT had significantly larger tumor size than patients undergoing LARVT (median tumor size, 2.7 cm [range, 1.2–3.7] vs. 2.1 cm [range, 0.4–3.0], p = 0.032). Perioperative outcomes were similar between groups except for the decline of hemoglobin after surgery. The median decline of hemoglobin was significantly smaller in the LRT group than in the LARVT group (1.8 g/dl [range, 0.5–3.5] vs. 2.6 g/dl [range, 0.7–6.2], p = 0.017). Intraoperative complications occurred in two patients (9.5%, 2/21) in LARVT group. Even though 52.6% of tumors were larger than 2 cm, recurrence occurred only in three patients (7.9%).
Conclusion

The study shows the feasibility of LRT, with the advantage of reduced blood loss. LRT could be an alternative option for patients with large tumors. Further researches are needed to investigate the long-term outcomes.

IGCSM-0289
Poster Shift II - Cervical Cancer

CESAREAN DELIVERY WITH BILATERAL OVARIAN TRANSPOSITION FOR LOCALLY ADVANCED CERVICAL CANCER.

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Aims
We present a case who had pregnancy with cervical cancer that was diagnosed at the third trimester. We aimed to discuss about management of pregnancy with locally advanced cervical cancer, especially at the third trimester with ovarian transposition concomittant with cesarean delivery

Methods
A 26 year old patient who was at the 29 th week of gestation had amniotic leakage for 9 days. During the sterile speculum examination, a large cervical lesion was detected. The cervical biopsy revealed invasive squamous cervical cancer. She was referred to our clinic for follow-up and treatment.

Results
Speculum and pelvic examination revealed a 5 cm cervical mass on the anterior lip of the cervix, upper vaginal involvement and suspicious right parametrial involvement. The rupture of membranes (PPROM; preterm premature rupture of membrane) was confirmed. An magnetic resonance imaging (MRI) showed 55X 63X 68 mm cervical lesion with suspicious right parametrial involvement, and no nodal involvement. The fetal biometry and well being was evalauted. Delaying treatment to gain time for fetal maturity was choosen. A single course antenatal corticosteriod was given. The fetus and maternal status were evaluated regularly. The white blood and erythrocyte sedimentation rate (ESR) were 9000/ mm3, and 96 mm/h, respectively. An elective cesarean delivery decision was taken due to nonreassuring fetal status and suspicious chorioamnionitis. At 30 th week of gestation, an elective cesarean delivery with bilateral ovarian transposition was performed. The patient was referred to radiotherapy after postpartum period.

Conclusion
Multidisciplinary approach is recommended for treating a pregnant patient with cervical cancer.

IGCSM-0290
Poster Shift II - Cervical Cancer

SRC IS ACTIVATED IN CERVICAL ADENOCARCINOMA

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Aims
Src family tyrosine kinases are important factors for cell growth. Src is reported to be activated in ovarian mucinous adenocarcinoma, and correlates with oxaliplatin resistance. Cervical adenocarcinoma is thought to have worse prognosis compared with squamous cell carcinoma due to low response to chemotherapy and radiotherapy. So novel therapy has been expected for cervical adenocarcinoma. The aim of this study is to clarify src expression in cervical adenocarcinoma.
Methods
We examined src expression by immunohistochemistry in cervical adenocarcinoma treated with surgery during 2001 to 2011 and association with clinico-pathological findings. 36 invasive cancers and 1 adenocarcinoma in situ (AIS) and 12 normal cervical glands were examined.
Results
In invasive cancer, src was activated in 16/36 (44%) cases, especially in 9/15 (60%) of mucinous type. Src was also activated in AIS, but not in normal cervical glands. The frequency of parametrial invasion and lymphnode metastasis in Src positive and negative cases were 1/15 (7%) versus 1/18 (6%) and 2/15 (13%) versus 3/20 (15%) in respectively. There were no statistical differences between src positive and negative cases. 3 cases in src positive and 1 case in src negative recurred. Moreover, src was activated in 1 case of AIS, but not activated in adjacent normal cervical gland.
Conclusion
Src activation may be an early event in the carcinogenesis of cervical adenocarcinoma, and has possibility to be a new target in the treatment of cervical adenocarcinoma.

IGCSM-0314
Poster Shift II - Cervical Cancer

THE IMPACT OF LYMPH NODE DENSITY ON OUTCOME IN LYMPH NODE-POSITIVE CERVICAL CANCER PATIENTS

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Aims
To investigate the prognostic value of lymph node denstiy (LND) in patients with lymph node (LN) positive cervical cancer.
Methods
Through a review of medical records, the cervical cancer patients with LN positive and excised LN more than 10 were enrolled. LND was defined the ratio of positive lymph nodes to the total number of excised lymph nodes. To determine the cutoff value of LND to best discriminate the prognosis, time-dependent receiver operating characteristic (ROC) curve was used. Survival rate was calculated using the Kaplan-Meier method, and Cox regression model was used to evaluate the prognostic significance of LND on the progression free survial (PFS).
Results

A total of 140 patients were included. A cutoff of 6.3% LND was selected by time-dependent ROC curve for PFS. The median follow up time was 51.9 months (range, 3-157) and the median LND was 9.6% (range, 1.8-74). In univariate analysis, LND (< 6.3% vs. ≥ 6.3%; 5-yr PFS rate 81.2% vs. 60.9%, $p = 0.016$) and histology (SCC vs. non-SCC; 5-yr PFS rate 73.7% vs. 35.2%, $p < 0.0001$) were significantly associated with PFS. In multivariate analysis, LND ≥ 6.3% (HR 2.6, 95% CI 1.16-5.86, $p = 0.02$) and histology of non-SCC (HR 4.2, 95% CI 2.20-8.25, $p < 0.0001$) were independent predictors for poorer PFS.

Conclusion
The results suggest the applicability of LND as a predictor of outcome in cervical cancer patients with nodal metastasis. LND could be assist in identifying patients with disease progression and therefore for whom more aggressive adjuvant treatment is considered.

IGCSM-0322
Poster Shift II - Cervical Cancer

HUMAN PAPILLOMAVIRUS (HPV) CLEARANCE AFTER SURGICAL OR RADIATION TREATMENT FOR CARCINOMA OF THE UTERINE CERVIX

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Aims

A human papillomavirus (HPV)-infection is established as a prerequisite for the development and maintenance of the vast majority of cervical cancers and its precursor, cervical intraepithelial neoplasia (CINs).

Women with cervical cancer are either treated by surgery or by radiotherapy.

The role of a persistent HPV-infection - not cleared by first line therapy - as a risk factor for disease-free and overall survival outcome has not been evaluated to date.

Aim of our study was to evaluate persistent HPV-infection as a prognostic factor in women with cervical cancer treated by surgery or radiotherapy.

Methods

Between 2009 and 2012 47 women with cervical cancer and HPV-infection were inculuded in our study. All women included in the study were tested for HR-HPV-DNA before treatment, 3 months, and 6 months after treatment.

Results

Only women with complete remission after primary therapy were included into our analysis.14 women had been treated by radical hysterectomy, 33 women had been treated by radiotherapy. After therapy HPV-infection could be detected in 19,1% of our patients. At the time of our analysis 9 patients (19,1%) suffered from recurrent disease and 5 patients (10,6%) had died from cervical cancer. There was no significant association between persistent HPV-infection and the risk for recurrent disease (p=0,4; OR 2,3 [0,4-13,1]). Type of primary therapy was not associated with risk for persistent HPV-infection after therapy (p=0,2; OR 0,2 [0,02-2,1]).

Conclusion

Persistent HPV-infection after primary therapy for invasive cervical cancer does not seem to be associated with a higher risk for recurrence of the disease.

IGCSM-0323
Poster Shift II - Cervical Cancer

NEOADJUVANT CHEMOTHERAPY FOR LOCALLY ADVANCED CANCER CERVIX IN COUNTRIES WITH LIMITED RADIOTHERAPY FACILITIES

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Aims
Developing countries face the problem of significant number of cases of cancer cervix being diagnosed in advanced stage. Chemoradiation, the standard treatment, at present, has limitations due to side effects and availability of radiotherapy facility. Neoadjuvant chemotherapy can be a useful modality of treatment in such a scenario. This study was planned to assess the efficacy and safety of neoadjuvant chemotherapy in treatment of locally advanced cancer cervix.
Methods
28 patients admitted with histopathologically proven cancer cervix of stage 2 and 3 were included in the study. Cisplatin 75mg/m2 and paclitaxel 135mg/m2 were given at 14 days interval with routine monitoring for a maximum of 3 courses. Clinical assessment for downstaging and operability was done followed by radical surgery or radiotherapy.
Results
Downstaging was seen in 70% of casesand 50% became operable. Significant response in tumor size was observed, complete in 50%,partial in 38%. complete pathological response was seen in 20% and disease free margins and nodes were found in 30% of operated cases hence they did not require adjuvant radiotherapy. Cases of stage 2 showed better response. Side effects were alopecia, anorexia, nausea and anaemia.
Conclusion
Neoadjuvant chemotherapy is a safe and effective method of downstaging the locally advanced disease. Following radical surgery adjuvant radiotherapy is not required in significant number of these cases.

IGCSM-0325
Poster Shift II - Cervical Cancer

THE DIFFERENCE OF MICRORNA EXPRESSION BETWEEN PATHOLOGIC AND NORMAL CERVICAL TISSUE IN HIGH GRADE CERVICAL INTRAEPITHELIAL NEOPLASIA PATIENTS

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Aims

The purpose of this study was to identify aberrantly expressed miRNAs in high grade cervical intraepithelial neoplasia. And we investigate the difference of miRNA expression between pathologic and normal cervical tissue in high grade cervical intraepithelial neoplasia patients

Methods

MicroRNA expression was assessed in normal uterine cervical tissue, high grade cervical intraepithelial neoplasia, invasive cervical cancer by next generation sequencing. We sort out 4 miRNAs as potential biomarkers that showed a consistent increasing or decreasing tendency through all disease categories. The expression levels of the 2 up-regulated and 2 down- regulated miRNAs were validated on the 27 high grade CIN patients` samples (pathologic and adjacent normal cervical tissue) by qRT-PCR

Results

The expression level of miR-424 showed a statistically significant increase in high grade CIN (median 1.101, interquartile range (IQR) 0.291-7.904) as compared to their normal cervical tissue (median 0.5593, IQR 0.03744-1.394, p=0.0107). And the expression level of miR-615-5 showed a statistically significant decrease in high grade CIN (median 0.2757, IQR 0.006351-0.6622, p=0.0383)

Conclusion

We identified two distinct miRNA expression patterns that showed gradually increasing or decreasing expression depending on the degree of tumorigenesis. Overexpressed miR-424 may play an oncogenic role, whereas underexpressed miR-615-5 may act as a tumor suppressor in precancerous lesion.

IGCSM-0328
Poster Shift II - Cervical Cancer

IS IT POSSIBLE TO PERFORM LESS RADICAL SURGERY FOR INVASIVE UTERINE CERVICAL CANCER?

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Aims

A retrospective analysis was performed to evaluate the possibility of less radical surgery for early-stage invasive uterine cervical cancer without compromising the oncological outcome.

Methods

Subjects were 175 patients with invasive uterine cervical cancer in FIGO stage IA2–IIB, all of whom underwent primary radical hysterectomy. Relationship of tumor size with the incidence of pathologic parametrial involvement and the pelvic lymph node metastasis were investigated.

Results

Fifty-one patients had tumor size 2 cm and 124 had tumor size > 2 cm. Patients with tumor size 2 cm had a significantly lower incidence of parametrial invasion (*P* <0.0001), lymph node metastasis (*P* <0.0001), lymph-vascular space involvement (LVSI) (*P* <0.0001), and recurrence (*P* = 0.0002) than patients with tumor size > 2 cm. Five-year relapse-free survival rate was 98 and 73%, respectively (p = 0.0004).

Conclusion

It is suggested that less radical surgery may be appropriate for some cases with tumor size less than 2 cm.

IGCSM-0331
Poster Shift II - Cervical Cancer

FOLLOW-UP OF PATIENTS AFTER FERTILITY SPARING SURGERY FOR CERVICAL CANCER

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Aims

To compare sensitivity of different methods used in follow-up of patients with cervical cancer who recurred after fertility sparing surgery (FSS).

Methods

Included were women with cervical cancer stages IA2 – IB2 who underwent FSS (pelvic lymphadenectomy, sentinel lymph node biopsy and trachelectomy or needle conization). Neoadjuvant chemotherapy (NAC) was administered in patients with tumours >2 cm and/or involving >2/3 of cervical stroma. Follow-up visits were scheduled in 3 months intervals and included gynecological examination, colposcopy, Pap smear and HPV testing including 16/18 genotyping. All cases with recurrent disease were throughly analysed and results of individual examinations were compared.

Results

Altogether 38 women (IA2=7, IB1=28, IB2=3) were enrolled. Mean age was 29 years, most of patients were nulliparous (68.4%, 26/38) with squamous cell cancers (26/38). NAC was administered in 6 cases. Trachelectomy was performed in 13 and conization in 25 of women according to the tumour topography. No patient required any adjuvant treatment. Median duration of follow-up reached 26 months (3-96 months). Invasive cancer and CIN3 lesions were detected in 3 and 1 patients during follow-up. All events were detected in patients with adenocarcinoma stage IB1 within 16 month after the surgery. All 4 lesions were detected by colposcopy, in 3 cases HPV 16 was positive, in 2 cases Pap smear revealed mild abnormalities, and gynecological examination was normal in all cases.

Conclusion

All 4 local recurrences after FSS were detected by colposcopy, HPV 16 was positive in 3 of them, while Pap smear was false negative in 50% and gynecological examination had no benefit.

IGCSM-0334
Poster Shift II - Cervical Cancer

THE OVERTREATMENT RISK OF SEE-AND-TREAT STRATEGY IN MANAGEMENT OF ABNORMAL CERVICAL CYTOLOGY

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Aims
To evaluate the feasibility of conization without prior punch biopsy for patient with abnormal cytology

Methods
A retrospective review was performed for 700 patients who underwent conization at a single institution from January 2003 to August 2012. Each of these patients was assigned into one of two groups, either the 'See-and-treat' group or the 'Three-step' group, depending on whether the patient had undergone punch biopsy before conization or not. The final histologic results of two groups were compared

Results
The overtreatment risk was higher in 'see-and-treat' group in patients with atypical squamous cells of undetermined significance/ low grade squamous intraepithelial lesion (ASCUS/LSIL) cytology. (64.7% in 'see-and-treat' group vs, 36.5% in 'three-step' group; p=.001) There was no significant statistical difference in the rate of cervical dysplasia or invasive carcinoma in patient with high grade squamous intraepithelial lesion(HSIL) cytology between groups. (91.8% in 'See-and-treat' group vs. 93.5% in 'Three-step' group; p= .793)

Conclusion
The patients with HSIL on cytology can be managed by 'See-and-treat' strategy with low risk of overtreatment. On the other hands, the 'Three-step' management is more appropriate in patients with ASCUS/LSIL cytology

IGCSM-0337
Poster Shift II - Cervical Cancer

A SUCCESSFUL TREATMENT BY LONG-TERM ANTIBIOTICS THERAPY FOR A CASE OF INTRAPLEVIC ABSCESS AFTER HIGH-DOSE-RATE INTERSTITIAL BRACHYTHERAPY (HDR-ISBT) FOR CERVICAL CANCER RECURRENCE.

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Aims

A complication of abscess in the abdominal cavity during HDR-ISBT for cervical cancer is very rare. We report a case of successful treatment of intrapelvic abscess after HDR-ISBT.

Methods

A 49-year-old Japanese woman presented with cervical cancer Stage IIa. She underwent radical hysterectomy, left Salpingo-Oophorectomy and right ovarian preservation with retroperitoneal fixation. Histological diagnosis was adenosquamous carcinoma, pT1bN0M0 with no lymphovascular space involvement and negative margin. Six month after initial treatment, cervical cancer recurred at the stump of vagina. She underwent nedaplatin-based concurrent chemoradiotherapy (CCRT) using external beam radiation therapy (EBRT) and HDR-ISBT. When applicators were removed at the final ISBT, She was shocked because of bleeding in the abdominal cavity. She recovered by transfusion. Seven days after the final ISBT, 4 cm of hematoma in her Douglas cavity was found by computer tomography (CT). Nineteen days after the end of CCRT, she complained fatigue, fever and stomachache. There was no obvious anemia. CRP was 9.45mg/dl. WBC was 10200/mm^3. Pelvic CT demonstrated enlargement of hematoma with abscess and mechanical ileus. Although her blood culture was negative, we decided to start broad-spectrum antibiotics. We avoided puncture drainage of the abscess; because the procedure might cause vaginal-intestinal fistula. She was administered antibiotics for 10 weeks.

Results

The abscess is not recognized after three months and so far.

Conclusion

Long-term antibiotics therapy has been successfully treated in the pelvic abscess after CCRT.

IGCSM-0339
Poster Shift II - Cervical Cancer

ESTIMATION OF LIFE-YEARS AND COST SAVINGS FROM EARLY DETECTION OF CERVICAL CANCER

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Aims
This study estimated the savings of life-years and costs from early diagnosis of cervical cancer using an *ex post* approach
Methods
A total of 28,797 patients diagnosed with cervical cancer in 2002-2009 were identified from the National Cancer Registry of Taiwan and linked to the National Mortality Registry until the end of 2011. Life expectancies (LE) for cancer at different stages were estimated using a semi-parametric extrapolation method. The expected years of life lost (EYLL) for cancer was calculated by subtracting the LE of the cancer cohort from that of the age-and sex-matched general population. The mean lifetime costs after diagnosis paid by the single payer NHI (National Health Insurance) during 2002-2010 were estimated by multiplying average monthly expenditures by the survival probabilities and summing up over lifetime.
Results
Invasive cervical cancer at stage 1 to 4 had an average EYLL of 6.33 years, 11.64 years, 12.65 years, and 18.61 years, respectively; the younger the diagnosis age, the higher the saving of EYLL. The mean lifetime costs of managing cervical cancer were generally lower for earlier stages compared with stage 3-4.
Conclusion
Early detection of invasive cervical cancer saves lives and healthcare costs. These health benefits and monetary savings can be used for cost-effectiveness assesment and promotion of proactive screening, including old aged women.

IGCSM-0347
Poster Shift II - Cervical Cancer

FOXP1 OVEREXPRESSION IS ASSOCIATED WITH TUMOR PROGRESSION AND POOR PROGNOSIS IN PATIENTS WITH CERVICAL CANCER

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Aims

The forkhead box protein 1 (FOXP1) is considered as both a tumor suppressor candidate and a potential oncogene. Here, we investigated FOXP1 expression in cervical cancer, and the clinical significance of FOXP1 and it's mechanism of action in cervical cancer.

Methods
FOXP1's functional role was investigated by employing lentiviral-mediated overexpression and knockdown in cervical cancer cell lines. Immunohistochemical staining for FOXP1 was performed on a cervical cancer tissue microarray consisting of 158 primary cervical cancers, 280 cervical intraepithelial neoplasias (CINs), and 378 matched normal tissues.
Results
FOXP1 overexpression promoted cell proliferation and tumorigenesis, whereas FOXP1 knockdown inhibited these properties in HeLa and CaSki cell lines. By immunohistochemical staining, FOXP1 expression increased during the normal to tumor transition of cervical carcinoma ($P < 0.001$), and this increased expression was significantly associated with tumor stage ($P = 0.009$) and tumor grade ($P < 0.001$). In multivariate analysis, FOXP1+ ($P = 0.031$) and tumor stage ($P = 0.032$) were independent prognostic factors for overall survival.
Conclusion

Taken together, our data indicate that FOXP1 has a crucial role in cervical cancer progression, and its overexpression is associated with poor prognosis, supporting that FOXP1 may be used as a promising novel target for therapeutic interventions.

IGCSM-0350
Poster Shift II - Cervical Cancer

ROLE OF THE HYPER-METHYLATION OF PAX1 GENE FOR TRIAGE OF THE MINOR CERVICAL LESIONS

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Aims
The studies conducted in Taiwan and China were aimed to evaluate the efficacy of PAX^m for women who had minor cervical lesions including ASCUS, LSIL and AGC.
Methods

Following the GCP, the subjects were recruited in Yuan's General Hospital and Xiangya Hospital. The inclusion criteria were female with age ≥20 and sexual experience. The exclusion criteria included: women had history of reproductive tract cancers, had therapy for cervical lesions, had received HPV vaccination or at pregnancy. The residue cervix cells from the cervical area were collected for the HPV-typing and the test of methylated level of PAX1 genes (PAX^m). Sensitivity, specificity, and accuracy for HPV-HR(high risk type) and PAX^m were analyzed.

Results

Total 389 subjects were recruited including ASCUS (n=322), AGC Pap(n=23), and LSIL Pap (n=44). The final diagnosis was confirmed by histological reports. The results showed that the PAX^m was significantly higher in patients with CIN3 and worse lesions than those with CIN1, CIN2, and normal cervix (P<0.0001). The sensitivity and specificity of PAX^m were>70% and >84%. As for HPV-HR type, the sensitivity and specificity were 97.8% and 50.5%. Compared to the efficacy of HPV-HR for triage of the minor cervical lesions, $PAX1^m$ tests could reduce 50% of referrals for colposcopy/biopsy.

Conclusion

The current results indicated that the *PAX*^{m} has potential to be the test for the triage of the minor cervical lesions identified by cytological diagnoses.

*Authors underlined have equal contributions.

Conflict of interest **********

IGCSM-0354
Poster Shift II - Cervical Cancer

INTERNATIONAL EVALUATION OF RADIOTHERAPY TECHNOLOGY EFFECTIVENESS IN CERVICAL CANCER (INTERTECC) PHASE II TRIAL OF INTENSITY MODULATED RADIOTHERAPY (IMRT): INTERIM ANALYSIS AND PRELIMINARY RESULTS

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Aims

To test the hypothesis that IMRT reduces acute toxicity compared to conventional radiotherapy in previously untreated stage IB-IVB cervix cancer.

Methods

An international multi-center phase II trial is ongoing (NCT01554397). Patients receiving definitive or postoperative chemoradiotherapy are included. Therapy is concurrent weekly cisplatin (40 mg/m2) and IMRT (45-50.4 Gy in 25-28 fractions) followed by brachytherapy (if indicated). Primary IMRT planning objectives are bowel V45Gy<250cc

and bone marrow (BM) V10Gy<90% and V20Gy<75%. All IMRT undergoes central QA review. The primary endpoint is either clinically significant gastrointestinal toxicity (grade >=2 diarrhea requiring opiates/anticholinergics) or grade >=3 neutropenia. Planned sample size is 91.

Results

Between October 2011-April 2014, 66 patients from 6 academic institutions in 6 countries were consented, with 61 enrolled and 56 evaluable. 85% were stage IIB-IVA; 16% were post-operative; 75% had MRI; 69% had PET. Median follow-up is 12 months. The probability of a primary event was 25% (14/56), compared to an expected probability of 40% with conventional techniques (p=0.088). The probabilities of clinically significant GI toxicity, grade >=3 neutropenia, and any grade >=3 hematologic toxicity were 13%, 20%, and 36%, respectively. Grade >=3 neutropenia was lower in patients undergoing image-guided BM-sparing IMRT (9%; p=0.10). Mean bowel V45Gy and BM V10Gy/V20Gy were 149cc and 84%/65%. Protocol deviations (PTV V99%<85%) occurred in 8%. 7 failures and 2 deaths occurred. 1-year locoregional control, DFS, and OS were 89%, 83%, and 100%.

Conclusion

Preliminary results indicate IMRT is feasible in the international setting, with low gastrointestinal toxicity. BM-sparing IMRT should be considered investigational in this population.

Conflict of interest
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IGCSM-0355
Poster Shift II - Cervical Cancer

POSTPARTUM CONSERVATIVE MANAGEMENT OF CIN3 DIAGNOSED DURING PREGNANCY

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Aims
For cervical intraepithelial neoplasia (CIN) 3 diagnosed during pregnancy, if no progression of the lesion was observed, cervical conization is recommended after delivery. However, there is no clear consensus on the best timing of postpartum cervical conization. We perform cervical conization after the resumption of menstruation under informed consent, if the progression of the lesion is not suspected. Here we report outcomes of postpartum conservative management of CIN3 cases diagnosed during pregnancy.
Methods
Medical records of 31 patients who were diagnosed with CIN3 during pregnancy and managed conservatively until the resumption of menstruation between October 2009 and October 2013 (standby group) were retrospectively reviewed and compared with those of 47 patients performed cervical conization within 6 months after delivery between January 2004 and September 2009 (immediate group).
Results
In the standby group, conization was avoided in 11 cases (35%) because of the regression or disappearance of the lesion. Conization was performed before and after the resumption of menstruation in 3 (10%) and 13 (42%) cases, respectively. In the latter 13 cases, postoperative cervical stenosis significantly decreased compared with the immediate group (p=0.021).
Conclusion
In our present study, we suggest that postpartum conservative management for the patients who had been diagnosed with CIN3 during pregnancy is reasonable strategy since it may be possible to avoid postsurgical complication such as cervical stenosis and unnecessary conization for some patients with spontaneous regression or disappearance of cervical lesion after delivery.

IGCSM-0359
Poster Shift II - Cervical Cancer

REPRODUCTIVE TRACT INFECTIONS AND PRE-MALIGNANT LESIONS OF CERVIX: EVIDENCE FROM WOMEN PRESENTING AT THE CANCER DETECTION CENTRE OF THE INDIAN CANCER SOCIETY, DELHI, 2000-2012

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Aims

To observe associations between reproductive tract infections and premalignant lesions of cervix via secondary data analysis of data obtained from the Cancer Detection Centre of the Indian Cancer Society, Delhi.

Methods

A cross-sectional descriptive study design was utilized to analyze secondary data obtained from 11,427 women who were voluntarily screened via Pap smear examination at the detection centre of the Indian Cancer Society in Delhi from years 2000-2012. Data management and bivariate/multivariate analyses were performed using Microsoft Access and Excel, SPSS 16, and SAS 9.2.1 to obtain odds ratios (OR), *P*-values, and 95% confidence intervals.

Results

Of the 11,427 women screened, cytological findings were available for 10,536 (92% of total) women. Women with RTIs had Candida sp., Trichomonas vaginalis (TV) or Coccoid infections with all having similar prevalence (~3%). 9.4% of women had pre-malignant lesions of cervix; ASCUS was most common (7.9%) followed by LSIL (1.3%). TV was significantly associated with ASCUS, LSIL and all pre-malignant lesions of cervix ($P < 0.001$). Regression discovered an important association of TV with pre-malignant lesions of cervix (OR = 2.79; 95% CI = 2.14, 3.64).

Conclusion

Earlier studies have depicted associations between TV and HPV with possible enhancement of HPV virulence due to TV. Lack of awareness and hygiene, and inability to access gynecologists by women in LMICs, lead to frequent and persistent RTIs which

aids and abets HPV infection and CC occurrence. These need to be addressed along with other measures to reduce CC and other reproductive morbidities in LMICs.

IGCSM-0360
Poster Shift II - Cervical Cancer

EFFICACY AND SAFETY OF CONCURRENT CHEMORADIATION THERAPY (CCRT) WITH WEEKLY CDGP (NEDAPLATIN) FOR ADVANCED CERVICAL CANCER

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Aims

The aim of this study is to evaluate the efficacy and safety of CDGP-based CCRT therapy for advanced cervical cancer patients. Weekly CDDP-based CCRT is accepted as first–line treatment for cervical cancer. However, CDDP is contraindicated for patients with poor general status because of toxicity. CDGP is a derivative of CDDP with less toxicity and comparable effectiveness. In this study, performed CDGP-based CCRT for advanced cervical cancer patients with poor general condition and retrospectively evaluated its efficacy and safety.

Methods

We reviewed the medical records of 58 patients who received CCRT in our institute during January 2008 to July 2013. Thirty-four patients received CDDP-based CCRT, and 24 patients received CDGP-based CCRT. Response rate, completion rate of therapy, adverse effect, progression free survival (PFS), and over-all survival (OS) were statistically compared between the two groups.

Results

Median age of CDDP group (58.5; range 36-79) was significantly ($p<0.05$) lower than that of CDGP group (74.5; range 29-92), and significantly more diseases are associated with the latter group. There was no significant difference in performance status (PS), FIGO stage, pathological diagnosis, or estimated GFR. No statistically significant difference was noted between in the two groups in complete response rate and hematological or non-hematological adverse effect. Notably, there was no significant difference in PFS or OS.

Conclusion

Although CDDP-based CCRT is assumed to be the first choice of treatment for advanced cervical cancer, CDGP-based CCRT may be feasible for elderly patients with poorer general condition, such as renal dysfunction and cardiopulmonary insufficiency.

IGCSM-0370
Poster Shift II - Cervical Cancer

COST-EFFECTIVENESS ANALYSIS OF DIFFERENT MANAGEMENT STRATEGIES FOR DETECTION CIN2+ OF WOMEN WITH ATYPICAL SQUAMOUS CELLS OF UNDETERMINED SIGNIFICANCE (ASC-US) PAP SMEAR IN DEVELOPING COUNTRY

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Aims

To identify the optimal strategy for the management of women having ASC-US who attended at King Chulalongkorn Memorial Hospital (KMCH).

Methods

A decision tree-based was constructed to evaluate the cost effectiveness of the three follow up strategies into the management of ASC-US results: repeat cytology, triage with HPV testing and immediate colposcopy. The model compared the incremental costs per case of high grade cervical intraepithelial neoplasia (CIN2+) detected as measured by incremental cost-effectiveness ratio (ICER)

Results

In the provider's perspective, immediate colposcopy is the least costly strategy and also the most effective option among the three follow up strategies. Compare the repeat cytology triage with HPV triage; repeat cytology triage is less costly than HPV triage, whereas HPV triage provides more effective option at an ICER of 56,048 Baht per additional case of CIN 2+ detected. (1USD = 33THB). In the patient's perspective, the least costly and least effective is repeat cytology triage. Repeat colposcopy has an ICER of 2,500 Baht per additional case of CIN2+ detected when compare to colposcopy. From the sensitivity analysis, immediate colposcopy triage is no longer be cost effective when the cost exceed 2,250 Baht or the cost of cytology less than 50 Baht.

Conclusion

In management of women with ASC-US cytology in developing country, colposcopy is more cost- effective than repeat cytology or triage with HPV testing.

IGCSM-0371
Poster Shift II - Cervical Cancer

RETROSPECTIVE REVIEW OF A SAMPLE OF CASES OF WERTHEIM-MEIGS RADICAL HYSTERECTOMY IN CERVICAL CANCER

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Aims
Wertheim-Meigs radical hysterectomy is a complete surgery that involves complete removal of the uterus, parametrium and part of the vagina (vaginal cuff). In addition, lymph nodes, connective tissue and fatty tissue in the pelvis are removed. Depending on the type of the tumor ant the age of the patient (P), the ovaries and fallopian tubes (annexes) may also be extirpated. Our goal is to analyze the results of such surgeries in a small consecutive series of P and describe its main features.
Methods
Retrospective analysis of 24 consecutive cases in which this type of surgery for P with cervical cancer was performed.
Results

24 P in our centre were included in the study. Median age was 45.12 (29 – 71).
Histology: 13 epidermoid carcinoma (54.16%), 7 adenocarcinoma (29.16%), 4 adenosquamous carcinoma (16.66%).
Initial stage: 19 stage IB1 (79.16%), 5 stage IIa (20.83%). 9 P received chemotherapy with cisplatine-paclitaxel and radiotherapy and 7 patients received only radiotherapy as adyuvant treatment.
3 P progressing despite the treatment, 2 of which were treated with chemotherapy and/or radiotherapy for metastatic disease. Disease-free survival: 92.29 months (27-135). Progression-free survival was 36.66 months (3-62). Median Overall Survival: 85.6 months (30-110).
Current status of patients: 3 P were exitus because disease progression (12.5%), 2 P were exitus because intercurrent disease (8.33%) and 19 P are alive without disease (79.16%) with more than 5 years of follow-up.

Conclusion
Wertheim-Meigs radical hysterectomy is a surgery that properly indicated remains a very effective therapeutic tool and has very low odds of relapse.

IGCSM-0385
Poster Shift II - Cervical Cancer

SURVEYS ON ATTITUDES FOR HPV VACCINATION AMONG YOUNG WOMEN IN KANAGAWA PREFECTURE, JAPAN

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Aims
The incidence and mortality rates of uterine cervical cancer in young women are increasing in Japan. To develop effective measures to combat this problem, we performed surveys to assess the attitudes of young women for HPV vaccination.
Methods
A questionnaire survey on HPV vaccination was performed for newly enrolled female students of the two universities in capital Yokohama City in 2011 (n=630), 2012 (n=593) and 2013 (n=633). In addition, an internet based survey on HPV vaccination was conducted from July 2012 to March 2013, using a social networking site (SNS) to recruit young women living in Kanagawa Prefecture, and the data were compared with the preceding study in Australia where comprehensive HPV vaccine programs are well established.
Results
The proportion of vaccinated participants drastically increased in 2013 (48.7%) in comparison to 2011 (5.4%) and 2012 (13.5%). Being 18 year-old in 2013 of vaccine eligible age for financial support of HPV vaccine program and living in the Yokohama City were positively related to HPV vaccination take-up. On the other hand, the self-reported HPV vaccination rate was 21.8% (17/78) among the online survey participants 16-25 years, which was significantly lower than that (58.3%, 162/278) in the Australian study conducted in 2010.
Conclusion
Our data suggest the importance of official financial support for HPV vaccination to increase the uptake. The influence of current suspension of HPV vaccine approval in Japan due to adverse reactions should be investigated, observing the status in other developed countries including Australia.

Conflict of interest
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IGCSM-0388
Poster Shift II - Cervical Cancer

ASCUS, AGE AND PROGRESSION

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Aims

To evaluate the age as a risk factor in patients with ASCUS and the age influence in the progression to precancerous lesions.

Methods

Review of patients with the diagnosis of ASCUS obtained by Pap smear, period October 2009-August 2012 in the gynecology outpatient public health department in the city of Hospitalet de LLobregat (Barcelona).Testing HR-HPV DNA in all ASCUS Pap smear (genotypes 16,18,31,33,35,39,45,51,52,56,58,59).
Prospective study evaluating the ASCUS progression to cervical precancerous lesions in the following year of diagnosis.
We introduced the results in a computer database for analyzing the age (35 years old and younger or older than 35) in 3 groups: ASCUS, ASCUS with HR-HPV, and ASCUS with HR-HPV that progress to precancerous lesions.

Results

A total of 34.334 Pap smears were collected during the study period. 681 of them were diagnosed with ASCUS.
From those ASCUS patients, the 59.3% of patients were 35 years old and younger and the 40.7 % were older than 35.
The HR-HPV prevalence in ASCUS Pap smears was 33.4% in patients aged 35 and younger and 20.9% in patients aged older than 35.
In patients aged older than 35 years the 53.4 % of ASCUS with HR-HPV progressed to precancerous lesions while in patients aged 35 and younger the progression was of 28%.

Conclusion

In our cohort of ASCUS there were a higher percentage of patients aged 35 and younger.
This group of age showed more prevalence of HR-HPV in ASCUS Pap smears.

However, progression to precancerous lesions was higher in patients older than 35 in our cohort.

IGCSM-0396
Poster Shift II - Cervical Cancer

LOCALLY ADVANCED CERVIX CANCER IN YOUNG WOMEN DESPITE SCREENING: WHY DOES IT HAPPEN?

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Aims

To document that women develop locally advanced cervix cancer (LACC) despite being compliant with screening and to explore why screening fails these women

Methods

Women (age< 50) with LACC receiving chemoradiation (Sept/10 – Dec/12) were identified. A chart review identified those with a Pap test <2 years prior. Eligible women were offered semi-structured, face-to-face interviews focusing on 4 areas: 1)presenting symptoms, 2)experience with the health care system, 3)feelings after diagnosis and 4)perceptions of their future. Interviews were audiotaped and transcribed; key words were identified and grouped into themes.

Results

13/38 women met the study criteria with a median age of 38.2 (27-49). All had a normal Pap except one (11months prior). Ten consented to participate in an interview.

Several themes were identified: 1)physician inattentiveness/dismissing concerns and false reassurance that bleeding is normal; 2)physician negligence to perform pelvic examination when symptoms arose 3)patient ignorance about HPV and the symptoms of cervix cancer; 4)uncertainty amongst women about how a diagnosis should be made; 5)perception that LACC does not occur in women compliant with screening; 6)subjects felt the delay in diagnosis adversely impacted their ability to have surgery, while worsening both prognosis and quality of life following radiation 7)feelings around diagnosis included shock, anger and vindication.

Conclusion

In a population where screening is available, there is still a need to educate physicians

and the public on the presentation and diagnosis of cervix cancer. Delay in diagnosis of LACC has detrimental effects beyond impact on prognosis.

IGCSM-0403
Poster Shift II - Cervical Cancer

CLINICAL SIGNIFICANCE OF ATYPICAL GLANDULAR CELLS ON PAP SMEAR

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Aims
To invastigate the clinical significance of atypical glandular cells (AGC) by analyzing the prevalence and histologic outcomes of patients with AGC according to Pap smear.
Methods
The medical records of 83 patients who were diagnosed AGC on Pap tests at the Pusan National University Hospital outpatient department and health care center from January 1998 to March 2006 were reviewed.
Results
The prevalence of AGC was 55 of 54,160 (0.10%) and 28 of 54,160 (0.05%) for AGC-not otherwise specified (NOS) and neoplastic associated AGC, respectively. The histopathologic results of the AGC-NOS group (n=55) were as follows: low-grade squamous intraepithelial lesion, 7 (12.7%); high-grade squamous intraepithelial lesion, 4 (7.2%); adenocarcinoma of cervix, 3 (5.4%); endometrial carcinoma, 2 (3.6%); and other malignancies including 2 ovarian cancer cases and 1 breast cancer case, 3 (5.4%). The histopathologic results for the AGC-associated neoplastic group (n=28) were as follows: low-grade squamous intraepithelial lesion, 1 (3.5%); high-grade squamous intraepithelial lesion, 3 (10.7%); adenocarcinoma of cervix, 5 (17.8%); endometrial carcinoma, 4 (4.8%); and additional malignancies including 3 stomach cancer cases, 2 ovarian cancer cases, and 2 breast cancer cases; 7 (25%).
Conclusion
AGCs may represent a variety of benign and malignant lesions. AGC-associated neoplastic findings may be related to gynecological or extrauterine malignancies. Thus, when AGCs, especially neoplastic AGCs, are encountered, it is best to evaluate the cervix not only for typical maladies, but also for gynecological and non-gynecological malignancies.

IGCSM-0404
Poster Shift II - Cervical Cancer

HUMAN PAPILLOMAVIRUS PREVALENCE AND GENOTYPE DISTRIBUTION AMONG HIV-INFECTED WOMEN IN KOREA

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Aims
The epidemiology on human papillomavirus (HPV) among human immunodeficiency virus (HIV)-infected women in Korea is not well established.
Methods
A retrospective study was conducted to determine the prevalence and genotype distribution of HPV infection among HIV-infected women in Korea. HPV DNA genotype and cervical cytology were examined in 60 HIV-positive women and 1,938 HIV-negative women. HPV genotypes were analyzed by using a HPV DNA chip.
Results
HIV-infected women had higher prevalence of high-risk HPV (hr-HPV) infection (30% vs 4.9%, adjusted odds ratio [AOR], 6.96; 95% confidence interval [CI], 3.63-13.34, $P < 0.001$) and abnormal cervical cytology (18.3% vs 1.8%, AOR, 10.94; 95% CI, 5.18-23.1, $P < 0.001$) compared with controls. The most common hr-HPV genotype detected in HIV-infected women was HPV 16 (10%), followed by 18 (6.7%) and 52 (5%). Prevalence of quadrivalent vaccine-preventable types (HPV 6, 11, 16, and 18) was 21.7% and 2.3% in HIV-positive women and HIV-negative women, respectively. Age was a significant risk factor for hr-HPV infection in HIV-infected women ($P = 0.039$). The presence of hr-HPV was significantly associated with abnormal cervical cytology ($P < 0.001$).
Conclusion
These findings suggest that HPV testing for cervical cancer screening in HIV-infected women would be necessary, particularly among young age group.

IGCSM-0407
Poster Shift II - Cervical Cancer

CERVICAL ADENOID BASAL CARCINOMA ASSOCIATED WITH INVASIVE SQUAMOUS CELL CARCINOMA: A REPORT OF RARE CO-EXISTENCE AND REVIEW OF LITERATURE.

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Aims

Cervical adenoid basal carcinoma (ABC) rarely can harbor associated malignancies like adenoid cystic carcinoma or squamous cell carcinoma (SCC), which express markedly different prognosis from a pure ABC, making an appropriate biopsy essential to provide a clear diagnosis and therapeutic plan. We report a 64-year-old asymptomatic lady with an abnormal cervical cytology, who underwent a conization to reveal an ABC with overlying microinvasive SCC. Doubtful resection margins led us to perform radical hysterectomy with lymph node dissection. Subsequent pathological examination showed a true invasive SCC co-existing with ABC, with invasion of the parametrium. Unlike the indolent course of many pure ABC patients, the prognosis of 11 previously reported co-existing invasive SCC with ABC patients appears to depend on the SCC component. Our case reiterates the importance of adequate biopsy with careful interpretation to cover the possibility of a co-existent malignancy. Besides, it presents an argument in favor of radical surgery for the primary treatment of suspicious associated malignancy, and supports adjuvant treatment according to the unfavorable extent of the co-existent invasive carcinoma

Methods

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Results

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Conclusion

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IGCSM-0411
Poster Shift II - Cervical Cancer

DISTRIBUTION OF LYMPH NODE METASTASIS SITES IN CERVICAL CANCER UNDERGOING SYSTEMATIC LYMPHADENECTOMY-TOWARD OPTIMAL LYMPHADENECTOMY-

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Aims
Sentinel lymph node mapping is a useful method to tailor lymphadenectomy, but is not widely employed in the clinical practice. The aim of this study was to demonstrate the precise mapping of lymph node metastasis (LNM) sites to propose optimal lymphadenectomy in radical hysterectomy for cervical cancer.
Methods
A total of 561 patients (FIGO stage Ib1-IIb) undergoing radical hysterectomy including systematic lymphadenectomy for cervical cancer from 1982 to 2009 were enrolled in this study. We have removed lymph nodes from femoral ring to para-aortic nodes below inferior mesenteric artery (IMA). We have analyzed the distribution of LNM sites, and whether there is a difference of LNM sites according to the histologic subtype.
Results
147 of 561 patients (26.2 %) have shown LNM. The most prevalent site of positive nodes was obturator nodes (19.1%) followed by internal iliac nodes (11.6%), common iliac nodes (9.1%), and parametrial nodes (8.2%). 128 of 147 cases with LNM showed metastasis in obturator or internal iliac nodes, indicating that removal of these nodes has 87.1% of sensitivity, the negative-predictive value of 95.6% (414/433) to confirm the presence of LNM. Among positive node sites, metastasis to the parametrial nodes was significantly more frequent in pure-adenocarcinoma cases than in non pure-adenocarcinoma cases (18.6% vs 5.6%, $p<0.0001$).
Conclusion
Resection of four prevalent LNM sites was shown to result in optimal lymphadenectomy without sentinel node mapping, and resection of parametrial LN should be extensively performed especially for pure-adenocarcinoma cases in radical hysterectomy for cervical cancer.

IGCSM-0413
Poster Shift II - Cervical Cancer

IS THERE HPV-NEGATIVE CERVICAL ADENOCARCINOMA: CLARIFY USING NEXT-GENERATION SEQUENCING TECHNOLOGIES

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Aims

Strong epidemiological and molecular biological evidence indicates a crucial role of human papillomavirus (HPV) in cervical carcinogenesis. HPV can be detected using multiple polymerase chain reactions (PCRs) nearly 100% in cervical cancer tissue. In the literature, HPV was rarely detected in minimal deviation adenocarcinoma (adenoma malignum [AM]), clear cell (CC) or serous (S) carcinoma of the cervix.

Methods

Next-generation sequencing technologies were used to explore whether there is HPV-negative cervical adenocarcinoma (AD).

Results

Five AM/CC/S were HPV-positive, while another five were HPV-negative AD-adenosquamous carcinomas (ASC) by SPF1/GP6+ PCRs from the 1993-2008 cohort. Of the six AM/CC/S from the 2009-2011 cohort, one AM was HPV-negative. Six tumors were included for further analysis. Of these 6 tumors, five AD/ASCs turned HPV-positive by type-specific PCRs (3), SPF1/GP6+ PCR plus direct sequencing (1), and laser capture microdissection plus SPF1/GP6+ PCR (1), while the one AM remained HPV-negative. This HPV-negative AM, of whom is a case of Peutz-Jeghers syndrome, and an HPV18-positive AD (control) were submitted to whole genome resequencing of 30X coverage. The amplified sequences were aligned to 115 published HPV sequences. No HPV sequences were annotated in the HPV-negative AM case, while E6, E7 and L2 sequences of HPV-18 were identified in the control sample. Further deep sequencing revealed multiple germ-line and somatic mutations of PIK3CA (E707K), FGFR2 (L367E, L367V, L367M), and STK11 in the PJ syndrome case.

Conclusion

This study provides a conclusion that HPV-negativity is rare even among cervical AM/CC/S. HPV-independent carcinogenesis may derive from both germ-line plus somatic mutations.

IGCSM-0423
Poster Shift II - Cervical Cancer

ROLE OF INTENSITY MODULATED RADIOTHERAPY IN POSTOPERATIVE INTERMEDIATE AND HIGH RISK CERVICAL CANCER

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Aims

There is increasing experience with Intensity Modulated Radiation Therapy (IMRT) in postoperative cervical cancer according to national surveys although results are preliminary. The purpose of this study is to study the disease free survival, overall survival and acute and late toxicity with IMRT in postoperative cervical cancers.

Methods

From January 2010 to December 2010, 90 patients underwent radical hysterectomy and pelvic lymph node dissection (22 median nodes were removed) for early stage cervical cancer. The dose of postoperative pelvic IMRT was 50 Gy followed by brachytherapy by central vaginal cylinder (6.5 Gy in two sittings). All patients received concurrent cisplatin.

Results

With a median follow-up of 39 months, 5 patients have recurred; 2 vaginal recurrence, 2 regional and 1 distant. The 3 year disease-free survival (DFS) was 91 %and overall survival (OS) was 93%. . All failures and all deaths were in the high-risk group. There was 29.3% G3-4 hematologic toxicity, 4.3% acute G3 gastrointestinal toxicity, and no acute G3 or higher genitourinary toxicity. There were no chronic G3 or higher toxicities.

Conclusion

Results of postoperative radiotherapy in cervical cancer with Intensity Modulated Radiation Therapy are very promising. With median follow up of 39 months, DFS was 91% and OS was 93%. Acute and late toxicity were within the acceptable range. Thus the results with IMRT in intermediate- and high-risk postoperative cervical cancer are very promising and can be including in daily standard practice.

IGCSM-0427
Poster Shift II - Cervical Cancer

ADJUVANT CHEMOTHERAPY FOR PATIENTS WITH STAGE IB AND II CERVICAL CANCER: A RETROSPECTIVE STUDY

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Aims
To investigate the efficacy, feasibility, and adverse events of adjuvant chemotherapy for patients with cervical cancer who underwent radical hysterectomy.

Methods
We examined the clinical and pathological records of patients with stage IB and II cervical cancer who had undergone radical hysterectomy and received adjuvant chemotherapy before or after the surgery between October 2007 and December 2012 in our institute. Adverse events, feasibility, response rate, progression-free survival (PFS), and the site of recurrence were investigated.

Results

Twenty patients (eight with stage IB1, six with stage IB2, four with stage IIA, and two with stage IIB) met the inclusion criteria. Histologically, tumors were squamous cell carcinoma (SCC) in 13 patients, adenocarcinoma (AC) in four, and adenosquamous carcinoma (ASC) in three. Fourteen patients had lymph node metastasis, including two with aortic node metastasis. The chemotherapy regimens were irinotecan plus nedaplatin for SCC, and paclitaxel (or docetaxel) plus carboplatin for AC or ASC. Six patients received neoadjuvant chemotherapy (NAC) for 1–2 cycles, and 19 received post-surgical chemotherapy for a maximum of 8 cycles. All patients completed chemotherapy as planned with no serious adverse events. Five of six patients (83.3%) receiving NAC had a partial response. PFS was 90.0% with a median follow-up of 44.5 months (range, 15–71 months). Two patients relapsed with lesions in the intra-peritoneum or the vagina.

Conclusion
Adjuvant chemotherapy for patients with stage IB and II cervical cancer may be a promising treatment strategy. Further prospective studies are warranted.

IGCSM-0430
Poster Shift II - Cervical Cancer

THE EFFICACY AND SAFETY OF BEVACIZUMAB PLUS CHEMOTHERAPY IN CHINESE PATIENTS WITH RELAPSED AND METASTATIC CERVICAL CANCER

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Aims
15-30% of cervical cancer patients will relapse and metastasis. Their 5-year survival rate is only 10% due to less effective treatments. Bevacizumab (Bev), an anti-tumor angiogenesis monoclonal antibody, plus chemotherapy had been shown effective in a variety of cancers. In this multi-center, open-label study, we plan to evaluate the efficacy and safety of Bev plus chemotherapy for Chinese patients with relapsed and metastatic cervical cancer.
Methods
25 eligible patients from 3 hospitals were treated with Bev (7.5 mg/kg) plus TP (paclitaxel/cisplatin) or GP (gemcitabine/cisplatin) every 3 weeks for 4 cycles. The treatment will be stopped till disease progression or unacceptable toxicity or withdrawal of patient's consent occurs. The primary endpoint is ORR and safety, and other objectives include PFS and OS. Efficacy was evaluated according to RECIST criteria every 2 cycles by CT/MRI and toxicity was graded according to the NCI-CTC version 2.0. All patients signed the informed consent.
Results
The median follow-up time is 10 months (7-26months). 7, 8 and 2 patients achieved CR, PR and SD; 8 patients got PD; the ORR is 60% (15/25). Furthermore, stratified analysis found patients with single lesions, Bev first-line treatment and continuous application of 4 cycles and ?50 years old may benefit more. The median PFS and OS are 8.65 and 16.76 months respectively. The most common toxicities include hematologic toxicity, gastrointestinal and constitutional symptoms.
Conclusion
In conclusion, Chinese patients with relapsed and metastatic cervical cancer could also get benefit from Bev plus chemotherapy.

IGCSM-0436
Poster Shift II - Cervical Cancer

OUTCOME OF CANCER CERVIX- IMPACT OF BETTER RADIATION THERAPY

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Aims

Cervical cancer in India ranks as the 2nd most frequent cancer among women and accounts for 67477 cancer deaths annually. This calls for urgent measures to improve the treatment outcome.This retrospective analysis aims to analyse the impact of CT Simulation on the outcome of cancer cervix patients treated with Radiotherapy.

Methods

350 cervical cancer patients were treated with curative intent between 2011- 2012 at the Regional Cancer Centre Trivandrum, South India.
During this period 2D plans for Cervix were being replaced by CT based plans.
Conventional box fields were planned on CT images ensuring target coverage.
CT planned patients had larger treatment fields, especially lateral fields.

138 (40%) patients were treated with 2D plan and 212 (60%) patients were treated with CT plan..
Outcome measures in terms of local and distant failures were studied and compared between the groups.

The Kaplan–Meier method was used to estimate relapse-free-survival.

Results

After a median follow-up of 27 months 53 (15%) patients failed- 36 pelvic failures, 17 distant metastases, 8 both local and distant diseases.

Local failure rates were (14.4 %) in the 2D arm and (7.5%) in the CT arm.
The 2 year local disease free survival was 84.7 for the 2D group and 91.8 for the CT group (p value- 0.038).

Conclusion

Incorporating CT imaging for ensuring sufficient dose to adequate volume saves more lives.This gain is realistic for the developing world than the predicted gains through very expensive and technically complicated treatments.

IGCSM-0442
Poster Shift II - Cervical Cancer

IMPROVED DETECTION OF HIGH GRADE CIN USING ZEDSCAN (ELECTRICAL IMPEDANCE SPECTROSCOPY) WITH COLPOSCOPY

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Aims

To establish the performance of ZedScan with colposcopy in the detection of high grade CIN in a routine colposcopy service.

Methods

131 unselected women were evaluated by five colposcopists, three nurse colposcopists and two consultants. 89% of the women were evaluated by nurse colposcopists. All data were collected prospectively.

Results

114 women were referred with abnormal cytology, 17 with clinical indications. 34.3% had high grade cytology, 65.7% had low grade cytology. 26 underwent See and Treat, 100% had high grade CIN. A further 5 women had a ZedScan readings suggesting they could have undergone See and Treat but were biopsied instead. All biopsies were high grade CIN. Forty six women were found to have high grade CIN, four of these women were identified as having high grade CIN by ZedScan alone resulting in a 8.7% increase in the detection of high grade CIN. Forty women were negative for high grade CIN by ZedScan but six women underwent directed biopsy by the colposcopist despite a negative ZedScan result. No cases of high grade CIN were found. Performance metrics were Sensitivity 100%, Specificity 50.7%, PPV 58.8%, NPV 100%, Accuracy 75.5%, +LR 2.02.

Conclusion

Performance metrics for ZedScan with colposcopy significantly exceed those of colposcopy alone from our previous study. The evaluation has demonstrated that the combination of colposcopy with ZedScan improves performance and has led to more appropriate disease ascertainment at first visit leading to improved healthcare outcomes for the women referred to our colposcopy clinic.

Conflict of interest
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IGCSM-0447
Poster Shift II - Cervical Cancer

NATURAL ORIFICE ROBOT ASSISTED LAPAROSCOPIC SURGERY (N.O.R.A.L.S) FOR PATIENTS WITH INVASIVE CERVICAL CANCER: FARGHALY'S TECHNIQUE.

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Aims

To evaluate the safety and efficacy of natural orifice (vagina) robot assisted laparoscopic surgery approach in patients with stage IA1-IB1/IIA cervical cancer.

Methods

da Vinci®; Intuitive Surgical system is used. Patients are placed in the Trendelenburg position with their legs bandaged and supported in the stirrups. A 12-French Foley catheter is indwelled. Surgery includes the following steps : i) Circumcision of the uterine cervix and posterior colpotomy. With tractions placed on the uterine cervix using two
teneculums, each operation begin with the circumcision of the vaginal mucosa around the cervix followed by a 4-cm posterior colpotomy. Anterior colpotomy is performed during the later laparoscopic phase. The transverse
cervical and the uterosacral ligaments are adequately exposed and then clamped and divided using a bipolar vessel sealer. ii) The vaginal route for the robot assisted endoscopic surgery is established , by using, a small-size Alexis wound retractor which is inserted into vagina, in addition to one 10-mm and two 5-mm cannulas are inserted. A 5-mm, 30-degree endoscope. Radical parametrectomy with lymphadenectomy is performed, and the specimen is extracted vaginally. Postoperative thrombophylaxis consist of daily subcutaneous injections with 5700 IU nadroparin.

Results

The technique offers satisfactory surgical outcome**.** Operative time can be maintained in 180- 240 minutes, mean blood loss of 230 ml. and, hospital stay for 5 days.

Conclusion

Farghaly's Technique of natural orifice (vagina) robot assisted laparoscopic radial parametrectomy with lymphadenectomy in patients with invasive cervical cancer is safe, feasible, cost effective, with acceptable operative, pathologic, and short and long term clinical outcome. It retains the advantage of minimally invasive surgery.

IGCSM-0459
Poster Shift II - Cervical Cancer

HUMAN PAPILLOMAVIRUS (HPV) TESTING FOR WOMEN TREATED FOR CIN2/3 PREDICTS RECURRENT OR RESIDUAL DISEASES

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Aims

To compare the performance of human papillomavirus (HPV) testing and cytology in detecting recurrent/residual diseases after treatment for cervical intraepithelial neoplasia grade 2/3 (CIN2/3).

Methods

Source articles presenting data on post-treatment HPV testing were identified from National Library of Medicine (PubMed). A total of 4,550 cases from 24 articles published between 1996 and 2013 were included. In most studies, they received cytology every 6 months and HPV testing at 6-12months after treatment.

Results

The sensitivity of high-risk HPV test [0.91, 95% confidential interval (95%CI) 0.88-0.94] was much higher than that of cytology (0.75, 95%CI 0.68-0.80). Compared with high-risk HPV test alone, co-testing of HPV testing and cytology (0.92, 95%CI 0.87-0.96) and HPV genotyping (detection of the same genotype as before treatment: 0.89, 95% CI 0.82-0.94) did not improve the sensitivity. The specificity of high-risk HPV test (0.83, 95%CI 0.82-0.84) was similar to those of cytology (0.85, 95%CI 0.83-0.86) and HPV genotyping (0.83, 95%CI 0.81-0.85), while co-testing had the reduced specificity (0.76, 95%CI 0.74-0.78). High-risk HPV test results were strongly associated with risks of residual diseases, especially in women with positive surgical margin [positive predictive value (PPV), 0.68: odds ratio, 159.9: 95%CI 46.2-554: P<0.0001].

Conclusion

Our observations suggest that post-treatment high-risk HPV test may be more useful for distinguishing populations at increased risk of recurrent diseases than cytology, because of higher sensitivity and similar specificity. In women with positive surgical margin, high-risk HPV test may predict the presence of residual lesions, because of high PPV.

IGCSM-0461
Poster Shift II - Cervical Cancer

FROM CETUXICOL TO BIORAIDS: NOVEL STRATEGIES OF TARGETED THERAPIES IN CERVICAL CANCER

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Aims

Locally advanced stage cervical cancer (CC) remains a public health issue despite preventive vaccines and screening. EGFR is known to be overexpressed in CC, which suggested that EGFR blockade might be a promising treatment approach. Here we present the final results of the randomized phase II Cetuxicol trial and expand to the ongoing BioRAIDs European study to emphasize potential strategies of targeted therapies in CC.

Methods

Cetuxicol enrolled 78 FIGO stage IB2-IIIB CC patients randomized between radio-chemotherapy alone +/- Cetuximab. Mutations were correlated to clinical outcome detected by the Ampliseq cancer panel (Life technology).

Results

The addition of Cetuximab over a 6 week period did not improve DFS in the Cetuxicol trial. Patients whose tumors had a PI3K pathway mutation in the Cetuximab treatment arm (8/22) had a trend towards a worse DFS (p=0.06) as compared to those with mutations having received standard treatment alone (6/18). None of the patients in both arms with deleterious mutations did achieve a complete response to standard therapy.

Conclusion

The mutational profile of CC patients in the Cetuxicol trial will be completed by the large prospective population of BioRAIDs which started July 2013 and plans to enroll 700 patients from 7 European countries. Specific molecular or protein alterations as well as micro environment patterns will be assessed. Results should enable the identification of predictive biomarkers in CC and define new strategies for targeted therapies in CC.

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IGCSM-0470
Poster Shift II - Cervical Cancer

PRELIMINARY QUALITY OF LIFE ANALYSIS FOR THE INTERTECC PHASE II TRIAL OF INTENSITY MODULATED RADIATION THERAPY IN STAGE IB-IVA CERVICAL CANCER

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Aims

To estimate changes in quality of life (QOL) associated with intensity modulated radiation therapy (IMRT) and concurrent chemotherapy in the international population of patients with stage IB-IVA cervical cancer.

Methods

Patients in the ongoing INTERTECC single-arm phase II trial (NCT01554397) received definitive or postoperative chemoradiotherapy with bowel and bone marrow-sparing IMRT followed by brachytherapy (if indicated). EORTC QLQ-C30 and QLQ-Cx24 questionnaires were used to measure patient-reported QOL. Questionnaires were given at pre-treatment, 1 month and 4-6 months post-treatment. Scoring procedures followed the EORTC QLQ-C30 Scoring Manual. Within-subjects repeated measures analyses of variance tests were conducted to evaluate changes in mean QOL subscales.

Results

Between October 2011-April 2014, 66 patients were consented; 61 enrolled and completed pre-treatment surveys. Fifty and 39 patients completed surveys at 1 and 4-6 months post-treatment, respectively. Pre-treatment internal consistency was adequate for all subscales except cognitive functioning (α=0.61). There were no statistically significant differences between the three time points in global health status or any functional scale. With regard to symptoms scales, only Fatigue and Nausea/Vomiting scales showed statistically significant differences by time ($F[2]=3.23$, $p<.05$; $F[2]=3.67$,$p<.05$, respectively), with the trend for these symptoms increasing from pre-treatment to 1 month post-treatment.

Conclusion

In this interim analysis, we observed no significant changes in global health status, or functioning; however fatigue and nausea/vomiting did increase following treatment, similar to findings of other QOL studies. A randomized trial would be the best approach to test the impact of IMRT on QOL in this population, which appears feasible.

Conflict of interest
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IGCSM-0474
Poster Shift II - Cervical Cancer

SURGICAL AND PATHOLOGICAL OUTCOMES OF RADICAL ABDOMINAL TRACHELECTOMY VERSUS HYSTERECTOMY FOR STAGE IB1 CERVICAL CANCER

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Aims

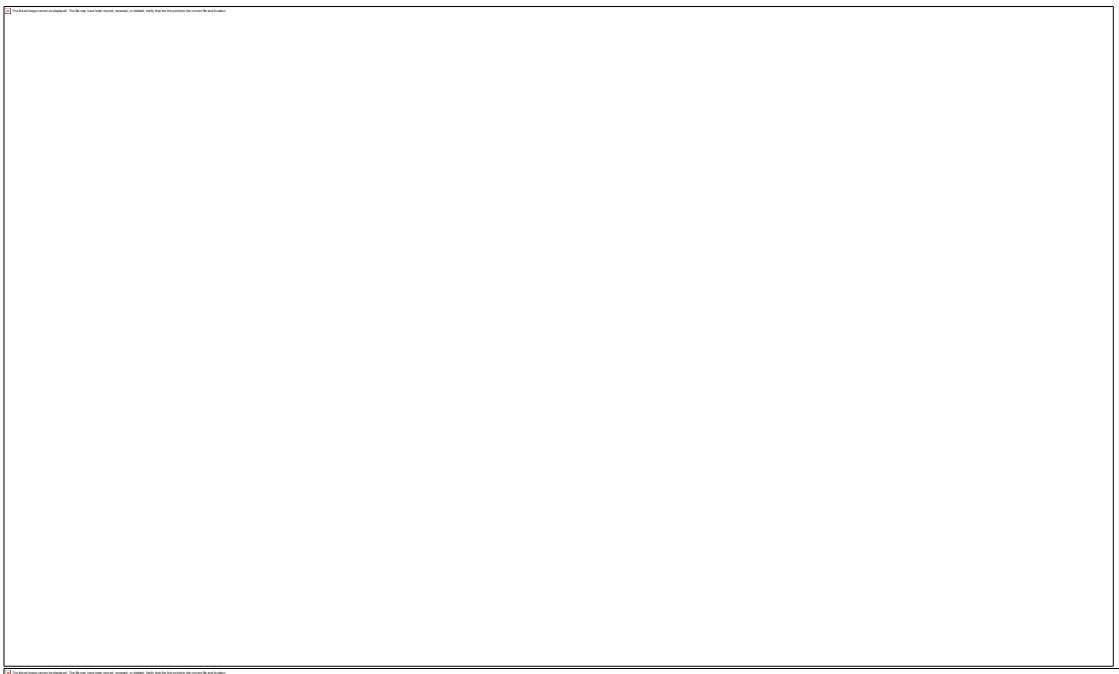
To compare the surgical and pathological outcomes for patients with early stage cervical cancer after abdominal radical trachelectomy (ART) and abdominal radical hysterectomy (ARH).

Methods

A prospective database of ART and ARH procedures performed in a standardized manner by the same surgical group was analyzed. The three-segment technique was used for the accurate analysis of parametrial lymph nodes (PMLNs), and parametrial measurements were recorded by the same pathologist. Standard statistical tests were used.

Results

Between 08/2012 and 08/2013, ART was attempted in 39 patients (28.6%), and ARH was attempted in 90 patients (71.4%). The parametrium resection length was similar with ART and ARH (44.60mm vs. 45.48 mm, p=0.432), as were additional surgical and pathological outcomes, including histology, lymph node positive rate and operation time. PMLNs were found in 28 patients (77.78%) in the ART group, and 86 (95.56%) in the ARH group (p > 0.05). Solitary PMLN metastases were observed in three patients (10.71%) in the ART group and six (6.98%) in the ARH group. Five of these nine patients (55.6%) had tumors ≥2 cm. The ARH patients (36, 40.00%) were more likely to receive postoperative chemotherapy or radiation compared with ART patients (13, 33.33%; P=0.017). At a median follow-up of 12 and 12.5 months (P=0.063), respectively, there were no recurrences or deaths in the ART or ARH groups.



Conclusion

Using standardized techniques, ART provides similar surgical and pathological outcomes as ARH. For the patients with tumors≥2 cm, PMLNs should be examined carefully. Further prospective data are urgently needed.

IGCSM-0475
Poster Shift II - Cervical Cancer

A NEW METHOD OF SURGICAL MARGIN ASSURING FOR ABDOMINAL RADICAL TRACHELECTOMY IN FROZEN SECTION

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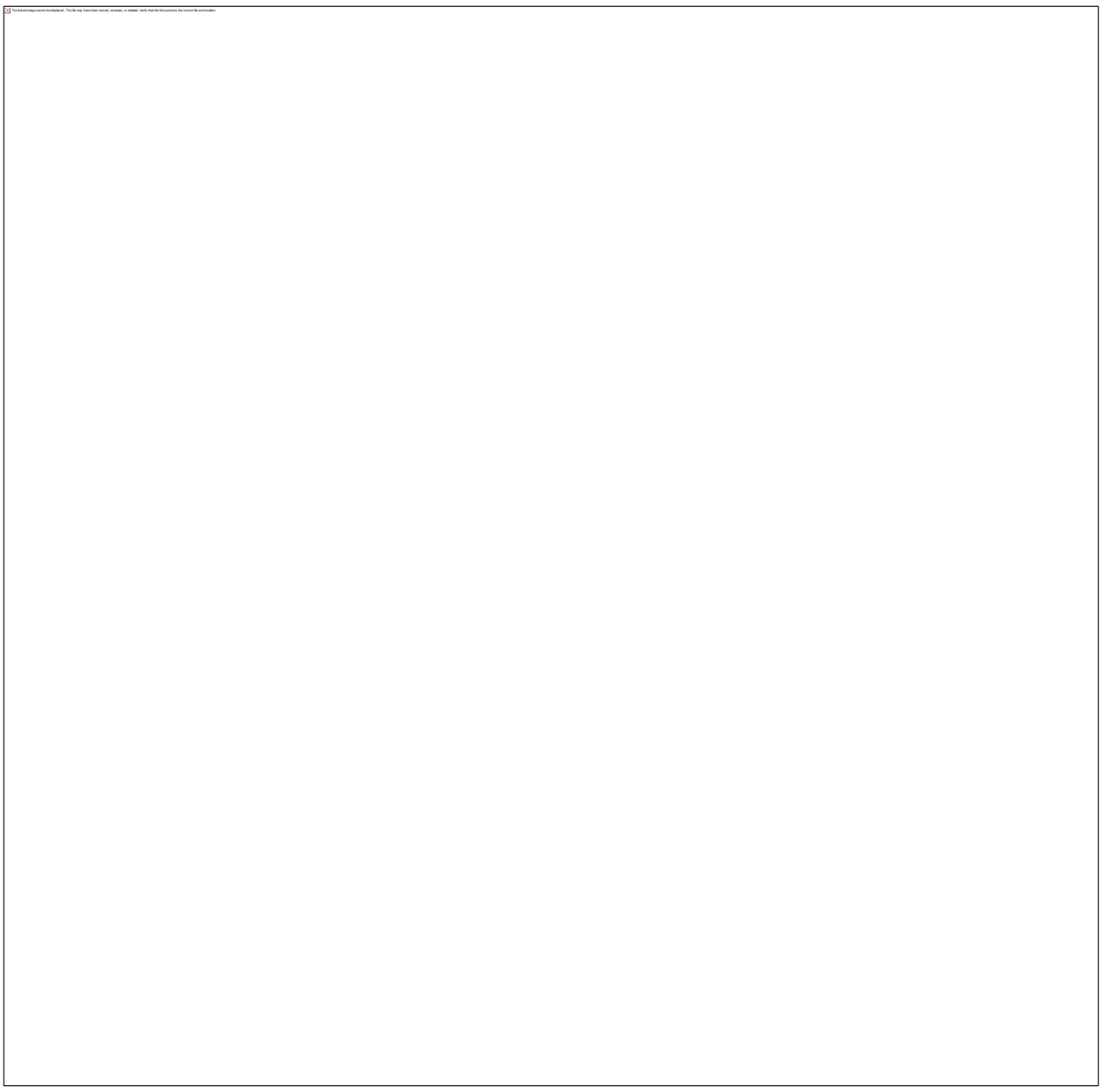
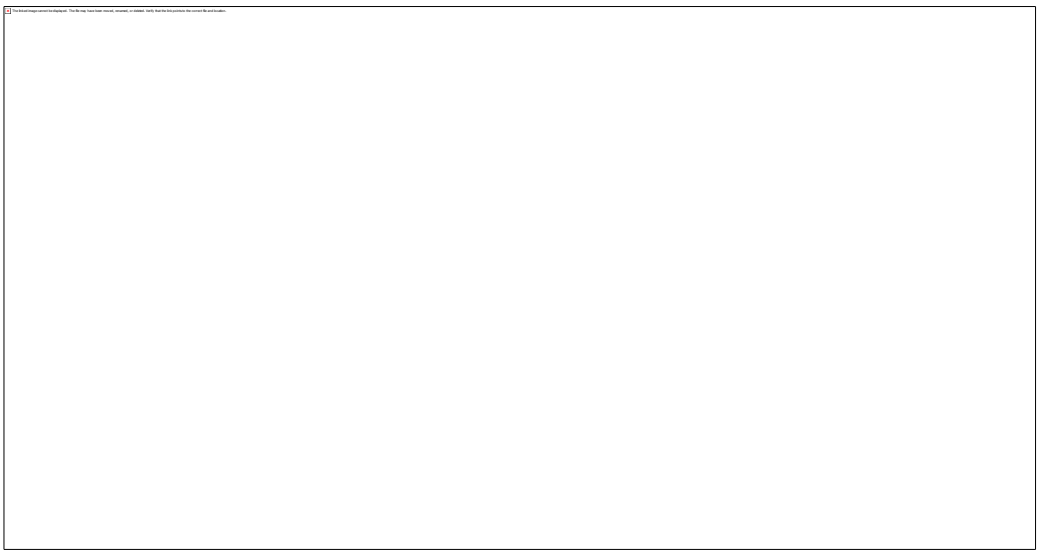
Aims
The aim of this study was to introduce a new method of assuring surgical margins for abdominal radical trachelectomy (RT) and report our experience using the method.
Methods
We combined transverse and perpendicular sections to assess surgical margins of specimens from RT. All surgeries from 01/08/2012 to 01/10/2013 were performed by one surgeon. The FS was consistently performed by a group of gynecologic pathologists according to the detailed protocol described in this article. All cases were prepared by the same pathologist, and the slides were reviewed by two pathologists.
Results
There were 53 patients treated in our institution. The patient ages ranged from 20 to 41 years old (median 32). The surgeries were performed for clinical stage 1A (n=11) and IB (n=42) tumors (40 squamous cell carcinoma, 11 adenocarcinoma, 2 adenosquamous and 2 others). In 20 (37.74%) cases, no residual tumor was observed in the specimens as it was sheared by the preceding LEEP or cone. The margins were originally reported as negative in 44 cases and positive in 9 cases. The number of positive margins was revised, and the final diagnoses had 6 negative and 2 positive cases. The results of frozen sections were concordant with the final paraffin-embedded sections. There were no false negative intraoperative assessments. There were no recurrences after a median follow-up of 10.5 months (range, 2–17 months).





Conclusion

We describe our FS protocol and summarize our data. This protocol is simple, reliable and produces accurate results.

IGCSM-0490
Poster Shift II - Cervical Cancer

SALVAGE ROBOTIC EXENTERATION IN CASE OF CARCINOMA CERVIX

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Aims
AIM AND OBJECTIVE: To present our initial experience in salvage robotic exenteration in cases of carcinoma cervix post-radiation in terms of results and outcome
Methods

· : This retrospective study was conducted at RAJIV GHANDHI CANCER INSTITUE AND RESEARCH CENTER with duration of study from February 2013 to April 2014 and with total no of patient 6. Inclusion criteria were post radiation cervical cancer with recurrence or residual disease with no metastatic disease. Exclusion criteria was poor performance status and frozen pelvis.

Results
The mean operative time was 5.6hrs and mean blood loss was 250 ml.All patients tolerated the procedure well. No patients required conversion to open surgery. There was no major and unanticipated post-operative morbidity and no immediate mortality. Mean time to bowel movement was 2 to 3 days and time to discharge 4 to 7 days. Postoperative complication occurred in 2 of the 6 patients and included wound infection and rectovaginal
Conclusion

: Robotic exenteration is technically feasible and less traumatic to patient with less blood loss and early recovery, could be an alternate choice to open surgery with excellent results, but require great expertise and surgical skill.

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IGCSM-0494
Poster Shift II - Cervical Cancer

OPTIMAL CONE LENGTH TO AVOID MARGIN POSITIVE STATUS OF CERVICAL INTRAEPITHELIAL NEOPLASIA

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Aims
Conization is standard therapy for cervical intraepithelial neoplasia (CIN). However, we sometimes experience cone margin positive status which is known as high risk of residual/recurrent CIN. Therefore, we have to excise the cervix including entire lesion. The aim of this study is to identify the optimal cone length for CIN to avoid margin positive status.

Methods
Patients who received conization with CIN2 or 3 between January 1999 and December 2010 in our institution were reviewed. We analyzed patients' age, parity, preoperative cytology, colposcopic findings and cone length. Distribution of these factors categorized by cone length was analyzed by Chi's square test. Risk factors of margin positive status were identified by logistic regression analysis. Optimal cone length was analyzed by Receiver operating characteristic (ROC) curve.

Results
Among 300 patients studied, 75 patients (25%) had margin positive status. Mean age was 41.3 years old. Mean age was higher in longer cone length group. Cone length is longer in multiparous. Multivariate analysis revealed that preoperative cytology of squamous cell caecinoma (SCC), multiquadrant disease, and cone length was significant risk factor of cone margin positive status. Cut-off value of cone length to avoid margin positive status was analyzed by ROC curve. Cut-off value of cone length was 25mm in SCC with mutiquadrant group, 20mm in SCC with non multiquadrant group, 16mm in non SCC with mutiquadrant group, 11mm in non SCC with non multiquadrant group, respectively.

Conclusion
Optimal cone length was identified according to risk factors of cone margin positive status.

IGCSM-0511
Poster Shift II - Cervical Cancer

PROSPECTIVE COHORT OF CERVICAL CANCER PATIENTS IN BOTSWANA TREATED WITH DEFINITIVE (CHEMO)RADIOTHERAPY

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Aims

Until 2011, there were no high dose rate brachytherapy (HDR) services available in Botswana. The objective of our study was to characterize the treatment course and tolerability in women with cervical cancer treated with curative intent (chemo)radiotherapy.

Methods

Patients with carcinoma of the cervix receiving radiotherapy between 8/7/13 and 4/24/14 in Botswana were enrolled. Patients were treated with pelvic radiotherapy using a linear accelerator and brachytherapy using a HDR Iridium-192 afterloader +/- weekly cisplatin.

Results

Sixty consecutively treated patients are available for analysis. Median age of the cohort is 50 years. 60% of women had FIGO stage II and 36% had stage III disease. Mean hemoglobin was 11.0 g/dL (range 6.5-14). Median time from diagnosis to treatment was four months (range 0.5-36 months).

60.0% of all patients were (n=35) were HIV+ with median CD4 count 534. 60% presented with stage II and 26% presented with stage III disease.

83% of women were treated with chemoradiation. Median dose of EBRT was 50 Gy. 90% of patients were able to receive brachytherapy (most common fractionation 7 Gy x 3).

Median total treatment time was 49 days (range 24-76). Most common toxicities were radiation dermatitis (75% with grade≥2), diarrhea and nausea (both 42% with grade≥2).

Conclusion

Since 2011, the majority of women receive brachytherapy and chemotherapy as part of their treatment, and complete therapy within 8 weeks. A significant proportion of women

with cervical cancer in Botswana are HIV+. Future studies will focus on the outcomes and optimal treatment for this population.

IGCSM-0512
Poster Shift II - Cervical Cancer

AN APPROACH TO RELATION BETWEEN INVASIVE CERVICAL CANCER AND THE PRETREATMENT LEVEL OF PLATELET

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Aims
To explore the clinical patterns and pathological characteristics of platelet counts of patients with invasive cervical cancer.
Methods
The pretreatment platelet counts, clincal and pathological data of 176 cases of patients with invasive cervical cancer were retrospectively analyzed. Among them, 103 cases were in early stage while 73 were in midddle or advanced stage. 144 cases were squamous cell carcinoma while other 32 were not. 35 cases were well-differentiated, 91 cases were moderately-differentiated, 48 cases were poorly-differentiated. LVSI was present in 72 cases and not present in 99 cases. Shallow myometrial infiltration in 94 cases while deep myometrial infiltration in 77 cases.
Results
1. The platelet counts in patients with middle and advanced stage cancer [(275.10±66.11)×10^9/L] is significantly elevated than early stage [(218.93±53.52)×10^9/L](t=-6.217, P<0.01). **2.** The platelet counts in patients with non-squamous cell carcinoma [(273.12±80.20)×10^9/L] is significantly elevated than in patients with squamous cell carcinoma [(234.16±58.75)×10^9/L](t=-2.896, P<0.01). **3.** There was no significant difference of platelet counts among patients of well, moderately and poorly differentiated carcinoma [(225.43±61.25)×10^9/L, (241.79±61.52)×10^9/L, 248.06±70.71)×10^9/L](P=0.271). **4.** The platelet counts in patients with LVSI [(255.79±71.12)×10^9/L] is significantly elevated than that in patients without LVSI [(228.77±57.13)×10^9/L](t=-2.753, P<0.01). **5.** The platelet counts in patients with deep myometrial infiltration [(252.04±64.85)×10^9/L] is elevated than in patients with shallow myometrial infiltration [(230.39±62.99)×10^9/L](t=-2.207, P<0.05).
Conclusion
The platelet level of a patient with invasive cervical cancer correlates strongly with histologic type, disease stage. The pretreatment platelet counts can help to predict the prognosis of patients with cervical cancer.

IGCSM-0517
Poster Shift II - Cervical Cancer

NERVE-SPARING OKABAYASHI'S RADICAL HYSTERECTOMY WITHOUT RADIOTHERAPY FOR STAGE IB1 TO IIB CERVICAL CANCER

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Aims
Chemoradiation is widely recommended therapy for locally advanced cervical cancer, especially in Western countries. But radiotherapy is not always available in some developing countries where cervical cancer patient is common. I investigated the treatment outcome of nerve-sparing Okabayashi's radical hysterectomy without radiotherapy for locally advanced cervical cancer patients.
Methods
Ninety-four patients with cervical cancer treated at the Kyoto Medical Center from April 2007 through March 2011 were reviewed. Among these, FIGO stage IB1 to IIB patients who underwent Okabayashi's radical hysterectomy without any radiotherapy are included in this study. Stage distribution was as follows; 22 stage IB1, 10 stage IB2, 3 stage IIA and 16 stage IIB. In the same study period, 1 stage IB1, 2 stage IB2 and 7 stage IIB received curative radiotherapy. And 1 stage IB1, 1 stage IB2 and 1 stage IIB received postoperative adjuvant radiotherapy. These patients who received any radiotherapy are excluded from this study.
Results
The 3-year survival rates of these patients who underwent Okabayashi's radical hysterectomy without any radiotherapy are 100% in stage IB1, 90% in IB2 (1 small cell carcinoma patient died), 100% in IIA, 69% in IIB (5 patients died; 1 glassy cell carcinoma, 1 adenoma malignum, 2 mucinous adenocarcinoma endocervical type and 1 squamous cell carcinoma) respectively. Bladder function was preserved in 98% of these patients.
Conclusion
Nerve-sparing Okabayashi's radical hysterectomy without radiotherapy had a good outcome for locally advanced cervical cancer patients. Randomized trial is needed for confirmation.

IGCSM-0525
Poster Shift II - Cervical Cancer

"CERVICAL CANCER IN WOMEN UNDER 30"
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Aims
Cervical cancer is unfrequent under 30 years.

Methods

Cervical cancer patients under 30 diagnosed and treated in our Unit between June, 2005 and December, 2013. Clinical stage, pathology and outcome in this group were analyzed.

Results
During the period of the study, 212 patients were diagnosed with cervical cancer, 17 patients were under age 30 (8%). The median age at diagnosis was 25.9 years (11-30). FIGO stages were: 1 stage 1A2 (5,8%), 5 IB1 (29,4%), 5 IB2 (29,4%), 4 IIB (23.6%) and 2 IIIB (11.8%). Histology was: squamous cell carcinoma in 13 cases (76.4%), adenocarcinoma in 2 cases (11.8%) and adenosquamous carcinoma in 2 cases (11.8%). All cases under 30 had G3 tumors, 11 patients underwent surgery (8 radical abdominal hysterectomies, 3 radical abdominal trachelectomies). Median tumor size was 5 cm (1-10 cm). Median number of harvested nodes was 19 (1-46). Three cases had positive nodes, FIGO stages were IB1 (1 case) and IB2 (2 cases), histology was squamous cell carcinoma. Seven patients received neoadyuvant chemotherapy with Paclitaxel-Carboplatin, 4 achieved partial response and underwent surgery. Adjuvant radiation was performed in 11 patients (64%). 8 patients developed pelvic recurrences and 2 patients distant ones. Five years overall survival was 64% and median time to relapse was 8 months.
Conclusion

we found no differences in prognosis and outcome for this group of patients when compared with older ones.

IGCSM-0531
Poster Shift II - Cervical Cancer

PREOPERATIVE DIAGNOSIS AND THE TREATMENT OF 84 CASES PRESENTING WITH MULTI-CYSTIC LESIONS OF THE UTERINE CERVIX

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Aims

Precise pre-operative diagnosis of disorders presenting with multi-cystic lesions of the cervix, such as minimal deviation adenocarcinoma (MDA)/ adenocarcinoma, lobular endocervical glandular hyperplasia (LEGH), and Nabothian cyst (NC) is important to select appropriate treatment. We previously proposed a protocol for the differential diagnosis and management of these lesions based on results of a multicenter study. The aim of this study is to evaluate the effectiveness of our protocol.

Methods

Eighty-four patients with the cervical multi-cystic lesion who visited our hospital during 1995-2013 were subjected to the study. MRI, cervical cytology and detection of gastric mucin using HIK1083 kit were performed in all patients.

Results

Of the 84 patients, 10 were clinically diagnosed with "suspicious of MDA/adenocarcinoma (S/O MDA)", 52 were "LEGH ", and 22 were "NC". All S/O MDA cases underwent hysterectomy, and 4 cases were pathologically confirmed adenocarcinoma. Thirty-nine LEGH and 12 NC patients were followed up for more than 12 months (12-163 months, mean 46.3months). All of NC and most of LEGH cases were stable. Three LEGH patients underwent hysterectomy because their cervical lesions increased in size. The pathological diagnosis of these cases included 2 cases of atypical LEGH and a case of NC.

Conclusion

Our management protocol seems to be appropriate for pre-operative diagnosis and management. Interestingly, the increase in LEGH lesion size may be an important indicator for possible malignant change of LEGH. Further studies are mandatory to understand the natural history of LEGH.

IGCSM-0536
Poster Shift II - Cervical Cancer

RISK OF PARAMETRIAL INVOLVEMENT IN LOW RISK EARLY STAGE CERVICAL CANCER

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Aims

Radical hysterectomy is the standard treatment for stage 1A2 and 1B1 cervical cancer. Radical trachelectomy allows preservation of fertility but carries similar morbidity. There have been advocations of more conservative surgery such as cone biopsy or simple trachelectomy with lymphadenectomy for 'low risk' cervical cancers that reduce surgical and obstetrics complications without compromising oncological outcome. Such factors included: tumour size ≤2cm, depth of invasion (DOI) ≤1cm and negative lymphovascular invasion (LVSI). The aim of this study is to identify risk of parametrial involvement in early stage cervical cancer, so as to deduce a subgroup of patient who may benefit from less radical surgery.

Methods

Retrospective review of all women undergoing radical hysterectomy or radical trachelectomy for stage 1A2 and 1B1 cervical cancers from 2000 – 2012.

Results

66 patients were identified. 5 patients (7.6%) had stage 1A2 and 61 (92.4%) patients had stage 1B1 cervical cancer respectively. 61 of them had either squamous, adeno- or adenosquamous carcinoma. The mean tumour size was 15.6mm (range 3.5-35). Mean depth of tumour invasion was 7mm (range 0.3-31). 18 patients had tumours with LVSI (27.3%).

40 patients had 'low risk' cervical tumours, with tumour size ≤2cm, DOI ≤1cm and negative LVSI. None of them (0%) had parametrial involvement. There were 2 cases (7.7%) of parametrial involvement in the remaining 26 patients. The overall risk of parametrial involvement was 3%.

Conclusion

This result concurred with the findings reported in the literature and supported that patients with 'low risk' cervical cancer can be considered for less radical surgery.

IGCSM-0539
Poster Shift II - Cervical Cancer

UNCERTAINTIES IN HIGH RISK CTV (HR-CTV) DELINEATION FOR CERVIX BRACHYTHERAPY: APPLICATION OF GEC-ESTRO GUIDELINES IN THE AUSTRALIAN SETTING

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Aims

Since the publication of the GEC-ESTRO guidelines in 2005, image-based brachytherapy has been implemented throughout many Australian centres. The aim of this study was to evaluate the interpretation of GEC-ESTRO guidelines for cervical cancer by measuring interobserver variability in HR-CTV delineation.

Methods

Four radiation oncologists and one radiologist delineated HR-CTV on MRI datasets from 10 consecutive patients undergoing cervical brachytherapy at a single institution. The images were taken on a 3T MRI from the first or second fraction of brachytherapy. The participants were provided with a clinical history, diagnostic imaging results and clinical diagram of EUA findings at brachytherapy insertion. A simultaneous truth and performance level estimation (STAPLE) consensus contour was generated. The agreement between observer contours and the STAPLE contour was assessed using the Dice Similarity Coefficient (DSC).

Results

Interim results show that the maximum volume differences between the five participants ranged from 19.6cc to 108.4cc in the first five patients. Delineation trends were observed with one participant often contouring the largest volume in all patients and another, the smallest. DSC values comparing observer contours with the STAPLE contour ranged from 0.38 to 0.98.

Conclusion

There is considerable variability in the interpretation of GEC-ESTRO guidelines for HR-CTV contouring for cervical brachytherapy. This can potentially result in large differences

in brachytherapy dosimetry. A number of radiation oncologists across Australia and New Zealand are currently participating in this study and updated results will be presented.

IGCSM-0540
Poster Shift II - Cervical Cancer

PROGNOSTIC FACTORS FOR 266 PATIENTS WITH STAGE IVB CERVICAL CANCER. -M.D. ANDERSON CANCER CENTER EXPERIENCE-

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Aims

Patients presenting with stage IVB cervical cancer (CC) pose a significant clinical challenge. Previous studies have implicated that several poor prognostic factors (PF), but have been limited by small sample sizes. The aim of this study was to evaluate the clinicopathological PF in a large sample of patients with stage IVB CC at a single institution.

Methods

Patients with stage IVB CC diagnosed from 1992 to 2011 were identified from a search of our caner registry. Clinicopathological data retrieved from the medical record included: patient demographics (age, race), tumor characteristics (primary size, grade, histology), TNM classification, and metastatic site (nodal, organ). Treatment approach (radiation, chemotherapy, combination) and intent (palliation, cure) was recorded. Survival was evaluated using Kaplan-Meier method and the log-rank test. PF found to be associated with survival by multivariate analysis were evaluated using a Cox's proportional hazard model.

Results

Two hundreds sixty-six patients diagnosed with stage IVB CC were identified. Overall survival was 11.2 months. Race (African-American vs other, median: 8.5 months vs 12.9 months, HR: 2.75, p=0.006) and metastatic site (para-aortic nodes alone vs other, median: 22.1 months vs 9 months, HR:0.58, p<0.001) were independently predictive of survival. Other clinicopathological factors were not significantly associated with survival.

Conclusion

Race was an independent adverse prognostic factor to overall survival. On the other

hand, nodal disease in the para-aortic chain was prognostically favorable factor in this cohort likely due intent of therapy. These variables should be considered in future clinical trials/investigation allowing stage IVB patients.

IGCSM-0541
Poster Shift II - Cervical Cancer

PATTERNS OF PRACTICE FOR CERVIX CANCER BRACHYTHERAPY IN AUSTRALIA AND NEW ZEALAND

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Aims

The advent of image guided adaptive brachytherapy (IGABT) over the last decade or so has resulted in a paradigm shift in the treatment approach cervix cancer. The purpose of this survey was to explore the current patterns of practice for brachytherapy in cervix cancer in Australia & New Zealand (NZ).

Methods

Electronic survey sent to all radiotherapy centres in Australia & NZ under collaboration with ANZGOG, in order to identify patterns of radiotherapy practice. The survey was distributed electronically via email to all radiotherapy centres affiliated with RANZCR & ANZGOG across Australia & NZ. Survey responses were collated and analysed using descriptive analysis.

Results

Of the75 radiotherapy centres in Australia & NZ, 39 replied (52% response rate). 74% of respondents offered brachytherapy to their patients. Of the 26% who did not, all referred their patients on to other centres for their brachytherapy treatment. The majority of centres offering brachytherapy used 3D imaging (79% CT, 57% MRI, 30% US). Of those that did, 90-96% contoured bladder & rectum, 64% contoured high risk clinical target volume (HRCTV). 70-79% optimised their brachytherapy plan based on organ at risk (OAR) dose constraints and/or HRCTV coverage. The main barriers to IGABT implementation were access to MRI, budgetary constraints, anaesthetics/ theatre access and insufficient patient numbers.

Conclusion

Most of the survey respondents who offer brachytherapy to their cervix cancer patients demonstrate a substantial shift toward 3D IGABT techniques. Brachytherapy remains an

integral component of definitive treatment however several barriers remain in the implementation of best practice.

IGCSM-0542
Poster Shift II - Cervical Cancer

A COMPARISON OF TRANSPERITONEAL VERSUS EXTRAPERITONEAL LAPAROSCOPIC PARA AORTIC LYMPHADENECTOMY FOR CERVICAL CANCER STAGING

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Aims

The Objective of our stydy was to compare the surgical outcomes of transperitoneal versus extraperitoneal laporoscopic para aortic lymphadenectomy in locally advanced cervical cancer.

Methods

A retrospective review was performed on patients who underwent para aortic lymphadenectomy as staging for locally advanced cervical cancer between january 2005 to january 2014, at the Hospital Dr Sotero del Rio, Santiago de Chile. T Student Welch test were used for stadistical analysis and stadistical significance was defined as $p < 0.05$.

Results

Sixty five patients were analized, 26 patients underwent transperitoneal para aortic laparoscopy and 39 extraperitoneal procedures.
Both groups were comparable in terms of age, parity, histologic type and body mass index. There was no conversion to laparotomy and no major post operative complications in both groups.The median number of para aortic lymph nodes obtained was higher in the extraperitoneal group than the transperitoneal (14 and 9 respectively; $p = 0.0013$).
The estimated blood loss was 95 ml for the transperitoneal patients and 65 ml for the extraperitoneal.($p = 0.02$). The median operative time was longer in transperitoneal group (162 min, range 80 – 275) than the extraperitoneal group (131min, range 55 - 250), ($p = 0.005$).
There was no significant difference in hospital stay.

Conclusion

Laparoscopic para aortic lymphadenectomy is a feasible, efficient and safe procedure Extraperitoneal para aortic lymphadenectomy resulted in a higher total number of lymph nodes resected, less blood loss and shorter operative time than transperitoneal procedure.

IGCSM-0543
Poster Shift II - Cervical Cancer

RETROSPECTIVE STUDY OF CONCURRENT CHEMORADIOTHERAPY WITH WEEKLY PACLITAXEL AND CARBOPLATIN FOR ADVANCED NON-SQUAMOUS CELL CARCINOMA OF UTERINE CERVIX.

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Aims

The efficacy of cisplatin (CDDP)-based concurrent chemoradiotherapy (CCRT) for cervical squamous cell carcinoma (SCC) is established. However, there is less evidence for non-squamous cell carcinoma (non-SCC) of the uterine cervix. In our hospital, advanced non-SCC of uterine cervix had been treated with CCRT with weekly paclitaxel and carboplatin (TC) since 2008. Therefore we retrospectively reviewed the outcome of patients with advanced non-SCC of the uterine cervix.

Methods

The efficacy of cisplatin (CDDP)-based concurrent chemoradiotherapy (CCRT) for cervical squamous cell carcinoma (SCC) is established. However, there is less evidence for non-squamous cell carcinoma (non-SCC) of the uterine cervix. In our hospital, advanced non-SCC of uterine cervix had been treated with CCRT with weekly paclitaxel and carboplatin (TC) since 2008. Therefore we retrospectively reviewed the outcome of patients with advanced non-SCC of the uterine cervix.

Results

Median age of TC group was 60 yo (range: 40-87), and CDDP group was 58.5 yo (range 36-79). Performance status (PS) between two groups was not significantly different. There is no significant difference of adverse event (hematotoxicity, diarrhea, renal disorder, radiation enterocolitis, or radiation cystitis). Complete response rate was 84.6% in TC group, and 85.2% in CDDP group. There was no significant difference in PFS or OS between the two groups.

Conclusion

Weekly TC on CCRT may be applicable for advanced non-SCC of the uterine cervix with efficacy comparable to CDDP-based CCRT.

IGCSM-0545
Poster Shift II - Cervical Cancer

HPV GENOTYPIC DISTRIBUTION IN PATIENTS WITH CERVICAL CANCER IN THAILAND

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[3]Cervical Cancer Care Team, Chulabhorn hospital, Bangkok, Thailand

Aims

As Thailand's considering integrating HPV vaccine into the National Immunization Program, this study aimed to determine the required data on HPV prevalence and genotypic distribution in Thai invasive cervical cancer patients.

Methods

The study was conducted during June 25, 2012 – May 1, 2014 at Chulabhorn Hospital, Bangkok, Thailand, 142 consecutively collected specimens of liquid-based cytology (Surepath, Becton and Beckinson, USA) from invasive cervical cancer patients during pelvic examination for clinical staging determination were analyzed by linear array HPV genotyping tests (Roche, USA). Eleven patients were excluded.

Results

Of 131 patients, mean age 54.7 years and range 26-78 years, HPV infection was detected in 125 cases (95.4%). One hundred and ten (84.0%) were single infections and 15 cases (11.5%) were multiple infections. HPV16 and HPV18 were the most common subtypes in 58 cases (44.3%) and 23 cases (17.6%), respectively. HPV58, HPV52, HPV33, HPV45, HPV56, HPV59 and HPV31 were found in 13(9.9%), 9(6.9%), 6(4.6%), 4(3.1%), 3(2.3%), 3(2.3%) and 2(1.5%) patients, subsequently.

Conclusion

Differing slightly from the worldwide data, this study revealed lower prevalence of HPV16/18 and higher frequencies of HPV58 and HPV52 in cervical cancer. Currently available HPV vaccines against HPV16/18 potentially prevent approximately 61.9 % of

cases. The next generation of 9-valent HPV vaccine (6/11/16/18/31/33/45/52/58) may be required to effectively prevent 115/131 (87.8%) cervical cancer patients in Thailand.

IGCSM-0552
Poster Shift II - Cervical Cancer

CHEMOTHERAPY FOR SMALL CELL CARCINOMA OF THE UTERINE CERVIX: A RETROSPECTIVE NATIONWIDE STUDY OF TAIWANESE GYNECOLOGIC ONCOLOGY GROUP

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Aims

The prognosis of small cell carcinoma of the uterine cervix (SCCC) is poor, and its rarity makes prospective studies extremely difficult. Cisplatin plus etoposide are the main chemotherapy for SCCC, but the toxicity is substantial. We aimed to study the impact of chemotherapy on the overall survival (OS) in SCCC.

Methods

A nationwide, multi-center retrospective study included patients of FIGO stage I-IV SCCC diagnosed during 1987-2009 in Taiwan.

Results

Of the 179 patients, chemotherapy was a part of primary or adjuvant treatment for 147. Patients who had received platinum-based chemotherapy with (n = 72) or without (n = 69) etoposide showed similar OS in either stage I-IIA or IIB-IV. Sixty-seven patients

had at least 5 cycles of platinum-based chemotherapy (P5+), and their 5-year OS was better than that of the other 112 (55% vs. 36%, *P* = 0.030). Even among complete responders in stage IIB-IV, the 14 patients with P5+ had better 5-year OS than the other 9 (78% vs. 22%, *P* = 0.023). Paradoxically, the 5-year OS of the 17 stage IB2-IV patients receiving primary radiation and P5+ was 76%, no worse than that of 54% of the 70 surgically treated stage IA-IB1 patients (*P* = 0.209). No significant difference was observed between the OS of various protocols of radiation and chemotherapy.

Conclusion

For SCCC, cycle numbers of platinum-based chemotherapy have significant impact on OS. However, the role of etoposide and the best protocol of radiation and chemotherapy remain to be determined.

IGCSM-0556
Poster Shift II - Cervical Cancer

EVALUATION OF LYMPHADENECTOMY IN RADICAL HYSTERECTOMY FOR CARCINOMA CERVIX

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Aims

To evaluate the histopathological reports of radical hysterectomy and bilateral pelvic lymphnode disection for carcinoma cervix.

Methods

Cross sectional observational study done at the Gyanecologic Oncology Division of Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh. Number of cases was 105. Study instrument was histopathology report of Radical hysterectomy and bilateral pelvic lymphadenectomy.

All cases were clinically staged by examination under anesthesia, cystoscopy, IVU and CT scanning. Rectal involvement excluded by P/R Examination. Radical Hysterectomy and Bilateral Pelvic Lymphadenectomy is done for all operable cases of carcinoma cervix and decision for adjuvant therapy is taken on the basis of histopathological report .Records of histopathological reports were analyzed. Reports of 105 cases collected, compiled in computer and analyzed using SPSS version.

Results

Cases were from November 2011 to May 2012. 60% cases were between 31-50 years age. 85% were invasive squamous cell carcinoma, 9% adenocarcinoma and 2% adenosquamous type. . In 83% cases > five and in 25% cases > 13 lymph nodes removed .89.6% lymph nodes were > 2 cm size. 8 patients had parametrial involvement & 20 had lymphnode involvement. 75% patients of parametrial invasion were > 60 years. 6.7% patients had lower uterine segment involement and 4.8% had vaginal wall involvement.

Conclusion

No relationship found between number and size of lymphnode removed and parametrial involvement. Lymphnode and parametrial involvement should be considered separately in decision making for adjuvant therapy for carcinoma cervix. Age is related with parametrial invasion. More age, more chance of parametrial invasion.

Conflict of interest
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IGCSM-0559
Poster Shift II - Cervical Cancer

CLINICAL ANALYSIS OF RECURRENT UTERINE CERVICAL CANCER AFTER SURGERY

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Aims

The recurrent cervical cancer commonly has a poor prognosis. The treatment strategies for the recurrent cervical cancer have been still controversial. The aim of this study was to evaluate recurrent patterns and prognosis of recurrent cervical cancer after surgery.

Methods

We retrospectively investigated the medical records of all patients with FIGO stage I to II cervical cancer (n=455) treated with surgery at Osaka city university hospital between January 1995 and August 2012, a nd analyzed characteristics, recurrent patterns and prognosis of patients with recurrent cervical cancer (n=68).

Results

The mean time to recurrence was 628±636.6 days. The sites of recurrence were composed of central recurrence 42.6%, local recurrence 27.9%, distant recurrence 22.1% and local + distant recurrence 7.4%. The median progression free survival was 243 days, and the median overall survival after recurrence was 1561 days. Univariate analysis showed recurrence at other than central site (p=0.008), age at recurrence younger than 40 (p=0.005) and stage more than IB1 (p=0.031) were related worse overall survival. Multivariate analysis showed that the sites of recurrence (p=0.007) and the age at recurrence (p=0.005) were independent prognostic factors for overall survival in recurrent cervical cancer.

Conclusion

The recurrence at other than central site was more than half of recurrent cervical cancer after surgery. The prognosis of patients with recurrence at other than central site was poor. It seems to be important to create the treatment strategy which reduces recurrence at other than central site.

IGCSM-0563
Poster Shift II - Cervical Cancer

ANTI-CMET ANTIBODY CONJUGATED HOLLOW GOLD NANOSPHERES AS A NEW NANO-MATERIAL FOR ENHANCING THE EFFECT OF PHOTOTHERMAL ABLATION THERAPY

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Aims

As the most common adjuvant therapies of postoperative cervical cancer,chemotherapy often induces varies of adverse reactions while radioresistance often occurs during radia tion therapy.Photothermal ablation is an emerging technique without inducing adverse reactions or radioresistance.We have synthesized hollow gold nanospheres(HGNs)possessing a 808nm IR absorption peak which could promptly generate heat while accepting a lower dose energy of 808nm NIR laser irradiation.We synthesized anti-cMet antibody conjugated HGNs (anti-cMet/HGNs) that targeted cMet,a member of the family of receptor tyrosine kinases over expressing on cell membrane of multiple malignancies.

Methods

Synthesis of anti-cMet/HGNs was examinated by UV-Visible-NIR spectrophotometry.Uptake of anti-cMet/HGNs was tested by Inductively Coupled Plasmon Atomic Emission Spectrometry(ICP-AES).In vitro photothermal therapy was conducted in six groups-control,laser alone,unconjugated HGNs alone,unconjugated HGNs with laser,anti-cMet/HGNs alone and anti-cMet/HGNs with laser.To test the toxicity of functionalized nanospheres using cell counting kit-8(CCK-8).To investigate these groups' inhibitory rate of cell proliferation by CCK-8.To detect the expression of apoptosis-related proteins by western blot.To observe the variation of apoptotic rate by an Annexin V-FITC/Propidium Iodide kit with flow cytometry.

Results

ICP-AES confirmed the distinct uptake of anti-cMet/HGNs by human cervical cancer cell-hela and caski. Compared with other five groups, anti-cMet/HGNs with laser(1.7J/CM^2) possessed a higher inhibitory rate by 30.3% in hela and 35% in caski while possessed a higher apoptotic rate by

12.84% in hela and 15.59% in caski. Meanwhile this group obviously overexpressed Bax,Caspase-3 and Bad in hela and Bax,Cyclin-E and Caspase-3 in caski.

Conclusion

Anti-cMet/HGNs have potentials to enhancing the effect of photothermal ablation at a low dose energy.

IGCSM-0564
Poster Shift II - Cervical Cancer

CLINICAL ANALYSIS OF STAGE I TO II ADENOSQUAMOU CARCINOMA OF UTERINE CERVIX

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Aims
Investigations that compare prognosis of cervical adenosquamous carcinoma (ASC) with adenocarcinoma (AC) have varying results. The objective of this study was to improve recognition of clinical and pathologic feature of ASC.

Methods
We retrospectively reviewed the medical records of 76 patients with stage I to II ASC and AC of the uterine cervix who underwent surgery at Osaka City University hospital between January 1995 and December 2010. We compared the clinical features and the prognosis of stage I to II ASC and AC of the uterine cervix and to reveal the clinical features of ASC. Survival was evaluated using the Kaplan-Meier method. Multivariate analysis of progression free survival (PFS) was performed using the Cox proportional hazards model to investigate the prognostic significance of ASC.

Results
The proportion of large tumors (maximal diameter > 40mm) was significantly higher in ASC than AC (50% vs 14.3%, p=0.008). The proportion of infiltration to vagina was higher in ASC than AC (30% vs 4.8%, p=0.007). The proportion of stromal invasion was higher in ASC than AC (80% vs 46%, p=0.041). The proportion of pelvic node metastasis was higher in ASC than AC (63.6% vs 17.3%, p=0.002). Overall survival was similar between the ASC and AC. Univariate analysis revealed that parametrial invasion related with prognosis, while multivariate analysis revealed no prognostic factors in patients with ASC.

Conclusion
Compared with ASC and AC patients who underwent surgical treatment, the two groups may have similar prognosis.

IGCSM-0573
Poster Shift II - Cervical Cancer

CISPLATIN FOR THE PALLIATIVE TREATMENT OF CERVICAL CANCER AT MOI TEACHING AND REFERRAL HOSPITAL, ELDORET, KENYA: A TWO YEAR EXPERIENCE

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Aims
In Sub-Saharan Africa access to radiation therapy for women with advanced cervical cancer is poor due to the scarcity of radiation machines. In Kenya there is one public functional cobalt machine for a population of 40 million. The cost both direct and indirect are mostly too high for women. We evaluted Cisplatin as an alternative.
Methods
Women with advanced stage cervix cancer who were not able to go for radiotherapy were planned for palliative chemotherapy with cisplatin 50 mg/m2 iv in combination with iv fluids and antiemetics every 3-4 weeks. We continued chemotherapy until symptoms had subsided or to a maximum of 6 cycles. All women that were offered palliative chemo were included for this study. Data were collected systematically at every visit. Results are evaluated using a descriptive analysis.
Results
In 2011/12 88 women were planned for palliative chemotherapy. 61 went on to have at least one course of chemo. The women not getting chemo progressed quickly, were unfit due to kidney failure, sought treatment elsewhere or were lost to follow up. Stage was distributed as follows: FIGO Stage 2B 9.1%, 3A 24%, 3B 55%, 4A 9.1%. The median number of three courses were given (range 1-6) For the women that got at least one course of chemo and who could be evaluated during a follow up visit, bleeding improved for 37/43(86%) women, discharge improved for 28/36(78%) women and pain improved for 24/35(69%) women.
Conclusion
We have demonstrated that palliative chemotherapy with Cisplatin is feasible and effective.

IGCSM-0576
Poster Shift II - Cervical Cancer

TREND IN THE INCIDENCE OF GYNAECOLOGICAL CANCERS IN LAGOS UNIVERSITY TEACHING HOSPITAL: 8-YEARS REVIEW.

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Aims
To determine the trend in the incidence of gynaevological cancers in Lagos University Teaching Hospital, Lagos, Nigeria.
Methods
This was a retrospective study. The study population was the patients diagnosed of gynaecological cancers at the Lagos University Teaching Hospital, Lagos between January 2005 and December 2012. Data were extracted from case notes of patients using structured forms to determine the demographic pattern and trend of gynaecological cancers.

Results
There were 8495 gynaecological admissions during the period. There were 994 women who had genital tract malignancies giving an incidence of 11.7% of gynaecological admissions. Cervical cancer was the most common female genital tract malignancy occurring in 74.5% of gynaecological cancers, followed by ovarian cancer (12.8%), Endometrial cancer (8.1%), Choriocarcinoma (2.0%), Vulvar cancer (1.9%), and the least was vaginal cancer (0.1%). The mean age for cervical cancer was 55.5 ±13.1 years higher than 52.3 ± 13.2 years for ovarian cancer, 54.8 ± 13.5 years for vulvar cancer and 33.7 ± 12.8 years for choriocarcinoma but lower than 58.4 ± 13.2 years for endometrial cancer. The incidences of cervical, ovarian and endometrial cancers showed a steady increase over the period. Choriocarcinoma and vulvar cancers did not show a significant change in their incidences.

Conclusion
This study showed that the incidences of gynaecological cancers are going up. There is need for concerted efforts to increase awareness, screening and early detection of these cancers in Nigeria.

IGCSM-0579
Poster Shift II - Cervical Cancer

HIGH-GRADE CERVICAL ABNORMALITY FOLLOWING THE CYTOLOGIC DIAGNOSIS OF ATYPICAL CELLS OF UNDETERMINED SIGNFICANCE: A RETROSPECTIVE STUDY OF 1736 CASES

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Aims
Previous studies have reported patients with atypical endocervical cells of undetermined significance (AEC) on cervical cytology to be high-risk for premalignant and malignant cervical disease. This study determined the incidence AEC and investigated the clinical practice and histological outcomes of patients presenting this test result.
Methods
This 12-year population-based retrospective investigation examined the prevalence and clinical outcomes of patients with AEC on cervical cytology. Time to event analysis was used to predict the odds of having or developing *in situ* and invasive cervical neoplasia.
Results
AEC were reported in index smears from 0.2% patients (1736/795421) during the study period. One hundred thirty nine patients (8.0%) had, or subsequently developed, a high-grade cervical lesion. The relative hazard rate of biopsy confirmed high-grade cervical abnormality was five times greater in patients aged 25 to 34 years compared to patients aged 45-54 years (odds ratio 5.3; 95% CI 2.9 - 9.6). Overall, 55.1% of patients underwent evaluation by a specialist with a positive trend in compliance following the revised management guidelines. The positive predictive value of a high-grade cervical abnormality in patients with AEC increased during the review period. Of noteworthy importance were patients excluded (n=33) from this study due to histological confirmation of endometrial cancer. These cases will be subject to a separate review and definitively warrant further investigation.
Conclusion
Cytologic demonstration of AEC requires careful gynaecologic evaluation particularly in younger patients with no cervical screening history and/or having a previously detected low-grade cervical dysplasia.

IGCSM-0584
Poster Shift II - Cervical Cancer

ANTI-EGFR CONJUGATED GOLD NANOPARTICLES ENHANCE RADIO-CYTOTOXIC TARGETING OF CERVICAL CANCER AT MEGAVOLTAGE RADIATION ENERGIES

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Aims

Gold nanoparticles(GNPs) have been considered to have radiosensitization effect and the anti-EGFR monoclonal antibody(anti-EGFR) conjugated GNPs can be selectively localized around the cytoplasmic membrane of cervical cancer cells to promote GNPs enter tumor cells by both active and passive targeting. Our study mainly discussed the effect of GNPs and anti-EGFR conjugated GNPs on cervical cancer radiosensitivity.

Methods

The diameter and morphology of GNPs were viewed by Transmission Electron Microscope (TEM). The Cell uptake was assayed using inductively coupled plasma atomic emission spectroscopy(ICP-AES) while the cytotoxicity was assessed by MTT assay. 6Mev clinical electron beams irradiated the Hela cells after incubating with GNPs or anti-EGFR conjugated GNPs. The cell cycle and apoptosis was examined by an Annexin V-FITC/propidium iodide(PI)kit with flow cytometry(FCM). The expression of several critical proteins related to apoptosis was tested by western blot analysis.

Results

The anti-EGFR conjugated GNPs resulted in an obvious increase in GNPs uptake in Hela cells compared with naked GNPs. The combination of anti-EGFR conjugated GNPs with radiation resulted in a significant growth inhibition,compared with radiation alone or radiation combined with naked GNPs.The enhancement of the radiation effect was contributed to increasing the ratio of Hela cells in the G2/M phase and more apoptosis. Anti-EGFR conjugated GNPs combined with radiation also resulted in an obvious deregulation of Bcl-2 and upregulation of Bax,Bad,caspase-3.

Conclusion

Anti-EGFR conjugated GNPs can enhance the targeted uptake of GNPs by Hela cells and combined with radiation ,can increase cytotoxicity on Hela cells and effectively enhance cervical cancer radiosensitivity.

IGCSM-0592
Poster Shift II - Cervical Cancer

ADHERENCE TO CLINCIAL PRACTICE GUIDELINES IN CERVICAL CANCER: A RETROSPECTIVE ANALYSIS IN THE SYDNEY POPULATION

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Aims

Clinical practice guidelines are designed to assist in clinician decision making to improve patient outcomes. How well they are implemented in patient care has not been well reported in the treatment of gynaecological cancers. This study investigates adherence to clinical practice guidelines in cervical cancer in a region of Sydney.

Methods

A retrospective analysis was conducted using patient information from a population-based Area Clinical Cancer Registry. Compliance to 9 widely accepted clinical practice guidelines was assessed. Chi squared test was used to evaluate the association of country of birth and age.

Results

A total of 208 patients were included from 2006 to 2011. The stage distribution was 31.7% (n=66) with Stage I disease, 22.1% (n=46) Stage II, 12.5% (n=26) Stage III, 12.5% (n=26) Stage IV and 21.2% (n=44) unknown. Adherence to clinical practice guidelines was 86.7% (n=13) for appropriate surgery for Stage IA1/IA2, 66.7% (n=5) for receiving radiotherapy in those who did not have surgery for Stage IB1/IIA and 100% (n=8) for receiving chemotherapy for > 2 lymph nodes involved for Stage I/IIA. For Stage IB2/IIB/III/IVA 67.9% (n=36) met guidelines for receiving chemoradiotherapy, 97.2% (n=35) for receiving chemotherapy with cisplatin, 78% for radiotherapy to include both external beam and vaginal brachytherapy and 50% for receiving a radiotherapy dose ≥ 80Gy. No difference was found for either country of birth or age.

Conclusion

Adherence to clinical practice guidelines was variable. Compliance to management guidelines is high for chemotherapy (97.2-100%), but lower for surgery (86.7%) and radiotherapy (50-78%).

IGCSM-0595
Poster Shift II - Cervical Cancer

SIGNIFICANCE OF SUPRACLAVICULAR LYMPH NODE BIOPSY FOR CERVICAL CANCER WITH PARA-AORTIC LYMPH NODE METASTASIS

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Aims
The aim of this study was identify the clinical impact of pathological diagnosis of supraclavicular lymph node(SCLN) metastasis for patients with cervical carcinoma treated by surgically with para-aortic lymph node(PAN) metastasis.

Methods
We reviewed the medical records of cervical carcinoma patients primarily treated by radical hysterectomy and PAN dissection at Tokai University From July 2009 to February 2014 (N=43). Among them, 11 patients had PAN metastasis histologically. 9 patients of 11 were investigated SCLN metastasis by neck ultrasonography (US), followed by biopsy.

Results

1) Three of 9 patients of cervical carcinoma with PAN metastasis had positive SCLN histologically with biopsy. (33.3%) 2) Diagnostic accuracy of neck US for SCLN metastasis was superior to CT. (sensitivity 66.7%, specificity 83.3%) 3) Number of positive pelvic lymph node with SCLN positive was larger than with SCLN negative. (SCLN positive vs. negative; mean 34 vs. 13) 4) Number of positive PAN with SCLN positive was larger than with SCLN negative. (SCLN positive vs. negative; mean 30 vs. 4) 5) In which case 326b1 was negative, SCLN was also absent with metastasis.

Conclusion
1) In the case of which multiple pelvic lymph node metastasis are present, it might be concerned about the possibility of SCLN metastasis. 2) Neck US is very useful for screening of SCLN metastasis. 3) It was suggested that SCLN biopsy might be useful in the selection of appropriate adjuvant therapy for cervical cancer with PAN metastasis.

IGCSM-0600
Poster Shift II - Cervical Cancer

NEUROENDOCRINE TUMORS OF THE GYNECOLOGICAL TRACT - A CLINICAL CHALLENGE

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Aims

Neuro Endocrine Tumors (NETs) of the gynecological tract are aggressive and varied in presentations. We present our experience with this rare subset.

Methods

The retrospective study details 9 patients with NET of the gynecological tract who presented to our Institute between Jan 2007 to Dec 2012.

Results

6 patients had NET in the cervix, 2 in the ovary, and 1 in the vault post radical hysterectomy. Of the 4 patients with tumor size < 4 cms, one patient underwent radical hysterectomy with pelvic lymph node dissection and chemo radiation for stage 1B1 disease(48 months disease free survival now). Other three patients with parametrial involvement were treated by chemo radiation- one surviving (follow up 24 months) 2 lost to follow up (48, 24 months).2 patients with bulky disease (> 4 cms) had metastatic disease (survived < 3 months). One patient, operated outside for endometrial carcinoma had necrotic growth in the vault and pelvic lymphadenopathy within 6 months. She received chemo radiation (survival > 30 months). One patient, operated for carcinoma cervix had cytoreductive surgery and chemotherapy for a 20*28 cms pelvic mass 11 months later. IHC showed large cell ovarian NET. 13 months later, she had massive recurrent disease (palliated). One patient operated outside for adnexal mass showed struma ovary on IHC and is being followed up regularly (60 months).

Conclusion

Tumor size, necrosis and early loco regional lymph node metastasis are the poor prognostic factors. We suggest studies for newer tumor directed therapies towards the

locally advanced diseases to enhance survival

IGCSM-0605
Poster Shift II - Cervical Cancer

SURVIVAL OUTCOME OF HOKKAIDO-METHOD OF NERVE-SPARING RADICAL HYSTERECTOMY FOR CERVICAL CANCER

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Aims
The aim of this study is to evaluate the clinical outcome of nerve-sparing radical hysterectomy (NSRH) comparing conventional radical hysterectomy (CRH).

Methods

During 2000 to 2009, there were 124 cases of cervical cancer patients (FIGO stage IB1, n=67; IB2, n=15; IIA, n=7; and IIB, n=35) in which Hokkaido-method of NSRH was performed. We analyzed the clinical outcomes of them comparing with 121 cases (FIGO stage IB1, n=61; IB2, n=7; IIA, n=10; and IIB, n=43) of CRH that were performed from 1990 to 2009 in Hokkaido University.

Results

Comparison of surgical parameters showed that operative time and resected vaginal length were almost equal. Amount of blood loss was significantly less in NSRH group than in CRH group. Analysis using Kaplan-Meier method showed that there was no significant deference in cumulative disease free survival rate between two groups in any FIGO stage of cancer. Overall recurrence rate was 15.3% (19 cases) and 16.8% (20 cases) in NSRH group and CRH group respectively. Among them, local recurrences occurred within the surgical area were found in 13 cases (10.5%) and 9 cases (7.6%) in each group, respectively. Regarding the recurrence rate and site, no significant differences could be observed between two groups.Histology, vaginal invasion and pelvic lymph node status were independent prognostic factors for recurrence in the multivariate logistic regression. Surgical procedure did not affect the recurrence of disease significantly.

Conclusion
Hokkaido-method of nerve-sparing radical hysterectomy appears to be equally feasible

comparing to the conventional radical hysterectomy.

IGCSM-0606
Poster Shift II - Cervical Cancer

HEALTH IMPACT AND COST-EFFECTIVENESS OF IMPLEMENTING HUMAN PAPILLOMAVIRUS (HPV) VACCINE TO NATIONAL IMMUNIZATION PROGRAM (NIP) IN THAILAND

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Aims
To evaluate health impact and cost-effectiveness of implementing a nationwide quadrivalent HPV vaccination program for preadolescent girls in addition to the existing cervical cancer screening program.
Methods
A transmission-dynamic model adapted to Thailand setting was used to capture both direct and indirect (herd immunity) benefits associated with the vaccination program over 100 years based on two vaccination strategies: (1) routine vaccination for 11- to 12-year-old females; and (2) routine plus 5-year catch-up vaccination for 13- to 24-year-old females, compared to screening program alone. Model inputs were obtained from literatures, unpublished data and expert opinion. A proposed tender price of vaccine shown on recent news plus logistics, management and administration costs were used as vaccine-related costs. Future costs and outcomes were discounted at 3%.
Results
Short- and long-term health benefits were observed after the NIP. Compared with screening program alone, routine vaccination reduced cumulative incidence of cervical cancer (-54%), CIN1 (-71%), CIN2/3 (-70%), genital warts among females (-75%) and males (-63%), and cervical cancer deaths (-52%). Routine vaccination also resulted in reduction of disease costs. Considering the recommended threshold of 160,000 THB/QALY, both routine and routine plus catch-up programs are cost-effective with discounted incremental cost-effectiveness ratios (ICER) of 35,124 and 34,426 THB/QALY, respectively. The ICER increased by about 31% for both strategies when HPV6/11-related effects were excluded.
Conclusion

The nationwide HPV NIP, using the quadrivalent HPV vaccine, is cost-effective, particularly when catch-up vaccination is incorporated. The results support decision-making process to include HPV vaccine to the national vaccination program.

Conflict of interest
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IGCSM-0609
Poster Shift II - Cervical Cancer

PROGNOSTIC ROLE OF MAXIMUM STANDARDIZED UPTAKE VALUE OF METASTATIC PELVIC LYMPH NODE IN PATIENTS WITH EARLY STAGE CERVICAL CANCER FOR THE PREDICTION OF RECURRENCE

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Aims

The aim of this study was to evaluate the role of maximum standardized uptake value (SUVmax) of metastatic pelvic lymph node measured by ^{18}F-fluorodeoxyglucose positron emission tomography / computed tomography (^{18}F-FDG PET/CT) in patients with early stage cervical cancer to predict distant metastasis.

Methods

A total of 129 patients with stage I-IIA cervical cancer who underwent radical hysterectomy and pelvic lymphadenectomy from January 2007 to December 2011 were enrolled in this study. All patients underwent preoperative ^{18}F-FDG PET/CT scan within 2 weeks of surgery. SUVmax, clinical and pathological data were retrieved from medical chart review.

Results

The median follow-up period was 15.6 months. The median SUVmax was 8.75 (range, 1-41) and 5.95 (range, 2-25) for the primary tumor and pelvic lymph node, respectively. Lymph nodes in patients who later developed distant metastasis had higher SUVmax than those who did not (3.2 versus 1.80, $P < 0.001$). When the cutoff value of SUVmax for the primary tumor was set at 8.0 by receiver operating curve analysis, it was not associated with future distant metastasis (p=0.16), whereas it showed significant

association with future distant metastasis when that of SUVmax for the lymph nodes was set at 7.0 (P = 0.02).

Conclusion

SUVmax of metastatic pelvic lymph nodes, not just lymph node metastasis itself, in patients with cervical cancer has a predictive role for future distant metastasis. It might help clinicians develop individualized treatment plan.

IGCSM-0610
Poster Shift II - Cervical Cancer

DIAGNOSTIC AND PROGNOSTIC SIGNIFICANCE OF SQUAMOUS CELL CARCINOMA ANTIGEN (SCC-AG) IN CERVICAL MALIGNANCY OF NORTH INDIAN POPULATION

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Aims

Squamous cell carcinoma antigen (SCC-Ag) suppress apoptosis induced by natural killer cells, TNF and irradiation. It also suppress activity of caspase 3 and 9. Aim of this study was to assess the diagnostic and prognostic significance of SCC-Ag.

Methods

Prospective case control study was carried out over a period of 1 year in department of Obstetrics & Gynaecology, King George's Medical University, Lucknow, UP, India. After informed consent and ethical clearance total 96 subjects, histopathologically proven 30 CIN and 51 cases of cancers (FIGO stage I to IV) and cytological negative 15 healthy controls were enrolled 5ml venous blood samples were drawn pre & post treatment and SCC-Ag levels were estimated by ELISA technique using ELISA kit.

Results

Diagnostic significance of SCC-Ag, was evaluated after ROC curve-

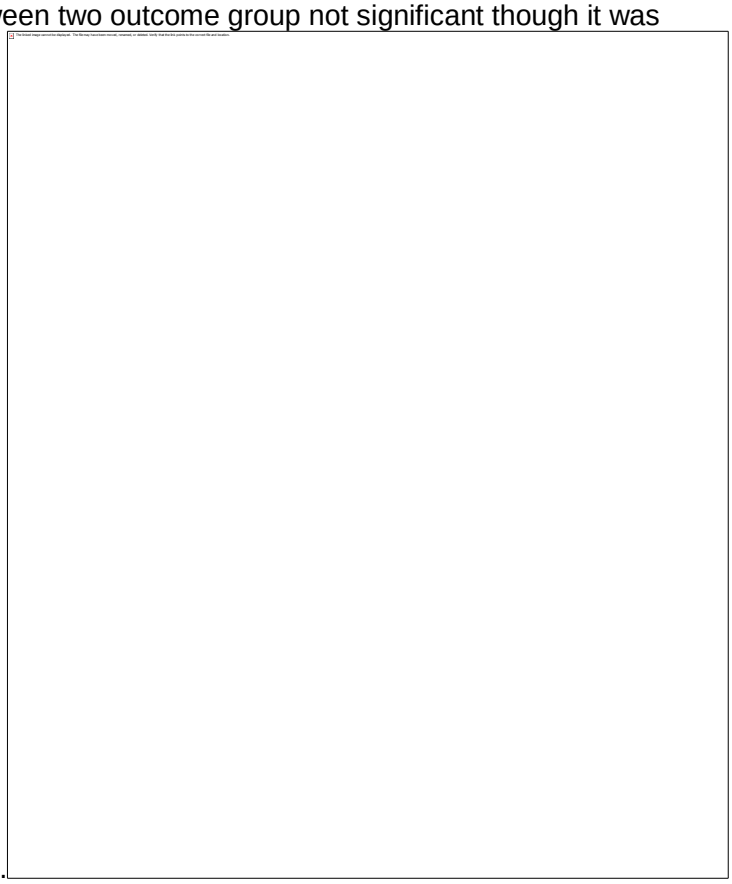
Between preinvasive, invasive and controls- AUC=0.959, sensitivity and specificity at cut off value ≥1.08 was 90.2% and 84.4% respectively. (Fig 1)

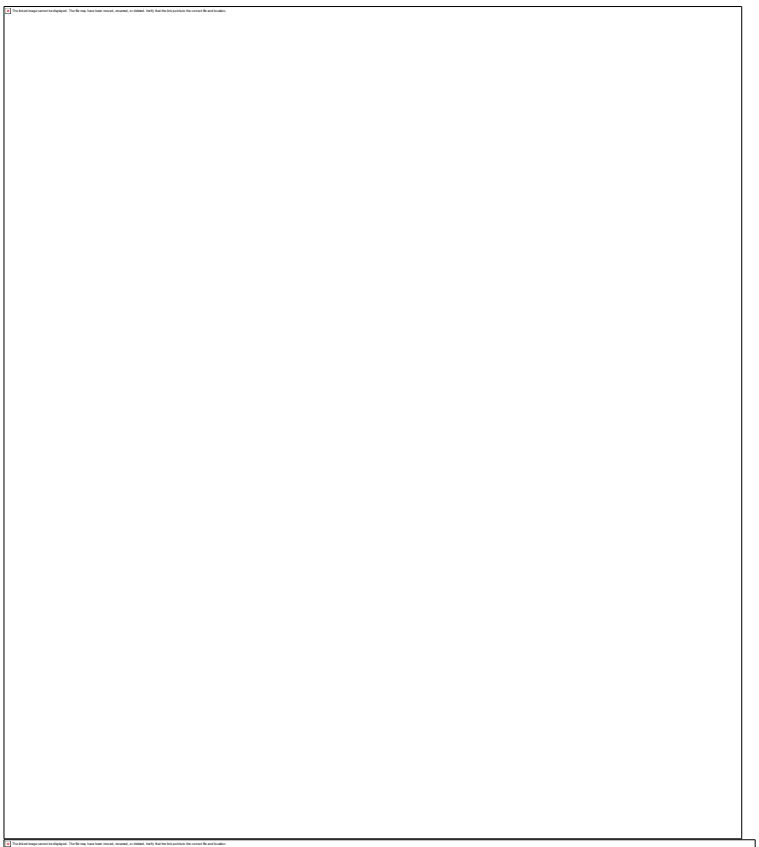
Between invasive cases & controls- AUC=0.944, sensitivity & specificity at cut off value ≥0.39 was 98.8% and 100% respectively. (Fig 2)

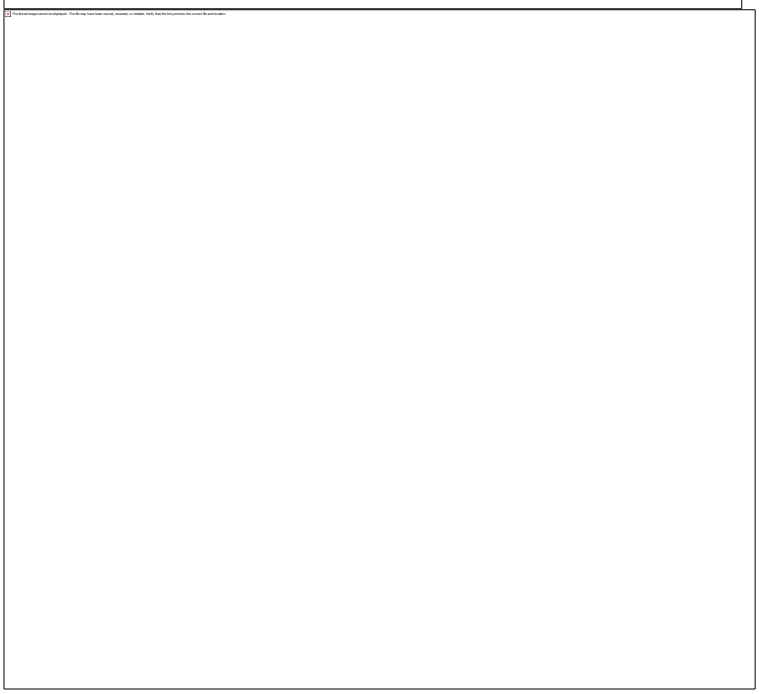
Prognostic significance of SCC-Ag was evaluated after analysis of pre & post treatment SCC-Ag levels of three stages of malignancy (Stage I to III)- Over all mean change in SCC-Ag was significant and decreased was 66.2% at post treatment. (Fig3)

At the end of study (9.8%) patients were expired and had significantly higher ($p<0.01$) pre mean SCC-Ag level.

Change in SCC-Ag level between two outcome group not significant though it was 15.3% lowered in alive group.







Conclusion

SCC–Ag can be used as a diagnostic and prognostic marker in preinvasive & invasive cervical malignancy.

IGCSM-0617
Poster Shift II - Cervical Cancer

SEXUAL DYSFUNCTION AFTER TOTAL LAPAROSCOPIC RADICAL HYSTERECTOMY FOR EARLY-STAGE CERVICAL CANCER

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Aims

In radical hysterectomy (RH), pelvic nerve plexus is often damaged during transection of cardinal ligament, it leads bladder dysfunction (BD). To prevent BD, the technique of nerve sparing radical hysterectomy (NSRH) is established. In a prostate cancer case, it is recognized a nerve sparing technique can control BD and sexual dysfunction (SD). So in a cervical cancer case, NSRH technique is also supposed to be effective to protect these functions. Now SD after RH is not considered as a problem, actually it seems to occur. We have completed the methods such as NSRH technique to preserve bladder dysfunction and vaginal extention technique to maintain sexual function. So we try to examine SD after RH.

Methods

Patients with cervical cancer who underwent total laparoscopic radical hysterectomy (TLRH) have been enrolled in a questionnaire-based study, evaluated with FSFI (Female Sexual Function Index). Patients were grouped according to the type of nerve-sparing (A; complete, B; incomplete, C; no preserve), previously reported to effect to bladder functions in our institution.

Results

Of 35 women included in the study, the FSFI total score for A, B and C were 19.1, 17.3 and 7, with or without vaginal extention (VE) were 23.3 and 12.9. However, there were no significant differences between A, B, and C, with or without VE.

Conclusion

Nerve sparing radical hysterectomy and vaginal extension can improve sexual dysfunction after radical hysterectomy.

IGCSM-0621
Poster Shift II - Cervical Cancer

IMPLEMENTATION OF LAPAROSCOPIC APPROACH FOR CLASS II RADICAL HYSTERECTOMY: A COMPARISON WITH OPEN SURGERY.

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Aims
To investigate the safety, feasibility and effectiveness of laparoscopic approach in the management patients undergoing class II/type B radical hysterectomy for early stage cervical cancer.
Methods
Consecutive data of 157 women who had class II radical hysterectomy, for stage IA2 and stage IB1<2cm cervical cancer, were prospectively collected. Data of patients undergoing surgery via laparoscopy (LRH) were compared with those undergoing open surgical operations (RAH). A propensity-matched comparison was carried out to minimize as possible selection biases. Postoperative complications were graded per the Clavien-Dindo classification (grade 3 or worse complications were reported). Five-year survival outcomes were assessed using Kaplan-Meier model.
Results

Overall, 60 patients undergoing LRH were compared with 60 patients undergoing RAH. No between-group differences in baseline, disease and pathological variables were observed (p>0.05). Patients undergoing surgery via laparoscopy experienced longer operative time than patients undergoing RAH (215.9 (±61.6) vs. 175.2 (±32.1) minutes; p<0.001); while LRH correlated whit shorter length of hospitalization (4 (range, 3-11) vs. 6 (range, 3-14) days; p<0.001) and lower blood loss (50 (range, 50-500) vs. 200 (range, 50-500) ml; p<0.001) in comparison to RAH. No between-group differences in adjuvant therapy administration rate existed (p=0.67). The execution of LRH or RAH did not influence site of recurrence (p>0.2) as well as survival outcomes, in term of 5-year disease-free and overall survivals (p>0.2, log-rank test).

Conclusion
Laparoscopic approach upholds the results of RAH, improving postoperative surgery-related outcomes. Further large prospective investigations are warranted.

IGCSM-0629
Poster Shift II - Cervical Cancer

RADICAL ABDOMINAL TRACHELECTOMY FOR CLEAR CELL ADENOCACRINOMA OF THE CERVIX IN A YOUNG GIRL: A CASE REPORT

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Aims
Clear cell adenocarcinoma of the cervix is a very rare tumor in paediatric population. Historically the recommended treatment is Radical Hysterectomy + Bilateral Pelvic node dissection, but this would lead to permanent infertility. Radical trachelectomy is an established technique in adult women with early cervical carcinoma. We wish to repot use of this surgical approach to treat a young girl diagnosed with clear cell adenocarcinoma of cervix.
Methods
A four and half year old girl presented with per vaginal bleeding. During evaluation was found to have a 2x2cm mass arising from cervix. Biopsy showed clear cell adenocacrinoma of cervix. On MRI there was no parametrial spread and lymphadenopathy. EUA + Vaginoscopy + cystoscopy confirmed the MRI findings. She was staged as clear cell adenocacrinoma of cervix stage Ib1. After parental counseling, patient underwent Radical Trachelectomy + Bilateral pelvic node dissection. Intraoperative frozen section confirmed no involvement of lymph nodes and the parametrial and vaginal cut margins were free.
Results
. After evaluating the histopathology report, she was advised close observation. Four and half years on follow-up she is disease free. To our knowledge this is the youngest patient to undergo Radical Trachelectomy for clear cell adenocacrinoma of cervix
Conclusion

Radical Trachelectomy for clear cell adenocacrinoma of cervix. This approach is possible and feasible in young girls diagnosed with cervical cancer.

IGCSM-0630
Poster Shift II - Cervical Cancer

I B CANCER CERVIX OUTCOME AFTER SURGERY

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Aims
Figo stage IB patients who underwent radical hysterectomy.Outcome was analysed.Pattern of failure whether early or late was seen.Also site of failure whether local or distant was assessed.
Methods
Retrospective analysis of patients treated from 2002 to 2012.
Results
Pattern of failure was observed early as well as late failure was also seen.Local failure occurred early.Late failure was seen in form of distant metastasis.
Conclusion
Figo stage IB have favourable outcome. Early local failure need additional effort to prevent disease.Distant late failure may need addition of systemic therapy.

IGCSM-0634
Poster Shift II - Cervical Cancer

INCREASING CERVICAL CANCER MORTALITY AMONG YOUNG JAPANESE WOMEN; ANALYSIS OF KANAGAWA CANCER REGISTRY, 1985-2012

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Aims
To investigate the mortality rate and incidence rate of cervical cancer among Japanese female.
Methods
Kanagawa Cancer Registry Data of the cervical cancer cases for 28 years (1985-2012) was analyzed. Patients were divided into the three groups based on age; 20-29, 30-49, and 50 and over. We compared the changes in the age-specific crude mortality rate and crude incidence rate among the age groups.
Results
A total of 15,698 patients with invasive cervical cancer (ICC) (11,020 cases) and carcinoma in situ (CIS) (4,678 cases) were diagnosed. The age-standardized mortality rate of ICC decreased from 4.2 (1990) to 3.0(2012).The age-specific crude mortality rates among 30-49 age group did not indicate significant changes, from 2.3 (1990) to 2.1 (2012) per 100,000 female, whereas among 50 and over age group the mortality rate decreased from 10.2 to 5. 3. Although the death cases among 20-29 age group were too small to analyses the crude mortality rate in each year, they showed the increasing trend. The age-specific crude incidence rates of cervical cancer (including ICC and CIS together) increased from 2.8 (1990) to 12.5 (2010) among 20-29 age group, and from 20.3 to 25.6 among 30-49 age group respectively, whereas among 50 and over age group it decreased from 10.2 to 5.5.
Conclusion
Cervical cancer among young Japanese female increased during observed period.

IGCSM-0636
Poster Shift II - Cervical Cancer

ROBOTIC ASSISTED RADICAL HYSTERECTOMY FOLLOWED BY ADJUVANT CHEMOTHERAPY AS TREATMENT MODALITY FOR STAGE IB CERVICAL SMALL CELL NEUROENDOCRINE CARCINOMA – ONE CASE REPORT

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Aims

Small cell neuroendocrine carcinoma (SCNECC) occurs rarely in the cervix, though highly aggressive and is dismal in prognosis. The optimal treatments are controversial. Chemotherapy with etoposide/platinum (EP) regimens as a postoperative adjuvant therapy was advocated.

Methods

A 38-year-old woman visited due to post-coital bleeding. Eroded cervical tumor 2.7 cm in largest diameter with free parametrium were noted. Biopsy disclosed small cell carcinoma strongly positive for cytokeratin (AE1/AE3) and neuroendocrine markers (chromogranin A, synaptophysin and CD56). Robotic assisted radical hysterectomy (RARH) with bilateral pelvic lymph nodes dissection was performed

Results

The specimen confirmed cervical tumor 3 cm x 2.5 cm with invasion to the medium third of cervical wall and lymphovascular space, without lymph-nodes or parametrium involvement except tumor emboli in vascular space of right parametrium. There is also squamous cell carcinoma in situ with glandular involvement noted. She completed EP regimen for 4 cycles. Tumor recurrence in vaginal stump and pelvic cavity with invasion to urinary bladder, left ovary and bilateral pelvic wall and attachment with sigmoid colon was noted 18 months after initial treatment. Transurethral resectionof bladder tumor disclosed carcinoma. External beam radiation therapy was completed with tumor shrinkage and she is kept regular follow up now.

Conclusion

The role of radical surgery has been advocated as potentially beneficial in SCNECC, though still presented debate in other publication. RARH could accelerated extend of surgery, might helpful for qualifying the evaluation of surgical intervention as treatment modality for SCNECC. Further cases series analysis still needed.

IGCSM-0638
Poster Shift II - Cervical Cancer

A PROSPECTIVE STUDY ON THE HUMAN PAPILLOMAVIRUS (HPV) 16 E7-SPECIFIC T-CELL IMMUNE RESPONSE FOR PREDICTING CERVICAL CYTOLOGICAL CHANGES

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Aims
To investigate whether the T-cell reactivity to human papillomavirus (HPV) 16 E7 antigen is associated with cytologic progress of the cervix
Methods
In this prospective study of 104 women who visited hospital for routine checkup, Pap smear and HPV test were followed up at 3 to 4-month intervals, and enzyme-linked immunospot assay using HPV 16 E7 antigen was performed at study entry to examine the specific T-cell response. According to the two consecutive results of cytology, 'favorable trend' was defined as consistent normal cytologies or regression, whereas 'unfavorable trend' was defined as persistence or aggravation of abnormal cytology.
Results
A total of 18 patients were suitable for analysis of the immunoassay. The initial cytology was negative in 12 patients, ASCUS in four, and LSIL in two. The positive rate of T-cell response was 6.2% in normal cytology or ASCUS, but 100% in LSIL (p=0.02). However, in patients with an increased vs. decreased viral load of high-risk HPV on follow-up, there was no significant difference in the rate of positive T-cell response (20% vs. 20%, p=1.0). In addition, none of six patients with a favorable trend on cytology showed positive immune response, and 2 (50%) of 4 patients with an unfavorable trend had a positive response without significant difference (p=0.133).
Conclusion
T-cell reactivity to HPV 16 E7 seems to be associated with cytologic severity at the study time, but less helpful to predict the cytologic progress, indicating that T-cell immunity is not a single factor that affects the occurrence of cervical neoplasia.

IGCSM-0642
Poster Shift II - Cervical Cancer

HPV TESTING AS THE PRIMARY SCREENING METHOD IN AN ORGANIZED REGIONAL SCREENING PROGRAM FOR CERVICAL CANCER. PRELIMINARY RESULTS

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Aims
In 2012, primary HPV screening of cervical cancer was implemented in the age groups of 35 through 60 in the city of Tampere (pop. 220,000).
Methods
HPV was tested with Abbott RealTime High Risk HPV test that detects 14 high-risk genotypes and genotypes 16 and 18. Invitations to HPV-screening were sent to 8111 women in Tampere. Both HPV test and Pap smear were taken at the same time, but only slides of women with positive HPV were analyzed.
Results
In 2012, 5672 women ≥ 35 years from Tampere participated in screening, with participation rate of 69.9 %. There were 5294 (93.3 %) HPV negative and 353 (6.2 %) positive samples. The most common finding (79%) was non HPV16/18 high risk genotype. Genotype 16 was founded in 17% and genotype 18 in 4% of positive samples. After a positive HPV and cytology 53 women were referred to colposcopy and other HPV positives for retesting after a one year. Participation rate in 2013 for retesting was 83.3%. Persistent HPV infection was detected in 163 of 259 (63 %).
Conclusion

In comparison with 2011 cytology based screening, implementing HPV method did not affect the participation rate. In 2012 the number of women referred to colposcopy (53/63) and the number of women referred to retest after one year (311/766) were lower than 2011 with conventional cytology. However, our practice of referring for colposcopy after persistent HPV infection (with normal cytology) led to an increased number of colposcopies (163).

IGCSM-0649
Poster Shift II - Cervical Cancer

CERVICAL IN-SITU SQUAMOUS CELL CARCINOMA AND PREGNANCY

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Aims

Squamous cell carcinoma (SCC) is a precursor of cervical invasive cancer. the aim of this study was to evaluate cervical In-Situ SCC in situ management during pregnancy.

Methods

This prospective cohort study was carried out on 7 patients with SCC in situ of cervix during pregnancy from 2001 to 2011 at Tabriz University of Medical Sciences, Alzahra Hospital.

Results

Seven women with a median age of 36 years were identified. The Pap test results revealed HSIL in 5 and LSIL in 2 of 7 patients. Five patients who had In-Situ SCC diagnosed in the late first trimester underwent cold knife conization at 16 weeks gestation. One woman had placement of a McDonald. One conozation was complicated by excessive blood loss. Two subsequent pregnancies occurred among patients, who were desirous of future fertility.

Conclusion

Cold knife conization in pregnancies complicated by cervical In-Situ SCC is safe for mother and fetus.

IGCSM-0651
Poster Shift II - Cervical Cancer

EDUCATIONAL PROGRAM FOR ADOLESCENTS ABOUT SEXUALLY RESPONSIBLE BEHAVIOUR,PREVENTING HPV INFECTION

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Aims

Given the obligatory role of HPV in the development of cervical neoplasia, a vaccine to immunise against HPV infection would be a valuable strategy for the primary prevention of cervical cancer. Sexually active adolescents face serious health risks associated with unprotected sexual intercourse including HPV and other sexually transmited diseases as well as unwanted pregnancy. Behaviours particularly relevant to HPV transmission are: early age of sexuall debut, poor contraceptiv/condom use, multiple sexual partners,certain sexual practices and the use of substances such as alcohol and drugs.

Methods

We organized multemedia presentations Name of the project „Knowledge is pleasure'.Adolescents joind project active, by making their own web sites, scene performances,poems,posters,lectures,all with sexuall responsible behaviour themas.

Results

By organizing multimedia presentations the interest of that population to attend would be greater. Concerts and other presentations after the lecture was some kind of bait for that population to be present at the lecture.Questions they made after the lecture were those usual for that age.They asked about the way of contracting HPV and other STD-s, medical treatment of partners and use of contraceptives and also about vaccina.Booklets explaining in a popular way the sexually transmitted diseases, way of catching infection and protecting methods were distributed.

Conclusion

We found very effective introducing sexual aducation in schools starting from primary school, develop interdisciplinary cooperation between social and medical sciences, including all experts.

IGCSM-0660
Poster Shift II - Cervical Cancer

EFFICACY OF PAX1 GENE AS TRIAGE OF THE HPV HIGH RISK (HPV-HR)TESTING FOR CERVICAL CANCER SCREENING

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Aims
The purpose of the study was to evaluate the efficacy of PAX1^{m} as triage of the HPV high risk (HPV-HR) for cervical cancer screening.

Methods
Following the GCP, the subjects were recruited in Xiangya Hospital. The inclusion criteria were female with age ≥20 and sexual experience. The exclusion criteria included: women had history of reproductive tract cancers, had therapy for cervical lesions or at pregnancy. The residue cervix cells from the cervical area were collected for the HPV-typing and the test of methylated level of PAX1 genes (PAX1^{m}). Sensitivity, specificity, and accuracy for PAX1^{m} of HPV-HR group were analyzed.

Results

Total 432 case control subjects were recruited and 296 HPV-HR subjects were analyzed in the study. The final diagnosis was confirmed by histological reports. The results showed that the PAX1^{m} was significantly higher in HPV-HR patients with CIN3 and worse lesions than those with CIN1, CIN2, and normal cervix (P<0.0001). The sensitivity, specificity and accuracy of PAX1^{m} were >75% , >72% and >74%. As for HPV 16 or 18 type, the sensitivity and specificity were> 66% and >78%. PAX1^{m} tests could reduce 45% of referral rate more than HPV-HR for colposcopy/biopsy.

Conclusion
The current results indicated that the PAX1^{m} has potential to be the test for the triage of the HPV-HR as first screen for cervical cancer.

Authors with " " and underlined have equal contributions.

Conflict of interest
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IGCSM-0665
Poster Shift II - Cervical Cancer

PREVALENCE AND SURVIVAL OF CERVICAL CANCER STAGE IA2-IB PATIENTS WITH HIGH RISK PROGNOSTIC FACTORS AFTER RADICAL HYSTERECTOMY WITH BILATERAL PELVIC NODE DISSECTION (RHND)

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Aims

To study the prevalence of cervical cancer stage IA2-IB patients with high risk prognostic factors after RHND. High risk factors included pelvic node, parametrium or margin positive. The 5-year recurrent free survival between patients with and without high risk factors was compared.

Methods

The data was collected by reviewing medical records of 288 cervical cancer stage IA2-IB2 patients who underwent RHND at Department of Obstetrics and Gynecology, Faculty of Medicine Siriraj Hospital,Thailand from January 2006 to January 2010. All pathologic slides were reviewed.

Results

The prevalence of cervical cancer stage IA2-IB patients with at least one high risk prognostic factors after RHND was 13.9%. The patients with high risk prognostic factors had lower 5-year recurrent free survival (77.5%) compared with the patients with no high risk factors (95.6%) ($p<0.001$). Histologic type, depth of invasion, vascular space invasion, tumor size were not prognostic factor for recurrence.

Conclusion

The patients with stage IA2-IB cervical cancer who would undergo RHND should be informed the chance to have adjuvant radiation therapy following surgery about 13.9%.

IGCSM-0666
Poster Shift II - Cervical Cancer

ANALYSIS OF 29CASES WITH CERVICAL CANCER IN WOMEN UNDER 35 YEARS OLD.

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Aims

Recently, the cervical cancers in younger women have been increased. The objective of this study was to evaluate the outcome and prognosis of younger cervical cancer patients.

Methods

We retrospectively reviewed the medical records of 29 patients with FIGO stage?B1-?B cervical cancer with aged 35 years and under, treated between 2003 and 2013 at Tokushima University Hospital.

Results

The median patient age was 32 years (range 24–35 years). 13 of the patients were staged in?B1, 4 in?B2, 1 in ?B, 7 in ?, 4 in ?B. 22 cases were squamous cell carcinoma, 4 were adenocarcinoma, 2 were adenosquamous carcinoma, and 1 was glassy cell carcinoma. There were 58% (10/17) with lymph vascular involvement, and 38% (11/29) with lymphadenopathy. 16 patients underwent operation as primary treatment, 7 underwent radiation with/without chemotherapy, and 6 received neoadjuvant chemotherapy. 13 patients treated without adjuvant therapy. The estimated 5-year overall survival rate (OS) was 83% (82% in SCC, and 85% in non-SCC). 5 patients died due to distant metastasis. Compared with cases without lymph node involvement, cases with lymphadenopathy had a poor prognosis (5-year OS; 88% vs 57%, PFS 94% vs 64%). Moreover 36% with lymphadenopathy revealed early recurrences of the disease with very short survival, and 4 patients died within 2 years.

Conclusion

Our observation suggests that a part of younger cervical cancer patients should be consider as rash progressing.

IGCSM-0681
Poster Shift II - Cervical Cancer

LOCAL VAGINAL RECURRENCE OF PRIMARY CERVICAL MALIGNANT MELANOMA AT 12 YEARS AND LITERATURE REVIEW

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Aims

Primary malignant melanoma (MM) of the uterine cervix is rare with only 81 cases reported from 1889-2013. Presentation is usually vaginal bleeding and a cervical pigmented or amelanotic (45%) mass. Tissue diagnosis is confirmed by immuno-histochemistry and exclusion of another primary site. A surgical approach is advocated, adjuvant chemotherapy is controversial and use of radiotherapy has never been studied in clinical trials. Prognosis is poor with a five year survival of 10.7%.

Methods

36-year-old woman presented with intermenstrual bleeding and cervical cytology suggesting high grade malignancy. Examination and MRI confirmed a 3 x 4cm nodular lesion of the cervix and biopsy suggested MM (60 mitoses per 10HPF). Following exclusion of another primary site she underwent radical hysterectomy, bilateral salpingoophorectomy and bilateral pelvic lymphadenectomy (without adjuvant therapy). Localised vaginal vault recurrence of MM occurred 12 years later and was treated by radical surgery. Eight months later disease recurred locally and distantly (liver and lung) and she subsequently died.

Results

This case is unusual, involving a long disease free interval. Only two other cases of long-term survival (13 and 14 years) have been reported with an additional four cases of survival between 48 and 65 months documented. The patient died of widespread metastatic disease which is not commonly reported in mucosal melanomas.

Conclusion

Management of primary MM of the uterine cervix is not standardised due to the small amount of published cases highlighting a need for rare tumour registries, publication of cases and ongoing research.

IGCSM-0687
Poster Shift II - Cervical Cancer

THE INCIDENTAL FINDING OF ABNORMAL CERVICAL PATHOLOGY IN NORMAL PREOPERATIVE PAPANICOLAOU SMEAR OF HYSTERECTOMY SPECIMENS IN THAMMASAT UNIVERSITY HOSPITAL

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Aims

To investigate abnormal cervical histopathology (ACH) from hysterectomy specimen with normal preoperative Papanicolaou smear (Pap smear).

Methods
Medical records from May 2009 to April 2012 were retrospectively reviewed. Subjects were hysterectomy specimen underwent in Thammasat University Hospital. All specimen had normal preoperative Pap smear. ACH was the primary outcome. A *p*-value less than 0.05 was considered significant.

Results
Of 483 subjects with average age of 50.5 years old (33-79 years) were recruited. Benign cases were enlarged uterus and pelvic mass at percentage of 94(430/483). Endometrial and ovarian cancer was found at 6.2 and 4.7 percent, respectively. From hysterectomy specimen, there were 19(4%) cases of ACH. Silent ACH of benign disease, endometrial and ovarian cancers were 1.2 (5/430), 33.3 (10/30) and 17.4 (4/23) percent, respectively. Negative predictive value (NPV) and false negative of Pap smear were 96 and 4 percent, respectively. ACH in malignant cases were 27.9 (12/43) and 20 (2/10) percent in adequate (APS) and inadequate (IPS) Pap collection groups, respectively. ACH in benign condition were 0.68 (2/292) and 2.2 (3/138) percent in APS and IPS, respectively. ACH was more found in hysterectomy specimen from indication of malignancy than benign condition with statistical difference. One third of preoperative stage I endometrial cancer cases had cervical involvement.

Conclusion
Silent ACH in normal preoperative Pap smear was 4 % and NPV at the percentage of

96. Inadequate Pap smear collection is still the major problem in this study. Reducing of inadequate Pap smear collection could reduce the false negative rate.

Keywords: Hysterectomy, Normal Pap smear, Cervical Histopathology

IGCSM-0688
Poster Shift II - Cervical Cancer

THE EFFECTS OF BODY MASS INDEX ON SURVIVAL OUTCOMES IN PATIENTS WITH CERVICAL CARCINOMA (IB1 TO IVA)

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Aims

Our aim is to prove the effect of BMI on treatment outcomes for patients with cervical carcinoma

Methods

The retrospective cohort in this study included all patients with cervical carcinoma (n = 1003) who had stage IB1 – IVA disease at Samsung Medical Center between April 1996 and December 2007. The median follow-up was 52.0 months. All type of treatment was included – surgery with or without adjuvant Radiation therapy(RT) or concurrent chemo radiation therapy(CCRT), primary RT or CCRT. Neoadjuvant chemotherapy was excluded. BMI categories were created according to the WHO classification system.(Tab.1) BMI was chosen at initial out patient clinics or before initiation of treatment. Primary outcomes were overall survival and progression free survival. Univariate and multivariate analyses were performed. Kaplan-Meier survival curves were generated and compared using Cox proportional hazard models.Secondary outcomes were complication related treatment with BMI using x^2 test.

Results

On univariate analysis, compared with normal weight (BMI 18.5-24.9 kg/m2) and overweight (BMI > 25 kg/m2), a BMI <18.5 kg/m2 was associated with decreased progression and overall survival but not statistically significant. BMI was an independent prognostic factor for survival when adjusting other clinical factors including age, FIGO stage, cell type, and treatment type. The higher pre-treatment BMI was significantly associated with better overall survival with HR of 0.941 (95% CI, 0.892-0.993). In the complication in cervical cancer, only rectovaginal fistula was significantly related BMI.

Conclusion

Lower BMI is associated with poorer survival and obesity is associated with increased morbidities such as rectovaginal fistula.

IGCSM-0695
Poster Shift II - Cervical Cancer

FIBROBLAST GROWTH FACTOR RECEPTOR2 IIIC IN CERVICAL CANCER

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Aims
To investigate the role of Fibroblast growth factor receptors (FGFR)2 IIIc in uterine cervical cancer, we performed in vitro analysis.
Methods
FGFR1 to 3 possess IIIb and IIIc isoforms as the result of alternative splicing. Single nucleotide polymorphisms (SNPs) of the FGFR2 gene are associated with endometrial cancer, and missense mutations or copy number gains of the FGFR2 gene occur in breast cancer. In uterine cervical cancer, FGFR2 IIIb was expressed in 86% of uterine squamous cell carcinoma (SCC) and we reported the expression of FGFR2 IIIc in CIN and cervical SCC. FGFR2 IIIc protein was detected in all cervical SCC examined. In situ hybridization analysis showed that FGFR2 IIIc mRNA was strongly expressed in the invasive fronts of cancer cell nests in cancer tissues.
In the present study, full-length FGFR2 IIIc cDNA was stably transfected into CaSki cells.
Results
The growth rates of the FGFR2 IIIc-transfected CaSki cells were higher than those of mock cells in vitro. As the CaSki cells were injected into nude mice, the FGFR2 IIIc-transfected CaSki cells tended to form larger subcutaneous tumors than mock cells. Moreover, PD173074, an inhibitor of FGFR-2, markedly suppressed *in vitro* cell growth of human cervical cancer cell lines.
Conclusion
These findings suggest that FGFR2 IIIc plays important roles in the carcinogenesis and proliferation of cervical cancer cells. FGFR2 IIIc is considered to be a novel therapeutic target for inhibiting the growth of CIN and cervical cancer.

IGCSM-0699
Poster Shift II - Cervical Cancer

THE SIGNIFICANCE OF HPV GENOTYPE IN THE PROGNOSIS OF CERVICAL CANCER

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Aims

To evaluate the prognostic significance of HPV genotype in patients with early-stage cervical cancer who were treated by radical hysterectomy

Methods

HPV genotyping was performed using PCR-based DNA chip test for 21 high-risk types. Total 366 pstients were divided into three groups according to the HPV genotypes; HPV 16, 18 and non 16&18 groups.

Results

189 patients (52%) had HPV 16 DNA, 68 (16.2%) had HPV 18 DNA, 87 (24%) had other types of high-risk HPV DNA, and 22 (5%) were negative for any high-risk HPV DNA. There were no significant differences in clinico-pathologic factors among the three groups. However, HPV 18 group was signficantly younger (47 vs 52 years, respectively, P<0.001) and wasmore likely to have adeno or adenosquamous carcinoma compared to HPV 16 of non-HPV 16 & 18 groups (64.7%, 21.7%, and 13.8%, respectively, P<0.001). Requirement of adjuvant therapy was not different amongthree groups. HPV 18 group was associated with significantly lower disease free survival (81%, 92%, and 90%, respectively, P=0.038) and overall survival (86%, 97%, and 95%, respectively, P<0.001) compared to HPV 16 or non-HPV 16 & 18 groups. In multivariate analysis, HPV 18 was a significant risk factor for recurrenc (Odd ratio, 3.04) and death (Odd ratio,8.59)

Conclusion

HPV 18-containing cancer was more frequently found in the younger patients in adeno or adenosquamous carcinoma and was an independent risk factor for recurrence and death after radical hysterectomy.

IGCSM-0706
Poster Shift II - Cervical Cancer

THE CASES WITH PREGNANCY IN WOMEN WITH LEGH-LIKE LESION

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Aims

Lobular endocervical glandular hyperplasia (LEGH) is a benign proliferative disease of cervical glands. Because of its histological resemblance to minimal deviation adenocarcinoma (MDA) and frequent association with MDA, the possibility of LEGH as a precursor of MDA has been indicated. Although we proposed a flow chart for clinical diagnosis and management of LEGH, the influence of LEGH on the pregnancy and delivery were remained unclear. Therefore, we reviewed the cases with pregnancy in women with LEGH-like lesion.

Methods

There were 2 cases (40 and 37 years of age) with pregnancy in women with LEGH-like lesion. The LEGH was diagnosed by cervical conization in case 1 and by positive HIK1083 test and “cosmos” sign on MRI in case 2. The course and outcome of these pregnancies were investigated.

Results

Both cases became pregnant without medical assist. Excessive vaginal watery secretion associated with the production of neutral type gastric mucin made it difficult to diagnose with premature rupture of the membrane (PROM) by inspection, nitrazine test and fern-like crystallization in case 1. Case 1, who had undergone cervical conization, was preterm delivery at 36 week, whereas case 2 delivered at 40 week. Both cases delivered vaginally without cervical laceration.

Conclusion

Because the uterine cervical glands with LEGH produce abundant neutral type gastric mucin, diagnosis of PROM is difficult in patients with LEGH. LEGH may not affect the pregnancy outcome.

IGCSM-0710
Poster Shift II - Cervical Cancer

NEXT GENERATION SEQUENCING VALIDATION OF PIK3CA MUTATIONAL STATUS IN CERVICAL CANCER PATIENTS TREATED WITH RADICAL CHEMORADIOTHERAPY

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Aims
We have previously shown poor overall survival (OS) in cervical cancer (CC) patients treated with radical chemoradiotherapy (CRT) harboring tumor *PIK3CA* mutation [McIntyre et al, Gynecol Oncol 2013;128(3): 409-14] using Sanger-based sequencing. The aim of this study was to re-sequence CC specimens using next generation sequencing (NGS) to determine *PIK3CA* mutational status reproducibility, and to evaluate tumors for additional potentially clinically relevant mutations.

Methods
Pre-treatment biopsies from 82 patients with CC treated with radical CRT from a single institution were evaluated. Tumor DNA was tested for *PIK3CA* mutation status and additional mutations using the Ampliseq Cancer Hot Spot Panel (CHPv2) on the Ion PGM using a 316v2 chip. Bioinformatic analysis was performed using Torrent Suite Software version 4.02. Effect of tumor *PIK3CA* status via NGS on OS was determined.

Results
NGS detected 100% of *PIK3CA* mutations previously detected using Sanger sequencing, as well as two additional *PIK3CA* mutation positive cases not previously identified. *PIK3CA* mutational frequency was 26% (21/82 cases), with 86% (18/21) in squamous cell cancers. Estimate of *PIK3CA* mutation effect on OS increased with NGS evaluation: age-adjusted HR 2.8 (CI 1.3-6.1, p=0.009) vs Sanger: age-adjusted HR 2.4 (95% CI 1.1 – 5.4, p=0.032). Other mutations were comparatively rare: FBXW7 (5/82, 6%), KRAS (4%), NRAS (2%) and PTEN (2%).

Conclusion
NGS reliably validates *PIK3CA* mutational status initially identified using standard Sanger sequencing, and increases estimate of mutation effect on OS. We were able to further elucidate the mutational spectrum of these tumors, adding to clinically relevant molecular knowledge.

IGCSM-0711
Poster Shift II - Cervical Cancer

IMPROVEMENT OF DETECTION OF SENTINEL LYMPH NODES (SN) BY PDE AND TISSUE RINSE LIQUID-BASED CYTOLOGY (TRLBC).

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Aims

On the problems with Sentinel node navigation surgery (SNNS) for early invasive cervical cancers, Relatively low bilateral detection rate of SN (around 70%), and development of effective method of rapid diagnosis for the node metastasis have been pointed out. For the answers to these problems, we examined the availability of PDE to detect bilateral SN successfully , and of TRLBC to detect node metastasis accurately.

Methods

102 patients subjected to SNNS (2005-201). PDE; Indo Cyanine Green(ICG) was diluted by 100X and each of 1ml was injected on the direction of 0,3,6,12 o'clock just before the start of surgery. During operation SN was detected with PDE neo (Hamamatu Photonics, Japan).

TRLBC : Detected SN was sliced by 2mm interval and each tissue fragment was rinsed thoroughly in a solvent , then thin-layer cytology was performed followed by Papanicolaou staining or anti-keratin IHC. These result was compared with permanent pathology by HE staining.

Results

1. Bilateral SN detection rate was 71.4% by ordinary Tm-phytate isotope method.

2. PDE was subjected to 10 patients who did not have bilateral signal by isotopes, and 9 patients showed bilateral signals successfully.

3. Sensitivity of TRLBC to permanent slides was 91.7%, and specificity was 100%. Detection failure was observed only with micro-metastasis or isolated tumor cells.

Conclusion

1.The rate of bilateral SN detection can be improved with PDE-ICG method.

2.Eligibility of TRLBC for the rapid diagnosis of SN metastasis was emphasized with high sensitivity and specificity.

IGCSM-0715
Poster Shift II - Cervical Cancer

THE EFFECT OF HUMAN PAPILLOMAVIRUS GENOTYPING ON MANAGEMENT STRATAGIES OF ATYPICAL SQUAMOUS CELLS OF UNDETERMINED SIGNIFICANCE

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Aims

HPV genotyping identifies not only whether the high-risk HPV infection is present but also which HPV type is. However, no guidelines about the management for atypical squamous cells of undetermined significance (ASCUS) are associated with specific types of HPV infection. We intended to identify the appropriate management strategy of ASCUS using HPV genotyping.

Methods

In this retrospective cohort study, a total of 144 Korean women, which were diagnosed with ASCUS on pap smear, were subjected to HPV genotyping and punch biopsy under colposcopy. Triage criteria using HPV genotyping was created by the following steps. First, distributions of high risk HPV type and pathology from punch biopsy were evaluated. Second, in each HPV type, the proportion diagnosed with lesions ≥CIN2 was identified. Third, high risk HPVs were combined and classified in order according to their frequency with lesions ≥CIN2. Finally, referral rate to specialist for colposcopy and detection rate of lesions ≥CIN2 were measured in each group.

Results

HPV 16, 18 genotyping detected 54% of lesions ≥CIN2 and showed referral rate of 32%. HPV 16, 18, 31, 33, 52, 58 genotyping detected 92% of lesions ≥CIN2 and reduced referral rate by 37% compared to it including all high-risk HPV. HPV 16, 18, 31, 33, 52, 58, 59 genotyping detected 92% of lesions ≥CIN2 and reduced referral rate by 33%.

Conclusion

This study demonstrate that HPV genotyping consisting of specific HPV types is a very useful tool for the management of ASCUS and may replace the conventional HPV tests.

IGCSM-0725
Poster Shift II - Cervical Cancer

DELAYING THE AGE OF CERVICAL SCREENING UNTIL 25 YEARS: ACCEPTANCE AND ATTITUDES OF YOUNG WOMEN

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Aims
The World Health Organisation has recommended cervical screening begins no earlier than 25 years. Revised Australian guidelines have been announced under the Renew program. Changes to cervical screening programs are only effective if they are embraced by young women at which they are targeted. We conducted a study of young Victorian women to assess attitudes towards a change in cervical screening practice.
Methods
An online survey was conducted of young women aged 16-28 years enrolled in the Young Female Health Initiative at the Royal Women's Hospital, Melbourne, to assess attitudes towards delaying the age of cervical screening, widening screening intervals and screening with HPV testing.
Results
Of 157 participants (mean age=22.2, SD=2.1), 53.5% expressed concern about delaying the age of cervical screening until 25 years and 56.7% were concerned that 'cancer will be missed'. Women preferred shorter screening intervals from 25 years; acceptance of 69.4% at 1 year, 59.9% at 3 years and 42.0% at 5 years ($p<0.001$). Women were willing use an HPV test as a primary screening tool instead of a Pap smear (n=129(82.2%)).
Conclusion
Promoting the benefits of less frequent cervical screening remains a challenge in an era where more frequent screening is perceived to be superior. Identifying the predictors of young women's intentions to undergo cervical screening with the Renew program is imperative to maintaining cervical screening adherence rates.

IGCSM-0727
Poster Shift II - Cervical Cancer

HIGH RISK HPV NEGATIVE ASC-US CASES. AN IGNORED PITFALL FOR PATIENTS, GYNECOLOGIST AND PATHOLOGISTS.

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Aims

Current guidelines recommend a three year follow up period for patients who have ASC-US and who tested negative for concomitant high risk HPV(HrHPV). Purpose of this study is to detect the immediate risk of having HSIL in these patients. We also aimed to detect clinical/demographic data that might significantly contribute to false negative HPV tests this group.

Methods

We performed immediate/baseline colposcopy on HrHPV(negative)ASC-US cases. Papsmears were evaluated with liquid-based cytology(LBC) and HrHPV detection was performed on LBC material by PCR. Biopsy results were compared with Papsmear and HrHPV test results.

Results

A total of 84 patients were evaluated. The median age of the patients was 36(31-45). Colposcopic biopsies revealed LSIL in 19 cases(23%) and HSIL in 3 cases(4%). IUD use and smoking were significantly correlated with presence of HSIL in HrHPV(negative)ASC-US cases (p=0.005 and 0.007 respectively).

Conclusion

Sensitivity issues (false negatives) of HPV pose health risk for the patient as well as a medicolegal risk for healthcare professionals. Expanding current guidelines to include the following would significantly decrease this medicolegal and healthcare risk: 1) patients with HrHPV(negative)ASC-US should be notified if they have a 5% immediate risk of having HSIL; 2) it is reasonable to repeat the Pap smear after 6 months in cases where the patient agrees that they are at risk, and others should be triaged to have a colposcopy, 3) guidelines should be different for cases with IUD in-situ and smokers;

HrHPV(negative)ASC-US cases should be referred to colposcopy instead of having three year follow up.

IGCSM-0728
Poster Shift II - Cervical Cancer

ARE WE TAKING SERIOUS RISK WHEN WE JUST FOLLOW-UP HIGH-RISK-HPV NEGATIVE POSTMENOPOUSAL LOW GRADE SQUAMOUS INTRAEPITHELIAL LESSIONS PATIENTS?

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Aims

Current cervical cancer screening guidelines recommend that one year follow up period for patients who have postmenopousal low grade squamous intraepithelial lesion (pLSIL) with negative testing high risk HPV(HrHPV). The aim of this study was to detect whether those patients has increased immediate risk of having HSIL

Methods

We assessed total HrHPV(negative)pLSIL 24 women at department of Obstetric and Gynecology at Etimesgut Military Hospital from 2012 to 2013. All patients underwent liquid based cytology and reflex high-risk HPV(16,18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66 and 68) test. Colposcopic examination and guided biopsy was performed by same gynecologist (M.Ö.).

Results

The average age of the patients is 53,1±3,2. Six patients (25%) are detected as cervical intra-epithelial neoplasia 1(CIN1) and eighteen patients are reported as non-dysplastic. None of the patients had CIN 2 and 3

Conclusion

If the HPV test is negative or if CIN is not identified at colposcopy, repeat cytology in 12 months is recommended by the American Society for Colposcopy and Cervical

Pathology (ASCCP) for HrHPV(negative)pLSIL. We agree with this recommendation because, in our study we found only CIN 1 lessions and ASCCP recommend co-testing at 1 year for CIN1.

IGCSM-0730
Poster Shift II - Cervical Cancer

HPV FREQUENCY OF PATIENTS WITH ASCUS

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Aims

We aimed to determine Humanpapilloma virus (HPV) prevalence of ASCUS patients in our hospital.

Methods

All patients were evaluated with liquid based cervical screening test and reflex HPV testing was performed in patients with a diagnosis of ASCUS and the results were analyzed.

Results

Eighty- four patients were diagnosed with ASCUS. HPV DNA assay was performed and 12 patients were positive (14.2%). DNA typing of this patients were 16 and 18. The mean age of patients in this group was 34 years old. The mean age of HPV DNA negative group was 36 years old. Colposcopy was performed to HPV DNA positive group and two of them CIN 2, five of them CIN1 were detected.

Conclusion

ASCUS is the most frequently reported result of an abnormal cervical smear. Management of ASCUS is preferred with HPV DNA except the adolescent age group. 31-60 % of ASC patients are high- risk HPV positive. Repeat pap test, colposcopy and HPV testing can be prefered for ASCUS management. Current guidelines recommend HrHPV test for triage and management of ASCUS cases. Whereas HrHPV(+) cases is being to advised to have colposcopic examination, HrHPV(-) ASCUS cases are advised to follow up in three years. When using liquid -based cytology, reflex HPV testing can be used for avoiding from colposcopy.

IGCSM-0735
Poster Shift II - Cervical Cancer

CIN2 REGRESSION FOR YOUNG PATIENTS WHO WERE CONSERVATIVELY MANAGED

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Aims

Women previously treated for a high-grade squamous cervical intraepithelial lesion (CIN3) are at increased risk of cervical cancer and must be treated. However, recent research suggests CIN2 lesions in younger patients may be managed conservatively. The aim of this study is **t**o investigate health outcomes of conservatively managed young patients with CIN2

Methods

A retrospective investigation was performed for patients aged 18 to <25 years with biopsy confirmed CIN2 for 01-Jan-2001 to 31-Dec-2012. Patient's cervical test results were linked with hospital morbidity records to confirm treatment (ablative and/or excisional). Patients treated within 4 months of receiving their CIN2 diagnosis were allocated to the "immediate treatment" group. Patients who remained untreated at ≥4 months were allocated to the "conservative management" group. Regression was defined as a lower grade epithelial lesion than CIN2.

Results

Of the 2,960 patients identified, 1,970 (66.6%) were treated immediately and 990 (33.4%) met the definition for conservative treatment. The median follow-up time was 3.4 years (min <1 year and max 12 years) and mean patient age was 21.6 years. Of the patients treated conservatively, cervical pathology results reported disease persistence for 361 patients (36.4%). One patient was histologically confirmed with squamous cell carcinoma (approximately 5 years post CIN2 diagnosis). Disease regression was observed for 63.5% of patients that were conservatively managed.

Conclusion

This study observed a high regression rate for patients conservatively managed; however, these patients should remain under routine surveillance. Thus ‘see and treat’ protocols may not be necessary for women aged 18 to <25 with CIN2.

IGCSM-0737
Poster Shift II - Cervical Cancer

THE RISK FACTOR OF RESIDUAL OR RECURRENCE AFTER CERVICAL CONIZATION FOR CERVICAL INTRAEPITHELIAL NEOPLASIA 2/3

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Aims

To evaluate risk factors of residual or recurrence after cervical conization in cervical intraepithelial neoplasia (CIN) 2/3.

Methods

We searched from January 2006 to December 2013 Chinese Biomedical Literature Database, China Journal Net CNKI Chinese Journal Full-text database. Totally 105 literatures of CIN2/3 cone resection of residual or recurrent risk factors were collected, and 24 of them were in accordance with the inclusive criteria.. Using univariate and multivariate analysis.

Results

In 24 literatures, there were 4820 cases of CIN2/3,which cervical cold knife conization(CKC)

2648 cases, loop electrosurgical excision procedure (LEEP) 1547 cases, direct hysterectomy

in 625 cases; CKC plus hysterectomy in 589 cases, LEEP plus hysterectomy in 286 cases,

59 cases of cervical cancer radical surgery. After conization margin positive rate was 0~11.2%,

recurrence rate was 0~18.5%, the postoperative pathological accordance rate was 61.43%~88.68%, the upgrade rate 6.6%~15.7%, degradation rate of 4.5%~22.9%, the lesions involving gland rate

of 17.5%~61.2%, HPV after continuous positive rate was 4.9%~5.3%. In multivariate analysis, pathological classification, positive margin, lesions involving glands (OR=3.940~4.51), lesion number (OR=5.082), endocervical curettage in positive, after operative 6 months of HPV positive (OR=27.691),

HPV≥ 1000RLU,sex partner of ≥ 2 (OR=8.562), menopause(OR=21.358), in different operation mode,

age ≥ 50 years , smoking were risk factors of residual or recurrent for CIN conization.

Conclusion

The risk factor of cervical conization residual or recurrence for CIN2/3was associated with a variety of factors, including conization margin positive, lesions involving the glands, lesions number , HPV positive after operative 6 months, different ways of operation, age 50 or more.

IGCSM-0745
Poster Shift II - Cervical Cancer

MDSC TARGETING THERAPY FOR UTERINE CERVICAL CANCER DISPLAYING TRL

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Aims
We investigated the significance of TRL (tumor-related leukocytosis), G-CSF (granulocyte colony-stimulating factor), and MDSC (myeloid-derived suppressor cells) on the survival and the radiosensitivity of uterine cervical cancer, and the role of the spleen in the production of MDSC.
Methods
The clinical data of 258 cervical cancer patients treated with definitive radiotherapy were analyzed to investigate the association between TRL and treatment outcome in retrospective and prospective settings. Clinical samples, cervical cancer cell lines stably transfected with mG-CSF or control vector (ME180-GCSF and ME180-control), and a mouse model of cervical cancer were employed to examine the mechanisms responsible for TRL in cervical cancer, focusing on tumor-derived G-CSF and MDSC.
Results
Multivariate analyses revealed that elevated WBC count (≥10,000/μl) and strong G-CSF expression were significant prognostic factors in terms of overall survival after radiation therapy. The volume of spleen, as estimated from CT scans, was significantly greater in thee TRL-positive patients. Mice inoculated with ME180-GCSF showed splenomegaly and increased MDSC (in bone marrow, blood, spleen and tumor) than those inoculated with ME180-control. ME180-GCSF-derived tumors showed reduced sensitivity to radiotherapy than that of ME180-control-derived tumor. Inhibition of MDSC activity by the treatment with anti-Gr1 antibody or splenectomy significantly enhanced the efficacy of radiotherapy.
Conclusion
Cervical cancer displaying TRL is a distinct clinical entity that has high probability to show resistance to radiotherapy. MDSC-targeting treatments might have therapeutic potential in TRL-positive cervical cancer.

IGCSM-0760
Poster Shift II - Cervical Cancer

ATTITUDES AND ACCEPTANCE OF POTENTIAL CHANGES IN CERVICAL SCREENING: VIEWS OF OBSTETRICIANS AND GYNAECOLOGISTS

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Aims

Australian guidelines for cervical cancer screening have been revised under the Renew program. Physicians' recommendation are one of the most influential determinants of screening behaviour. We aim to understand physicians' acceptance of revised cervical screening practices.

Methods

A web-based survey of fellows, trainees, diplomates of the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG), administered prior to the Renewal announcement of the revised cervical screening programme.

Results

There were 814 respondents (specialist obstetrics & gynaecologists 56%, general practitioners 32% and trainees 12%). Recommendations from the national guidelines were considered important by 86%. There were mixed responses towards HPV testing every 5 years, where it was considered accurate, safe and protective of a patients' health by 59%, 52% and 50% respectively; however 73% agreed that they would adhere to such guidelines if recommended. Factors contributing to physicians' decision to screen at 18 were a past history of cervical dysplasia (91%), genital-contact childhood sexual abuse (86%) HIV or immunosuppression (80%). Delaying screening was considered acceptable in the context of high regression rates of cervical dysplasia in young women (93%), HPV vaccination (83%) and same-sex relationships (84%).

Conclusion

RANZCOG clinicians consider national guidelines around cervical screening in high regard. If recommended by national guidelines, 73% indicated (prior to the announcement of the Renewal program) that they would adhere to the use of five-yearly HPV testing.

IGCSM-0761
Poster Shift II - Cervical Cancer

CERVICAL CYTOLOGY ASCUS PATIENTS WITH HPV DETECTION AND CLINICAL VALUE

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Aims

Patients whose cervical cytological exams produced a result of atypical squamous cells of undetermined significance (ASCUS) were asked to undergo human papillomavirus HP V DNA genotyping detection to assess the role of HPV infection in ASCUS, to detect cer vical lesions, and to assess the value of HPV testing in ASCUS triage management.

Methods

1219 patients with ASCUS were randomly divided into two groups. The first group contai ned 618 patients. These participants underwent colposcopy with cervical biopsy. The re maining 601 underwent colposcopy and biopsy with HPV DNA detection.

Results

(1) Out of the 56,000 patients with ASCUS who underwent TCT detection in our hospital ’s gynecological outpatient clinic, 1604 were diagnosed with ASCUS (2.86%), The typica l age at onset was 31–40 years old (43.64%).(2)
Among the 1219 patients with ASCUS, the rate of detection of cervical intraepithelial neo plasia and cancerization was 22.89% (279/1219). No statistical significant difference was observed among different ethnic groups with respect to the overall rate of detection of c ervical lesions.

Conclusion

The results of cervical cytological examination showed that the manner of progression fr om inflammation to cancer could differ considerably. HPV DNA examination is an effecti ve means of categorizing and managing ASCUS. It was found to improve the rate of det ection rate of cervical intraepithelial neoplasia cancer and cervical cancer, and it may co nserve medical resources and reduce the number of false negative diagnoses of cervical lesions.

IGCSM-0782
Poster Shift II - Cervical Cancer

A LONGITUDINAL QUESTIONNAIRE STUDY ON SEXUAL AND UROLOGICAL MORBIDITY AFTER RADICAL VAGINAL TRACHELECTOMY FOR EARLY STAGE CERVICAL CANCER

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Aims

Radical vaginal trachelectomy (RVT) offers a possibility for future childbearing for young women with early stage cervical cancer (CC). However, the literature on quality of life (QOL) and self- reported morbidity in patients undergoing RVT is scarce. The aim was to prospectively assess the course of quality of life after RVT with focus on sexual dysfunction and uro-gynaecological morbidity and to compare with scores from patients treated with radical abdominal hysterectomy (RAH) and with those of age-matched healthy control women.

Methods

Eighteen patients with early stage CC operated with RVT were prospectively included and assessed using validated questionnaires preoperatively, 3, 6, and 12 months postoperatively. 32 RAH patients were assessed once at 12 months post-surgery.

Results

44.5 % of the RVT and 43.8 % of the RAH patients reported low or no sexual interest at the 12-month post-surgery assessment. The RVT patients worried significantly more about sex being painful and were more distressed about their sexual problems than the RAH patients and the healthy control women (P= 0.002). Both patient groups had significantly more urine incontinence. The RVT group had significantly more bladder emptying problems (P=0.002) and the RAH group had significantly more difficulties to tell when need to urinate (P = 0.014) compared to healthy women one year post surgery.

Conclusion

Our data suggest that patients treated with RVT for early stage CC experience persistent sexual dysfunction and bladder-emptying problems up to one year post surgery

indicating significant and comparable affection of the hypogastric plexus postoperatively as patients who had RAH.

IGCSM-0789
Poster Shift II - Cervical Cancer

COMBINATION CHEMOTHERAPY-INDUCED HEMOLYTIC UREMIC SYNDROME IN CERVICAL CANCER FOLLOWING LAPAROSCOPIC RADICAL HYSTERECTOMY

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Aims

Hemolytic uremic syndrome (HUS) is a rare coagulation disorder. This fatal syndrome spontaneously arises in a few patients with advanced cancer as well as some of chemotherapeutic agents. To our knowledge, no case reports of HUS in cervical cancer patients receiving treatment with neoadjuvant and adjuvant chemotherapy after laparoscopic radical hysterectomy have been reported.

Methods

case report and literature review

Results

A 36-year-old female with stage Ib2 cervical cancer underwent laparoscopic radical hysterectomy after 3 courses of neoadjuvant chemotherapy (mitomycin-c, vincristine and cisplatin) in August 2012. She was given 2 courses of the same regimen as adjuvant therapy. HUS was diagnosed 1 month after the 2nd adjuvant chemotherapy. The patient developed generalized edema, microangiopathic hemolytic anemia, thrombocytopenia, and acute renal failure. After HUS had been diagnosed in December 2012, she was treated aggressively with therapeutic plasmapheresis (TPE) with fresh-frozen plasma, hemodialysis and high-dose cortisone. Her creatinine peaked at 4.91 mg/dl and nadired at 2.50 mg/dl. To this days, her renal insufficiency persists with a serum creatinine of 2.70 mg/dl and estimated glomerular filtration rate 20.74 ml/min/1.73 m^2 in February 2014. With regard to surveillance of cervical cancer, there is no evidence of disease recurrence on last follow-up in February 2014.

Conclusion

Although few cases of chemotherapy-induced HUS have been reported in gynecologic malignancy, it should be remembered that it could be fulminant disease. Frequent monitoring of renal function and close observation of the patient are essential during

chemotherapy. Early aggressive TPE and corticosteroids may be management tool in critical situation.

IGCSM-0791
Poster Shift II - Cervical Cancer

A CASE OF CERVICAL TUBERCULOSIS SIMULATING CARCINOMA CERVIX

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Aims

Genital *tuberculosis is fairly common in Asian women due to high prevalence of* pulmonary tuberculosis. Histological specimen do not always have a positive culture or AFB stain. The presence of atypical granulomatous disease is sufficient for diagnosis of TB while other causes of granulomatous cervicitis is excluded.

Methods

We present a 32 years old lady, presented with postcoital bleeding , irregular Per vaginal bleeding and lower abdominal pain for one year. Per speculum examination revealed an ulcerative growth occupied in lower lip of cervix.

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Results

Histopathology of cervical tissue revealed granulomatous lesion suggestive of TB

Conclusion

With the increase in TB incidence globally and increased migrating pattern of people from areas of high TB incidence, clinician should have high index of suspicions while confrontation with an abnormal cervix.

Document not received **********

IGCSM-0806
Poster Shift II - Cervical Cancer

PERIOPERATIVE MORBIDITY OF CERVICAL CANCER: A 5 YEAR REVIEW IN A TERTIARY CARE HOSPITAL IN SOUTH INDIA

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Aims

To study the perioperative morbidity in women undergoing surgery for carcinoma cervix in a tertiary hospital in South India for a period of 5 years (2008-2013).

Methods

There were 64 women who underwent surgery for carcinoma cervix during the study period. Parameters studied included surgery performed, prophylactic antibiotics, intra operative details such as blood loss, duration of surgery, need for blood transfusion and immediate postoperative details like continuous bladder drainage, requirement of antibiotics, febrile morbidity, urinary tract infection, wound breakdown, bladder/bowel injury and number of days of hospitalization.

Results

11 women had stage IA1 disease , 4 underwent Extrafascial hysterectomy and Wertheim hysterectomy + lymph node sampling was performed in 7 patients. 45 women who were in stage 1A2/1B and 8 women in stage IIA underwent Radical hysterectomy and pelvic lymphadenectomy. All patients were given prophylactic antibiotics. Mean blood loss was 500 ml, mean duration of surgery was 120 minutes and 11 patients required blood transfusion. Mean duration of catheterization was 10 days and antibiotics were continued for 7 days. There was 5 cases of febrile morbidity which spontaneously resolved and there were no cases of urinary tract infection. 2 patients had wound gaping, 1 had burst abdomen, bladder injury occurred in 1 patient and 1 woman developed vesicovaginal fistula. Mean duration of hospitalization was 12 days.

Conclusion

Surgery appears to be a safe option for early stage of carcinoma cervix with minimal perioperative morbidity. A multidisciplinary team of surgical/medical oncologist, gynaecologist and radiotherapist is needed to manage this common cancer.

IGCSM-0818
Poster Shift II - Cervical Cancer

EFFICACY OF ADJUVANT CHEMOTHERAPY AFTER RADICAL HYSTERECTOMY FOR FIGO STAGE IB-IIA CERVICAL CANCER: COMPARISON WITH ADJUVANT RT/CCRT USING THE INVERSE-PROBABILITY-OF-TREATMENT WEIGHTING

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Aims

To evaluate the clinical efficacy of adjuvant chemotherapy (AC) in FIGO stage IB-IIA cervical cancer patients.

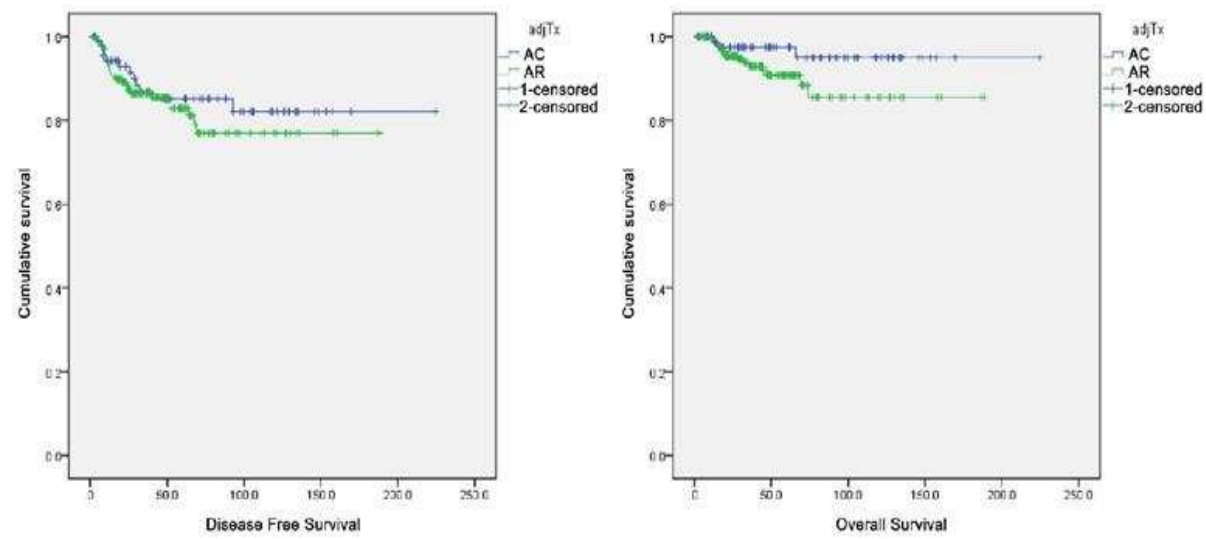
Methods

A cohort of 276 patients with cervical cancer who received radical hysterectomy (RH) and adjuvant treatment at Asan Medical Center between 1991 and 2012 was enrolled. Ninety four of these patients received AC and 182 received adjuvant radiotherapy or concurrent chemoradiation therapy (AR). Therapeutic outcomes and adverse events in both treatment arms were compared. To reduce the impact of treatment selection bias and potential confounding factors, we performed rigorous adjustments for patient characteristics using weighted Cox proportional hazards regression models with inverse-probability-of-treatment weighting (IPTW).

Results

During a 45.5 month median follow-up, 41 patients (14.9%) had recurrences and 18 patients (6.5%) died of disease. Following IPTW matching, the recurrence HR did not significantly differ between the arms (p=0.49) but that for death was significantly higher in patients with AR (HR 4.82, 95% CI 1.254-18.524, p=0.02). Disease-free survival and overall survival were not significantly different between the arms (p=0.444, 0.097, respectively). In addition, patients with AC had a much lower prevalence of long-term complications (lymphedema: n=10(45.5%) vs. 49(70.0%), p=0.03, ureter stricture: none

vs. 11(15.7%), p=0.04).



AC, adjuvant chemotherapy; AR, adjuvant radiotherapy or concurrent chemoradiation

Conclusion

Our results suggest that AC may have the equivalent therapeutic effect as AR in patients with FIGO stage IB-IIA cervical cancer. With much lower incidence of long-term complications, AC can be an alternative adjuvant treatment option particularly in younger patients.

IGCSM-0830
Poster Shift II - Cervical Cancer

SYSTEMIC CHEMOTHERAPY IN LATE STAGE CANCER OF UTERINE CERVIX: A 10 YEAR SURVIVAL DATA

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Aims

Unsatisfactory volume quantification in FIGO staging results in palliation or under treatment to massive primary tumour volumes having high propansity of beyond radiation field metastatic capabilities. Late stage cancer cervix constitutes 80% and is a challenge to Indian gyneconcologist. This study is aimed to cure incurable advanced cancer cervix patient using balanced chemoradiation technique.

Methods

IIIB/IVA FIGO CT/MRI assessed cancer cervix (tumor quantification) frozen pelvis or less intact ureteric/rectal patency

Therapeutic Protocol:

Response based Neo Adjuvant Chemotherapy (NACT),

Chemoteleradition: image evidenced paraaortic

Adjuvant Chemotherapy, after standard Brachytherapy.

Long-term Ayurvedic Immuno boosters Septilin and Immumod

Rigorous follow up

Results

Symptom Relief: The instantaneous symptomatic relief (Third day) 90%

Response and Regression: 80% Total virtual regression after second NACT, 70% Normal Anatomy.

End of Teletherapy: 95% fit for standard or modified brachytherapy application.

Post RT/NACT: 70% cases tolerated two courses while only 50% could tolerate third course.

Long term (10 year) survivals:

StageIII Bulky Disease (Radiological volume more that 60cc) 70% with 20% inter-current death.

StageIV Bulky Disease 60% with inter-current/metastatic recurrences 20%, local recurrence 10%

Pattern of Local Recurrence: Mainly parametrial/late metastatic

Sequelae of treating massive disease -Management of massive replacement by fibrosis and massive destruction of disease.

Only 10% of stageIII Patients receiving only pelvic chemo RT were alive at 10^{th} year, none from stage IV A in this group

Conclusion

Judicious treatment aggression on late stage bulky cancer cervix can convert palliative approach into curative approach. Ayurvedic Immunostimulants have significant role to play.

IGCSM-0831
Poster Shift II - Cervical Cancer

COMPARISON OF CLINICAL OUTCOMES IN PATIENTS WITH HIGH-GRADE CERVICAL INTRAEPITHELIAL NEOPLASIA UNDERGOING BOVIE ELECTROKNIFE CONIZATION VERSUS COLD KNIFE CONIZATION

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Aims

The aim of this study was to compare the clinical outcomes in patients with high-grade cervical intraepithelial neoplasia (CIN) undergoing bovie electroknife conization (BEC) versus cold knife conization (CKC).

Methods

We retrospectively reviewed the medical records of patients who underwent either BEC or CKC for high-grade CIN between January 2000 and July 2013 at Korea University Medical Center. The rate of residual disease, recurrence rate, recurrence-free interval, perioperative complications, and pregnancy outcome were compared in patients undergoing BEC versus CKC.

Results

Of 1,180 patients, 768 (65.1%) underwent BEC, whereas 412 (34.9%) underwent CKC. A total of 182 (15.4%) patients showed residual disease. Among them, 129 (16.8%) patients undergoing BEC and 53 (12.9%) undergoing CKC had residual disease, which did not show significant difference (P=0.207). Recurrence occurred in 120 (10.2%) patients. Among them, 83 (10.8%) undergoing BEC and 37 (9.0%) undergoing CKC demonstrated recurrence, representing no significant difference (P=0.134). The median time to recurrence in patients with BEC and CKC also showed no significant difference (31.3 versus 35.4 months, respectively; P=0.321). In addition, operating time and transfusion rate did not show significant difference between two groups. However, preterm delivery rate was higher in patients with CKC than those with BEC (2.4% and 0.3%, respectively, P=0.043).

Conclusion

BEC showed comparable oncological outcomes to CKC in patients with high-grade CIN. Moreover, BEC might be safer to CKC in terms of pregnancy-related complications.

IGCSM-0838
Poster Shift II - Cervical Cancer

PERFORMANCE OF THE AUTONOMIC NERVE-SPARING METHOD IN RADICAL HYSTERECTOMY

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Aims

This study evaluated the effectiveness of reducing postoperative dysuria and outcomes through the use of the nerve-sparing surgical technique.

Methods

The subjects included all of the patients who underwent radical hysterectomy in our hospital during the five-year period from March 2007 to February 2012, and were studied retrospectively. We examined the following characteristics: age, BMI, stage, histological type, whether or not the nerve-sparing method was used (one side or both sides), operative time, operative blood loss, postoperative urgency, presence or absence of urine during the first postoperative day, the number of days required for the urine volume to reduce to 50ml or less for two days in a row, local pelvic recurrence, and prognosis.

Results

The subjects included 63 cases during the study period. Twenty-nine patients underwent conventional operative procedures (non-sparing group), and 34 patients underwent autonomic nerve-sparing surgery (sparing group). There were no differences between the non-sparing vs. sparing groups in terms of stage, histological type, age, or BMI. The median number of days until establishment of urination was significantly different (13 days vs. 5 days) between the non-sparing and sparing patients, respectively. The median blood loss (1420 g vs. 1220 g) and median operative time (363 minutes vs. 391 minutes) were not significantly different between the non-sparing and sparing groups, respectively. There was no local pelvic recurrence in either group. However, we consider that further follow-up observation is necessary for prognosis.

Conclusion

We consider that the autonomic nerve-sparing method significantly reduces postoperative dysuria in radical hysterectomy.

IGCSM-0840
Poster Shift II - Cervical Cancer

THE CLINICAL APPLICABILITY OF HPV TESTING ON CERVICO-VAGINAL SELF SAMPLES IN CERVICAL SCREENING OF RENAL TRANSPLANT RECIPIENTS

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Aims
Female renal transplant recipients (RTRs) have a markedly increased risk for developing human papillomavirus (HPV) related (pre)malignancies of the lower anogenital tract. Annual cervical screening is advised for female RTRs. However, the uptake of this intensified screening is low and frequently suboptimal after transplantation. HPV testing using HPV self sampling might reduce extensive physician visits and increase screening rate in female RTRs. The aim of this study is to assess the clinical sensitivity of the GP5+/6+ polymerase chain reaction (PCR) on self sampling material in female RTRs.
Methods
In a large cohort study conducted in our center to investigate the epidemiology of HPV in RTRs, 69 female RTRs tested HPV positive using the highly sensitive SPF_{10}-DEIA/$LiPA_{25}$-PCR system on self collected cervico-vaginal samples. These women underwent gynecologic examination including cytology. Clinically relevant genital abnormalities were found in 9/69 RTRs (13%). The 69 samples were re-tested with the GP5+/6+ PCR.
Results
The samples were HPV positive by GP5+/6+ PCR in 22/69 (31.9%) cases and all 9 patients with clinically relevant abnormalities tested HPV positive. The abnormalities comprised moderate/severe cervical intraepithelial neoplasia in 7 and usual vulvar intraepithelial neoplasia in 2 patients. The sensitivity of the GP5+/6+ PCR test on self sampling material for detection of relevant genital abnormalities in female RTRs was 100%.
Conclusion
The GP5+/6+ PCR on self sampling material is highly sensitive for the detection of HPV associated genital abnormalities in female RTRs. HPV self sampling could be helpful in increasing the screening rate in female RTRs.

IGCSM-0843
Poster Shift II - Cervical Cancer

DELIVERY DELAY WITH NEOADJUVANT CHEMOTHERAPY FOR PATIENTS WITH FIGO STAGE IB1 CERVICAL CANCER DURING PREGNANCY: A REPORT OF TWO CASES

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Aims
Treatment recommendation for invasive cervical cancer in pregnancy remains controversial.
Methods
We herein report two cases that were diagnosed as FIGO stage Ib1 cervical cancer during pregnancy and received neoadjuvant chemotherapy (NACT) followed by Cesarean section and radical hysterectomy.
Results
Case 1: A 12-week pregnant woman (33 year-old, 0G0P) was diagnosed as FIGO stage Ib1 squamous cell carcinoma after cone biopsy. Because she desired to retain pregnancy, she received NACT with carboplatin alone (AUC 4.0-5.0; 4 week intervals). After three cycles of NACT, she underwent Cesarean section and radical hysterectomy at 31 weeks of gestation. The baby was 1637 g in good condition (Apgar scores 8/9) without any anomaly and left hospital at 42 days from delivery. Pathologic report showed no residual tumor or lymph node metastasis. Case 2: An 18-week pregnant woman (35 year-old, 1G1P) received three cycles of NACT (carboplatin alone; AUC 5.0, 4 week intervals) for FIGO stage Ib1 squamous cell carcinoma after cone biopsy. She underwent Cesarean section and radical hysterectomy at 35 weeks of gestation. The baby was 2420 g in good condition (Apgar scores 8/8) without any anomaly. No tumor was found in the surgical specimens.
Conclusion
NACT may be a reasonable option for pregnant women with FIGO stage Ib1 cervical cancer by delaying delivery until fetal maturation without exacerbating maternal prognosis.

IGCSM-0846
Poster Shift II - Cervical Cancer

A PHASE I STUDY OF EVEROLIMUS IN ASSOCIATION WITH CISPLATIN AND RADIOTHERAPY FOR THE TREATMENT OF LOCALLY ADVANCED CERVICAL CANCER – PHOENIX I

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Aims
Cervical cancer (CC) represents the second most common cancer in women. Treatment involving cisplatin and radiotherapy has been the standard for stages IIB–IIIB with 5-year survival rates <50%. Everolimus inhibits the mTOR; aberrant activity of mTOR is part of carcinogenesis in CC. Further everolimus inactivates the oncoprotein E7 (essential for HPV) and inhibits its proliferation. Preclinical models have suggested that everolimus sensitizes tumoral cells and vasculature to cisplatin and radiotherapy. Therefore mTOR inhibition may represent a promising approach in CC. Primary objective was to evaluate safety, toxicity and the MTD of everolimus in association with cisplatin and radiotherapy.

Methods
In a modified Fibonacci design the trial aimed to treat 3 cohorts of at least 3 patients with daily escalating doses of everolimus (2.5/5/10mg), cisplatin (40 mg/m2 per week) and radiotherapy (teletherapy - 4.500 cGy plus brachytherapy - 4 fractions of 600 cGy) in CC patients, stage IIB-IIIB. Patients received everolimus from day -7 up to the last day of brachytherapy.
Results
Thirteen patients were enrolled, 6 in the cohort #1, 3 in #2 and 4 in #3. Four patients did not complete the planned schedule, 1 at 2.5mg presented grade 4 acute renal failure interpreted as dose limiting toxicity (DLT) and 3 at 10mg: 1 with disease progression, and 2 with DLT – grade 3 rash and grade 4 neutropenia.
Conclusion
The MTD has been defined as 5mg. To the best of our knowledge, this is the first report of a combination of everolimus, cisplatin and radiotherapy.

Conflict of interest
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IGCSM-0852
Poster Shift II - Cervical Cancer

EXPRESSION PROFILING OF EXTRACELLULAR MATRIX (ECM) PROTEINS AND THEIR SIGNIFICANCE IN POST-TREATMENT DISEASE MAPPING IN ADVANCED CARCINOMA OF UTERINE CERVIX

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Aims

Carcinoma of uterine cervix is 2nd most common malignancy in Indian women. Tumor growth & metastasis depends primarily on angiogenesis & its surrounding environment including extracellular matrix, growth factors & cytokines. ECM proteins are important for cell-cell adhesion, proliferation, differentiation, growth, migration & angiogenesis. Currently chemo-irradiation is mainstay of treatment in carcinoma cervix. In this study we have explored the effect of chemo-irradiation on ECM proteins in patients with carcinoma cervix.

Methods

40 patients of cancer cervix stage IIIb and 20 healthy women were recruited. Circulatory as well as mRNA levels of ECM proteins (Fibulin 1, Nidogen and Laminin) were analyzed before and after chemoradiation using ELISA and Q-PCR. Data was statistically analyzed and correlated with therapeutic response.

Results

Statistical significant increase for ECM proteins at circulatory level as well as at mRNA level was observed compared to healthy women. After treatment their levels were significantly ($p<0.001$) declined. Out of 40 patients, 33 were complete responders and 7 were non-responders when they were clinically assessed. On comparison of before and after treatment levels of these molecules, complete responders showed significant decline whereas non responders showed insignificant decrease in their levels.

Conclusion

The levels of these molecules in serum might be utilized as a marker of active disease. Higher levels of ECM proteins indicate the role played by them in the disease

progression aiding metastasis. These markers may serve as useful tools in post treatment disease mapping which otherwise may not provide true picture with available imaging methods.

IGCSM-0854
Poster Shift II - Cervical Cancer

MRI-BASED IMAGE-GUIDED BRACHYTHERAPY FOR CERVICAL CANCER: USING WEEK 5 MRI FOR PLANNING ON CT/MRI FUSION AS AN ALTERNATIVE TO PLANNING MRI

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[2]Medical Physics, Addenbrookes Hospital, Cambridge, United Kingdom

Aims
Successful implementation of image-guided brachytherapy (IGBT) for cervical cancer is limited by access to resources. Uptake of MRI-based IGBT is in the region of 5% in published surveys worldwide. Here we investigate the use of week 5 MRI for CT/MRI fusion on contouring and dosimetry and compare with standard MRI and CT.

Methods
20 patients were selected retrospectively with FIGO stage I-IVA disease where planning CT, planning MRI and week 5 MRI were available. HR-CTV, IR-CTV and OAR's (bladder, rectum, sigmoid and bowel) were outlined on planning CT and MRI. For CT/MRI_{Wk5} fusion, multi-planar fusion of the planning CT and week 5 MRI was carried out manually. HR-CTV was outlined on MRI and OAR's on CT. HR-CTV D90, IR-CTV D90, and D2cc to OAR's were obtained using a standard treatment plan prescribing 7Gy to Point A.

Results

$HR\text{-}CTV_{CT/MRI}$ volumes were on average 1.5±11.4cm^3 (10.5±29.9%) smaller than $HR\text{-}CTV_{CT}$ ($p>0.05$) and 3.7±8.2cm^3 (10.1±22.5%) larger than $HR\text{-}CTV_{MRI}$ ($p>0.05$). D90 to $HR\text{-}CTV_{CT/MRI}$ and $IR\text{-}CTV_{CT/MRI}$ was comparable to that achieved with formal planning MRI [0.2±1.8Gy lower than $HR\text{-}CTV_{MRI}$ D90 ($p=0.66$), 0.2±0.7Gy lower than $IR\text{-}CTV_{MRI}$ D90 ($p=0.30$)] but showed a significant improvement compared with CT alone [1.4±2.5Gy higher than $HR\text{-}CTV_{CT}$ ($p=0.02$) and 0.7±0.7Gy higher than $IR\text{-}CTV_{CT}$ D90 ($p=0.01$)].D2cc to all OARs were similar across each group ($p>0.05$ for each OAR).

Conclusion
IGBT planning using our technique for contouring on CT/MRI_{Wk5} fusion produces target doses statistically improved from CT alone and in line with formal planning MRI. This introduces an alternative method of accessing the benefits of MRI based-IGBT when planning MRI's are not available.

IGCSM-0857
Poster Shift II - Cervical Cancer

3-YEAR OUTCOME OF MRI-BASED IMAGE-GUIDED BRACHYTHERAPY FOR CERVIX CANCER USING THE TANDEM-RING APPLICATOR – THE ADDENBROOKE'S EXPERIENCE

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Aims

To evaluate the 3 year clinical outcome of MRI-based image-guided brachytherapy (IGBT) for locally advanced cervical cancers using the tandem-ring applicator ± interstitial needles.

Methods

Between January 2009 and Jan 2013, 84 patients were treated with chemo-radiotherapy and MRI-based IGBT. Manual optimisation was carried out for each plan. The D90 and V100 for the HR-CTV and D2cc to OARs (bladder, rectum and sigmoid) were recorded. Combined EQD2 to target and OARs delivered by EBRT and brachytherapy was calculated.

Results

Median follow-up was 37 months. 3-year cancer-specific survival was 88% (92% for tumours 2-5 cm, 81% for tumours >5 cm). 3-year local control was 92% (96% for tumours 2-5 cm, 84% for tumours >5 cm). 3-year disease-free survival was 83% (89% for tumours 2-5cm, 71% for tumours >5cm). Mean dose to Point A was $77\pm6Gy_{10}$. Mean D90 HR-CTV was $96\pm13Gy_{10}$. Mean D90 HR-CTV for patients with local recurrence was $82\pm9Gy_{10}$ compared to $97\pm13Gy_{10}$ for those without local recurrence (p=0.01). Rate of G≥3 GI/GU toxicity was 17% at 3 years.

Conclusion

MRI-based IGBT has achieved higher dose to tumour target and improved long term local control rates. The inclusion of interstitial brachytherapy has led to improved control of tumours >5 cm in diameter compared to our previous CT experience, although we have also observed higher late toxicity rates. A differential dose policy has been

introduced where tumours not requiring interstitial brachytherapy are treated with a lower dose in the hope of reducing toxicity (D90 HR-CTV ≥80Gy_{10} rather than ≥90Gy_{10}).

IGCSM-0862
Poster Shift II - Cervical Cancer

FEASIBILITY OF 18-FDG PET/CT IN PREOPERATIVE ASSESSMENT OF PARA-AORTIC LYMPH NODE DISSECTION IN PATIENTS WITH UTERINE CERVICAL CANCER

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Aims

The aim of this study was to assess the feasibility of 18-Fluoro-2-deoxy-D-glucose positron emission tomography/computed metastases (18-FDG PET/CT) at detecting para-aortic lymph involvement in patients with uterine cervical cancer before operation.

Methods

We were retrospectively evaluated 86 patients with FIGO stage IA2-IIB underwent preoperative PET-CT underwent RH and PLND either by Laparoscopy or Laparotomy between December 1, 2007 and June31, 2013. On the basis of pathological results, sensitivity, specificity, and positive and negative predictive value of PET/CT were assessed for para-aortic lymph node involvement.

Results

8/86 patients (9.3%) had pathologically present pelvic metastases. sensitivity, specificity, Positive predictive values and negative predictive values were 25%, 96%, 92.6%, 40% and 92.6% with 18-FDG PET/CT.

Conclusion

18-FDG PET/CT is less feasible for assessing metastatic para-aortic lymph node in patients with uterine cervical cancer

Conflict of interest
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IGCSM-0871
Poster Shift II - Cervical Cancer

ANALYSIS OF PATTERNS OF RECURRENCE ON HISTOLOGICAL SUBTYPES OF CERVICAL CANCER TREATED WITH RADICAL HYSTERECTOMY

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Aims
This study was designed to investigate the difference in clinicopathological factors, survival and the pattern of recurrence between squamous cell carcinoma (SCC) and adenocarcinoma (AC) of the uterine cervix after radical hysterectomy.

Methods
We retrospectively reviewed medical records of 973 patients with SCC and AC (FIGO stage IB – IIB) who underwent radical hysterectomy and pelvic lymphadenectomy at Busan Paik hospital, between January 1988 and December 2008 .

Results
The patients with SCC were 87.6% (852/973) and AC were 12.4% (121/973). There were no differences of clinicopathologic factors and adjuvant therapy between SCC and AC. However disease free survival was significantly different between SCC and AC (202.1 months vs 180.1 months, p=0.0159). Lymphovascular space involvement was more frequent in SCC than AC (285/852:33.5% vs 27/121:22.3%, p=0.0187). Hematogenous/distant metastasis was higher in the AC than the SCC (15/21:71.4% vs 23/101:22.8%, p<0.0001). The patients who were hematogenous/distant metastasis had a poor survival after recurrence than those patients with locoregional/lymphatic spread (8.7months vs 17.5 months p=0.0004). And patients who were hematogenous/distant metastasis had a poor overall survival than those patients with locoregional/lymphatic spread (37.7 months vs 57.4 months, p=0.0042).

Conclusion

We observed that AC was associated with poor prognosis and hematogenous/distant metastasis than SCC. When considering the optimal treatment for AC, more effective treatments strategies should be considered to reduce the systemic recurrence.

IGCSM-0881
Poster Shift II - Cervical Cancer

DAILY LOW-DOSE CISPLATIN-BASED CONCURRENT CHEMORADIOTHERAPY FOR THE TREATMENT OF CERVICAL CANCER IN PATIENTS AGED 70 YEARS OR OLDER

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Aims

Efficacy of concurrent chemoradiotherapy (CCRT) has been established for cervical cancer but adherence of elderly patient is nor satisfactory. We have developed and installed a daily low-dose-base cisplatin-based CCRT to improve the adherence. Here, we retrospectively evaluated the utility of the concurrent chemoradiotherapy (CCRT) especially for elderly patients.

Methods

The study included a total of 53 patients who were aged 70 years or older, had stage IB–IVA cervical cancer, and were initially treated with daily CCRT. The daily CCRT comprised pelvic external-beam radiotherapy (2 Gy/day ×25) with daily low-dose cisplatin (8.0 mg/m^2 per day) and either low- or high-dose-rate intracavitary brachytherapy.

Results

The median age was 72 years old (range, 70–85 years old). The median follow-up duration was 46 months (range, 2–124 months). The 3-year overall survival (OS) rate was 80.7%. No statistically significant differences in OS or toxicity were observed between ≥75-year-old and <75-year-old patients. Daily cisplatin chemotherapy was successfully completed in 32 (60.4%) of the 53 patients. Grade 3 or 4 neutropenia was observed in 19 patients (36%). A late complication of grade 3 rectal hemorrhage occurred in three patients who received high-dose-rate brachytherapy. All primary tumors responded to daily CCRT; complete response was observed in 43 patients (91.5%) and partial response was observed in four patients (8.5%).

Conclusion

Daily CCRT in patients aged 70 years and older had acceptable compliance and safety. Daily CCRT is suggested to be a good treatment option for elderly patients who have advanced cervical cancer and require concurrent cisplatin.

IGCSM-0883
Poster Shift II - Cervical Cancer

THE ROLE OF HPV TESTING AS A TEST OF CURE: A TEN YEAR STUDY

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Aims

The objective of this study was to evaluate the use of human papillomavirus (HPV) DNA testing as a test of cure for high grade cervical intra epithelial neoplasia (CIN)

Methods

Prospectively in 2000, HPV DNA testing was commenced as an intentional plan with the explicit intention to examine the objective of this study. Patients who underwent excisional treatment for CIN over a ten year period were retrospectively identified, and followed with surveillance colposcopy, cytology , and HPV testing.

Results

A total of 1799 from 2252 women met inclusion criteria, with an average age of 31. The recurrence rate of dysplasia after treatment was 4.3%. After multivariate and univariate analysis of risk factors to predict treatment failure, only the marginal status was statistically relevant. HPV testing had a NPV of 99.2% (CI 98.2-99.7) at six months, 99.3% (CI 98.2-99.7) at twelve months and 99.7% (CI 98.1-100) by eighteen months. Cytology alone had an NPV of 98.7 (CI 97.2-99.0), 98.9% (CI 97.8-99.5) and 98.4 (CI 98.4 (CI 96.5-99.4) respectively. When cyotology ans HPV testing were combined, the NPV was superior across each category.

Conclusion

This study has demonstrated co-testing with cytology and HPV is better than either alone, and most importantly, the benefit of HPV testing lies in its negative predictive value rather than its sensitivity, specificity or positive predictive value. Furthermore, increasing NPV is proportional to increasing length of time from treatment, however, these increases are exceptionally small (0.7%). Timing of co-testing would be appropriate at either 6 or 12 months post treatment.

IGCSM-0886
Poster Shift II - Cervical Cancer

TUMOR SIZE IN ADVANCED CERVICAL CANCERS HAVE SIGNIFICANT PROGNOSTIC VALUE

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Aims

The purpose of this study was to investigate the prognostic role of clinical factors in cervical cancer patients.

Methods

We retrospectively enrolled 157 patients with stages IIA–IVB cervical cancer who were treated at Hallym University Sacred Heart Hospital, Kangnam Sacred Heart Hospital, Chuncheon Sacred Heart Hospital, and Kangdong Sacred Heart Hospital in South Korea from 2006 to 2010.

Results

Univariate analysis showed significant predictive values in eight factors: (1) stage, $P < 0.0001$; (2) tumor size ≤ 4 cm vs. > 4 and ≤ 6 cm, $P = 0.0147$; tumor size ≤ 4 cm vs. > 6 cm, $P < 0.0001$; (3) serum squamous cell carcinoma antigen level of ≤ 2 vs. > 15, $P = 0.0291$; (4) lower third vaginal involvement, $P < 0.0001$; (5) hydronephrosis, $P = 0.0003$; (6) bladder/rectum involvement, $P = 0.0015$; (7) pelvic lymph node metastasis ($P = 0.0017$) or para-aortic lymph node metastasis ($P = 0.0019$) detected by imaging vs. no metastasis; and (8) pelvic lymph node metastasis pathology, $P = 0.0289$. Multivariate analysis showed that (1) tumor size of ≤ 4 cm vs. > 4 and ≤ 6, $P = 0.0371$; tumor size of ≤ 4 cm vs. > 6 cm, $P = 0.0024$, and (2) pelvic lymph node metastasis measured by imaging vs. no metastasis ($P = 0.0499$) were independent predictive variables.

Conclusion

Tumor size and pelvic lymph node metastasis measured by computed tomography and/or magnetic resonance imaging were independent predictive factors for prognosis of advanced cervical cancer.

IGCSM-0887
Poster Shift II - Cervical Cancer

ROBOTICS IN CERVICAL CANCER. THE SPANISH EXPERIENCE (ROBOCER STUDY) SPANISH GROUP IN GYNECOLOGIC ROBOTIC SURGERY (SEGO)

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Aims
To study the feasibility, complications and short term results of robotic surgical treatment for cervical cancer in Spain by Da Vinci System

Methods
Nationalwide multicentric study including all cases operated from introduction of robotics in Spain (2009) until April 2014. Recording clinical, surgical, pathological and follow up data of patients treated both Radical Surgery in Early Stage (n=139) or Staging Surgery in Locally Advanced Carcinoma (n=35)

Results
174 cases were included from 8 Hospitals where robotics is available. In 139 early-stage, radical hysterectomy was performed in 118 (84.9%), radical trachelectomy 11 (7.9%), parametrectomy with colpectomy 5 (3.6%), and staging lymphadenectomy after positive frozen nodes in 5 (3.6%). Only in three cases (2.1%) surgery could not be completed by robotics. Two patients (1.7%) needed blood transfusion and 26 (18.7%) patients had some complications but only in three cases surgical treatment was needed. Total surgical time was 283 minutes and console time 246 with mean hospital stay of 3.02 days. Only 4 patients died during the short follow up. On the 35 staging surgery for advanced disease, aorto-cava lympahenectomy was done, 18 (51.4%) by extraperitoneal and 17 (48.6%) by transperitoneal approach. Total time was 188 minutes with no transfusion and no major complications. Mean aortic nodes was 17.06 (6-38), being positive in 3 cases. All patients received primary chemo-radiation.
Conclusion

Surgical treatment by robotic approach is feasible both in radical treatment for early stage and surgical staging in locally advanced cervical cancer. The robotic approach may be considered implemented in 8 of the 24 available Da Vinci systems in Spain.

IGCSM-0888
Poster Shift II - Cervical Cancer

PROGNOSTIC SIGNIFICANCE OF MRI PARAMETRIAL INVOLVEMENT IN CLINICAL STAGE IB2 CERVICAL CANCER PATIENTS

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Aims

Cervical cancer is staged following clinical examination according to FIGO classification. Literature data support improved accuracy of detecting parametrial involvement on MRI compared to clinical exam, leading to discrepancies regarding FIGO stage. Aim of the study was to evaluate the prognostic significance of parametrial invasion at preoperative MRI in clinical stage IB2 patients.

Methods

All patients with stage IB2-II cervical cancer treated at two referral French cancer centerswere included. PET scan was carried out to search for distant and nodal metastases. Patients were treated with pelvic external beam radiotherapy combined with platinum based chemotherapy for 5 weeks. Patients were divided into 4 groups according to loco-regional evaluation by MRI and physical examination: concordant clinical and MRI stage IB2 and II, upstaged clinical stage IB2 to stage II by MRI, and downstaged clinical stage II to IB2 by MRI.

Results

194 patients were included in the study. No differences were found in histology type, lymph Vascular Space Involvement and tumor size in the study groups. Paraaortic lymph node involvement and local response to the concurrent chemo-radiotherapy sere not significantly different between the four groups. MRI upstaged 43 (22%) patients from clinical stage IB2 to IIB according to parametrial involvement. Concordant clinical and MRI stage IB2 patients had non significantly (p 0.054) better progression free survival than clinical IB2 patients with parametrial involvement at preoperative MRI. There were no differences in overall survival.

Conclusion

Parametrial involvement at preoperative MRI has negative prognostic implications in patients with clinical stage IB2 cervical cancer

IGCSM-0889
Poster Shift II - Cervical Cancer

A CASE OF CERVICAL ADENOCARCINOMA ASSOCIATED WITH PEUTZ-JEGHERS SYNDROME

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Aims

Peutz-Jeghers syndrome (PJS) is autosomal dominant disease characterized by gastrointestinal polyposis and oral and mucocutaneous pigmentation. PJS patients have a risk of benign and malignant tumor of various organs. Especially, patients who are over 30 years of age are predisposed to malignant tumor, and its risk is 15.2 times higher than regular adults. We report a case of cervical adenocarcinoma Associated with PJS.

Methods

a case report

Results

Patient is a 33-year woman, gravia 0, para 0, who was diagnosed with PJS at 10 years presenting with intussusception. She had received a follow-up examination from gastroenterologists in our hospital. She was referred to department of gynecology for close investigation of uterus and ovaries when she was 32 years old. The result of cervical cytology was atypical glandular cells (AGC) at the first medical examination, and the histological diagnosis was cervical mucosa with hyperplastic and atypical changes. After that, despite many times re-examination, the result of cytology was AGC each time. However, uterine cervix enlarged rapidly, so we performed cervical conization. Because the histopathologic diagnosis after cervical conization was invasive mucinous adenocarcinoma, radical hysterectomy was performed. The definitive diagnosis was cervical adenocarcinoma, stage Ib2, and single course of chemotherapy with paclitaxel and carboplatin was administered as the first-line treatment.

Conclusion

We experienced a case of cervical adenocarcinoma with PJS. Because patients with PJS are at increased risk of various cancers, it is important for clinicians to survey the body in cooperation with other departments.

IGCSM-0901
Poster Shift II - Cervical Cancer

KILLER IMMUNOGLOBULIN-LIKE RECEPTORS IN PATIENTS WITH CERVICAL CANCER.

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Aims

Killer immunoglobulin-like receptors (KIRs) have regulate function for NK cells. HLA class I molecules are ligands for inhibitory KIRs. Both KIR and HLA genotypes are highly polymorphic. The aim of this study was to evaluate associations between KIR genes and HLA class I alleles including KIR ligands in cervical cancer.

Methods

DNA of 38 patients with cervical cancer (n:14) and cervical intraepithelial neoplasia II-III (n:24) were analyzed for KIR genes and typed for HLA class I. Control group consisted of 15 healthy individuals. The frequency of KIR genes in patients and controls were comparable.

Results

The frequency of KIR2DL5B was higher in patients with CIN II-III (45.8%) compared with cervical cancer (7.1%) and controls (26.7 %) (p=0.041). The frequency of KIR2DS3 was higher in patients with CIN II-III (45.8%) compared with cervical cancer (7.1%) and controls (20.0 %) (p=0.027). Neither HLA ligands of KIR molecules nor other HLA class I molecules were different from one another among the study subgroups.

Conclusion

These result supports that inhibitory receptor KIR 2DL5B and activating receptor KIR2DS3 may play a role in the pathogenesis of CIN II-III.

IGCSM-0902
Poster Shift II - Cervical Cancer

ESTIMATION OF HPV 16 AND 18 SUBTYPES, VIRAL LOAD AND CORRELATION WITH RESPONSE TO RADIO (CHEMO) THERAPY IN CERVICAL CANCERS.

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Aims

Etiologic role of Human papilloma virus in cervical cancer is well established. Radio (chemo)therapy remains the mainstay of treatment. Response, relapses and correlation with HPV is less known.

Methods

Patients who were treated with radio (chemo) therapy for cervical cancer underwent quantitative estimation of HPV 16 and 18 viral load pre treatment, at treatment completion, 2 and 5 months post treatment on cervical biopsies/ brushings using polymerase chain reaction. The viral load were compiled and evaluated according to response evaluation.

Results

Out of 108 patients treated with radio (chemo) therapy, 76 patients had HPV 16 positivity, 24 HPV 16 & 18, 1 patient HPV 18 while 6 patients were HPV 16 & 18 negative. The mean HPV 16 and HPV 18 viral load was 9.31×10^6 copies/10ng DNA and 1.32×10^6 copies/10 ng DNA respectively. At 5 months post treatment, 96 patients had complete response, 9 had residual/ recurrent local disease and 3 had distant relapse. There was significant reduction in HPV viral load at treatment completion, 2 and 5 months post treatment in complete responders ($p<0.05$), whereas in those having residual/recurrent local disease, there was a persistence of HPV 16 & 18.

Conclusion

A significant reduction in HPV 16 and 18 viral load occurs in complete responders after completion of radical radio (chemo) therapy. However, further correlation between

persistence or re-infection of HPV and local recurrence is ongoing in this prospective study.

IGCSM-0905
Poster Shift II - Cervical Cancer

THE ROLE OF P-170 GLYCOPROTEIN, DNA METHYLATION OF MDR1 GENE AND ANTI CD-34 IN DECREASING BULKY TUMOR SIZE

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Objective: Patients with cervical cancer bulky tumor stage IB2 (tumor > 4cm) and stage IIA2 have a high failure rates of local treatment, and poorer survival rate then the low volume cervical cancer. Neo Adjuvant Chemotherapy (NACT) before surgery should be considered in order to decrease tumor volume. The present study was to find the role of P-170 glycoprotein, DNA methylation of MDR1 gene and anti-CD34 antibody in decreasing tumor size in bulky cervical cancer stage IB2 and IIA2 by using NACT.

Materials and Methods: Expression levels of P-170 Gp and anti CD-34 antibody were analyzed respectively by immunohistochemistry in total of 42 cervical tissue sample. The methylation status were analyzed by bisulphate modification and methylation-specific PCR (MSP).

Results: We obtained 42 subjects who qualify among 52 subjects. Test results showed 5 patients with a complete response, 25 patients had a partial response, and the remaining 12 patients with no response. On examination, methylation was done by counting the number who did not undergo methylation and methylation, as well as calculate the methylation ratio of each patient; for examination of P-170 Gp expression by measuring the magnitude of P-170 Gp intensity and distribution, and further calculated histoscore.

Conclusions: Methylation status, P-170 Glycoprotein and anti CD-34 antibody do not show significant relevancies between the positive response and negative response NACT. From multivariabel analysis, between CD-34, parity, methylation ratio and histoscore, only parity was assosiated with response to NACT. Multiparity was associated with high number of failure in response to NACT.

IGCSM-0911
Poster Shift II - Cervical Cancer

PRETREATMENT NEUTROPHIL:LYMPHOCYTE RATIO AND PLATELET:LYMPHOCYTE RATIO AS A PROGNOSTIC FACTOR IN LOCALLY ADVANCED CERVICAL CANCER

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Aims
The aim of this study was to investigate the prognostic value of pretreatment neutrophil:lymphocyte ratio (NLR) and platelet:lymphocyte ratio (PLR) in locally advanced cervical cancer.
Methods

From 2000 to 2012, 212 patients with locally advanced cervical cancer (FIGO stage 2B to 4A) who underwent primary radiation with or without chemotherapy were retrospectively evaluated. The NLR and PLR were calculated from complete blood counts in laboratory test before start of radiotherapy. We used receiver-operating characteristic (ROC) analysis to calculate optimal cutoff values for NLR and PLR to predict recurrence.

Results
The median NLR and PLR were 2.6 and 169.8, respectively. 2.8 of NLR and 182.7 of PLR were determined as cutoff value by ROC analysis. Both higher NLR (≥2.8) and PLR (≥182.7) were associated with shorter disease-free survival. Patients of the higher NLR (≥2.8) group were younger in age and had larger tumor diameter when compared with those of the lower NLR group (<2.8). Higher NLR (Hazard ratio (HR): 2.05, 95% confidence interval (CI): 1.08-3.89, P=0.028) and tumor diameter larger than 50mm (HR: 1.97, 95% CI: 1.03-3.79, P=0.04) were independent poor prognostic factors for recurrence in multivariate analysis. Among higher NLR group, there was no recurrence in patients treated with adjuvant chemotherapy followed by radiotherapy.
Conclusion
Elevated NLR and PLR were independent poor prognostic marker for prediction of recurrence in patients treated with primary radiotherapy for locally advanced cervical cancer. In patients with higher NLR (≥2.8), adjuvant chemotherapy followed by concurrent chemo-radiation may reduce recurrence rate.

IGCSM-0921
Poster Shift II - Cervical Cancer

THE ROLE OF MIR-1246 IN THE PATHOGENESIS OF CERVICAL CANCER AND ITS RELATIONSHIP TO HPV16 E6

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Aims

MiRNAs play important roles in tumor development and progression. The purposes of this study were to investigate the role of miR-1246 in cervical cancer and its relationship to HPV16 E6.

Methods
Quantitative RT-PCR was used to examine miR-1246 expression in cervical cancer cell lines and patient specimens. The clinicopathological significance of miR-1246 expression was further analyzed.
Results
MiR-1246 was significantly down-regulated in HPV infected cervical cancer cell lines and clinical tissues. Gain-of-function and loss-of-function studies in human cervical cancer, C33A and SiHa cells, demonstrated that miR-1246 expression is related to HPV16 E6 expression. The miR-1246 expression level was increased when HPV16 E6 gene is knocked down, meanwhile the downstream target protein DYRK1A was decreased . The miR-1246 expression level was reduced when HPV16 E6 gene overexpressed in HPV16 negative cervical cancer cell line C33A with DYRK1A expression increased. It indicated that HPV16 E6 oncoprotein was obviously negative regulate the expression of miR–1246.The low miR-1246 level was significantly correlated with advanced clinical stage, but not node metastasis, vascular involvement and deep stromal invasion.
Conclusion
The newly identified HPV16 E6/miR-1246/DYRK1A pathway provides insight into cervical cancer progression, and may represent a novel therapeutic target.

IGCSM-0931
Poster Shift II - Cervical Cancer

AWARENESS AND KNOWLEDGE OF CERVICAL CANCER AND ITS PREVENTION AMONGST WOMEN OF A SOUTHERN INDIAN CITY

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Aims

Over the years, India has changed socially and economically and today the female literacy rate in India is 65.46%. Despite the increase in female literacy, more women die from cervical cancer every year in India than anywhere else. We set out to study the knowledge and attitude of a population of south Indian women to cervical cancer and its screening programme.

Methods

A cross-sectional study was carried out in April 2014 in the Southern Indian city of Bangalore. A sample of 205 participants was randomly selected and interviewed using a structured questionnaire.

Results

Majority (82.1%) of the participants were graduates or postgraduates.65.2% of respondents did not know that Pap smear was a screening test for cervical cancer. Half of the population had never heard about the cervical cancer screening programme and were also unaware that not having a regular Pap smear was one of the risk factors for cervical cancer. Of the sexually active women, only 12.3% had had Pap smears. One third of the study population was desirous of undergoing a screening test but had not had one due to a lack of knowledge (61.6%) and 18.8% had no access to screening.

Conclusion

In spite of the increase in women literacy in India, majority were unaware of the Pap smear as a screening test for cervical cancer and had never been screened for cervical cancer due to ignorance on the subject. Educating women on cervical cancer screening is a critical element in determining whether a woman will undergo a Pap test.

IGCSM-0938
Poster Shift II - Cervical Cancer

CORRELATION BETWEEN HISTOPATHOLOGYCAL EXAMINATION AND HPV TESTING IN WOMEN WITH CERVICAL EPITHELIAL CELL ABNORMALIES

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Aims
Cervical carcinoma has been included in the preventable malignancies ever since the use of the Pap screening test. In this study, we aimed to compare the findings of cervical cytology and biopsy with microbiological HPV ratio in the Tepecik Training and Research Hospital.

Methods
We included 90 patients cytologically diagnosed as epithelial cell abnormalities during 2013 in this study. Seventy-five cases also underwent histological examination. In only 43 cases (47.7%), HPV- DNA was detected by PCR.

Results
Among these 90 cases, there were 31 (34.4%) atypical squamous cells of undetermined significance (ASCUS), 7 (7.8%) atypical squamous cells-high grade intraepithelial lesions cannot be excluded (ASC-H), 33 (36.7%) low grade squamous intraepithelial lesion (LSIL), 14 (15.6%) high grade squamous intraepithelial lesion (HSIL), and 5 (5.6%) atypical glandular cell (AGC) diagnoses. The total number of reported ASCUS, ASC-H, and AGC diagnoses was 43 with 47 SIL cases. The ASC/SIL ratio was 0.91. Squamous intraepithelial lesion was verified in 13 of 31 (41.9%) ASCUS. Among patients who had a cervical biopsy, 29 of 33 (87.9%) LSIL cases and all of the 14 HSIL (100%) cases had biopsy-proven SIL. In 28 of 43 cases (65.1%) who had performed HPV testing, the high risks HPV subtypes were determined and most of these cases had diagnosed as SIL by cytological examination.

Conclusion
Primary screening of cervical epithelial abnormalities by HPV DNA testing appears to inadequate due to its cost. If Pap screening tests could be performed, HPV testing is used as an adjunct method on cases with ambiguous diagnoses.

IGCSM-0942
Poster Shift II - Cervical Cancer

DO WE NEED TO PERFORM CERVICAL COLPOSCOPY FOR PATIENTS WITH VIN 2/3?

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Aims

The incidence of VIN is tremendously increasing especially in young, mid-aged women. Our aim is to evaluate cervical pathologies in patients with VIN 2/3.

Methods

Clinicopathological data of patients with VIN 2/3 who were surgically treated between 2009 and 2014 were retrieved from the computerized database of Zekai Tahir Burak Women's Health Education and Research Hospital.

Results

We identified 12 patients with VIN 2/3. Three patients were postmenopausal. The most common type of lesion was bilateral and multifocal. All the postmenopausal patients had a symptom of itching and discoloration whereas premenopausal patients came to the clinic generally with a globular-warty lesion. None of the postmenopausal patients were having a positive HPV PCR result. Nevertheless seven of nine premenopausal patients were having a positive HPV test (77,7%) ($p<0,05$). While none of the postmenopausal patients were having an abnormal colposcopic finding; five premenopausal patients (55,5%) had an abnormal cervical smear and colposcopic result as cervical intraepithelial neoplasia 1/2 ($p<0,05$).

Conclusion

Analysing VIN patients as premenopausal or postmenopausal may guide the clinician about the related cervical pathologies. For premenopausal patients the risk of HPV is very high and we suggest performing colposcopy to all of the premenopausal patients with VIN 2/3 independent from the cervical smear result. Additionally for postmenopausal patients performing a colposcopy should be directed by other findings and cervical smear result.

IGCSM-0953
Poster Shift II - Cervical Cancer

CLINICAL IMPORTANCE OF ATYPICAL SQUAMOUS CELLS OF UNDETERMINED SIGNIFICANCE IN DETECTING PREINVASIVE CERVICAL LESIONS IN MENAPAUSAL WOMEN

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Aims
The aim of this study was to compare histopathologic results of reported as atypical squamous cells of undetermined significance (ASCUS) on Pap smear test in according to menopause status.
Methods
A total of 307 patients who referred to our gynecologic oncology clinic were included to the study between September 2012 and August 2013. Data of 164 menopausal (group 1) and 203 non-menopausal (group 2) women with ASCUS cytology was evaluated retrospectively. Colposcopy guided biopsies were performed to both groups and conization was performed to all women with a suggestive result for CIN2-3, as our clinical approach. Postconization histopathologic results and demographic characteristics of patients were compared between two groups.
Results
The mean age of patients was 54,6±6,57, mean gravidity was 3,4±1,5 and mean parity was 1,74±0,4 in grup 1.These parameters were 38,0±6,69 and 2,06±1,03 and 1,74±0,8 respectively. Final histopathologic results recorded were; normal cervix (chronic cervisit, Hpv cervcitis, polyp, nabothian cyst), low grade cervical intra-epithelialneoplasia (CIN 1), high grade cervical intra-epithelial neoplasia (CIN2-3). In group 1 results were 83 %, 15,2 %, 1,8 %, respectively. In group 2 was 69 %, 21,1%, 3,9%, respectively. There were no cases of microinvasive or invasive cervical carcinoma in either group. In two patients endometrial carcinoma was detected in menopausal group, concomitantly.
Conclusion
In current study we found that preinvasive lesions were statistically significantly higher in non-menopausal women than menopausal women with ASCUS result on Pap smear. Cervisitis were more common in menopausal women (55 % versus % 15 , p<0,001).

IGCSM-0962
Poster Shift II - Cervical Cancer

PROGNOSTIC FACTORS IN CERVICAL CANCER: A BRAZILIAN COHORT

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Aims

Despite the increasing advances in the prevention and treatment of cervical cancer, there is still morbidity and mortality caused by the disease specially in developing countries, where data regarding the prognostic factors are scarce. The aim of this study was to evaluate the prognostic factors associated with overall survival of patients with cervical cancer treated at the Brazilian National Cancer Institute.

Methods

Medical records of patients diagnosed with cervical cancer between 2006 and 2009 were retrospectively analyzed including: age, ethnicity, marital status, FIGO stage, performance status, hemoglobin level, histology, comorbidities, tumor differentiation, occupation and type of treatment. Clinical and epidemiological characteristics collected were compared using the chi-squared test. For the survival analysis the Kaplan-Meier method and log-rank test were employed. Cox regression was performed to identify prognostic factors associated with survival, considering a confidence interval of 95%. The p-value <0.05 was considered significant.

Results

1482 records were analyzed. Cox model associated a worse prognosis for women with locally advanced disease (p<0.001) or distant metastasis (p<0.001), performance status 2-4 (p <0.001), hemoglobin levels at the beginning of treatment <12g/dL (p<0.001), >1 comorbidity (p = 0.04) and absence of lymphadenectomy (p<0.04). Age, race, marital status, tumor differentiation and surgical treatment were not significantly associated with overall survival.

Conclusion

The independent prognostic factors for overall survival were FIGO stage, performance status, hemoglobin levels lower than 12g/dL, the presence of comorbidities and the absence of lymphadenectomy.

IGCSM-0969
Poster Shift II - Cervical Cancer

EFFECT OF AGE ON SURVIVAL IN CERVICAL CANCER: A SINGLE INSTITUTION REVIEW OF PATIENTS TREATED BETWEEN 2003-2012

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Aims

Prognostic factors of overall survival (OS) following cervical cancer include disease stage, tumor size, lymph node status and tumor differentiation. The effect of age on OS is not well delineated. This study aimed to explore the effect of age on OS in patients diagnosed with cervical cancer at a single institution.

Methods

This is a retrospective chart review of a subset of patients diagnosed with cervical cancer and treated at a single institution from 2002 to 2013 (n=435). During these years the patient population, referral pattern and treatment decisions were relatively constant. OS was defined as time from diagnosis to death or censored at day of last known follow-up if alive.

Results

Most patients (71%) were greater than 40 years old at the time of diagnosis. When comparing these patients to patients <40 years old, younger patients were more likely to be diagnosed at an earlier stage than older patients (p=0.0007). Smoking status and incidence of diabetes, lung disease, heart disease and history of cancer were not statistically significantly different by age group. Hypertension was significantly higher in 40+ years old (p<0.0001); however, none of these factors were significantly associated with OS. Histologic type was consistent across age groups and was not associated with OS. Age did not appear predictive of OS, though disease stage was significantly associated with OS (p<0.0001).

Conclusion

Stage at time of diagnosis was the most important prognostic factor for cervical cancer OS. Age does not appear to be a significant prognostic factor.

IGCSM-0970
Poster Shift II - Cervical Cancer

PATTERNS OF CARE AND OUTCOME OF ELDERLY WOMEN DIAGNOSED WITH CERVICAL CANCER (CC) IN THE DEVELOPING WORLD

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Aims

Scarce data exist about the impact of age in CC patients in the developing world, with 80% of incident CC. The objective of the current study was to examine patterns of care and outcome of these patients.

Methods

Medical records of CC patients treated at the Brazilian National Cancer Institute from 2006-2009 were reviewed. Patients were divided into 2 cohorts: ≥70 and <70years. Chi-square and Odds Ratios (OR) with 95% confidence intervals (CI) were calculated. Survival was examined using the Kaplan–Meier method. Single and multivariate Cox proportional hazards modeling was used to estimate Hazard Ratios (HR) with 95% CI.

Results

A total of 1482 patients were analyzed: 1339 (90.4%) <70 and 143 (9.6%) ≥ 70 years. Compared to the younger patients, the elderly presented more comorbidities ($p<0.001$), but lower rates of alcohol and tobacco dependence ($p<0.001$ and $p<0.001$, respectively). A marked difference in treatment was noted for the elderly cohort, even after stratifying by stage. Only 21% of the older patients underwent surgery compared with 27.6% of the younger ($p=0.030$). Elderly women were 2.1 times more likely to receive no treatment (OR 2.1; 95%CI,1.39–3.23). After adjustment for potential confounding variables, the HR for death in the elderly was 0.80(95%CI,0.61–1.05).

Conclusion

These results corroborate previous data from developed countries: elderly patients have more advanced disease at diagnosis and age is an important factor in the allocation of treatment. Elderly women are more likely to forego treatment. However, there wasn't statistical difference regarding overall survival in this cohort.

IGCSM-0977
Poster Shift II - Cervical Cancer

A RARE VARIANT OF UTERINE CERVICAL TUMOR: GLASSY CELL CARCINOMA

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Aims

Glassy cell carcinoma (GCC), a rare variant of uterine cervical tumor, is composed of squamous cells as well as glandular features and has been described in a subgroup of adenosquamous carcinomas.

Methods

A 40 year old multiparous women admitted to our clinic with the complaint of metrorrhagia and postcoital bleeding. Her pelvic examination revealed an exophytic ulcerated cervical lesion; 4x5 cm in diameter with bleeding points. Her cervical biopsy result revealed a malignant epithelial tumor. By these findings we performed pelvic examination under general anesthesia and the parametriums were intact. Afterwards we performed a radical hysterectomy with bilateral salpingo-oophorectomy and bilateral pelvic-paraaortic lymphadenectomy. There was no necrosis and the vagen, parametriums and pericervical adipose tissue were intact. However we detected one pericervical and 2 pelvic metastatic lymp node out of 79 total nodes. Histo-pathologic analysis revealed a glassy cell carcinoma.

Results

GCC is a poor-differantiated tumor with a poor prognosis. Poor survival analysis directed us towards more aggressive treatment modalities. However resistance to chemotheraphy and radiotheraphy has been described in the literature.

Conclusion

Gross tumor diameter (>3cm), lympho-vascular space invasion and deep stromal invasion are powerful markers for recurrence. Vaginal apex, ovaries and pelvis are the frequent sides of metastasis. We offer bilateral oophorectomy independent of the patient’s age because of high metastatic rate.

IGCSM-1004
Poster Shift II - Cervical Cancer

CERVICAL ADENOID BASAL CARCINOMA; A VERY RARE CLINICOPATHOLOGIC ENTITY

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Aims

Adenoid basal carcinoma of cervix is a very rare entity that has been reported under 100 cases in the literature. Although the origin of the carcinoma is controversial; the multipotential basal cell layer of cervix is the believed part for tumor growth.

Methods

A 54 year old postmenopausal white woman was referred to our clinic with the complaint of postmenopausal bleeding. Her cervical smear result revealed high grade squamous intraepithelial lesion. Her colposcopy directed cervical biopsy showed atypical squamous cells and it was in debate over a carcinoma in situ or a carcinoma. Her endometrial biopsy result revealed an invasive squamous cell carcinoma; probably originated from the cervix. We found an exophytic lesion 1.5cm in diameter at the ectocervix, and her parametriums were intact. By these findings we performed a radical hysterectomy with bilateral salpingo-oophorectomy and bilateral pelvic-paraaortic lymph node dissection. The final pathology result revealed adenoid basal carcinoma with negative surgical borders and there was not any lymph node metastasis out of 61 total nodes. Lympho-vascular space invasion was not detected too.

Results

Adenoid basal carcinoma resembles the basal cell carcinoma of skin. It is found especially over 60 years and in blacks. Additionally it could be confused with another adenosquamous carcinoma; adenoid cystic carcinoma.

Conclusion

This rare tumor is generally benign in nature and has a low potential for recurrence and metastasis. However sometimes a squamous cell carcinoma may coexist and shape the prognosis and survival.

IGCSM-1012
Poster Shift II - Cervical Cancer

MUCOEPIDERMOID CARCINOMA OF UTERINE CERVIX; A DISTINCT PATHOLOGICAL AND CLINICAL ENTITY

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Aims

Mucoepidermoid carcinoma (MEC) is an epithelial originated malignant tumor producing intracellular mucin. MEC of uterine cervix is a rare condition that the tumor has an appearance of a squamous cell carcinoma without glandular formation. While the tumor is needing some pathological diagnostic criteria, it also has some individual features that direct the gynecologic oncologist on clinical follow-up.

Methods

A 34 year-old, multiparous woman admitting with post-coital bleeding was examined and a 3cm minimally ulcerated mass lesion on the ectocervix was found. Colposcopy directed biopsy resulted as a malignant epithelial tumor. Parametriums were intact and we performed radical hyterectomy, bilateral pelvic-paraaortic lymphadenectomy, bilateral salpingectomy and ovarian transposition. The final pathology result revealed mucoepidermoid carcinoma of uterine cervix, grade 2 with intact vaginal surgical border and parametriums. There was no lymphovascular space invasion and no metastasis to dissected 43 lymph nodes. On the follow-up we decided chemo-radiation theraphy on basis of the poor differantiated nature of tumor at our gynecologic oncology council.

Results

MECs are commonly aggressive tumors and generally have a high potential for metastasizing to lymph nodes than non-mucin secreting tumors. However predicting metastasis is difficult. Recurrence may also occur in patients without any risk factors.

Conclusion

On the basis of aggressive biologic behaviour of tumor; adjuvant chemoradiotheraphy should be liberally performed in woman with MEC even she is without any risk factors or with mild risk factors.

IGCSM-1030
Poster Shift II - Cervical Cancer

ANALYSIS OF PROGNOSTIC FACTORS CORRELATED WITH 5 YEARS OVERALL SURVIVAL RESULTS IN ADVANCE CERVICAL CANCER RADIOCHEMIOTHERAPY.

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Aims

The aim of study was to assess the effect according to 5-years survival, association between prognostic factors and results , in women with cervical cancer treated by radiochemiotherapy.

Methods

147 patients with FIGO stage IIB and IIIB treated between 2002 and 2005. All patients received radiotherapy with chemotherapy – Cisplatin at 40mg/m² administered once a week . The mean age was 51±8,67 years old. 96,6% got planoepitheliale carcinoma, 77,5% G2 histopathology. The mean tumor volume was 4,98±1,56 . An average to point A dose in this group of patients was 87,1±10 Gy, to point B 63,3±4,8 Gy; brachytherapy was delivered by LDR or PDR . Mean number of courses of chemotherapy was 4,73±1,1. Mean time of the treatment was 40,35 days. Subject to investigation was time of survival, present of absent of disease or metastasis and toxicity observed during a five year follow-up

Results

After five year observation we found that 87 patients (59,2%) was still alive . 75% of alive patient got IIB stage and 54,8% was in group of IIIB patients. Mean time to dead in group of 60 patient was 23,8 months after treatment. The most important prognostic factors was: stage (p=0,040), tumor volume (p=0,015)- , dose of teleradiotherapy to the point B (p=0,041) and to pelvic lymph nodes (p=0,035). Important was also anemia before the radiochemiotherapy (p=0,065).

Conclusion

Radiochemiotherapy became the gold standard in advance cervical cancer women . Important however is to remember that this kind of treatment is difficult to proceeded for patients and many factor influence on the ending results.

IGCSM-1033
Poster Shift II - Cervical Cancer

ATYPICAL GLANDULAR CELLS (AGC) OF CERVICAL CYTOLOGY

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Aims

Atypical glandular cells (AGC) in Pap smears is rare The possibility of underlying high-grade lesions is greater in this entity than in atypical squamous cells of undetermined significance. The aim of our study was to evaluate the AGC cases with histology and identify cytologic features to segregate significant lesions from benign.

Methods

From May 2009 to Aug 2013, a total of 11,438 conventional Pap smears were retrospectively analyzed. In all cases, 61 AGC cases were identified (0.4%), and these cases were reevaluated the pathology and the clinical features.

Results

In 61 AGC cases, the results of colposcopically guided biopsies revealed that 15 cases of invasive carcinoma, 10 cases of CIN I-III and 3 cases of AIS was identified, whereas 12 cases had benign pathology.

Conclusion

This study revealed significant levels of high-grade disease in women with AGC on cytology. Alternative strategies, including endometrial sampling, human papillomavirus testing should be considered.

IGCSM-1047
Poster Shift II - Cervical Cancer

PRAGMATIC MANAGEMENT AFTER EXENTERATION FOR RECURRENT CERVICAL CANCER.

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Aims

Pelvic exenteration is the last treatment for local recurrences of cervical cancer. We reported the postoperative management.

Methods

This was a retrospective study concerning all the patients with pelvic exenteration, urinary diversion and cervical cancer locoregional recurrence in one cancer center between January 2001 and December 2012 (n=35).

Results

rior and total pelvic exenterations were performed respectively in 26 cases (74,3%) and in 9 cases (25,7%). Nineteen patients (54,3%) underwent a continent urinary diversion and 16 patients underwent a non continent one. A colpoplasty was performed in 23 patients (65,7%). Median operative time was 472,5 minutes (335-725). Median blood loss was 2220 ml (700-5600). One peroperative complication was reported (vascular injury). Severe postoperative complications were reported in 19 patients (54,3%) whom 9 patients (25.7%) with ureteral complication. A plasmatic albumin threshold at anastomosis stenting removal could be determined to predict occurrence of an anastomosis complication. A threshold of 24 g/l was associated with a sensitivity of 100% and a positive predictive value of 100%. Total pelvic exenteration and non continent urinary diversion were associated with a significant risk of ureterodigestive anastomosis fistulae compared to anterior exenteration and Miami pouch. The 3-year overall survival and 3-year disease free survival were respectively 68% and 45%.

Conclusion

54.3% of severe postoperative complications in pelvic exenteration but the 3-year overall survival was 68%. Anterior exenteration with Miami pouch could decrease postoperative

complications and the dosage of plasmatic albumin just before removing the anastomosis stenting removal could decrease the rate of urologic complications.

IGCSM-1049
Poster Shift II - Cervical Cancer

ANATOMICAL VARIATION OF AUTONOMIC NERVES IN THE POSTERIOR LEAF OF THE VESICOUTERINE LIGAMENT

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Aims
The posterior leaf of the vesicouterine ligament (PLVUL) contains autonomic nerve fibers which innervate the bladder. Shingo Fujii was clearly described surgical anatomy of PLVUL and emphasized importance of preserving the bladder branch of the inferior hypogastric plexus (IHP) for saving bladder function after radical hysterectomy (RH). In our population, we noticed that the bladder branch of IHP could be divided in two or three branches which also pass through PLVUL. There is one main branch located dorsomedially from the inferior vesical vein (IVV) and one or two small additional branches positioned lateral of the IVV.
Methods
In this study, we evaluate the operative findings at 36 cervical cancer patients surgically treated in Institute of oncology and radiology of Serbia, during 2013 using Fujii-Okabayashi technique of nerve-sparing RH. The surgery was performing without magnifying glass and implies complete bilateral dissection and selective resection of PLVUL. In all patents the main bladder branch of IHP was successfully preserved bilaterally.
Results
In the lateral part of PLVUL, before separation of the IVV we noticed at least one small additional nerve branch at 21 patents (58.3%), what was also confirmed on the other side at 17 patents (47.2%). In 5 patents (13.8%) we recognized two additional nerve branches what could be seen bilaterally in 2 of them (5.5%).
Conclusion
Anatomical variation according the number of nerve branches in PLVUL may exist in significant number of patients. Resection of small nerve branches and sparing the main one is the safe method of preserving bladder function postoperatively.

IGCSM-1050
Poster Shift II - Cervical Cancer

CERVICAL CYTOLOGY AND HIGH-RISK HUMAN PAPILLOMAVIRUS (HPV) INFECTION IN THE WOMEN WITH GENITAL CONDYLOMA

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Aims
To evaluate clinical characteristic of the patients with genital condyloma and seek to the role of cervical cytology and high-risk human papillomavirus (HPV) test in those patients
Methods
In a retrospective study, medical records of all women diagnosed as genital condyloma between 2002 and 2014 were reviewed. HPV test was performed using hybrid capture II as a triage of abnormal cytology or a routine screening tool for cervical neoplasia. Cytologic results and HPV status, as well as clinical progress were evaluated.
Results
A total of 70 patients were identified, including 43 (61%) patients with a biopsy-confirmed condyloma. The mean age was 36.8 years. At the time of diagnosis, Pap smear was performed in 54 (77.1%) patients and showed negative in 42.6%, ASCUS in 22.2%, ASC-H in 1.9%, LSIL in 31.5%, and HSIL in 1.9%. Of 54 (77.1%) cases in which HPV test was performed, positive rate for high-risk type was 55.6%. After the mean follow-up interval of 4 months, the initial viral load of high-risk HPV was increased, despite the treatment for condyloma (369.8 RLU vs. 428.5 RLU). The site of the lesions included the cervix in 43 (61.4%) cases, and there was no significant relationship between the condyloma site and either abnormal pap results or positive HPV test (p=0.610 and p=0.273, respectively).
Conclusion
In patients with genital condyloma, the incidence of both abnormal cervical cytology and high-risk HPV infection is quite high and the viral load rarely even after starting the treatment. Short-term follow-up of cytology and HPV test is needed in patients with genital condyloma.

IGCSM-1057
Poster Shift II - Cervical Cancer

NEGATIVE PAP SMEAR IN CERVICAL CANCER PATIENTS TREATED IN THE DEVELOPING WORLD

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Aims

Pap is the most commonly used tool for cervical cancer screening in the developing world, false negative results are a major concern.

Methods

Patients with cervical cancer treated in our Unit between January, 2011 and December, 2013.

Results

During the period of the study 65 patients with cervical cancer were submitted to our Unit for treatment,6 patients (9, 23%) had negative cytology (Pap test) at the time of diagnosis. Median age was 47.5 years (40-55). FIGO stages were: 2 stage 1b1 (33.3%), 2 IB2 (33.3%), and 2 IIIB (33.3%). Histology was: squamous cell carcinoma in 4 cases (66.6%) and adenocarcinoma in 2 cases (33.4%), 3 patients had G3 tumors and 3 had G2 tumors. Four patients underwent a radical abdominal hysterectomy (FIGO stage IB1 and IB2), 2 patients were submitted to concurrent chemoradiation. To date, 1 patient is dead and the the other 5 are free of disease

Conclusion

We found no relation between negative Pap test and FIGO stage, histology or tumor grade. According to our findings we wonder, should Pap smear remain as the main tool for cervical cancer screening in the developing world?

IGCSM-1068
Poster Shift II - Cervical Cancer

TOTAL LAPAROSCOPIC NERVE-SPARING RADICAL TRACHELECTOMY PLUS SYSTEMATIC PELVIC LYMPHADENECTOMY FOR EARLY STAGE CERVICAL CANCER: FIRST REPORTED SOUTHAMERICAN EXPERIENCE.

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Aims

To report our initial experience with laparoscopic nerve-sparing radical trachelectomy (NSRT) along with systematic pelvic lymphadenectomy (PLND) for early stage cervical cancer

Methods

We reviewed the chart of three patients undergoing laparoscopic NSRT and PLND between Nov 2012 and March 2014. Background information as well as intra and postoperative data were collected, pooled and then analyzed.

Results

The median age at diagnosis was 29 yo. Stage distribution was as followed: IA1 with LVSI (1 patient), IB1 (2 patients). All of them were SCC

Median operative time was 305 minutes; median estimated blood loss was 150 cc, with no transfusion needed. There were no intraoperative complications recorded. None of the cases required conversion to open surgery.

All patients had a uncomplicated immediate postoperative course. The median time to resume bladder function was 3 days; median hospital stay was 3 days as well.

The median number of pelvic lymph nodes retrieved was 18. There were no positive parametrium or margins

Two out of three patients returned to their normal preop menstruation pattern. None of them has attempted pregnancy so far.

With a median follow up of 4 months (2-18), there are no relapses observed

Conclusion

Laparoscopic approach for NSRT plus PLND appears to be safe and reliable in terms of both intraoperative as well as early postoperative outcomes

IGCSM-1069
Poster Shift II - Cervical Cancer

CERVICAL CANCER IN A 11- YEAR- OLD GIRL.

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Aims
In November 2011 a 11- year- old patient was referred to our Unit for vaginal bleeding. She was virgin. Tanner stage II.

Methods
An ultrasound showed a large and irregular tumor in the cérvix, 46x54x33mm.
MRI informed a cervical tumor, negative for metastatic disease. Tumor markers (CEA, CA 19-9, CA 125) were negative.
Examen under anesthesia was performed, a 8cm tumor of the cérvix was found. Vagina and parametria were negative. FIGO stage IB2.

Results
Biopsies informed a G3 clear cell adenocarcinoma.
She was submitted to neoadjuvant chemotherapy (3 courses: paclitaxel- carboplatin 2012). Partial response was achieved.
In february 2012, the patient was submitted to a radical hysterectomy. Bilateral ovarian tissue was sent for cryopreservation.
The pathology showed: G3 clear cell adenocarcinoma 3,3cm. Upper vagina wall was involved. Lymph nodes, parametria, abdominal washings and surgical margins were negative.
The patient underwent adjuvant pelvic radiotherapy, 5040 cGy, ending may 2012.
In January 2013, a CT scan showed two complex pelvic masses 43x56mm and 45x68mm.
Pelvic exam revealed 12cm tumor, extended to the pelvic wall. A core biopsy informed: G3 clear cell adenocarcinoma.

Conclusion
The patient was submitted to palliative care unit.
In september 2013, she developed a complex fistula involving the vaginal Wall and sigmoid colon. She underwent a colostomy.
She was readmitted 2 months later with clinical deterioration and cutaneous fistula. Ultrasound showed the persistence of her disease. A drainage bag was placed at the left lower quadrant.
To date the patient is alive, she routinely goes to school. She is under hospice care.

IGCSM-1072
Poster Shift II - Cervical Cancer

THE EVALUATION OF EXCISION MARGIN POSITIVITY CORRESPONDING TO 2011 IFCPC TRANSFORMATION ZONE-TYPE CLASSIFICATION

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Aims

A revised colposcopic terminology was released by the Nomenclature Committee of IFCPC in 2011. The document mentioned three types of transformation zone (T-zone) and added corresponded excisional types. This study aimed to evaluate the margin positivity of excision treatment of the cervical neoplasia according to 2011 IFCPC transformation zone-type classification.

Methods

A total of 400 patients who underwent excision treatment by large loop excision of the transformation zone (LLETZ) between January and December 2011 at Severance Hospital, Yonsei University Health System were retrospectively reviewed. Colposcopic images of each patient were reviewed independently by 2 experienced colposcopists through Picture Archiving Communication System (PACS) and classified by three transformation zone-types and compared resection margins and clinical variables.

Results

Among 343 eligible cases,mean age was 42.4 years old and type II T-zone was the most common type (type II T-zone:126/343 cases, 36.7%). CIN 3 was the most frequent final pathologic diagnosis after excision (CIN 3: 119/343 cases, 34.7%). As the T-zone type changes from I to III, higher grade cervical neoplasia was reported. The margin positivity was dominantly shown in type III transformation zone and had statistical significance (37/343cases, 34.6%; $p<.001$). In addition, T-zone type,age, excision indication (pre-excisional biopsy/PAP result) was respectively correlated to margin positivity, and especially in transformation zone-type, odds ratio of type III T-zone to type I T-zone was 2.3 ([95%CI 1.04-5.67], $p<0.05$]).

Conclusion

Colposcopy using the new 2011 IFCPC transformation zone-type classificationis is a potentially effective screening method to determine the type of cervical excision treatment.

IGCSM-1075
Poster Shift II - Cervical Cancer

SOX1 IS A RELIABLE BIOMARKER FOR CERVICAL CANCER DETECTION IN CHINA

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Aims

SOX1 hyper methylation gene was tested and analyzed for cervical cancer detections in the study in China.

Methods
The hospital-based, cross sectional study was conducted in Xiangya Hospital following GCP guidance. The residue cervix cells taken from the cervical area were collected and stored in the Liquid Pap solution. The cytological and histological data were collected by Xiangya Hospital. The methylation SOX1 gene was determined by using real-time methylation-specific polymerase chain reaction (PCR). Chi-square tests were used for evaluating correlation between methylation and diagnosis results.
Results
The methylation levels of SOX1 gene was significantly higher in CIN3 and worse (CIN3+) lesions if compared to the level of methylation in normal cervix and CIN1 or CIN2($P<0.0001$). The sensitivity, specificity, and accuracy of SOX1 are over 82%, 65% and 70% confirmed by pathology in the study. As compared with liquid PAP testing, SOX1 gene testing has similar sensitivity and specificity as HPV high risk as reported in publications before for the detection of cervical intraepithelial neoplasia.
Conclusion

The current results indicate that real time methylation-specific PCR tested for DNA methylation of SOX1 gene holds promising for cervical cancer screening and warrants further population-based studies using standardized DNA methylation testing. The results can be expected that the SOX1 gene alone as the cervical cancer screening is promising to avoid the resource-demanding cytological method.

IGCSM-1076
Poster Shift II - Cervical Cancer

INFLUENCE OF INSURANCE STATUS ON TREATMENT AND SURVIVAL FOR INVASIVE CERVICAL CANCER

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Aims

To examine the influence of insurance status on treatment and survival for women with invasive cervical cancer in the United States.

Methods

Women reported in the National Cancer Database with invasive cervical cancer diagnosed from 2000-2011 were included and classified by stage: early (IA-IIA2), advanced (IIB-IVA), and metastatic (IVB). For each subgroup we examined clinical/demographic characteristics and treatment. Appropriate treatment was defined for each subgroup according to national guidelines. Cox proportional hazards models were used to examine the influence of insurance status on survival after adjusting for differences in clinical/demographic characteristics and receipt of appropriate treatment.

Results

Of the 114,413 women identified, 11,467 (10%) were uninsured, 20,626 (18%) had Medicaid, 57,188 (50%) had commercial insurance, and 18,699 (16%) had Medicare. There were differences in receipt of appropriate treatment by insurance status across all stage groups. In the early-stage group, compared to the commercially insured, Medicaid recipients and uninsured women had 79% (HR=1.79; 95% CI, 1.57-2.03) and 52% (HR=1.52; 95% CI, 1.28-1.81) higher mortality. For the advanced stage group, the hazard ratio for death was 1.32 (95% CI, 1.23-1.42) for Medicaid beneficiaries and 1.25 (95% CI, 1.14-1.37) for uninsured women compared to those with commercial insurance.

Conclusion

Uninsured and Medicare or Medicare recipients with early stage and metastatic cervical cancer are less likely to receive guideline-based therapy than women with commercial insurance. Even after correcting for treatment disparities, insurance status is an independent predictor of survival in all stage groups.

IGCSM-1077
Poster Shift II - Cervical Cancer

A MULTI-ETHNIC STUDY OF CERVICAL CANCER STAGE AT DIAGNOSIS AMONG HISPANIC WOMEN IN THE UNITED STATES

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Aims
Hispanic subgroups in the United States (US) have unique sociodemographic characteristics that may contribute to heterogeneity in cancer outcomes. The study objective is to determine the relationship between Hispanic subgroup and cervical cancer stage at diagnosis.
Methods
We analyzed Mexican, Puerto Rican (PR), Cuban, and Central/South American (CSA) women with invasive cervical cancer registered in the National Cancer Database, 1998-2011. Multinomial logistic regression analysis was performed to determine odds of advanced stage cervical cancer by Hispanic subgroup.
Results
Of the 6293 Hispanic women in the cohort, 3419 (54.3%) were Mexican, 581 (9.2%) PR, 429 (6.8%) Cuban, and 1864 (29.6%) were CSA. Cubans were the oldest subgroup (mean age 54.3 years) and had the highest proportion with stage IV disease (12.7%). Cubans were 40% (OR 1.40, 95% CI 1.06, 1.85) more likely to present with stage III/IV vs. I disease compared to Mexicans. PR and CSA women had similar odds of higher stage as Mexican women. Age and insurance status were associated with stage at diagnosis. Uninsured Hispanics had 1.58 times higher odds of higher stage vs. privately insured (stage II vs. I: OR 1.58, 95% CI 1.29, 1.94; stage III/IV vs. I: OR 1.58, 95% CI 1.31, 1.92).
Conclusion
There are differences in cervical cancer stage at diagnosis by Hispanic subgroup in the US, particularly between Cuban and Mexican women, after controlling for geography and other sociodemographic factors. Further research to better define the reasons for these observed differences in stage at presentation by Hispanic subgroup is needed.

IGCSM-1083
Poster Shift II - Cervical Cancer

DEVELOPING A XENOGRAFT MODEL FOR THE STUDY OF HIGH-GRADE CERVICAL DYSPLASIA AND CERVICAL CANCER

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Aims
Limited models exist for the study of cervical cancer in animals, and no animal models currently exist to study dysplasia or its progression to invasive disease. To develop a new model for the study of the *in vivo* behaviour of high-grade cervical dysplasia and carcinoma by xenografting human tissues into immunosuppressed mice.
Methods
Primary biopsy samples 1mm^3 of either cervical cancer or high-grade dysplasia are transplanted beneath the renal capsule of highly immunosuppressed NOD/Scid IL-2R Gamma (NSG) mice. After a period of five to six months the tumours are harvested, analysed and retransplanted in to new recipient mice. Primary biopsy and explant tissue is assessed for recapitulation of key tumour features by immunohistochemical staining for p16, HPV and cytokeratin 17. Tumour and dysplasia biopsies undergo molecular analysis by comparative genomic hybridisation array and copy number variation to determine genetic predictors of engraftment success and invasive tumour behaviour *in vivo*.
Results
To date nine of eleven cancer grafts harvested (81%) have shown successful growth of tumour, including demonstration of invasion of local tissues by four explants. Only one dysplasia xenograft animal has been examined for explant growth, and no tissue growth was observed.
Conclusion
Xenograft transplantation of cancer tissue beneath the renal capsule is an efficient technique for explant growth and demonstrated in vivo tumour behaviours such as invasiveness and express p16, HPV, and cytokeratin 17 in the same pattern as the original tumour. It is too early to determine the value of xenotransplantation to model cervical dysplasia

IGCSM-1089
Poster Shift II - Cervical Cancer

ASSOCIATION BETWEEN HUMAN PAPILLOMAVIRUS INFECTION AND PRETERM LABOR AND DELIVERY

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Aims
To find out the prevalence of cervical HPV infection and to evaluate the vaginal pH among women admitted for preterm labor and delivery.
Methods

We conducted a cross-sectional study of 146 cases with singleton pregnancies between 20+0 and 36+6 weeks of gestation with symptoms of preterm labor, clinically intact amniotic membranes, and minimal cervical dilatation (≤3 cm). Vaginal pH was performed at the day of admittance and PAP results as well as HPV (polymerase chain reaction) from the first trimester screening were analyzed.

Results

33.2% of the recruited women showed mild to severe cervical dysplasia on PAP test. All of them had HPV brush typing (PCR) with overall HPV prevalence of 31.3%. The prevalence of HR-HPV alone was 18.3%. The most prevalent HPV types were: 6, 16, 11, 31 and 33, respectively. Women with HPV infection had a higher incidence of preterm delivery than those without HPV (vaginal pH ≥ 4,7). HR-HPV infected cases (vaginal pH≥ 5.1) showed significantly increased risk of preterm delivery (OR, 3.121; 95% CI, 1.712-6.340).

Conclusion

We observed a high prevalence of HPV infection in pregnant women and high preterm delivery rate in cases with HR-HPV. Prospective clinical studies are needed to evaluate mechanisms by which HR-HPV infection induces preterm delivery.

Conflict of interest
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IGCSM-1094
Poster Shift II - Cervical Cancer

CA CERVIX OUR EXPERIENCE IN SUDAN

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Aims

Cancer of the Cervix is the second commonest Cancer in Sudanese women, it forms about 16% of all females Cancers,Breast Cancer forms 34%
The majority of patients present with advanced cancers,due to lack of awareness and screening ,and illiteracy and poverty .,we want to describe Ca of the Cervix in Sudan,its etiology,stages at presentation,pathology and treatment.

Methods

This a retrospective study of 810 cases of Ca Cervix, treated in Khartoum, period between
2000 and 2013

Results

Age distribution showed <40 years,9%,41--50 years = 23.5%,51--60years, 34.8%,61 --70years,12.7%,>70 years,10 .
FIGO Stage distribution showed,stage 1 =6%,stage 2 A= 13% ,stage 2 B =23%,stage3 A =17%,Stage 3 B =34%,Stages 4 =7%. Pathology,poorly dif, Squamous Cancer= 38%,mod dif = 26%,well dif =25%. Adenocarcinoma = 9%,Others = 2 %.
Treatment was external radiotherapy,using,Co 60 or lineac 6 or 9 Mv,dose =45 Gy in 20 or 50Gy in 25, Brachy therapy, Manual Low Dose Rate ,LDR,using Cs 137 sources between 1985 and 1999,dose 35 Gy to ponit A, or High Dose Rate, HDR using Co 60 source, after 1999, 79% of the patients had brachy therapy ,32% by LDR and the rest with HDR.concurrent chemoradiotherapy ws given in 32% of the patents,using weekly cisplatinum or 3 weekly cisplatinum and 5FU.

Conclusion

Most Ca Cervix patients in Sudan present with advanced stages , due to lack of awareness in general, and about pap smear, this service is only available in the capital,in addition to the high rate if illitercy , poverty
, and the majority of the cancers are aggressive poorly dif. cancers.

Document not received **********

IGCSM-1105
Poster Shift II - Cervical Cancer

CERVICAL CANCER AND HISTOPATHOLOGICAL STATUS IN 210 CASES

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Aims

Cervical cancer is the most common cancer in Nepal till this date .Lymph Node status,LVSI,depth of cervical stromal invasion are the most important independent prognostic as well as indicator for further adjuvant treatment factor in early stage cervical cancer of uterus.To find the pathological findings in early stage of cervical cancer pts.who underwent radical hysterectomy and BL pelvic Lymph-node dissection in our centre BPKMCH.

Methods

Retrospective study for those pts. who received surgery at our center in cervical cancer stage I –IIA.

Results

Total 210 cases were studied with the mean age of 48.13 yrs.Most common type is squamous cell carcinoma .Most of the pts were in stage IIA and Lymph-node were dissected with average 18.43 in number. Around 10% of the patients showed LVSI positive with one third of the pts. had more than two third stromal invasion depths. Around 20% patients were found to have lymph node metastases. All node positive pts.showed lymphovascular space involvement. Most commonly metastases were seen in stage IIA and followed by stage IB1.For all the cases parametrium was negative and vaginal margins were clear.

Conclusion

In early stage of cervical carcinoma of uterus pathological findings are the key prognostic and predictor for further adjuvant treatment .So, Radical hysterectomy and complete pelvic Lymph-Node dissection is the standard treatment modality of surgery in early stage disease.

IGCSM-1106
Poster Shift II - Cervical Cancer

EVALUATION OF DIAGNOSTIC ABILITY FOR BACTERIAL VAGINOSIS: A COMPARISON OF THE AMSEL CRITERIA AND THE NUGENT SCORE METHOD

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Aims

Because of the abnormal flora in patients with bacterial vaginosis (BV) can produce carcinogens such as nitrosamines, BV is very important to the occurrence of Cervical Intraepithelial Neoplasia(CIN). Since the Nugent score method is a well-reproduced standardized method for diagnosing BV, it is considered the gold standard in laboratory. The aims of this study were to: compare the diagnostic abilities of the Amsel criteria versus the Nugent score method; identify one or more reliable Amsel criteria for use with the Nugent score method to properly diagnose BV, so that the occurrence rate of BV, even of the CIN can be decreased.

Methods

This study was conducted from February to April 2010 in the Obstetrics and Gynecology Department of our hospital. 127 Subjects of this study were included and evaluated for the presence of bacterial vaginosis using Amsel criteria and the Nugent score method. Diagnostic values including sensitivity, specificity, positive predictive value, negative predictive value, positive likelihood ratio and negative likelihood ratio were evaluated.

Results

There was no perfect inter-rater agreement between the Amsel criteria and the Nugent score method (κappa = 0.714). The presence of clue cells had the highest correlation with a positive diagnosis using the Nugent score method (correlation coefficent= 0.755), while pH had the lowest correlation (correlation coefficent= 0.522).

Conclusion

The Nugent score method and two of the Amsel criteria (the presence of clue cells and the homogenous discharge) can unify clinical and microbiological parameters, meeting the need for diagnosing bacterial vaginosis.

IGCSM-1107
Poster Shift II - Cervical Cancer

RADICAL ABDOMINAL TRACHELECTOMY FOR IB1 CERVICAL CANCER AT 17WEEKS OF GESTATION

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Aims

Background: With regards to the therapy for early invasive cervical carcinoma during pregnancy, radical trachelectomy is also a treatment of choice, along with its advantages and disadvantages, is also a possible treatment option.

Methods

Case report: A 28-year-old woman, para 1-0-0-1, was diagnosed with FIGO stage IB1 squamous cell carcinoma of the cervix at 12 weeks of gestation. She strongly hoped to continue the pregnancy. For the purpose of obtain a liveborn baby, we decided to perform radical abdominal trachelectomy (RAT) during pregnancy. The treatment plan was approved by ethics committie of University of the Ryukyus.

Results

The patient underwent RAT with pelvic lymphadenectomy at 17 weeks of gestation. Her pregnancy was successfully maintained after the surgery. The patient underwent a planned cesarean section at 38 weeks of gestation. A healthy baby girl weighing 2970 g was born with an Apgar score of 8/9. The mother and child in overall good health, were discharged. Eight months after the delivery, there was no clinical evidence of recurrence.

Conclusion

We believe that it is appropriate to perform RAT in the early second trimester with preserving uterine arteries, although it is a technically challenging approach. It may be

possible that RAT during pregnancy can help women avoid the triple losses of a desired pregnancy, fertility, and motherhood.

IGCSM-1112
Poster Shift II - Cervical Cancer

A PROSPECTIVE PROPENSITY-MATCHED CASE-CONTROL STUDY ON THE IMPACT OF NEOADJUVANT CHEMOTHERAPY ON SURGERY-RELATED RESULTS OF LAPAROSCOPIC RADICAL HYSTERECTOMY

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Aims

To investigate whether feasibility and safety of class III/type C laparoscopic radical hysterectomy (LRH) for cervical cancer (CC) is influenced by the preoperative administration of neoadjuvant chemotherapy (NACT).

Methods

Data of consecutive patients, affected by locally-advanced stage CC (IB2, IIA>4cm), who had NACT followed by LRH were matched 1:2 with consecutive patients, affected by early stage CC, who had LRH (without NACT). The matching was conduced by a propensity-matched comparison. Thirty-day surgery-related morbidity was assessed using the Accordion severity system. Martin criteria were applied to improve quality in complication reporting.

Results

Sixty patients (40 undergoing LRH and 20 undergoing NACT + LRH) were included. As the result of propensity-matched comparison, demographic characteristics were balanced between groups (p>0.2). Radicality (assessed by number of lymph node yielded, parametrial width and length of vaginal cuff) was not influenced by the execution of pre-operative administration of NACT. Patients undergoing NACT plus LRH experienced higher blood loss (225 (100-700) vs. 200 (10-1000) mL; p=0.05), but similar operative time (235 (50.6) vs. 225.6 (59.3) minutes; p=0.54) and length of hospital stay (4 (2-9 vs. 4 (1-14) days; p=0.87) than patients in the control group. No between-group differences in transfusion (2/20 (10%) vs. 2/40 (5%); OR: 2.1; 95%CI: 0,2747 to 16,22 p=0.59) and overall complications (1/20 (5%) vs. 2/40 (5%); OR: 1.0; 95%CI: 0.08514 to 11.74; p=1.00) rates were observed.

Conclusion

Our findings suggest that the administration of NACT does not affect the surgery-related outcomes of LRH. Further large prospective studies are warranted.

IGCSM-1115
Poster Shift II - Cervical Cancer

LONG-TERM RESULTS AND PROGNOSTIC FACTORS IN PATIENTS WITH STAGE III–IVA SQUAMOUS CELL CARCINOMA OF THE CERVIX TREATED WITH CONCURRENT CHEMORADIOTHERAPY FROM A SINGLE INSTITUTION STUDY.

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Aims
We evaluated the longer-term efficacy and safety of concurrent chemoradiotherapy (CCRT) incorporating high dose-rate intracavitary brachytherapy (HDR-ICBT) with a lower cumulative RT protocol, and analyzed prognostic risk factors for survival among FIGO stage III–IVA squamous cell carcinoma (SCC) of the cervix.
Methods
Ninety-nine patients with FIGO stage III–IVA SCC of the cervix between 1997 and 2008 were treated with CCRT using cisplatin 20 mg/m^2 for 5 days every 3 weeks or 40 mg/m^2 weekly. Acute and late toxicities were evaluated. Overall survival (OS) and disease-free survival (DFS) were estimated by the Kaplan-Meier method. The Cox proportional hazard model was used for multivariate analysis.
Results
The median age was 53.5 years. The median follow-up period was months (range: 7–139 months). Pathologically complete response was achieved in 93 patients (96.9%). The 5-year OS and DFS were 72.0% and 69.3%, respectively. The 5-year local and distant DFS were 83.0% and 75.1%, respectively. Thirty-one patients (31.3%) experienced recurrence. Multivariate analysis showed that tumor size and pretreatment hemoglobin level remained an independent risk factor for OS, and DFS. Acute toxicity was moderate. In terms of late adverse effects, 2 patients (2.0%) suffered from grade 4 late intestinal toxicity because of radiation enterocolitis, with both requiring intestinal surgery.
Conclusion
Our study demonstrates that the CCRT schedule in patients with FIGO stage III–IVA SCC is efficacious and safe. In addition, the assessment of tumor size and pretreatment anemia can provide valuable prognostic information.

IGCSM-1129
Poster Shift II - Cervical Cancer

PRE-TREATMENT RETROPERITONEAL PARA-AORTIC LYMPH NODE STAGING IN ADVANCED CERVICAL CANCER- A REVIEW

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Aims

To evaluate the safety and impact of pre-treatment surgical para-aortic lymph node staging (PALNS) in advanced cervical cancer (FIGO stage IB2-IVA) and to evaluate the pre-operative imaging of para-aortic lymph nodes.

Methods

We searched in PubMed to identify data investigating the role of surgical PALNS. Selection criteria included English language and advanced stage cervical cancer.

Results

22 articles were included. Para-aortic lymph node (PALN) metastases were present in 18% (range 8%-42%) of all patients with cervical cancer stage IB-IVA. The proportion of positive para-aortic nodes on histological analysis with suspicious para-aortic nodes on imaging (Positive Predictive Value, PPV) were respectively for CT-scan, MRI, PET and PET-CT 20%-66%, 0%-27%, 86%-100%, and 50%-75%. The negative predictive value (NPV) of the imaging techniques were 53-92% for CT-scan, 75-91% for MRI, 87%-94% for PET, and 83-92% for PET-CT. The proportion of histological proven PALN metastasis with negative imaging was 9%-35% for CT-scan and MRI, 4%-11% for PET, and 6%-15% for PET-CT. The mean complication rate of PALNS is 9% with a range of 4%-24%, with lymphocysts being the most common complication.

Conclusion

Pre-treatment surgical PALNS is feasible with low complication rates and little delay in starting treatment. Pre-treatment PET or PET-CT is the most accurate imaging method in detecting PALN metastases, but has limitations detecting microscopic tumor volumes. Even with a negative PET-CT, PALN metastases are present in 4-15% of the patients. Positive PALN in stage IB2–IVA cervical cancer will lead to modification of treatment and may lead to better overall and disease-free survival.

IGCSM-1130
Poster Shift II - Cervical Cancer

QUALITY OF LIFE AND SEXUAL FUNCTION IN CERVICAL CANCER SURVIVORS COMPARED TO HEALTHY WOMEN

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Aims
This study was to compare the quality of life (QoL) and sexual function between cervical cancer survivors and healthy women.
Methods
A cross-sectional study has been performed in 138 women with cervical cancer survivors and 220 healthy women. QoL and sexuality were assessed using three questionnaires; the European Organization for Research and Treatment of Cancer Core 30 (EORTC C30), the cervical cancer module (EORTC CX24) and female sexual function index (FSFI). Propensity score matching was used to adjust covariates between cervical cancer survivor group and control group: a total of 104 cervical cancer survivor and 104 healthy women were compared.
Results
Body image (73.08 vs. 79.59, $p<0.05$) and lymphedema (20.19 vs. 10.55, $p<0.05$) were deteriorated in cervical cancer survivors compared to healthy women. Sexual/vaginal functioning (80.6 vs. 85.4, $p=0.077$) was borderline significant worse between cervical cancer survivors and healthy women. Sexual function in terms of sexual activity, sexual enjoyment, sexual/vaginal functioning, sexual worry, desire, arousal, lubrication, orgasm, satisfaction and pain were not statistically different in both groups.
Conclusion
Body image and lymphedema were worsen in cervical cancer survivors than healthy women. Both groups did not affect significantly the sexual function. Prospective cohort studies are needed alteration for quality of life and sexual function in cervical cancer survivors.

Conflict of interest
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IGCSM-1141
Poster Shift II - Cervical Cancer

QUALITY OF LIFE AFTER HYSTERECTOMY FOR CERVICAL CANCER - A DESCRIPTIVE STUDY

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Aims
Diagnosis of Cervical cancer shatters a lady & subsequent hysterectomy causes immense trauma affecting all aspects of her life. There is scarce literature assessing quality of life after cervical cancer and hysterectomy.Hence,this study was undertaken to assess the quality of life (QoL) post hysterectomy in women diagnosed with cervical cancer.
Methods
100 women diagnosed with Carcinoma Cervix with subsequent hysterectomy, presenting in Gynae OPD of Dayanand Medical College & Hospital and Mohan Dai Cancer Hospital, Ludhiana, were studied for demographic profile & QoL; by self reporting Questionnaire(WHOQOL-BREF-1997). Data was analyzed by applying descriptive & inferential statistics
Results

The study group represented a varied demography that included 45-55 year age group(41%), illiterate(48%), working(69%), married(93%), with rural background(63%) and belonging to upper middle socio-economic status(64%).Majority had been diagnosed <3 years ago(93%) with cervical biopsy(89%), and had undergone hysterectomy in the last one year(93%) at stage II carcinoma(58%). family history of cervical cancer was positive in 58%.Overall, 84% women had Average QoL Mean score, while 14% felt that they had Good QoL & only 2% experienced a Poor QoL. Age, education, occupation, background, socio-economic status; had statistically insignificant difference on QoL mean score. However, higher QoL Score in women without family history of cervical cancer(73.23±5.9), who were diagnosed <3 years ago(72.79±7.2) in early stages of carcinoma Stage I(74.10±4.5), & had hysterectomy with < one year duration(73.05±6.8) and the difference was statistically significant.

Conclusion

Cervical Cancer and Hysterectomy does affect the QoL,but its early detection and treatment results in better QoL as compared to advanced stages of cancer.

IGCSM-1158
Poster Shift II - Cervical Cancer

BACTERIAL VAGINOSIS AND HPV PERSISTENCE

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Aims
To investigate the effects of bacterial vaginosis (BV) on the outcomes of high-risk human papillomavirus infection (HR-HPV) without cervical intraepithelial neoplasia (CIN).
Methods
43 HPV-positive patients included in the study, all of them with negative finding for CIN (excluded by both liquid-based cytology and colposcopy). HR-HPV DNA expression was analyzed using the polymerase chain reaction (PCR) assay. BV was diagnosed with wet prep and vaginal pH. All analyzes were repeated every sixth month.
Results

Of the 43 HR-HPV-positive patients, 21 (%) exhibited clearance of HR-HPV in the period of 12 months. The remaining 22 patients had persistent HR-HPV infection with 4 cases developing high-grade cervical intraepithelial neoplasia requiring operative treatment. The persistent HR-HPV group and the clearing group had similar rates of BV at the beginning of the study. At the end of the study, the persistent HR-HPV group had a BV prevalence of 32.7% while the clearing group had a significant lower BV prevalence of 7.3%. A decreased clearance of HPV was found in women with current BV.

Conclusion

Bacterial vaginosis contributes for a persistence of HPV infection.

Conflict of interest
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IGCSM-1165
Poster Shift II - Cervical Cancer

TREATMENT OUTCOMES IN PATIENTS WITH INVASIVE CERVICAL CANCER (ICC) IN ZAMBIA AND FACTORS ASSOCIATED WITH THESE OUTCOMES: A PRELIMINARY ANALYSIS

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Aims

Zambia has the second highest incidence and mortality from invasive cervical cancer (ICC) in the world. Very few published studies have dealt with treatment outcomes or survival of ICC patients in Sub-Saharan Africa. This study aimed to investigate treatment response, factors associated with treatment outcomes, and 2-year survival.

Methods

A total of 304 cases of ICC treated in the year 2008 were identified and clinical and treatment characteristics extracted from these medical records. Descriptive statistics and logistic regression analysis were used to analyze the treatment outcomes. Tumor response and 2-year survival were recorded for patients who underwent curative treatment.

Results

The mean age was 50 years (SD = 13.4), 32% of the patients were HIV seropositive, and 92% had locally advanced ICC. Of 226 radically treated patients, 179 (79%) completed treatment. Post-treatment assessment was done at mean time of 7 months (SD = 3.8); 100 (56%) had No Residual Tumor (NRT), 38 (22%) had Gross Residual Tumor (GRT), and 41 (23%) unknown state. Patients ≥ 50 years had 74% reduced odds (OR: 0.26, CI: 0.10 - 0.66) for GRT versus patients <50. Patients with FIGO stage III had 4 times increased odds for GRT (OR: 4.01, CI: 1.45 - 10.80) versus stage I/II. Median and 2-year survival rates were 22 months and 47% for stage I/II, and 10 months and 22% for stage III.

Conclusion

Response rates were generally poor with resultant poor survival. Zambia and other similar sub-Saharan African countries should place emphasis on developing programs to allow for early detection and treatment.

IGCSM-1166
Poster Shift II - Cervical Cancer

IS SIMPLE HYSTERECTOMY SUFFICIENT FOR ALL CLINICAL STAGE IA1 CERVICAL SQUAMOUS CELL CARCINOMA AFTER ONCE CONIZATION?

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Aims
The goal of this paper is to assess the feasibility of simple extra-fascial hysterectomy for patients with clinical stage IA1 cervical squamous cell carcinoma (SCC) after once conization regardless of any pathologic risk factor.
Methods
All cases with T1a1, SCC lesion in their cervical cone specimen were retrospectively collected after chart and pathology review for the period between January 2002 and December 2009. All cases underwent subsequent hysterectomies within a month of diagnosis. Pathologic risk factors of conization, surgical scale of hysterectomy, residual lesion of the uterus, necessity of adjuvant radiation therapy, complications, and survival were analyzed in this study.
Results
Eighty-one cases were identified from the registry. Most were managed by simple hysterectomy (SH) (60/81, 74%), and the remaining 21 cases underwent modified radical hysterectomy (MRH). All cases without any risk factors in their cone specimens demonstrated residual lesion ≤T1a1 in both SH and MRH groups, whereas those with existing risk factor were confirmed positive for residual lesions ≤T1a1 [SH, 95.8% (46/48) vs MRH, 75% (15/20)]. Only two cases in the SH group received adjuvant radiation for residual lesions >T1a1. On the contrary, fifteen cases in the MRH group can receive smaller scale surgery than MRH. All cases were recurrence-free without any permanent treatment-related complication by the end of the study.
Conclusion
Extra-fascial simple hysterectomy may be recommended for clinical T1a1 cervical SCC regardless of pathologic risk factor.

IGCSM-1168
Poster Shift II - Cervical Cancer

PREVENTING CERVICAL CANCER THROUGH AN HPV VACCINE DELIVERY PROJECT IN CAMEROON.

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Aims

Background and Aim: Human papillomavirus (HPV) infection that is the primary cause of cervical cancer. Two prophylactic vaccines are now available to prevent infection with HPV.

The Cameroon Baptist Convention Health Services (CBCHS) is a faith-based health care organization, which has provided medical services to Cameroonians for over 50 years in 6 out of the 10 Regions in Cameroon.

In November, Axios Healthcare Development Gardasil Access Program approved CBCHS to receive Gardasil vaccine donated by Merck Pharmaceuticals to immunize 6,400 girls aged 9-13 years.

Gardasil is a human papilloma virus quadrivalent (types 6, 11, 16 and 18) vaccine, recombinant which protects against cervical cancer and genital warts.

The main aim of the project was to achieve an 85% 3-dose completion rate among the 6400 girls and to identify successful vaccine delivery strategies, project challenges and lessons learned.

Methods

Following sensitization and education of adolescents, parents, health care workers, and the community about HPV vaccine and cervical cancer, three vaccine delivery approaches were used: (clinic-based, school-based, and community mother-daughter approach) to immunize girls in multiple urban and rural communities. The mother-daughter approach involved screening mothers for cervical cancer while vaccinating their daughters with Gardasil at the same visit.

Results

Of the 6,851 girls who received the first dose, 95.1% received two doses and 84.6% received all three doses. Sixty-seven % of those vaccinated were within ages 9-13 years while 33% were older.

Conclusion

The project showed that, with adequate education of all stakeholders, HPV vaccination is acceptable and feasible in Cameroon.

IGCSM-1173
Poster Shift II - Cervical Cancer

THE VACCINE AND CERVICAL CANCER SCREEN (VACCS) PROJECT - ACCEPTANCE OF HUMAN PAPILLOMA VIRUS VACCINATION IN A SCHOOL BASED PROGRAM.

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Aims
Cervical cancer remains an important disease in South Africa and overall there is poor uptake of prevention services. A demonstration project tested a combination of primary prevention with vaccination and secondary prevention with screening. This report focus on vaccine uptake.

Methods

Primary schools in two provinces were invited to participate in a prospective demonstration study. Girls 9 years and older in grades 4-7 and their parents were invited to an information event scheduled in the late afternoon or early evening. Parents were given information about Human Papilloma Virus (HPV) vaccination and cervical cancer screening. They had the opportunity to give written consent for vaccination of their children. In addition children were asked to give written assent. Parents were invited to take part in a screening program.

Results

The invited cohort consisted of 3465 girls. Written parental consent and child assent was obtained for 2046 girls. Of the eligible target population, 54% was considered successfully vaccinated. Of the consented cohort, 92% were successfully vaccinated. No serious adverse events were reported.

Conclusion

Parents, who received verbal information about the HPV vaccine, had a high acceptance of the vaccine for their daughters and appropriate information contributed significantly to high vaccine uptake. Vaccine completion was better when administration of all doses occurred within a single academic year. HPV vaccination is practical and safe and political and community acceptance is good.

IGCSM-1181
Poster Shift II - Cervical Cancer

OUTCOME OF PLANNED TREATMENT DELAY IN PATIENTS WITH INVASIVE CERVICAL CANCER DURING PREGNANCY

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Aims

Treatment delay in patients with invasive cervical cancer during pregnancy has been challenging. In this study, we aimed at assessing the outcome of planned treatment delay in these patients.

Methods

We reviewed all the cases of invasive cervical cancer during pregnancy, who underwent planned delay in treatment exceeding six weeks at our hospital between 2008 and 2013.

Results

There were six cases. The FIGO stage was IB1 in five cases and IB2 in one case. Five had squamous cell carcinoma and one had adenocarcinoma. Gestational age at diagnosis was 5-21 weeks in five cases, and there was one case who was diagnosed before pregnancy and chose to undergo a treatment after childbearing. The median period of delay in treatment was 20 weeks (7-66 weeks). There was no case who underwent neoadjuvant chemotherapy. We performed Cesarean section followed by radical hysterectomy for all cases. The microscopic examination revealed lymph node metastasis in two IB1 cases whose tumor sizes were 8mm and 27mm. For the adjuvant therapy, three cases underwent radiation, one case underwent chemoradiation and two cases underwent no further treatment. There was no recurrent case at a median follow-up of 33 months (8-58 months, Five cases were at over 24 months).

Conclusion

We found a good outcome in cervical cancer patients who underwent treatment delay during pregnancy. We have to beware of occult lymph node metastasis and tumor progression during treatment delay, even if the tumor size is small.

IGCSM-1190
Poster Shift II - Cervical Cancer

SURGICAL AND QUALITY OF LIFE OUTCOMES IN PATIENTS TREATED FOR STAGE 1A1 CERVICAL CARCINOMA

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Aims
Cervical cancer is the most common cancer affecting women under the age of 35. Stage 1A1 cervical cancers are described as tumours invading to a depth of ≤3mm with a horizontal extension of less than 7mm. The majority of these tumours can be managed by loop excision or cone biopsy alone and are often associated with an excellent prognosis. In order to assess the surgical outcomes as well as the quality of life in this group of patients, a study was undertaken at Nottingham University Hospitals.
Methods
All patients diagnosed with stage 1A1 cervical cancer between 1.1.2008 and 31.12.2012 were identified using the colposcopy database. Information was collected from their medical records regarding their referral, diagnosis, treatment and follow up. In order to assess the quality of life, the EORTC QLQ CX24 questionnaire was used. Data will be analysed using SPSS.
Results
A total of 75 patients have been diagnosed with stage 1A1 carcinoma of the cervix between 1.1.2008 and 31.12.2012. Data collection is currently in progress and the results will be presented at the meeting.
Conclusion
Assessment of the quality of life in patients who survive cancer is an important part of the National Cancer Survivorship Initiaive in the UK. The results of this study will help with planning specific interventions to improve the quality of life of those patients who live with and beyond cancer.

IGCSM-1191
Poster Shift II - Cervical Cancer

CONCURRENT CHEMORADIOTHERAPY FOR NONBULKY STAGE IB/II CERVICAL CANCER WITHOUT PELVIC NODE ENLARGEMENT

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Aims
Concurrent chemoradiotherapy (CCRT) has not been extensively studied in patients with small cervical cancer tumors with no pelvic node enlargement. The aim of this study is to clarify the clinical usefullness of CCRT for nonbulky cervical cancer without pelvic node enlargement.
Methods
We retrospectively analyzed 55 patients with stage IB1–IIB cervical cancer and tumors of ≤40 mm with no pelvic node enlargement treated with CCRT using cisplatin.
Results
Cancer recurred in seven patients. Patient age (≤63 years) was identified as an independent factor for better disease-free survival (DFS) (p=0.027), and tumor size (≥25 mm) had a tendency to correlate with reduced locoregional DFS (p=0.089) by the Cox hazard model. Among patients aged 63 years or less, cancer recurred in five out of 18 patients with tumors of ≥25 mm, but in only one of 10 patients with tumors of ≤24 mm.
Conclusion
In patients with stage IB1–IIB cervical cancer and small tumors with no node enlargement, CCRT may provide better disease control for these aged 63 years or less and with tumor size 25 mm or more.

IGCSM-1212
Poster Shift II - Cervical Cancer

VAGINAL GIANT CONDYLOMA IN PREGNANCY MIMICKING CARCINOMA: A CASE REPORT

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Aims

Sensitive detection tests HPV DNA indicate that 30% of sexually active adults may be infected; a similar rate is seen in pregnancy. Genital wart is clinical manifestation of low risk HPV types 6 and 11 and often increases size and number during pregnancy. Occasionally, condyloma in pregnant which becomes large, macerated require surgical excision after first trim.

Methods

Reporting a 24 years old pregnant. Her ultrasonic examination revealed 21 weeks fetus without any abnormality. Serologic tests including HBSAg-HBSAb-HCVAb-VDRL-HiV all negative. Physical examination, had a 10 * 7 cm cauliflower tumor mass protruding from vagina and scattered, multiple small warts on mons pubis, Labia major & minor sub urethra, perineum and peri-anal regions. Endoscopy was normal HPV-DNA typing by PCR showed type 6& 11. Pap smear was normal.

Results

The common symptoms of genital warts:

Red, pink or gray-colored cauliflower-shaped lesions in genital and area that looks raised or flat .These bumps may grow large clusters, expand into huge masses rapidly. An increase in moisture and dampness in the infected area, vaginal fluid excretion.

Pain and bleeding during and after sexual intercourse.
Discomfort and itching in the affected areas. This is common confused for a simple rash. A burning sensation in the genital and region.

Conclusion

Condyloma acumintum is morphologic manifestation of HPV infection in the lower genital treat.
Giant condyloma is seen in immuno suppress situation like pregnancy. Surgical excision is good treatment for giant vaginal condyloma.

The key to fighting genital warts is prevention, early detection, immediate treatment.

IGCSM-1214
Poster Shift II - Cervical Cancer

INFLUENCE OF DIFFERENT TREATMENT MODALITIES ON THE PROGNOSIS OF LOCALLY ADVANCED UTERINE CERVICAL CANCER IN EGOG(ECHIGO GYNECOLOGIC ONCOLOGY GROUP)STUDY

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Aims
To investigate the *prognosis* of different *treatment modalities for* locally advanced uterine cervical cancer among 5 institutions of EGOG(Echigo Gynecologic Oncology Group)in Japan.
Methods
We retrospectively analyzed the initial treatment approach, complications and prognosis of locally advanced FIGO IB2 and IIB cervical cancer among 5 institutions of EGOG based on medical record from 2008 to 2012.
Results
We collected total 145 patients consisted of 61, 37, 22, 14 and 11 patients from each hospital, respectively. There is no statistically difference in the patient with non-SCC and with nodal metastasis between each institution. For initial treatment, radical hysterectomy (RH) was performed in 66%, 38%, 9%, 86% and 55% of patients in each, and 3 years overall survival (OS) were 84%, 74%, 59%, 92% and 75%, respectively. The incidence of ileus and lymphedema was actually around 10% in each institution. Prognostic analysis between RH and concurrent chemoradiotherapy (CCRT) groups revealed that RH group had a statistically better prognosis than CCRT group in 5 year OS, 85.8% and 59.4%, respectively ($p=0.031$). On the other hand, RH group had a higher rate of cases with nodal metastasis than CCRT group (43.2% and 31.3%, $p=0.108$), and with non-SCC(40.3% and 7.8%, $p<0.001$), respectively.

Conclusion
We found that RH as initial treatment for locally advanced uterine cervical cancer led to a favorable prognosis compared with CCRT in a retrospective cross-institutional analysis in Japan.

IGCSM-1216
Poster Shift II - Cervical Cancer

DYSREGULATION OF MICRORNA EXPRESSION IN ADENOCARCINOMA OF UTERINE CERVIX : SURVIVAL ANALYSIS WITH MIR-363-3P

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Aims

Adenocarcinoma (ACA) of the uterine cervix has continuously increased in incidence and has accounted for up to 20%. Although microRNA (miRNA) has been presented to be potential biomarkers of cervical cancer, it is rare to study the relevance of miRNA in ACA. In this study we characterized miRNA expression profiles and determined whether miRNA can predict the prognosis of ACA.

Methods

MiRNA microarray was used to evaluate the genome-wide expression profiles of ACA. Ten candidate miRNAs were selected and their expression features were validated in independent samples, ACA (=45) and normal control (n=10), including SCC (n=15) with qRT-PCR. The association between miRNA and prognosis was analyzed in patients with ACA.

Results

Microarray analysis presented 86 miRNAs were dysregulated more than 2.0-fold ($p<0.05$) in ACA relative to normal tissues of the uterine cervix. We selected miR-15b, -135b, -192, -194, -363-3p out of 34 upregulated miRNAs and miR-125b, -195, -199b, -424, -455-3p out of 52 downregulated miRNAs and confirmed their similar expression patterns in the validation set. MiR-135b, -192, and -194 were elevated specifically in ACA and miR-363-3p, -195 and -199b were significantly associated with conventional prognostic factors. Upregulation of miR-363-3p more than 2.5-fold relative to normal control strongly predicted better prognosis (HR, 0.084; 95% CI, 0.009-0.779) after adjusting confounders.

Conclusion

ACA has a characteristic profile of miRNAs among which miR-363 is an independent better prognostic factor. Those miRNAs are supposed to be useful as cancer-biomarkers for diagnosis and treatment of ACA.

IGCSM-1217
Poster Shift II - Cervical Cancer

AWARENESS AND KNOWLEDGE ABOUT HUMAN PAPILLOMAVIRUS INFECTION AND VACCINATION AMONG WOMEN IN UAE

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Aims

The aim of our study was to assess the knowledge of women regarding HPV infection and vaccine in UAE.

Methods

A cross-sectional survey of 640 women aged 18-50 years was conducted in Al-Ain district in UAE using convenience sampling. Women with previous diagnosis of cervical cancer, non- residents of UAE, younger than 18 or older than 50 years of age and those unable to speak Arabic or English were excluded from the study. Logistic regression analysis was performed to assess the association of HPV knowledge with independent factors like age, education etc.

Results

Only 29% of our sampled women have ever heard of HPV infection. Only 15.3% women recognized it as STI. Only about 22% women have also heard of the HPV vaccine. Three quarter of the women in our study thought that cervical cancer can be prevented. About 28% recognized vaccine as a preventive measure against cervical cancer. Age (AOR 1.049, 95%CI 1.02-1.08) and husband's level of education were found to be significant (p value 0.015) after adjusting for women's age.

Conclusion

The knowledge of HPV infection and vaccine is low in the UAE. Few women recognized HPV as sexually transmitted infection. Increasing age and husband's education are associated with better knowledge of HPV infection.

IGCSM-1222
Poster Shift II - Cervical Cancer

CONCURRENT CHEMORADIATION THERAPY CONFERS BETTER SURVIVAL OUTCOMES IN PATIENTS WITH LOW BASELINE HPV TITRES.

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Aims

HPV positive cervix tumours are known for favorable outcomes. The present study explores difference in outcomes of cervical cancer patients treated by radiation alone and concurrent chemoradiation (CTRT) based on baseline HPV titres.

Methods

Pre-treatment HPV titers were quantified with HPV DNA Hybrid Capture II assay from 82 patients (Stage I-5, II- 49, III- 24, IV- 4) on teletherapy (50-50.40Gy/25-28fr/ 5-5.5weeks). 40 patients received platin based CTRT. Local response was evaluated as complete (CR) and partial response (PR) at 1month post treatment and survival outcomes - local disease free (LDFS), disease free (DFS) and overall survivals (OS) were evaluated between HPV titres and treatment group.

Results

Sixty patients achieved CR at end of treatment. Of various demographic features, mean HPV titres was significantly higher for patients achieving CR (mean$\pm$SD: 1166.58 $\pm$ 1021 vs. PR 616 $\pm$747, p = 0.024). Using 1000 RLU as cut off, 39 patients were classified into high titer HPV while 43 in low titer HPV group. The HPV titres for patients treated by RT alone vs. CTRT was median: 1140.65; mean$\pm$SD: 11380$\pm$954.3 vs. 546.80; 893.79$\pm$1007.3 respectively. At median follow up of 46.5 months (range 1-143), patients with low baseline HPV titre value treated by CTRT had significant better survival (LDFS, p= 0.020; DFS, p= 0.002; OS, p=0.001) while addition of chemotherapy did not much influence outcomes in those with high baseline HPV titres (LDFS, p=0.001; DFS, p=0.323; OS, p=0.725).

Conclusion

HPV status may be used as marker to optimize treatment of patients with cervical cancer.

IGCSM-1223
Poster Shift II - Cervical Cancer

ROLE OF COMPLETION SURGERY AFTER RADICAL CHEMORADIATION FOR BULKY AND ADVANCED STAGE CARCINOMA CERVIX

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Aims

To study the role of completion hysterectomy in patients with bulky and advanced stage cancer cervix after radical chemoradiation therapy with respect to survival and morbidity.

Methods

A retrospective analysis of patients with bulky cervical cancer treated with chemoradiation followed by completion hysterectomy from 2006-2009 .These patients were compared to control group of patients with similar stage of disease who did not undergo surgery after radiation with respect to Disease free survival(DFS) and Overall survival (OS) .

Results

Among those who underwent surgery, the reasons for surgery were bulky pretreatment disease(45.3%), residual disease(47.6%) and other reasons like atypia and midline recurrence(7.2%).The post operative biopsies in this group were residual disease present (32.6%),disease absent (34.9%),regenerative changes or radiation induced changes (32.6%). The recurrence rates in both the groups were 9.3% and 11.4%(p-1.00).). Inspite of about a third of the patients who underwent surgery being biopsy positive, the Median Disease free survival was 48 months in both groups p value= 0.492 which was not significantly different.

Conclusion

Completion surgery does not improve either disease free survival or overall survival in our series of patients. Currently there seems to be no significant role to offer hysterectomy after radiation in cervical cancer.Further chemotherapy or tailored surgery may be an option in select patients with residual disease

Conflict of interest
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IGCSM-1230
Poster Shift II - Cervical Cancer

JUDGING ASCUS AND LSIL FOR THE RISK OF MALIGNANCY

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Aims

Predicting the carcinogenesis period of cervical intraepithelial neoplasia (CIN) is difficult and these patients are in need of a good follow-up schedule. By the earlier infectious transmission of human papillomavirus (HPV) we aimed to analyse patients with CIN 3 under 30 years.

Methods

A total of 26 conization patients with the result of CIN3 under 30 years operated between 2008 and 2013 at the Gynecologic Oncology Department of Zekai Tahir Burak Women's Health Education and Research Hospital were evaluated retrospectively.

Results

We analyzed a total of 237 patients with CIN3, 26 (11%) of them were under 30 years. Minimum age of patients was 22 and maximum age was 29. Three patients with CIN3 were having atypical squamous cells of undetermined significance (ASCUS), five patients with CIN3 were having low grade squamous intraepithelial lesion (LSIL). High grade squamous intraepithelial lesion (HSIL) was the most common cervical smear pathology. Additionally HPV 16 was the most commonly detected genotype. All of the ASCUS patients and most of the LSIL patients were HPV 16 positive. All of them were over 24 years old. High grade cervical smear pathologies and HPV 16 were significantly more common for CIN3 lesions ($p<0.05$).

Conclusion

ASCUS and LSIL should be in close follow up in mid-aged woman. Although they are generally low risk pathologies with a self limited infection, we offer HPV testing or routine cervical colposcopy for all young patients over 24 years with cervical smear abnormalities.

IGCSM-1232
Poster Shift II - Cervical Cancer

NEGATIVE ASSOCIATION OF SINGLE NUCLEOTIDE POLYMORPHISMS IN STAT2/STAT3/IFN-GAMMA GENES WITH CERVICAL CANCER SUSCEPTIBILITY IN CHINESE HAN WOMEN IN HUNAN

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Aims

Interferon-γ (IFN-γ)-Signal transducer and activator of transcription (STAT) pathway plays an important role in carcinogenesis related with virus infection. We aimed to evaluate the association of single-nucleotide polymorphisms (SNPs) in STAT2, STAT3, and IFN-γ with cervical cancer susceptibility in Chinese Han women in Hunan province.

Methods

Genomic DNA was extracted from peripheral blood samples of 234 cervical cancer patients and 216 healthy female controls. STAT2 and STAT3 genotyping was performed using polymerase chain reaction-restriction enzyme (PCR-RE) analysis. IFN-γ genotyping was detected by PCR-amplification of specific allele (PASA).

Results

The distribution of STAT2 rs2066807 genotype in the cases and controls was 93.5% GG, 6.5% CG and 94.0% GG, 6.0% CG, respectively (p=0.827). No significant difference was found in STAT2 rs2066807 allele frequencies between two groups (p=0.830, OR=1.09, 95% CI=0.51-2.31). The distribution of STAT3 rs957970 genotype in the cases and controls was 17.6% CC, 34.3% TT, 48.1% CT and 16.7% CC, 29.5% TT, 53.8% CT, respectively (p=0.455). No significant difference was found in STAT3 rs957970 allele frequencies between two groups (p=0.560, OR=0.92, 95% CI=0.71-1.20). The distribution of IFN-γ +874 A/T genotype in the cases and controls was 72.7% AA, 23.1% TA, 4.2% TT and 69.2% AA, 26.9% TA, 3.8% TT, respectively (p=0.652). No significant difference was found in IFN-γ +874 A/T allele frequencies between two groups (p=0.527, OR=1.12, 95% CI=0.79-1.59).

Conclusion

There is no obvious association between STAT2/STAT3/IFN-γ gene polymorphisms and cervical cancer susceptibility in Chinese Han women in Hunan.

IGCSM-1234
Poster Shift II - Cervical Cancer

A RARE NEUROENDOCRINE CARCINOMA OF THE UTERINE CERVIX METASTASISE TO THE BREAST: A CASE REPORT

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Aims
Metastasis to the breast from primary cervical cancer is an extremely rare clinical entity. Metastasis to the breast is more commonly from the ovarian cancer among gynaecologic cancer. Therefore making diagnosis of metastasis of the breast from primary cervical cancer is commonly missed. Herewith, we describe such a case in a 40 years old woman who had proven to have metastasis site on the right breast from the primary cervical cancer. The histopathology result of the breast cancer revealed a non keratinizing squamous cell carcinoma poorly differentiated, differential diagnose with neuroendocrine tumor consistent with a histopathologic result of the cervical cancer.
Methods
We performed HPV DNA test of the cervix and an immunohistochemical (IHC) staining for neuron specific enolase (NSE), cytokeratin 7 (CK7), estrogen receptor (ER), progesteron receptor (PR) of the breast cancer to differentiate whether it is primary tumor or metastasis site from cervical cancer.
Results
Our result showed that the tumor expressed NSE, CK7, and HPV DNA, bur negative expression of ER and PR, confirmed the diagnosis of metastasis site to the breast from the primary cervical cancer.
Conclusion
IHC staining for NSE, CK7, ER, PR, and HPV DNA test is important to differentiate metastasis site from cervical cancer and can give valuable information for appropriate treatment

IGCSM-1236
Poster Shift II - Cervical Cancer

ADVANCE STAGE CERVICAL CANCER WITH CARCINOSARCOMA: CASE REPORT

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Aims
Carcinosarcoma (CS) is a rare neoplasm that is called also as a mixed epithelial and mesenchymal malignancy, CS of the uterine cervix is much less common than its counterpart in the uterine corpus. Uterine cervical CS is one of the aggressive malignancies.
Methods
A 49-year-old, para 4 woman, living child 1, postmenopause 3 years prior to the presentation, was diagnosed as CS of the uterine cervix. Chemoradiation was planned on her. Portio was polypoid mass with diameter is 4.0 x 4.0 x 2.0 cm, infiltrated to 1/3 proximal left lateral vaginal wall and 1/3 left parametrium (left CFS : 70%, right CFS : 100%).
Results
Histologically, the tumor was identified as a squamous cell carcinoma and mesenchymal malignancy. Immunohistochemistry demonstrated cytokeratins (+) for epithelial component and vimentin (+) for mesenchymal component.
Conclusion

When a post-menopausal woman admitted to the gynecology department with a diagnosis of a cervical mass (polypoid mass) and vaginal bleeding, the clinician should aware of the possibility of carcinosarcoma.

IGCSM-1239
Poster Shift II - Cervical Cancer

CANCER OF UTERINE CERVIX : PATTERN AND OUTCOME FROM A REGIONAL CANCER CENTRE IN SOUTH INDIA.

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Aims

Audit of pattern and outcome of uterine cervical cancer patients

Methods

This is a retrospective analytic study of 1046 cervical cancer patients treated only in Regional Cancer Centre (RCC), Trivandrum, Kerala, India from January 2006 to December 2008. The survival rate was analyzed with the Kaplan-Meier method. Survival data between groups were compared with the Logrank test .

Results

1046 patients with cervical cancer were seen in RCC, Trivandrum, India during 2006-2008.The age ranged from 26 to 93 years with a mean of 56.7. Patients below 40 years were 5.3 % and above 70 years were 11.5%.

Among them, 22.1% had stage1, 31.7% had stage 2, 38.4% had stage 3, 6.4% had stage 4 and 1.2% had no data on stage. Chemoirradiation was the standard treatment in locally advanced cases and surgery in early cases. Four year overall survival probability was 65.2%. The probability of survival were 81.4%, 79.2%, 50.3% and 20% for stage 1, 2, 3 and 4 respectively. In the surgical group, the presence of positive pelvic nodes predicted worse prognosis of 76.2% compared to 90.9 % in node negative cases. In the older patients (above 70 years) survival probability dropped to 43% compared to 67.8% in 40-70 age group and 70.2% in patients younger than 40 years.

Conclusion

Most of the patients with cancer cervix present in locally advanced stage in our region.Results in Chemo- irradiation era appear similar to international reports.

IGCSM-1243
Poster Shift II - Cervical Cancer

IMPROVED DOSIMETRY OF RECTUM AND BLADDER WITH THE ADOPTION OF GEC-ESTRO GUIDELINES TO USE MRI FOR CERVICAL CANCER BRACHYTHERAPY

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Aims

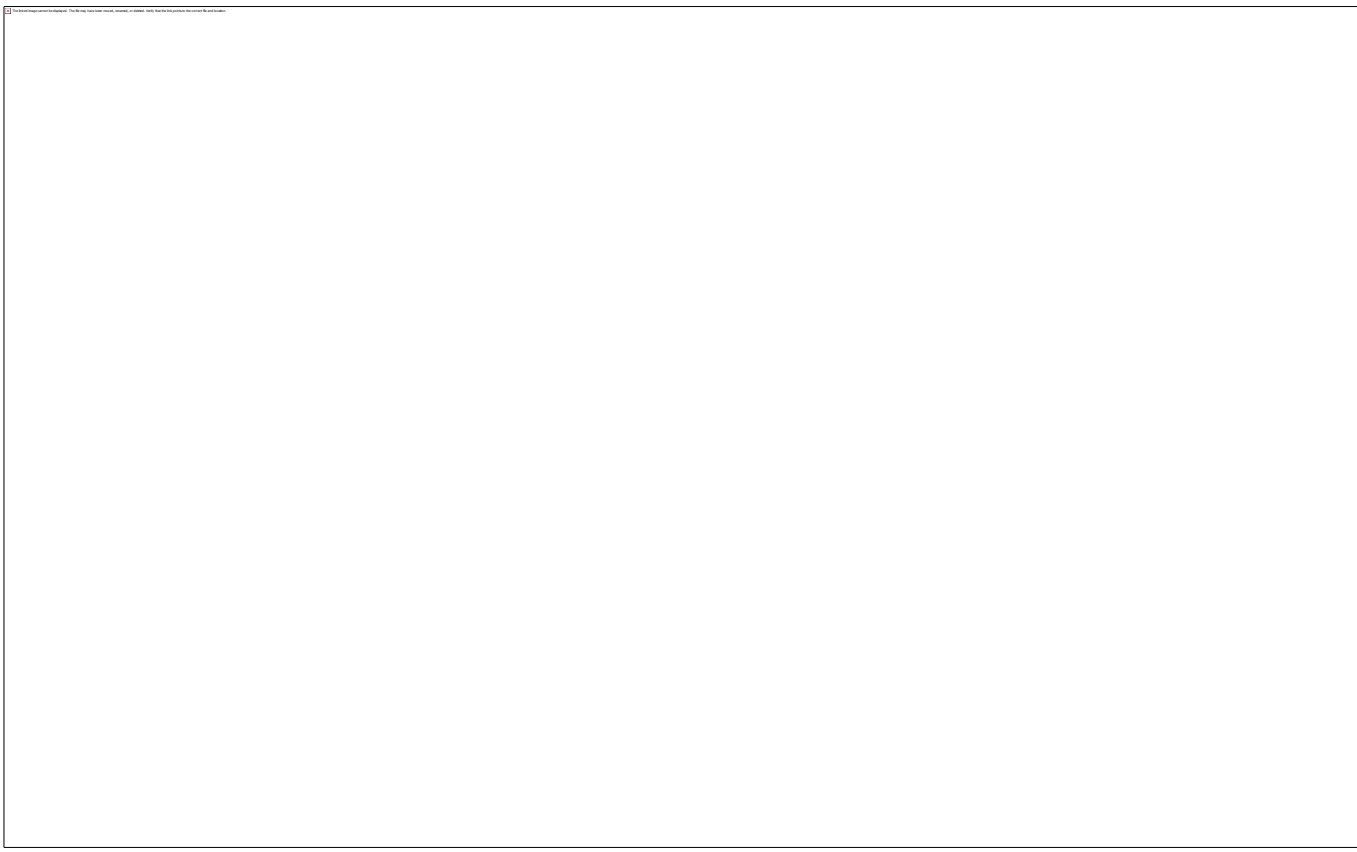
To assess the impact of MRI on the dosimetry of rectum and bladder for cervical cancer brachytherapy.

Methods

The treatment records of the patients treated between January 2006 and December 2013 were reviewed. From July 2011, the GEC-ESTRO guidelines were adopted and MRI was used for planning. The MRI data was collected prospectively. For the CT datasets, the rectum and the bladder were contoured retrospectively to derive the D2cc volume doses. Dose to ICRU reference points and EQD2Gy was recorded. The Oncentra planning system was used.

Results

A total of 69 patients were treated with HDR brachytherapy. Mean age was 61.6 yrs. FIGO stage distribution was as follows: IB-10, IIA-4,IIB-38,IIIA-2,IIIB-9,IVA-3, IVB-3. Fifty-four patients had SCC, 12 had adenocarcinoma and the rest had neuroendocrine tumours. 42 patients had CT planning while MRI was used in 27 patients. A total of 198 insertions were done. Three patients were excluded from analysis. The doses to the ICRU reference points and the D2cc volume doses are depicted in table 1. There were significant reductions in the doses to the ICRU reference points as well as the D2cc. Within the follow up period, no increased toxicity was noted.



Conclusion

Adopting the GEC-ESTRO guidelines is feasible and results in improved dosimetry of rectum and bladder. Further follow-up is needed to ascertain its impact on long term toxicity and disease control.

IGCSM-1265
Poster Shift II - Cervical Cancer

CORRELATION OF ABNORMAL CYTOLOGY WITH HISTOLOGICAL FINDINGS IN COLPOSCOPY GUIDED BIOPSY SPECIEMENS

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Aims

To evaluate the correlation between abnormal cytology and histological findings in colposcopy guided biopsy speciemens.

Methods

Study is conducted among 1094 women with abnormal cytology, between the years 2007 to 2014. Their histologies were reviewed by specific gynecopathologists by using Hematoxylin and eosin stain. Statistical analysis was done by using square test. P value of <0.05 was considered statistically significant.

Results

The mean age of the patients' was 37.01±9.79. Distribution of histological findings according to abnormal cytology is given in Table1.

Table 1: Correlation of abnormal cytologies with histological findings in colposcopy guided biopsy speciemens

		Histological findings					
		Normal	CIN-1	CIN-2,3	Microinvasive scc	Cervical carcinoma	Total
Abnormal cytology	ASC-US	294 (67.1)	64 (14.6)	78 (17.8))	2 (0.5)	-	438 (40)
	LSIL	134 (42)	101 (31.7)	81 (25.4)	1 (0.3)	2 (0.6)	319 (29.2)
	ASC-H	36 (43.9)	11 (13.4)	34 (41.5)	1 (1.2)		82 (7.5)
	HSIL	28 (13.7)	13 (6.4)	148 (72.5)	10 (4.9)	5 (2.5)	204 (18.6)
	AGC	27 (81.8)	2 (6.1)	2 (6.1)	-	2 (6.1)	33 (3)
	SCC	-	1 (5.9)	4 (23.5)	-	12 (70.6)	17 (1.6)
	AdenoCa	-	-	-	-	1 (100)	1 (0.1)
	Total	519 (47.4)	192 (17.6)	347 (31.7)	14 (1.3)	22 (2)	1094

Values are given as percentage (%)
P value: 0.000

Conclusion

The ideal approach in patients with abnormal cytology is colposcopic examination and biopsy should be taken if necessary.

IGCSM-1267
Poster Shift II - Cervical Cancer

HPV-16 GENOTYPING INFECTION IS THE MAJOR CAUSE OF CIN RECURRENCE IN NEGATIVE CONE MARGIN.

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Aims

A negative cone margin is a good prognostic factor for cervical intraepithelial neoplasia (CIN) treated surgically by conization. But recurrences in this clinical situation occurred in none negligible frequencies. And it is not established the factors associated with these recurrences.

Methods

One hundred and forty patients who underwent surgery (between July 2009 and February 2011) due CIN and negative surgical margins were analyzed. Clinical (age, tobacco consumption and parity) and pathological (histopathological diagnosis and glandular extension) factors and biomarkers (high risk HPV detection by COBAS test® in the pretreatment cytology and p16 imunoexpression in the surgical specimen) were evaluated by univariate and multivariate analyses to determine the predictors of recurrence in 2 years.

Results

Women had a median follow-up of 24 months (range: 0 – 37.8). There were 16 recurrences of CIN after treatment (11.4%). The disease-free survival at 2 years was 89.1% (95%CI: 83.4%-94.8%). After univariate analysis, positive HPV-16, tobacco consumption and age were considered for multivariate analysis. In multivariate analysis (Table 1), the single independent risk factor for recurrence was HPV-16 (HR: 13.6; 95%CI: 1.7 – 106.2; p=0.013).

Conclusion

The presence of higher risk HPV genotyping (HPV-16) is the major cause of CIN recurrence after surgical treatment, probably, due the difficult for this genotyping clearance.

IGCSM-1270
Poster Shift II - Cervical Cancer

WHAT IS THE REALITY UNDER THE POSTCOITAL BLEEDING IN PATIENTS WITH NORMAL APPEARING CERVIX ?

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Aims

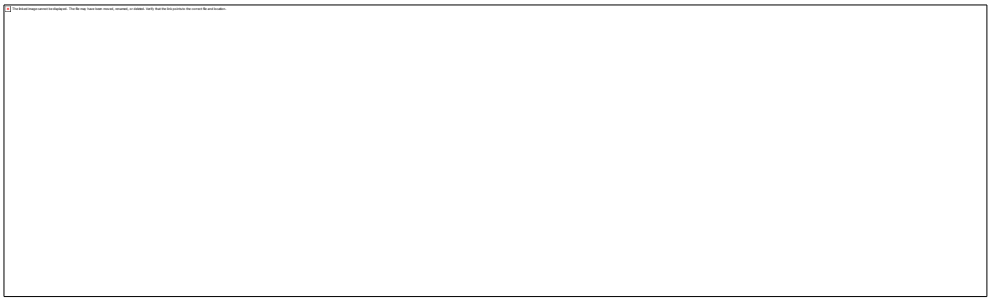
To evaluate patients with postcoital bleeding (PCB) by cytology, high risk humanpapilloma virus (hr-HPV) test and colposcopy guided biopsy.

Methods

237 women with PCB were subjected to cytology and colposcopy guided biopsy and 65 of these patients had additional hr-HPV test by using polymerase chain reaction analysis, between the years 2007-2014. All histologies were reviewed by specific gynecopathologist. Square test was used for statistical analysis. P value of <0.05 was considered statistically significant

Results

The mean age of the patients' was 38.80±7.41 years. Cytological and histological results, correlation of cytology and hr-HPV status with histology are given in Table 1 and Table 2.



Values are given as percentage (%)
P value: 0.000

Values are given as percentage (%)
P value: 0.004

Conclusion

Histology was found to be abnormal in 15 out of 123 women (12.3 %) with normal cytology. hr-HPV test missed 18 out of 65 (27.7 %) patients with PCB. Colposcopic examination and biopsy in necessary cases should be considered in patients with PCB even if cytology is normal and hr-HPV is negative.

IGCSM-1274
Poster Shift II - Cervical Cancer

THE VACCINE AND CERVICAL CANCER SCREEN (VACCS) PROJECT: SCREENING BEHAVIOUR OF ADULT WOMEN - A STORY OF MISSED OPPORTUNITIES

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Aims

Cervical cancer has been recognised as a leading cause of cancer related deaths amongst women in South Africa. Structured population-based screening for premalignant disease has been shown to reduce burden of disease and mortality. South Africa has a screening policy allowing all women three cervical smears per lifetime, starting at the age of thirty, at ten-year intervals. The aim of this study was to determine whether the combination of information on cervical cancer prevention and the administration of Human Papilloma Virus (HPV) vaccines to girls would have an impact on uptake of cervical cytology screening of their mothers or female guardians.

Methods

Mothers or female guardians of grade 4-7 girls in Primary schools in the Western Cape in South Africa were invited to an information event where participants received information about cervical cancer prevention and the daughters were offered HPV vaccination. Participants were invited to have cervical cytology at their local public health care facilities. Uptake of cervical screening over a one-year period following the information event was measured.

Results

The mean age of the 338 female participants was 39.9 years. Just more than 50% reported having ever had prior cervical screening. During the one-year following the information event, 48 women reported having had cervical screening. However, just 15 of these were confirmed at the National Health Laboratory Service.

Conclusion

Uptake of cervical screening by adult women following information on cervical cancer prevention and vaccination of their daughters remain poor in spite of perceived easy healthcare access.

IGCSM-1277
Poster Shift II - Cervical Cancer

A POOLED REVIEW OF EMBRYONAL RHABDOMYOSARCOMA (ERMS) OF THE CERVIX IN WOMEN OVER 18 YEARS OLD

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[2]Med. Engineering, CHU de Martinique, Fort-de-France, Martinique
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Aims

Cervical ERMS in adults is rare. There are no definite treatment guidelines. We review the literature to identify treatment options.

Methods

We searched cases with cervical ERMS aged 18 years or older diagnosed in our institution, and we searched PubMed for case reports for whom survival outcome was provided. Disease free survival (DFS time from therapy to event defined as recurrence or death) used Kaplan-Meier estimates.

Results

A total of 74 cases were identified, 2 in our institution, 72 through published case reports from 1953 to 2014. Patients' median age was 26 years (interquartile range 21-44). Tumor size was reported for 27 patients, median 4.5 cm, interquartile range 3.5-6 cm. The median follow-up was 3 years. Recurrences were reported in 17 cases at a median time to recurrence of 8 months. The DFS at 3 years was 79%. No significant differences were found according to surgery (limited vs. extended, Logrank P=0.607), radiotherapy (yes vs. no, P=0.135), or chemotherapy (yes vs. no, P=0.186). Higher age was significantly associated with a poorer survival. The DFS at 3 years was 87% among patients younger than 40 years, as compared with a 3-years DFS of 62% among patients aged 40 years or older, logrank P=0.017.

Conclusion

Early recurrences are of concern. Prognosis was particularly poor in middle aged women. However, the scarcity of case reports does not provide a sufficient basis for the

recommendation of a treatment strategy.

IGCSM-1289
Poster Shift II - Cervical Cancer

THE PLACE OF SEE TO TREAT IN THE PREVENTION OF CARCINOMA OF THE CERVIX IN DEVELOPING NATIONS.

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Background:

Worldwide, cervical cancer accounts for 8.5% of cancer deaths and majority occurring in the developing nations. Every two minutes a woman dies of cervical cancer.

The reasons for high cervical cancer burden in Africa and Nigeria in particular is our poor health seeking behaviour – "The Culture of Health Care and Disease only", poor screening strategy planning and implementation. Visual inspection with acetic acid (VIA) is a method of cervical cancer screening that is affordable, available, and accessible.

Cancer of the cervix has fulfilled the entire requirement for screening with a 10-15years precancerous stage.

Materials & Method:

It was an outreach on cervical cancer awareness, screening using the VIA method and treatment of all VIA positive cases with cryotherapy at the same sitting. The data generated were subjected to statistical analysis using the SSPS statistical package version 17.

Results

A total of 326women were screened in the community. The average age of these women was39.4yrs.The average age at sexual debut was 15years of age. Majority of these women had a parity ranging between 1 and 4.

The prevalence of cervical dysplasia using VIA method was (39) 11.9%.All were treated with cryotherapy.

None of the women that were screened has ever had of cervical cancer.

Conclusion

This method will help to reduce the prevalence and incidence of this scourge in our environment. A one time screening could potentially save more than 6,000 women

annually, adding treatment would much more reduce this disease burden, especially in our environment where we have poor health seeking behavior.

IGCSM-1291
Poster Shift II - Cervical Cancer

TRENDS IN INCIDENCE, HISTOLOGY AND STAGE OF CERVICAL CANCERS DETECTED OVER THE LAST DECADE IN WEST KENT

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Aims
There has been a gradual increase in cervical cancer cases in England with an incidence of 8.3 in 2003 and 9.8 per 100,000 women in 2009. 60% of the cases detected have been in women aged 25-49 years. The aim of this audit was to investigate the trend in the incidence, histological sub-type and stage of cervical cancers diagnosed in West Kent, England from 2004 to 2013.
Methods
A retrospective audit was undertaken of all cervical cancers diagnosed at the West Kent Gynaecological cancer-centre from 2004-2013. The data was divided into two five-year periods, 2004-'08 & 2009-'13. Comparisons were made with regards to number of cases, histology and stage between these two groups.
Results

436 cases of cervical cancers were identified with 62% (270/436) diagnosed in women aged 25-49years. There was a 22% increase in the number of cases in the 25-49 year age-group in 2009-'13 (n=167) when compared to 2004-'08 (n=103) with the maximum increase noted in the 25-29 year age-group (47%). The proportion of squamous cell carcinoma (69%) and adenocarcinoma (22%) for the 25-49 year age-group remained the same for the two time periods and the majority of the cancers diagnosed for this age-group were stage I (75% in '04-'08 & 85% in '09-'13).

Conclusion

There has been an increase in the number cervical cancer cases diagnosed over the last decade in West Kent, particularly noted in the 25-29 year age-group with no change in the stage at diagnosis or histological type.

IGCSM-1292
Poster Shift II - Cervical Cancer

LAPAROSCOPIC LATERALLY EXTENDED TOTAL PELVIC EXENTERATION FOR RECURRENT CERVICAL CANCER: A CASE REPORT AND VIDEO DEMONSTRATION

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Aims
To present the early clinical results as well as a video highlighting the main surgical aspects of a laparoscopic laterally extended total pelvic exenteration for recurrent cervical cancer

Methods
We summarized the intra and early postoperative data of a case related with a 39 yo woman affected by a recurrent cervical cancer confined to the pelvis yet with gross vulvar and inguinofemoral spreading as well as right pelvic sidewall involvement, who underwent a laparoscopic laterally extended total pelvic exenteration and vulvar reconstruction employing a gracilis myocutaneous flap.
We also edited a short video showing the key steps of this procedure

Results
Total surgery lenght was **15 hours** distributed as followed:
a) INITIAL LAPAROSCOPIC STAGE (peritoneal and pelvic assessment, lumboaortic lymphadenectomy, development of pelvic avascular spaces, pelvic lymphadenectomy, hypogastric arteries' ligation and section, rectosigmoid division, parametrectomy and cistectomy): **5 hours**
b) PERINEAL PHASE (vulvectomy along wiht a partial levator ani resection, selective inguinofemoral lymphadenectomy and vulvar reconstruction with a gracilis flap): 4 **hours**
c) LAPAROSCOPIC SECOND-LOOK (laterally-extended right pelvic sidewall resection due to a postive surgical margin on the primary specimen, pelvic hemostasis and end colostomy): **3 hours**
d) EXTRACORPOREAL-MADE ILEAL CONDUIT: **3 hours**
Estimated blood loss was 300 cc; there was no intraop transfusion
Hospital stay was 7 days, including four days in the ICU
The patient completed a uneventfull early postop course

Conclusion
Despite pelvic sidewall involvement, laparoscopic pelvic exenteration offers a feasible alternative to the open approach allowing a fast recovery and minimizing visible abdominal scaring
FOR VIDEO PRESENTATION

IGCSM-1296
Poster Shift II - Cervical Cancer

CORRELATION BETWEEN BIOLOGICAL MARKER EXPRESSION AND FDG UPTAKE IN CERVICAL CANCER MEASURED BY PET-CT.

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Aims

This study aimed to determine whether several biologic markers were associated with (18)fluorine-fluorodeoxyglucose ((18)F-FDG) uptake in patients with cervical cancer.

Methods

60 patients with FIGO stages IA2 to IIB cervical cancer, who underwent 18 FDG - PET/CT, were included in the current study. All patients underwent radical hysterectomy. Tumor sections were stained by immunohistochemistry for glucose transporter 1 (GLUT1), carbonic anhydrase-IX (CA-IX), vascular endothelial growth factor (VEGF), hexokinase type I (HK-I), hexokinase type II (HK-II), and cytoplasmic and nuclear hypoxia-inducible factor (HIF) 1α.

Results

The expression of GLUT1 ($p = 0.005$), VEGF ($p = 0.021$), HK-II ($p = 0.009$), and cytoplasmic HIF1α ($p = 0.024$) was significantly associated with a higher median standardized uptake value (SUVmax). There was a positive correlation between (18)F-FDG uptake and GLUT1 ($p = 0.008$), CA-IX ($p = 0.030$), HK-II ($p < 0.001$) as well as cytoplasmic HIF1α ($p = 0.016$), whereas this relationship was not observed among the VEGF, HK-I and nuclear HIF1α.

Conclusion

The data presented in this study indicate that (18)F-FDG uptake is associated with the presence of GLUT1, VEGF, nuclear HK-II, and cytoplasmic HIF1α. There was also a significant correlation among the rate of expression of GLUT1, HK-II, cytoplasmic HIF1α, and CAIX in cervical cancer.

IGCSM-1311
Poster Shift II - Cervical Cancer

CERVIX CANCER RECURRED AS HUGE PELVIC MASS 7 MONTHS LATER AFTER OPTIMAL COMPLETE PELVISCOPIC RH AND POSTOP CONCURRENT CHEMO-RADIATIN TREATMENTS .

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Aims ; 52 yesar old woman visited offic due to vaginal bleeding on 21th Aug. 2013. On physical examinatin 2cm cancerous mass on cervix was seen. Parametrium was free. Clinical diagosis was she Cervix cancer IB.
Method ; She received pelviscopic radical hysterectomy , bilatera salpingo-oophorectomy , pelvic and para-aortic lymphadenectomy on28th Aug. 2013. Pathologic diagnosis ws invasive squamous cell carcinoma, large cell nonkeratinizing 2.5cm, lymphovascular invaion(+), perineural invasion(+), metastasis in 5 out o 52 lymphnodes (left external iliac 2/5, left obturator 3/6), clear resection margin. She received concurrent chemo-radiation during Sep. ~ Nov. 2013.
Reult ; After treatment she was NED state. She received PET-CT on 19th Feb. 2014. Its result was no significant hypermetabolic lesion to suggest recurrent or metastasis.
She visited offic on 17th June for palpable abdominal mass and abdominal pain. On physical exam I checked over men`s fist size mass palpable on pelvic cavity. She did pelvis MRI. Its result was 12cm pelvic mass on pelvic cavity adjacent to bladder.
Conclusion ; On 9th July She received Exploratory laparotomy. There was huge hard mass in pelvic cavity and densely adhesion to bladder peritoneum and left pelvic wall. There was few seedings on pelvic and abdominal peritoneum. I did pelvic exenteration and after operation started Taxol - ciplatin chemotherapy.

IGCSM-1318
Poster Shift II - Cervical Cancer

HIGH RISK HPV E6/E7 MRNA (AHPV) AND HPV DNA (HC-II) DETECTION FOR CIN2+ IN WOMEN WITH ABNORMAL CERVICAL CYTOLOGY IN CHINA BEIJING

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Aims: To evaluate AHPV of HPV E6/E7 mRNA and HCII for HPV DNA in detection of CIN 2 or greater in women with abnormal cervical cytology in China Beijing.
Method: Colposcopy directed cervical biopsy was did in women with abnormal cervical cytology . AHPV of HPV E6/E7 mRNA and HCII for HPVDNA detection were applied.
Results: A total of 857 women with abnormal cervical cytology were included in this study .The mean age was 40.1 years (20-84 years). AHPV test was did in all cases and colposcopy directed biopsy was did in 691 cases. 196 cases were diagnosed as CIN 2 or greater by pathology.The sensitivity of AHPV was similar to that of HCII (87.5% vs. 95.8%) in detection of CIN 2 or greater in women with abnormal cervical cytology, the specificity of AHPV was significantly higher than that of HCII (33.1% vs. 8.1%)($P<0.01$), PPV of AHPV and HCII was 31.2% and 26.5% respectively and NPV of AHPV and HCII was almost same (88.5% and 84.8%). The specificity of AHPV was significantly higher than that of HCII (30.1% vs. 5.1%, 35.7% vs. 13.1%) in detection of CIN 2 or greater in ASC-US and LSIL cases diagnosed by cytology.
Conclusion: AHPV for E6/E7 mRNA assay is advantageous over HCII for HPV DNA in detection of CIN 2 or greater. AHPV can be applied in triage management of ASC-US and LSIL.

IGCSM-1320
Poster Shift II - Cervical Cancer

PREVALENCE AND RISK FACTORS THAT AFFECT VIA RESULT IN JAKARTA FROM 2007-2011

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Background and Aim: Cervical cancer is still the 2nd most frequent cancer in in Indonesia that almost 15,000 women were diagnosed every year and half of them died from the disease.[1-4] Therefore screening program is still important to prevent it. Inspection with acetic acid (VIA) is introduced as an alternative method that more suitable with indonesia's condition . The Female Cancer Program (FCP) from Jakarta Regional in 2007-2011 has done cervical cancer screening involving 25.554 correspondents spreading across several primary health centers in Jakarta. By using these data, we can find out the prevalence and risk factor of VIA positive in Jakarta as a basis to predict the budget and logistics for the next cervical cancer screening and to do an advocation to the Jakarta's government.

Methods: An Observational study using data from FCP that conducted at several areas in Jakarta from 2007-2011.VIA was used as the screening method, and performed by doctors and midwives with technical supervision by gynecologists.

Results: There were 25.554 correspondent screened with VIA. 148 women were excluded because of incomplete data. From 25.406 correspondents, there were 1192 cases (4,5%) of VIA test positive. The risk factors that significantly ($p<0,05$) can influence the result of VIA positive were number of marriage, parity, smoking and the use of hormonal contraception with OR 1,51;1,85;1.95 and 0,68 respectively.

Conclusions: Prevalence of VIA test-positive is still high in Jakarta population and number of marriage, parity, smoking and the use of hormonal contraception can influence the result of VIA.

IGCSM-1323
Poster Shift II - Cervical Cancer

PARENT'S WILLINGNESS TO HPV VACCINATE FOR BOYS AND GIRLS

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Aims and objectives. The aim of the study is to determine the willingness of parents who have daughters and/or sons aged 10-13, in the target age group, to the HPV vaccinate for their children.

Background. Although parents support HPV vaccination for their children, the rates of vaccination vary among populations from different socio-cultural and religious backgrounds.

Design. This research was conducted as a descriptive study in Turkey.

Methods. Sampling group of the study consisted of parents of 532 children aged 10-13. A total number of 368 (69.1%) parents who completed the questionnaire and accepted to participate in the study together were included in the study.

Results. Of mothers 26.9% and 25% of fathers stated that they had heard about HPV infection; and 24.5% of mothers and 21.2% of fathers stated that they had heard about the HPV vaccine. 14.4% of mothers and 15.5% of fathers were willing to vaccinate their daughters. 21.6% of mothers and 22.4% of fathers were willing to vaccinate their sons if the vaccine was available.

Conclusions. In this study only a few of the parents had heard about the HPV vaccine, and only a few of them mentioned that they had the intention to vaccinate their daughters and if available their sons against HPV. It is thought that males and females should be informed about the HPV infection and vaccine, while initiatives about increasing the awareness and information of the healthcare professionals should be encouraged.

Key words; HPV vaccination, parents' willingness, target group

IGCSM-1329
Poster Shift II - Cervical Cancer

OPERABLE EARLY STAGE CANCER OF THE CERVIX AT PRETORIA ACADEMIC HOSPITAL

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Background: Cervical cancer, the most common cancer amongst Black African women in South Africa; is diagnosed at later stages than in the developed world. Surgery for smaller early stage disease is standard and results in excellent survival, but management of large operable tumours remains controversial. Multimodality treatment reduces recurrence rates, but increases costs and complications.

Objective: The objectives of this audit done at the Pretoria Academic Hospital complex were to establish frequency and predictability of adjuvant therapy after surgery for cervical cancer.

Methods: Patients operated by members of the gynaecologic oncology unit from January 2008 to December 2012 were eligible. Data collection included epidemiology, pre-operative clinical factors and staging, histology findings, risk factors for recurrence and the need for adjuvant treatment.

Results: 190 patients meeting the inclusion criteria and who had complete data were included. Histology types were squamous (72.1%), adenocarcinoma (18.4%), adenosquamous (4.2%); and other (5.7%). In total 51.5% (n=98) of patients were referred for adjuvant therapy based on standard criteria; 38.3% for stage Ib1, 68.7% for stage Ib2 and 70.3% for stage IIa. The need for adjuvant treatment could not be determined accurately using pre-operative information.

Conclusion: Tumour size and stage correlated with higher referral rates. Primary surgery remains feasible for patients with large central tumours in resource restricted settings and reduces the burden on radiation equipment. The need for multimodality treatment is not predictable; this may be important to ensure optimal tumour control.

IGCSM-1330
Poster Shift II - Cervical Cancer

TYPE SPECIFIC HRHPV PERSISTENCE AFTER TREATMENT OF HGSIL IN A HIGH RISK POPULATION

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Background

Cervical cancer is caused by persistent hrHPV infection and intraepithelial neoplasia. Treatment by LLETZ should prevent progression to cancer. We aimed to determine persistent or re-infection with hrHPV among high-risk women following LLETZ treatment for HGSIL.

Methods

Women (18-65 years) referred for treatment of HGSIL on screening cytology was included. Data on demographics, immunity, pathology and HPV types were collected before and 8-16 weeks after LLETZ procedures.

Results

151 patients were recruited; complete data were available for the first visit in 146 and both visits in 141. 125 patients were HIV positive (86%), 98 were on treatment and 87 had a CD4 count <400. 46% margins were positive; 81% had HGSIL and 2.7% invasive cervical cancer on histology. Among twice tested women, 125 were positive for hrHPV on the first test; 101 remained positive at follow up. In order of appearance, types 52,16,35,45 and 18 were the most prevalent initially and 52,16,18,58,45, and 35 on second specimen. HPV18 increased (by 14%) and persisted most (57%); HPV33 increased (15%), while prevalence of types HPV52(19%) and 45(28%) decreased by less than a third. HPV16 (37%), 58(38%) and 35(45%) decreased most; 43% still had infection with multiple types. CD4 count did not predict hrHPV persistence or new incident infections.

Conclusion

HPV infection with the most carcinogenic HPV types was common before and after LLETZ treatment in this high risk population. Persistence, new infections and infections with multiple types of hrHPV predicts a very high risk of recurrent HG lesions in this population.

IGCSM-1331
Poster Shift II - Cervical Cancer

DIFFERENT HPV TYPES DETECTED AMONG HIV-INFECTED VERSUS HIV-NON-INFECTED SOUTH AFRICAN WOMEN WITH HISTOLOGICALLY CONFIRMED CIN II/III

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Background and aims: Data in Africa is lacking on the relationship between oncogenic human papillomavirus (HPV) types, immune status and cervical pre-invasive lesions. The aims included assessing HPV serotypes present in patients with biopsy-confirmed cervical intraepithelial neoplasia (CIN) and to compare HIV-infected- and -non-infected women and describing the prevalence of high-risk HPV types as immune function deteriorates, indicated by CD4 cell count and duration on antiretroviral (ARV) therapy.

Methods: In a cohort women with CIN II/III confirmed on histology, in an urban setting with a high prevalence of HIV infection, we report low-risk (lrHPV) and high-risk HPV (hrHPV) types found with the DNA analysis, CD4 count and ARV use.

Results: Among 270 women with confirmed CIN II/III, 45 were HIV-negative and 225 HIV-positive. HIV-infected women had significantly more HPV type infections, including all HPV ($p<0.001$) and hrHPV ($p=0.014$) types. The prevalence of one or more hrHPV type/s was 93.3% and 92.9% in HIV-negative and –positive patients respectively. Most prevalent hrHPV type among HIV-negative women was HPV 16, followed by HPV 52, 31, 35 and 58. Among HIV-positive women HPV 16 was followed by HPV 58, 35, 51 and 52. The prevalence and type distribution differed among women with CD4 count ≥200 and <200 as well as duration of ARV usage.

Conclusions: In South Africa, burdened by the HIV pandemic, high numbers of high- and low-risk HPV type infections are present in women with cervical pre-neoplasia. HPV type distribution differs among varying levels of HIV-induced immune depletion.

IGCSM-1337
Poster Shift II - Cervical Cancer

ONCOLOGICAL AND FERTILITY OUTCOMES FOLLOWING SIMPLE VAGINAL TRACHELECTOMY FOR EARLY STAGE CERVICAL CANCER.

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Objective: To evaluate oncological and fertility outcomes following simple trachelectomy and node assessment for for early stage cervical cancer.

Methods: Twenty five patients from September 2004 to September 2012 underwent a simple vaginal trachelectomy preceded by pelvic lymph node dissection in 17 patients. Data examined retrospectively and patient questionnaire used to complete collection.

Results: Median age was 30 years with 48% nulliparity. Eleven had diagnostic cone, 5 had loop electrocautery excision and 9 had cervical biopsies. Preoperative magnetic resonance imaging utilized in 22 patients. Seven had stage 1A1, 5 had 1A2, 11 had 1B1 and 2 had stage 1B2. Adenocarcinoma was diagnosed in 10, squamous lesion in 7, adenosquamous in 4, adenosarcoma in 2 and neuroendocrine in 2 patients. On final histopathology 15 patients had no residual disease. In the 10 patients with disease; 4 were LVSI positive and 2 had disease extending to the margins. Two had positive pelvic lymph nodes. One patient underwent total laparoscopic hysterectomy with chemo/radiation and 3 treated with chemo/radiation. Median follow up was 54 months with no recurrences. However 1 patient underwent a hysterectomy on suspicion of recurrence with no disease on pathology. Ten patients (52%) expressed intention to conceive with 10 pregnancies in 6 (60%) patients resulting in 5 live births at term. There were 2 miscarriages and 1 ectopic pregnancy.

Conclusion: Simple vaginal trachelectomy and nodes appears to be a feasible treatment option. However larger studies are required to evaluate long term risks given outcomes are generally excellent in early cervical cancer.

IGCSM-1338
Poster Shift II - Cervical Cancer

PROGNOSIS OF PATIENTS WITH CERVICAL CANCER DIAGNOSED DURING PREGNANCY.

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Aims

Invasive cervical cancer is common amongst women of 20 to 40 years of age. A coincidence of cervical cancer and pregnancy is rising. The aim of our study is to compare the prognosis of cervical cancer patients diagnosed during and outside of pregnancy.

Method

Six European centers included 132 patients diagnosed with cervical cancer during pregnancy from a period 1990-2012. Each center matched its patient with 2 controls by age, stage and primary treatment modality. Information regarding demography, histopathological data, method of diagnosis, place of recurrence, mode of delivery and date of recurrence and death were recorded. Survival analysis was performed by Kaplan–Meier product-limit.

Results

Mean age at diagnosis during pregnancy was 33.7 years, diagnosed at a median of 18th week of pregancy. During pregnancy 13.33 %, 0.74 %, 46.67 %, 18.53 % and 19.99 % were diagnosed at stages IA1, IA2, IB1, IB2 and higher stages. The patients have been diagnosed at earlier stages. At median follow up of 49.4 months PFS as well as OS were not statistically significantly different between both groups. 17.4 % underwent surgical treatment during pregnancy, 16.7 % received neoadjuvant chemotherapy, 17.4 % delayed their treatment till delivery, 22 % were delivered prematurely and 26.5 % of patients underwent termination of pregnancy followed by standard treatment.

Conclusion

The prognosis of patients diagnosed with cevical cancer during pregnancy is similar to those diagnosed outside of pregnancy.

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IGCSM-1339
Poster Shift II - Cervical Cancer

KAP STUDY ON SCREENING FOR CARCINOMA CERVIX AMONG FEMALE DOCTORS OF A TERTIARY CARE HOSPITAL.

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Introduction - Cervical cancer is one of the common cancers among females. Its contribution to cancer burden is significant across all culture and economics. Pap smear is a reliable, inexpensive and effective screening test for cervical cancer.

Aim

To assess knowledge, attitude and practices (KAP)for screening of cervical carcinoma amongst female doctors of our hospital.

Method

A cross sectional study was conducted among female doctors at AIIMS, Rishikesh (August 2014). The demographic characteristics, knowledge, attitude and practices were evaluated with the help of predesigned questionnaire; validated by the opinion of two experts.

Results

Total 34 female doctors participated in this study .Most of the doctors were 19-34 years (83%) and sexually active (53%).Though majority had knowledge (average score =68%) and positive attitude (average score =75%) towards cervical cancer screening test, but were not practicing it due to shyness and thought it was not required .The major source of information were books (76 %) and internet (63%). All the participants were aware of the available vaccine but majority of them were not vaccinated. Eighty three per cent opted for more information regarding cancer cervical screening test and vaccine.

Conclusion

This study showed, inspite of having good knowledge and positive attitude, practices of cervical cancer screening test among doctors were very less .It is recommended that activities to encourage regular screening of our own doctors should be promoted and they should be regularly updated.

IGCSM-1344
Poster Shift II - Cervical Cancer

THE VACCINE AND CERVICAL CANCER SCREEN PROJECT: LINKING CERVICAL CANCER SCREENING TO A TWO DOSE HPV VACCINATION SCHEDULE

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Background and aims

Cervical cancer is a preventable disease with high prevalence in South Africa where screening is opportunistic. Primary prevention is possible through HPV vaccination. The aim of this study was to investigate the feasibility of linking HPV self-testing with a two-dose HPV vaccination schedule.

Methods

The project was conducted in five primary schools in the South Western district of Tshwane, South Africa. Leaflet information about cervix cancer and screening was provided with requests for consent for HPV vaccination of school girls.

Results

Of 965 girls invited for vaccination, 519 girls (54%) had full consent of which 506 girls (97.5%) received the first vaccine dose. The invited uptake rate was 52.4% and 494 girls (97.6%) received both doses. The vaccine completion rate was 97.6% for one dose and 95.2% for two doses.

Of 1135 self-screen kits handed out, 560 (49%) were not returned, while 160 women (14%) participated in self-screening. Their mean age was 36.98 (SD = 9.7). HPV testing was negative in 116 women (72.5%), 15 women (9.4%) tested positive for HPV 16 and/or 18 and 27 (16.9%) were positive for non 16/18 oncogenic HPV.

Conclusion

Data from the VACCS projects suggests that school based vaccine programmes can be successfully implemented in suburban areas. A two-dose schedule would allow for higher completion rates and more girls to be vaccinated. Linking self-testing HPV screening to HPV vaccination is feasible and is a promising and viable screening strategy.

IGCSM-1351
Poster Shift II - Cervical Cancer

THE PREVALENCE AND GENOTYPES DISTRIBUTION OF HUMAN PAPILLOMAVIRUS (HPV) INFECTION IN CERVIX OF WOMEN FROM DOWNTOWN

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Aims, To investigate the condition of HPV infection and genotypes distribution among women from downtown Tianjin, China.
Method, A cervical cancer screening program for 2000 women aged from20 to 70 years old was developed in downtown Tianjin from April to October in 2013. The screening program included Thinprep cytologic test (TCT), detection of HPV infection and genotypes by nest PCR combining Pyrosequencing technology for 20 HPV types using cervical cells sample. Further colpscopy and biopsy diagnosis were needed if TCT reported greater or equal ASCUS.
Results, 1978 women were enrolled in our final study: 291 of them (14.71%) were tested positive for HPV. Of HPV positive women, 85.58% and 14.42% had high- and low-risk HPV genotypes, respectively. 29 HPV types were detected and the most common HPV genotypes were HPV16, 58, 18, 66. The rate of single infection was 92.28% among HPV positive samples while the multiple infection was only 7.72%. HPV16 was the most common types among multiple infection models.
Conclusion, Pyrocequencing technology is a suitable cervical cancer screening program considering its advantage in the genotyping of HPV, including easy, quick, effectivel high throughput and low-cost. There was a high prevalence of HPV infection in downtown Tianjin and HPV16, 58, 18, 66 were the most common HPV types. There was geographical heterogeneity on distribution of HPV genotypes.

IGCSM-1352
Poster Shift II - Cervical Cancer

THE RELATIONSHIP BETWEEN HPV16 INTEGRATION AND CERVICAL LESIONS

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Aims, to find a simple and effective way to detect HPV16 infection and its physical status simultaneously, and to explore the relationship between the existential status of HPV16 and cervical lesions.

Methods 150 patients of cervical lesions were enrolled in our study from June, 2010 to December, 2011. They were all infected with HPV by HC2 test, and the corresponding pathological results of biopsy were acquired. The HPV infection and the HPV16 E2, E6 gene expressions were determined by multiple-PCR, and the physical status of HPV16 were evaluated by analyzing E2/E6 ratio.

Results 115 samples (76.67%) were infected with HPV16. For cytological results, the ratio of HPV16 infection and integration were 53.45%, 82.98%, 100%, 100% and 0, 28.20%, 38.10%, 70.83% in WNL, ASC, LSIL and HSIL respectively. The integration ratio in ASC, LSIL and HSIL were significantly higher than that in WNL. For pathological results, the ratio were 68.0%, 66.67%, 82.61%, 83.33%, 84.00% and 2.94%, 11.11%, 15.79%, 30.0%, 66.67% in normal/inflammation, CIN?, CIN?, CIN?, and cervical cancer respectively. The integration ratio in CIN?, CIN? and cervical carcinoma were higher than that in CIN I and normal cervical tissue, and the difference was statistically significant ($P < 0.05$).

Conclusion The integration ratio of HPV16 was strongly associated with the severity of cervical lesions. The integrated form of HPV16 was an important risk factor for the rogression of cervical cancer.

IGCSM-1353
Poster Shift II - Cervical Cancer

COMPARING VAGINAL AND PARAMETRIAL EXTENTION OF CERVICAL CANCER BY CLINICAL PELVIC EXAMINATION AND COMPUTED TOMOGRAPHY IMAGING OF PELVIS

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Aims

1. Assessing and comparing vaginal and parametrial extension of cervical cancer by CPE and CT-P

2. Comparison of difference between volume of gross tumor volume (GTV) and clinical target volume (CTV)after delineating the same on CT-P on the basis of CPE and CT-P

Methods

Total of eight cervical cancer patients were evaluated between August 2012 and 2014 at Kidwai Memorial Institute of Oncology, Bangalore. Detailed CPE and planning CT-P of each of the patients were obtained. GTV on CT-P was delineated physician of diagnostic radiology department and same was contoured by radiation oncologist. Similarly GTV was contoured by radiation oncologist after extrapolating the CPE findings to simulation CT-P

Results

Three of eight patients had carcinoma cervix FIGO stage IIb on CPE and rest of them had FIGO stage III b disease. CT-P consistently under-estimated the vaginal and parametrial extension of carcinoma cervix as compared to CPE. Volume of GTV contoured based on CPE also was much larger than that contoured on the basis of CT-P in all the eight patients.

Conclusion

CT-P does not reveal the exact extent of locally advanced cervical cancer. Staging of cervical cancer and contouring of GTV and CTV for radiotherapy planning may, therefore, be inaccurate. Under-staging and radio-therapeutic geo-graphical tumor miss may be the consequence of clinical decisions based on CT-P. Magnetic resonance

imaging of pelvis, preferred imaging modality for pelvic tumors, may therefore be encouraged for exact staging and delineating the actual extent of cervical cancer.

IGCSM-0072
Poster Shift II - Vulvar and Vaginal Cancer

MALIGNANT PERIPHERAL NERVE SHEATH TUMOR OF THE VULVA, AN UNUSUAL DIFFERENTIAL DIAGNOSIS FOR VULVAR MASS

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Aims
Malignant peripheral nerve sheath tumors (MPNSTs) are rare, up to one half of the MPNSTs occur in patients with neurofibromatosis type-1 (NF-1), while the rest are sporadic. Here, we present a 52-year-old woman with MPNST of the vulva without NF-1. We will discuss basics of the disease, treatment options and follow-up strategies
Methods
52-year-old female admitted to our hospital with complaint of abnormal uterine bleeding and rapidly growing vulvar mass. Excisional biopsy of the mass showed MPNST of the vulva. Afterwards, the patient underwent radical vulvectomy with inguinofemoral lymph node dissection. Short after the surgery, multiple lung metastasis were shown and responded to chemotherapy, but rapid local recurrence occurred short after the completion of the chemotherapy.
Results
The primary treatment option is surgical excision with or without adjuvant therapy. There is not enough data about the role of systemic chemotherapy in the management of MPNSTs and it still remains controversial. In general, radiation therapy has not been demonstrated to improve overall survival. Complete surgical resection of the primary tumor is the mainstay of the treatment.
Conclusion

MPNSTs remain a diagnostic and therapeutic challenge. Complete surgical resection of the primary tumor is the mainstay of the treatment and additional treatment options such as chemotherapy and radiation therapy warrants local and distant control of the disease.

IGCSM-0095
Poster Shift II - Vulvar and Vaginal Cancer

AN AGGRESSIVE ANGIOMYXOMA OF THE LABIA MAJORA,PRESENTED IN HEALTH FACILITY IN RURAL NORTH-EAST INDIA- A CASE REPORT.

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Aims

First reported in 1983 by Steeper and Rosai, perineal aggressive angiomyxomas(AA) are rare, locally invasive mesenchymal tumours carrying a high risk for local relapse ,usually in women of reproductive years.Hence any big pedunculated fleshy vulvar mass should be differentiated from any other tumours like fibrolipoma etc to proper follow-up of these women to prevent recurrent disease.

Methods

Here is a woman of 40 years of age, presenting with a large dumbell shaped pedunculated(22cmx10cmx8cm) swelling on the right labia majora for more than 3 years in duration. She had no other complaints except hanging of a heavy mass from vulva.

Results

After proper haematological and radiological investigations including a CT scan of pelvis, a diagnosis of vulvar AA was made. Surgical excision was undertaken without much intraoperative haemorrage. Histopathological report confirmed the diagnosis of AA.The patient being very poor could not afford the GnRh agonist we advised for recurrence prevention.She is being followed up for last 2 years without any evidence of local relapse, without any specific treatment.

Conclusion

AA of vulva,despite the name is not aggressive always.With a recurrence rate of 30% and which may occur from 2 months to 15 years of exicion and is eminently treatable by re-excision by a 1 cm margin, many poor patients like ours can be followed up without any medications which might put the patient under extra both health and economic burden. Of course all such patients need proper counselling for long term follow up for detection of early relapse.

IGCSM-0108
Poster Shift II - Vulvar and Vaginal Cancer

INVESTIGATION OF THE CLINICOPATHOLOGICAL FEATURES OF THE SQUAMOUS CELL CARCINOMA OF THE VULVA.

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Aims
To analyze the modalities, efficacy of treatment, and prognosis of squamous cell carcinoma (SCC) of vulva.
Methods
Vulva cancers treated between 2002 and 2012 were reviewed retrospectively by using 7 institutional medical records. The institutions obtained the approval of IRB each.
Results
One hundred twelve malignancies of the vulva were collected. Of them, 64 were SCC (57%). The initial treatment was a surgery in 34, a radiation therapy (RT) in 16, a concurrent chemoradiotherapy (CCRT) in 11 and others. Nineteen had stage1, 11 had stage 2, 26 had stage 3, and 8 had stage 4. Fifty % of patients who underwent surgery were stage 1. On the contrary, 73% of those who received CCRT were stage 3 and 4, and there was no patient with stage 1 in CCRT group. Complete response rates by surgery, RT and CCRT were 73%, 56% and 64%, respectively. 5-year survival rates of stage1, 2, 3 and 4 were 100%, 29%, 36% and 67%, respectively. 5-year survival rates of surgery, RT and CCRT were 53%, 38% and 50%, respectively. Univariate analysis showed that FIGO stage, efficacy of the initial treatment, lymph node status and residual disease were related to a significantly poor overall survival. In multivariate analysis, progressive disease was the most important independent prognosticator ($p<0.001$).
Conclusion

There were no reports describing clinical features of the malignancies of the vulva with the great numbers in the past two decades in Japan. 5-year survival rates between

surgery and CCRT were almost equal. CCRT may be a promising alternative modality for SCC of the vulva.

IGCSM-0142
Poster Shift II - Vulvar and Vaginal Cancer

VULVAL EPITHELIOID SARCOMA: A LITERATURE REVIEW OF THEIR MANAGEMENT.

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Aims

The aim of this review is to discuss the management options of vulval epithelioid sarcoma cases.

Methods

The PubMed, Scopus and Cochrane databases were systematically searched and 28 studies met the inclusion criteria for our review.

Results

The mean age of the 31 included patients was 31 years (range: 17–84). Local excision (19 out of 31, 61.3%), radical vulvectomy (8 out of 31, 25.8%) and hemivulvectomy (4 out of 31, 12.9%) were the principal surgical treatments. Radiotherapy and chemotherapy were performed in 8 and 5 patients, respectively.

Recurrence of the disease was present in 13 out of 31 (42%). The interval to recurrence ranged from 1 to 48 months. The main location of recurrences was the local tissues, the lymph nodes and the lung. The mean period of follow-up was 38.5 months (range: 2–146 months). Cure was considered to have taken place in 19 out of 31 (61.3%) patients; 10 out of 31 (32.6%) died, and 2 out of 31 (6.4%) at the end of followup were alive but not considered cured.

Conclusion

The first and principal step for the proper treatment of vulval epithelioid sarcomas is awareness of their existence by the specialist involved. Extensive imaging is proposed for staging, while the creation of a national or international register of patients is proposed.

IGCSM-0144
Poster Shift II - Vulvar and Vaginal Cancer

THE ROLE OF INTRADERMAL MICROBUBBLES AND SENTINEL LYMPH NODE BIOPSY IN VULVAR CANCER

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Aims

The concept of sentinel lymph node detection as well as cancer staging was previously presented as standard clinical practice in the management of patients with various malignancies. Diminution of morbidity and the avoidance of post operative complications are the major advantages of the application of sentinel lymph node identification in cases of vulval cancer. At the moment, an innovative technique is utilized in patients with breast cancer by using ultrasound contrast agents relied on the use of dispersion with sulfur hexafluoride gas called microbubble technique.

Methods

Literature search in Pubmed.

Results

As the method seems to have high sensitivity and specificity in breast cancer patients, we suggest it may also be used in vulval cancer cases.

Conclusion

For this reason, we suggest a new protocol in the detection of SLN in vulval cancer. Microbubble technique can be used as an alternative for sentinel lymph node detection in patients with vulval cancer.

IGCSM-0147
Poster Shift II - Vulvar and Vaginal Cancer

IMIQUIMOD IN THE EXTRAMAMMARY PAGET DISEASE.

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Aims
The aim of our study is to review the published articles regarding the efficacy and safety of the use of topical imiquimod cream in the treatment of extramammary Paget disease.
Methods

Systematic search in PubMed (until 23 April 2013) and Scopus (until 23 April 2013).

Results

The median age 69 (48-90) years. The median onset of the disease was 2 years (0.2-15 years), the median major lesion diameter was 5 cm (1.5-10 cm). The main symptoms included pruritus (77.8%), erythematous plaque (66.7%), pain (18.5%), local hypopigmentation (3.7%), indolent eczematous eruption (3.7%). None of the patients had local lymphadenopathy. The main location was the vulva (90%) followed by perianal area (30%), gluteus (13.3%), thorax (3.3%) and axilla (3.3%). The disease was initially treated with topical cream in 33.3%, a combination of treatment in 23.3% or local excision in 20% while 23.3% had no intervention. The application of imiquimod ranged from daily (13.3%) to 3 times per week (76.7%) to 2 times per week (10%) and was given for 14 weeks (2-32 weeks). The most common complications:pain in 40%, skin erosion in 40%, local irritation in 33.3%, erythema in 16,6%, pruritus in 13.3%, flu like symptoms in 10% . Eighty per cent of patients were healed. During the median follow-up period of 10.5 months (0.5-36 months) 20% of the patients relapsed. These patients were treated with surgical excision, prolongation of imiquimod, radiation or photodynamic therapy.

Conclusion
Imiquimod although off-label could be an effective alternative conservative treatment option for extramammary Paget disease.

IGCSM-0208
Poster Shift II - Vulvar and Vaginal Cancer

THE MANDATORY ROLE OF GROIN LYMPHADENECTOMY IN CLINICALLY STAGES IB AND II VULVA CANCER

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Aims
We analyzed theprevalence of inguino-femoral lymph nodes metastases in clinically stages IB-IIvulva cancer.
Methods
Twenty patients with IB-II FIGO stages vulva cancer with no clinically and imagistic evidence of nodes metastases were treated in our clinic during a 40 months period (January 2011-April 2014). Patients age ranges between 42 and 74 years old (median 64.0). The surgical procedures consisted in radical vulvectomy plus uni- (2 patients) or bilateral (18 patients) inguino-femoral lymphadenectomy. In 4 patients we performed also a distal urethral resection (10-15 mm), in 9 a partial colpectomy and in one an unilateral extraperitoneal pelvic lymphadenectomy. Because of a large perineal defect, a “V-Y flap” unilateral (in one patient) or bilateral (in 3) vulva reconstruction was performed.
Results
The final pathological result was squamous carcinoma in 18 patients, vulva melanoma in one and carcinosarcoma in one. The prevalence of positive lymph nodes was 50% (10 out of 20 patients, between 1 and 5 positive nodes per groin, bilateral in four patients and unilateral in six). The median number of harvested lymph nodes was 14.2 per groin (between 7 and 27). Eleven patients (55.0%) developed some wound complications (infections, dehiscence, lymphocele etc.), but all were solved. At the present time, 18 patients are alive and with no evidence of disease, but the follow-up period is short; two of them died of disease.
Conclusion

The prevalence of groin metastases in stages IB-II vulvar cancer is high. A thorough inguino-femural dissection seems necessary, despite the high incidence of wound complications.

IGCSM-0211
Poster Shift II - Vulvar and Vaginal Cancer

VULVAR INTRAEPITHELIAL NEOPLASIA IN PREMENOPAUSAL AND POSTMENOPAUSAL WOMEN

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Aims

To study the clinical and pathologic features, treatment and outcome of vulvar intraepithelial neoplasiain pre and post-menopausal women (VIN) in our institution.

Methods

Between January 2009 and September 2013, 24women received care at our institution for VIN (VIN 2and 3) and VIN associated squamous cell carcinoma (SCC). All patient's demographic characteristics, clinical presentation, treatment details, and recurrence were retrospectively studied.

Results

The mean age was 53 years (range 23-86 years). Fourteen[58%] patients were menopausal at initial VIN diagnosis.

None of them had documented past history or current history smoking. Three patients [13%] were immune compromised (one positive for human immunodeficiency virus two patients had SLE with immunosuppressant medication and steroids). Eight patients [33%] had concomitant or previous lower genital tract dysplasia. VIN related cancer found in four patients. [17%] Of 24 patients, 2 patients (8.3%) had topical imiquimod treatment, five patients (21%) had laser ablation of VIN. Seventeen [71%] had wide local excision of the lesions. The median follow-up time for all patients was 52.1 months. Recurrence of VIN after initial treatment was noted in 3 cases [12.5%].

Conclusion

Among women with VIN, the risk of SCC is higher in postmenopausal than in premenopausal women . Risk of SCC was higher in menopausal women with uni focal lesions and lesions with margins +ve for Vin3 at initial excision. Excisional therapies to identify occult invasion are important for postmenopausal women with VIN

IGCSM-0233
Poster Shift II - Vulvar and Vaginal Cancer

PREVALENCE OF HPV-POSITIVE VAGINAL AND VULVAR CANCER OVER TIME IN TWO SWEDISH COHORTS

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Aims
The incidence of cervical cancer has decreased in the western world during the past decades due to organized screening programs, and is expected to decrease further after introduction of the HPV vaccines. On the other hand, the incidence of HPV-associated oropharyngeal cancer has increased rapidly, due to an increased proportion of patients with HPV-positive oropharyngeal cancers. The incidence of vulvar and vaginal cancers in Sweden has been stable during the past decades, but whether the proportion of HPV-positive vulvar and vaginal cancers has changed has not been studied. The aim was to investigate if the proportion of HPV-positive vulvar and vaginal cancer has changed over time in two Swedish cohorts.
Methods
HPV-status was determined by PCR in a consecutive series of 111 patients diagnosed with vaginal cancer in Stockholm during 1978-1995 and in approximately 200 patients diagnosed with vulvar cancer in northern Sweden during 1990-2012.
Results

The proportion of HPV-positive vaginal cancer was 71.4% during 1970th, 53.3% during 1980th, and 55.2% during 1990th, thus, no statistically signficant change was observed. Preliminary data on the proportion of HPV-positive vulvar cancer during 1990-2012 will be presented.

Conclusion
No significant change in the proportion of HPV-positive vaginal cancer was observed during the time period studied. Preliminary data on the proportion of HPV-positive vulvar cancer will be presented.

IGCSM-0235
Poster Shift II - Vulvar and Vaginal Cancer

BOTRYOID SARCOMAS OF FEMALE GENITAL TRACT: A SINGLE INSTITUTIONAL CASE SERIES

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Aims

Embryonal rhabdomyosarcomas are soft tissue tumors most commonly effecting younger patients up to 15 years of age. Approximately 5% of these tumors with a polypoid form characterized by grape-like clusters of edematous tissue are called botryoid sarcoma. This rare subtype most commonly occur in vagina and nearly 90% of patients are less than 5 years of age. Our aim was to identify the clinical presentations, preferred treatment strategies and clinical outcomes of patients with botryoid sarcoma treated in our institution.

Methods

Institutional tumor registry was searched for botryoid sarcomas between 1988 and 2008. The medical files of all patients reviewed.

Results

8 patients with botryoid sarcoma were identified: 5 vaginas, 3 cervixes. 4 patients presented with a protruding mass through the vagina, 2 with vaginal bleeding and 2 with vaginal discharge. All patients treated surgery (excision, conization, radical hysterectomy etc.). Adjuvant chemotherapy was given to all except one who had adjuvant radiotherapy. 4 of them were under age 10, 2 were between the ages 10-20 and 2 were over the age 20. 2(25%) patients have died because of the disease. The remaining 6 are still being followed up free of the disease with a median follow up time of 72 months.

Conclusion

Most of the patients presented with vaginal symptoms related to tumor itself. Even though the optimal management of these tumors is uncertain, different surgical modalities have been used varying from radical ones to conservative approaches

according to the extent of the disease. Chemotherapy is the main preference in adjuvant treatment setting.

IGCSM-0280
Poster Shift II - Vulvar and Vaginal Cancer

A CLINICOPATHOLOGIC INSTITUTIONAL STUDY FOR PAGET'S DISEASE OF THE VULVA: PROGNOSTIC FACTORS AND TREATMENT OUTCOMES

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Aims

Paget's disease compromises 1-2% of vulvar malignancies, though its recurrence rateappears high. This study identifies clinical andhistopathologicalfeatures in order to determine prognostic factors for recurrence and evaluates efficacy of various therapeutic procedures.

Methods

Retrospective study of 28 patients with Paget's disease of the vulva treated between 1996 and 2013. Medical records were reviewed and patient's demographics, clinical and pathological data were collected.

Results

The mean age at diagnosis was 67 years. Presenting symptoms included pruritus and/or burning (46%), while mean duration of symptoms prior to diagnosis was 18 months. Primary lesion location was unilateral (83%), while secondary lesionswhich were multifocal.Nineteen patients recurred at least once with a maximum number of recurrences at six times. All patients were initially treated with wide local excision, whereas in case of recurrence besides wide local excision, 3 hemi-vulvectomies, 1 simple vulvectomy and 7 radicalvulvectomies with bilateral inguinal lymphadenectomy were performed. Conversely, margin status of the primary lesion was free of disease in 57% of the cases. Moreover, 14 cases with synchronous or pre-existing malignancy were recorded (breast cancer 36%). During follow-up period (36 months), median patient disease free interval was 22months, respectively, while no deaths were recorded.

Conclusion

Since recurrence is common, early diagnosis, disease free surgicalmargins along with

long-term monitoring of patients are able to provide an accurate and integrated treatment approach.

IGCSM-0332
Poster Shift II - Vulvar and Vaginal Cancer

THE CLINICAL EFFICACY OF POLY-GAMMA-GLUTAMIC ACID (G-PGA) IN VAIN/VIN PATIENTS: A RETROSPECTIVE OBSERVATION STUDY

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Aims

To evaluate the clinical efficacy of Poly-Gamma-Glutamic Acid (γ-PGA) in the treatment of vaginal or vulvar intraepithelial neoplasia (VaIN/VIN)

Methods

A retrospective observational study was conducted in patients with VaIN/VIN at Korea University Medical center from 2011 to 2013. After using a γ-PGA, the treatment effect was assessed by evaluating the follow-up results of Pap smear and HPV test, viral load, and histology.

Results

In 90 patients identified, VaIN1 was the most common diagnosis (45.5%), followed by VaIN3 (23.9%) and VaIN2 (21.6%). γ-PGA was used in 16 patients: 8 patients treated with only γ-PGA (Only-PGA group) and 8 patients treated with γ-PGA after a failure of other treatment modalities (Post-PGA group). The initial cytology of only-PGA group was ASC-US in 2 (33.3%) cases and LSIL in 4 (66.7%). The cytologic regression of the lesion was observed in 5 (62.5%) cases of only-PGA and 4 (50%) of post-PGA. In patients with histologic overall remission (6 in only-PGA group and 7 in post PGA), the viral load significantly decreased (-2635.9±3060.8 in only-PGA and -773.3±704.9 in post-PGA). In the cases with progressive lesions among only-PGA cases, the mean time period of γ-PGA intake was less than 3 months. HPV viral load was more decreased in patients with a 4- months or more of γ-PGA intake than less than 3 months.

Conclusion

Treatment with γ-PGA for more than 4 months can induce a significant decrease of viral load and a regression in both cytology and histology, suggesting that γ-PGA can be a useful treatment option for VaIN/VIN.

IGCSM-0343
Poster Shift II - Vulvar and Vaginal Cancer

CARCINOMA OF VULVA MANAGED AT B. P. KOIRALA MEMORIAL CANCER HOSPITAL

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Aims

To analyze the clinical presentation and management outcomes carcinoma of vulva managed B. P. Koirala Memorial Cancer Hospital.

Methods

A descriptive study was conducted of all carcinoma of vulva cases managed at the B. P. Koirala Memorial Cancer Hospital from1999 to 2009. The case record of all women diagnosed to have carcinoma of vulva were retrieved and socio-demographic characteristics, clinical presentations, histological type, treatment modalities and outcome were obtained and analyzed.

Results

There were 5152 gynecological malignancies and vulvar cancer accounted for 87, giving a prevalence of 1.7%. The ages ranged from 17 to 86 years (mean of 48.6 years). Parity was 0-10. Vulva wound and pruritus were the most frequent clinical features with presentations in stage I -8%, stage II- 28%, stage III – 52 % and stage IV -12%. Squamous cell carcinoma (93%) predominated and 62% were grade I. Among the 87 cases, 32% were treated primarily with surgery, 34% primarily with concurrent chemo-radiation and 28% with combined modality. Clinical follow-up of one to five years showed that 30% (26) cases had local recurrence and 25% (22) died of disease.

Conclusion

Carcinoma of the vulva is a rare gynecological malignancy in Nepal. Surgery and radiotherapy remain to be the mainstay of treatment. Delayed presentation still result in greater morbidity and mortality rates.

IGCSM-0363
Poster Shift II - Vulvar and Vaginal Cancer

TRENDS IN THE INCIDENCE AND MORTALITY OF VULVAR CANCER IN AUSTRALIA.

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Lowy Cancer Research Centre University of New South Wales, Randwick, Australia

Aims

Background

A proportion of vulvar cancers are attributable to infection with the human papillomavirus (HPV). Rates of some other HPV-related cancers have been observed to change over time, potentially due to changing HPV exposure in successive cohorts, but previous international reports of trends in vulvar cancer rates have shown inconsistent results.

The aim of the current population based study was to determine trends in the incidence and mortality of vulvar cancer in Australia over the period 1982-2011.

Methods

Case numbers for invasive carcinoma of the vulva (1982-2008) and vulvar cancer deaths (1982-2011) were obtained from the Australian Institute of Health and Welfare National Cancer Statistics Database. Trends in age-standardised incidence and mortality rates were analysed across all age groups and for women <60 years and 60+ years.

Results

All-ages standardised incidence rates remained stable from 1982-87 to 2002-06 (2.1 and 2.2/100,000 women, respectively). However, there was a significant decrease in incidence for women 60+ years (from 9.2 to 8.4/100,000; P = 0.03), and a significant increase for women <60 years (from 0.6 to 1.0/100,000; P = 0.003). All-ages standardised mortality rates decreased from 1982-87 to 2007-11 (from 0.7 to 0.5/100,000 women; P = 0.05). There was also a significant mortality decrease for women 60+ years (from 3.5 to 2.7/100,000 women; P = 0.04), whereas for women <60 years, rates were unchanged at 0.1/100,000 women; P=0.073.

Conclusion

There have been significant changes in the incidence and mortality of vulvar cancer in Australia, but these vary by age group.

IGCSM-0390
Poster Shift II - Vulvar and Vaginal Cancer

L1CAM EXPRESSION IS ASSOCIATED WITH A WORSE PROGNOSIS IN VULVAR SQUAMOUS CELL CARCINOMA

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Aims

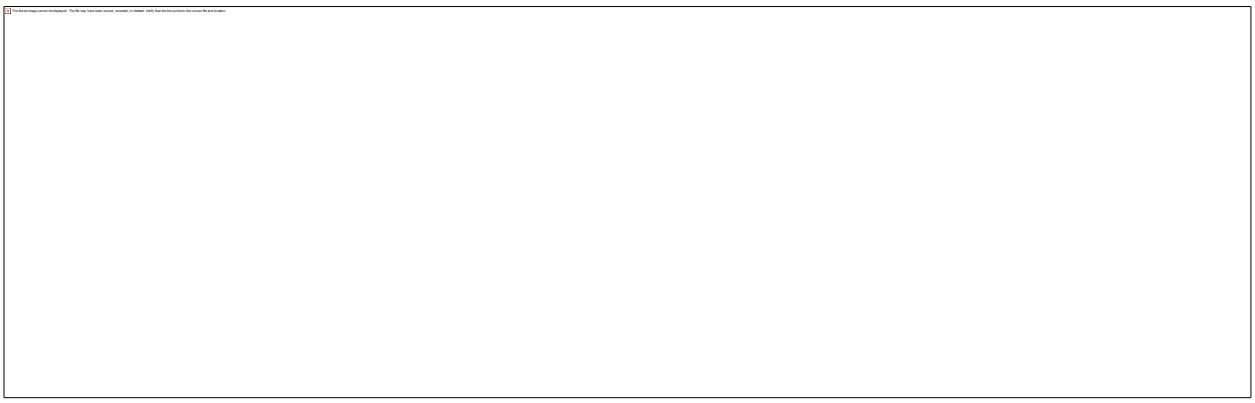
Vulvar cancer treatment is most often curative, but unfortunately also has high morbidity rates. In a search for markers that can differentiate high-risk patients who need radical surgery, from low-risk patients who might be treated less aggressive, we investigated the prognostic value of L1-cell adhesion molecule (L1CAM) in vulvar squamous cell carcinoma's (VSCC). L1CAM promotes cell motility and is an emerging prognostic factor for metastasis an many cancer subtypes, including gynecologic cancers.

Methods

Paraffin embedded tumour tissue from 103 primary VSCC patients was stained for L1CAM, and TGFβ-pathway marker vimentin, and sequenced for *TP53* and *CTNNB1(*β-catenin) mutations. Mean follow-up of these patients was 49 months. The expression of L1CAM was correlated to clinical characteristics and molecular alterations and survival was compared.

Results

Sixteen patients showed evident L1CAM-expression, generally at the invasive front the tumour. L1CAM positive tumours expressed vimentin more often (56% vs 21%, *P*=0.003), but L1CAM-expression was not associated with *TP53* or *CTNNB1* mutations. Five year survival was worse for patients with L1CAM-expression (overall survival 18.8% vs 58.7%, *P*=.001, disease specific survival 42.6% vs 79.3%, *P*=.013) (figure). Multivariate analysis including the possible confounders lymph node metastasis, tumour size and *TP53* mutations indicates L1CAM expression as an independent marker for prognosis (HR 2.9, 95% CI 1.10 – 7.68).



Conclusion

In VSCC, L1CAM-expression is mainly seen in infiltrating tumour cells and might be mediated by TGFβ. L1CAM-expression is associated with a worse prognosis in VSCC patients.

IGCSM-0395
Poster Shift II - Vulvar and Vaginal Cancer

VULVAR INTRAEPITHELIAL NEOPLASIA CLINICAL CASE

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Aims

patient 25,

first sexual intercourse at age 17,

two sexual partners

in April 2012 Pap normal

reason for consultation : vulvar spots a month of evolution

Methods

Vulvoscopy

Biopsy

VIN undifferentiated

Results

TREATMENT: you opt for a conservative tramiento expectant monitoring at 1.5 months and 3 months and administration tetravalent vaccine HPVetravalent vaccine
Evolution

1,5 moths


3 moths

Conclusion

We suggest a period of therapeutic abstinence, 6 to 12 months, in young patients selected with strict monitoring , that the possible spontaneous regression of undifferentiated VIN

IGCSM-0465
Poster Shift II - Vulvar and Vaginal Cancer

THE ROLE OF NEOADJUVANT THERAPIES IN LOCALLY ADVANCED VULVA CANCER

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Aims

We examined the response rate and outcome of patients with advanced vulva cancer treated with neoadjuvant therapies at the Pan-Birmingham Gynaecological Cancer Centre, United Kingdom.

Methods

We studied retrospectively 16 patients with advanced vulva cancer treated with neoadjuvant therapies at the Pan-Birmingham Gynaecological Cancer Centre, United Kingdom between May 2007 and February 2014. Radiological and clinical assessment was performed to assess response to neoadjuvant therapies.

Results

A total of 16 patients were deemed suitable for neoadjuvant therapies. 13 patients had disease close or involving anal sphincter and anal canal. Three patients had disease extending to the pelvis and the urethra. Two patients were excluded from the study of which one patient died prior to treatment and one patient was treated in another Cancer Centre.

13 patients (93%) had received neoadjuvant chemotherapy (NACT) at our cancer centre and One (7%) patient received neoadjuvant radiotherapy (NART). The response rate was assessed in 11 (85%) patients.Eight (73%) patients responded to NACT, Two (18%) had static disease and One (9%) did not respond. Four (50%) patients who responded to NACT had avoided an anovulvectomy. One Patient who received NART had responded to treatment and avoided an anovulvectomy.

Conclusion

NACT is a safe alternative to standard primary surgical excision for locally advanced vulva cancer. We have demonstrated a 73% response rate with NACT treatment to enable preservation function surgery in 50% of patients. Further study is warranted to further evaluate the role of neoadjuvant therapies in the management of vulva cancer.

IGCSM-0489
Poster Shift II - Vulvar and Vaginal Cancer

ROBOTIC-VEIL IN CARCINOMA VULVA- OUR EXPERIENCES & INTERMEDIATE RESULTS

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Aims

AIMS AND OBJECTIVES: To describe the technique of Robotic -VEIL and discuss the advantages and outcome.

Methods

Eleven patients of squamous cell carcinoma of vulva underwent 20 R-VEIL surgeries between February 2011 to January 2014. Their preoperative, intraoperative and postoperative data was collected.

Results

RESULTS: No patient required conversion to open surgery. The mean operative time was 73.42 minutes. Number of lymph nodes retrieved ranged from 4 to 26. Two patients had positive lymph nodes on histopathology(18.18%). Lymphocoel developed in 8 cases(40%), Cellulitis in 5 cases(25%), Port site wound gaping in 3 cases(15%), and lymphedema in 3 cases(15%). 2 patients developed recurrence, one at site of vulvectomy and another in inguinal region.

Conclusion

: R-VEIL allows the removal of inguinal lymph nodes within the same limits as in open procedure and potentially reduces surgical morbidity. It is better accepted cosmetically and reduces hospital stay. Long term oncological results are not available. Randomized multi-institutional studies are required to prove its efficacy over open counterpart.

Document not received **********

IGCSM-0491
Poster Shift II - Vulvar and Vaginal Cancer

R-VEIL IN CARCINOMA VULVA- OUR EXPERIENCES & INTERMEDIATE RESULTS

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AIMS AND OBJECTIVES: To describe the technique of R-VEIL and discuss the advantages and outcome

METHODS: of 11 patients squamous cell cancer of vulva underwent 20 R-VEIL surgeries between February 2011 to January 2014. Their preoperative, intraoperative and postoperative data was collected.

RESULTS: No patient required conversion to open surgery. The mean operative time was 73.42 minutes. Number of lymph nodes retrieved ranged from 4 to 26. Two patients had positive lymph nodes on histopathology(18.18%). Lymphocele developed in 8 cases(40%), Cellulitis in 5 cases(25%), Port site wound gaping in 3 cases(15%), and lymphedema in 3 cases(15%). 2 patients developed recurrence, one at site of vulvectomy and another in inguinal region.

Conclusion
. **:** R-VEIL allows the removal of inguinal lymph nodes within the same limits as in open procedure and potentially reduces surgical morbidity. It is better accepted cosmetically and reduces hospital stay. Long term oncological results are not available. Randomized multi-institutional studies are required to prove its efficacy over open counterpart

IGCSM-0502
Poster Shift II - Vulvar and Vaginal Cancer

VULVAR APOCRINE TUBULAR ADENOMA:AN UNUSUAL LOCATION

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Aims

Introduction:

Apocrine tubular adenoma (TA) is a rare cutaneous neoplasm that was first described by Landry and Winkelmann in 1972. Apocrine TA is usually located deeply within the dermis of the scalp region and commonly presents as a painless skin nodüle. The most common location is in the scalp. Rarely, it has been described in other locations such as the eyelid, chest, external auditory meatus, cheek, axilla and vulva.We have described a rare apocrine TA in the vulva.

Methods

Case:

A 44-year-old woman presented with a painless mobile cutaneous mass involving the right labia of unknown duration. The lesion was treated by simple excision.

Results

Gross appearance revealed a well-circumscribed nodule measuring 0.8 × 0.5 × 0.3 cm. In addition, histopathological examination of the excisional biopsy material the case was diagnosed with vulvar apocrine TA.

Conclusion

Apocrine TA is a rare, benign sweat gland tumor that exhibit apocrine differentiation. It could be differentiate from metastatic adenocarcinoma or apocrine carcinoma. Thus, a careful histopathological examination should accompany immunohistochemical tests during the diagnostic workup for apocrine TA.

Key words: Tubular adenoma, apocrine, vulva

IGCSM-0519
Poster Shift II - Vulvar and Vaginal Cancer

TOPOGRAPHY OF LYMPHATICS OF THE VULVA– FUNCTIONAL LYMPHATIC ANATOMY FOR SURGERY IN VULVAR CANCER PATIENTS.

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Aims
Sentinel node (SN) biopsy in vulvar cancer is associated with much less morbidity than inguinofemoral node dissection. In patients with early vulvar cancer lymphatic mapping and sentinel node biopsy accurately stages the inguinofemoral nodes. Both lymphatic mapping agents (radiocolloid, blue dye) have some limitations. If there are difficulties in peroperational identification of the SN, exact knowledge of the topography of the inguinofemoral region and most probable location of the SN can be the key.
Methods
In 10 female fresh cadavers with negative carcinoma history, injections of patent blue (Patent Blue V Sodium 2.5 %, Guebert) were used to visualize the sentinel nodes in the inguinofemoral region and their lymphatic collectors from the vulva. The inguinal region was divided into four quadrants with regard to the course of the superficial external pudendal vein, superficial epigastric vein and large saphenous vein.
Results

All SNs were located superficialy in the fatty tissue near the branching of veins. The SN was located in most cases between superficial external pudendal vein and superficial epigastric vein. In two cases there were found two SNs in different locations in distance of 2 - 3 cm from each other. To each SN ran separate lymphatic collector.

Conclusion
We found that in contrast with breast cancer (SN is one for whole breast in constant positoin), by vulvar cancer is localisation of SN dependent of location of cancer on vulva.This is an important finding which needs further research.

IGCSM-0571
Poster Shift II - Vulvar and Vaginal Cancer

PRIMARY MALIGNANT MELANOMA OF THE VAGINA FOLLOWING SURGERY

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Aims
Incidence of malignant melanoma of the vagina is 3% of all malignant tumor of the vagina and 0.1-0.3% of all malignant melanoma. Prognosis of vaginal melanoma is poor and reported 5-year survival from 0% to 21%. Because of the poor prognosis and complications associated radical surgery, wide local excision with adjuvant radiotherapy is recommended in recent publications. Aim of this study is to describe the characteristics and clinical course of patients with primary vaginal melanoma following surgery.
Methods
Seven patients with vaginal melanoma from 2006 to 2013 in our hospital were reviewed.
Results
The median age at diagnosis was 64 years (rage 48-87). All melanoma tumors were located in the lower one-third of the vagina, and spread to upper (57%), urethra (43%). Lymph node metastases were observed in two (29%). Five patients received radical surgery including resection of urethra/perineum. Only three of these patients were alive without recurrence (23, 27, 52 months). Two patients had systematic recurrences at 6-8months. Even local controls were difficult in usual surgery. Upper vaginal recurrences occurred at 4 months and a mucosal recurrence near the urethra at 8 months.
Conclusion
Malignant melanoma of vagina is widely spreading disease from cervix to vulva (including urethra), so it might be multifocal disease. Radical surgery such as PE might improve local control and prognosis of patients with malignant melanoma of vagina.

IGCSM-0662
Poster Shift II - Vulvar and Vaginal Cancer

FURTHER DATA ON SENTINEL LYMPH NODE MAPPING IN VULVAR CANCER BY BLUE DYE AND RADIOCOLLOIDS

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Aims

To evaluate detection rate, distribution of positive and negative SLN in squamous vulvar cancer using combination technique (blue, radiocolloid Tc)and groin recurrence in SLN negative patients.

Methods

This was retrospective cohort analysis of sentinel lymph node mapping in vulvar cancer from December 2002 to December 2012. If the FS was positive, we performe full inquinofemoral lymphadenectomy, if FS was negative we are less radical (SLN +- other partial active nodes).

Results

Study included 255 patients. Mean age was 66.4 years, SLN was detect in 255 patients (DR-100%), 90 women (35.3%) was LN positive, 165 women SLNM negative. SLN positive detected in 98 groins(8 billateral), 89.3% (100 positive SLN) were sited in superficial medial, intermedial inquinal chain, none in superficial lateral groin. 10.7% (12 positive SLN) were deep femoral. SLN negative detected in 165 women (225 groins). 90.1% (245 negative SLN) were sited in superficial medial, intermedial, none in superficial lateral. 9.9% (27 negative SLN) were deep femoral. In 165 SLN negative women we detect 8 groin recurrence (4.8%), subgroup primary tumor diameter less than 2 cm 81 cases/ 2 groin recurrence (2.47%), subgroup more than 2 cm 84 cases/ 6 groin recurrence (7.14%), 5 were in subgroup with tumor more than 3 cm.

Conclusion

Our data demonstrates that 10% SLN were in deep femoral area. Less radical groin surgery in SLN negative patients have exelent results in subgroup patients with primary tumor less than 2 cm, but we need further data about safety less radical groin surgery especially in subgroup with tumor more than 3 cm.

IGCSM-0663
Poster Shift II - Vulvar and Vaginal Cancer

CHEMOTHERAPY IN THE TREATMENT OF VULVAR CANCER – THE EXPERIENCE AT THE BRAZILIAN NATIONAL CANCER INSTITUTE (INCA)

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Aims

Vulvar cancer (VC) is the fourth most common gynecological cancer, representing about 5% of the female genital tract cancers. The most common histological type (90% of the cases) is squamous cell carcinoma (SCC). Treatment of early stage is primarily surgical and treatment of extensive disease employs: surgery, radiotherapy (RT) with or without chemotherapy (CT). In metastatic and/or recurrent disease, patients are usually treated with a combination of 5-FU and CDDP. The aim of this study was to evaluate the response and survival rate of patients diagnosed with VC and treated with CT at Brazilian National Cancer Institute (INCA) .

Methods

A retrospective analysis of all VC patients treated with CT at INCA, between January 2000 and June 2010, was performed.

Results

Medical records of 35 patients with VC were analysed. Median age at diagnosis was 64.4 years and 97.1% had SCC. Stage III, IVA and IVB disease were diagnosed in 51.4%, 40% and 8.6% of the patients, respectively. Sixteen patients underwent surgery and 34 patients received RT. All patients received CT some time during treatment and the most used regimen was CDDP 75 mg/m^2 D1 + 5-FU 1000 mg/m^2 D1 to D4, given to 19 patients (54.3%). The overall response rate was 60%. With a median follow up of 30.2 months, the median progression-free survival and median overall survival were 6.3 and 17.2 months, respectively.

Conclusion

Given the low incidence of VC, many questions remain unanswered. Future studies are needed to establish the best therapeutic approach.

IGCSM-0707
Poster Shift II - Vulvar and Vaginal Cancer

CLINICAL IMPLICATIONS OF PERINEURAL INVASION IN VULVAR CARCINOMA

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Aims

Perineural invasion (PNI) is associated with poor prognostic in patients with cancers of the head and neck, cervix, pancreas, and prostate. The association between PNI and prognosis in vulvar carcinoma has not been described. The purpose of this study was to compare pathologic and prognostic factors between patients with vulvar carcinoma with PNI to those without PNI.

Methods

A retrospective chart review of 429 patients with invasive vulvar carcinoma evaluated at a single institution between 1993 and 2011 was performed. Medical records were reviewed for demographic data, pathologic information including histologic subtype and presence or absence of perineural invasion (defined as presence of tumor cells in the perineural space of nerves), treatment type, and recurrence/outcome information. These variables were compared between patients with and without PNI.

Results

33 (7.7%) of the 429 patients had tumors with PNI. There were no significant differences in age, histologic subtype, or grade between patients with and without PNI. However, PNI was associated with stage III/IV disease (57.7% vs. 36.2%, p=0.012), lymph node involvement (59.3% vs. 37.7%, p=0.038), and lymphovascular space involvement (65.4% vs. 31.0%, p<0.001). The median follow-up was 41.9 months (range 1.0 to 259.5). PNI was associated with shorter recurrence-free survival (median 17.5 vs. 41.7 months, p=0.001) and overall survival (median 55.1 vs. 154.3 months, p<0.001).

Conclusion

Our data suggest that PNI is a poor prognostic factor for patients with vulvar carcinoma, and should be included as part of the pathologic analysis. Further study is warranted to determine if patients with PNI should be managed differently.

IGCSM-0708
Poster Shift II - Vulvar and Vaginal Cancer

CLINICAL CHARACTERISTICS OF BARTHOLIN'S GLAND CARINCOMA

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Aims

Primary carcinoma of the Bartholin's gland is a rare disorder that accounts for approximately 5% of vulvar carcinomas. The objective of this study was to compare the outcomes of women with primary Bartholin's gland carcinoma to those with non-Bartholin's gland related vulvar carcinoma.

Methods

A retrospective chart review of 429 patients with invasive vulvar carcinoma evaluated at a single institution between 1993 and 2011 was performed. Medical records were reviewed for demographic data, pathologic information, treatment type, and recurrence/outcome information. These variables were compared between patients with primary Bartholin's gland carcinoma and patients with non-Bartholin's gland related vulvar carcinoma.

Results

Thirty-three (7.7%) of the 429 patients with invasive vulvar carcinoma had primary carcinoma of the Bartholin's gland. Twenty-nine patients (87.9%) had squamous cell histology and 4 (12.1%) had adenocarcinoma. When compared with non-Bartholin's gland related vulvar carcinoma, patients with primary Bartholin's gland carcinoma had a younger age at diagnosis (median 57 vs. 63 years, p=0.045), higher rate of stage III/IV disease (60.6% vs. 35.8%, p=0.006), higher rate of positive margins (15.2% vs. 9.6%, p=0.19), and were more likely to receive radiation therapy (78.8% vs. 43.9%, p<0.001).

However, there were no significant differences between the two groups with regards to histologic subtype, lymphovascular space involvement, perineural invasion, recurrence rate, recurrence-free survival, or overall survival.

Conclusion

Despite being diagnosed at a more advanced stage, patients with primary carcinoma of the Bartholin's gland appear to have similar oncologic outcomes and survival rates to patients with non-Bartholin's gland related vulvar carcinoma.

IGCSM-0751
Poster Shift II - Vulvar and Vaginal Cancer

RTOG CONSENSUS CONTOURING GUIDELINES FOR TREATMENT OF VULVAR CARCINOMA WITH INTENSITY MODULATED RADIATION THERAPY

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Aims

A consortium of radiation oncologists from the USA, Canada and Australia, with expertise in the treatment of gynecological malignancy, collaboratively developed a guideline document to clearly detail how to contour the clinical target volume for patients with vulvar carcinoma, being treated with intensity modulated radiation therapy (IMRT). This study investigates the degree of agreement between expert physicians when generating CTV contours as per the guidelines, for two different cases. In addition, an aim of this study was to create a '95% confidence CTV', to be used as the basis for a contouring atlas.

Methods

Consortium members were invited to contour the clinical target volumes (CTV) for two patients with vulvar carcinoma, as per the guideline instructions. The first case involved a patient with locally advanced disease; the second case involved a post-operative scenario. Contours were compared and analyzed using an expectation-maximization algorithm for simultaneous truth and performance level estimation (STAPLE). A kappa statistic was used to assess agreement amongst participants.

Results

14 clinicians completed the contouring task for two cases. Based on kappa statistics, there was substantial agreement amongst clinicians' contours for both case one (kappa = 0.64) and case two (kappa = 0.62). The 95% confidence CTV was generated for each case.

Conclusion

Use of the RTOG guideline document confers substantial agreement amongst expert physicians when creating the CTV for patients with vulvar carcinoma. The contouring atlas is currently being developed.

IGCSM-0826
Poster Shift II - Vulvar and Vaginal Cancer

CLITORAL INVOLVEMENT OF SQUAMOUS CELL CARCINOMA OF THE VULVA: LOCALIZATION WITH THE WORST PROGNOSIS

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Aims
The overall 5-year survival of patients with vulvar squamous cell carcinoma (SCC) is 70%. The clinical impression is that localization of SCC on the clitoris may lead to worse prognosis. The aim of this study is to assess the disease specific survival (DSS) in patients with clitoral SCC compared to patients without clitoral involvement.
Methods
All consecutive patients with primary vulvar SCC treated with surgery at the Department of Gynecologic Oncology at the Radboud University Medical Centre (RUMC) between March 1988 and January 2012, were analyzed. The clinical- and histopathological characteristics and DSS rates of patients with (N=72) and without clitoral SCC (N= 275) were compared. Furthermore, patients with clitoral involvement were compared to patients with perineal SCCs (N= 52) and other central SCCs without clitoral- and perineal involvement (N= 117).
Results

Patients with clitoral SCC more often had larger, more invasive tumors, more lymphovascular space involvement (LVSI), more often positive surgical margins and a higher percentage of positive lymph nodes. Kaplan-Meier survival analyses showed worse DSS in patients with a clitoral SCC compared to patients without clitoral involvement. Multivariate analysis showed that not clitoral involvement, but invasion depth, differentiation grade and lymph node status are independent prognostic factors.

Conclusion
Patients with clitoral SCC have worse prognosis compared to patients without clitoral involvement, which may be explained by the deeper invasiveness of the primary tumors resulting in more groin metastases. Prospective studies are needed to further assess the influence of localization of the vulvar SCC on prognosis.

IGCSM-0832
Poster Shift II - Vulvar and Vaginal Cancer

DGOG STUDY: MEASUREMENT AND MORBIDITY OF THE BODY AFTER GROIN LYMPHADENECTOMY (MAMBO) IA: LONG DRAINAGE AFTER INGUINOFEMORAL LYMPHADENECTOMY IN WOMEN WITH VULVAR CANCER

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Aims
Standard treatment of vulvar cancer consists of wide local excision and groin dissection. About 50% of patients has an indication for full inguinofemoral lymphadenectomy (IFL) with high morbidity rates. Drain management might influence the incidence of short-term complications, however, worldwide there is no consensus on the optimal drain management. The aim of this observational study was dual: to perform the same protocol nationally (feasibility) and determine the incidence of short-term complications with long drainage after IFL.
Methods
Until now 47 vulvar cancer patients (84 groins) were included. A drain was inserted in the groin postoperatively and removed when production was <30 ml/24 hours or after 28 days. After 8 weeks, drain production and complications were assessed.
Results
Median time of drainage was 15 days, median last day production was 25 cc. In 57% (45/84 groins) the drain was removed outside protocol; 16 too early, 23 too late and 6 indistinct. Early removal was caused by complications in 37.5% (6/16), drain falling out in 43.8% (7/16), and for unknown reasons in 18.8% (3/16). Logistic difficulties caused late removal. In 37/82 groins (45%) in 27 patients ≥1 complications occurred: wound infection 26%, wound breakdown 4%, lymphocele 12% and erysipelas/cellulitis 11%. Secondary wound healing occurred in 31%.
Conclusion
These preliminary results show that execution of long drainage is difficult and does not

seem to decrease complication rate compared to previous retrospective studies. We expect data of 80 patients by November. Afterwards, we propose to evaluate the effect of short drainage.

IGCSM-1041
Poster Shift II - Vulvar and Vaginal Cancer

HPV STATUS OF THE PRIMARY TUMOR HAS AN IMPACT ON MAGE-A4 EXPRESSION IN VULVAR SQUAMOUS CELL CARCINOMA

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Aims

Background: Differences in CD8+ and CD4+ cell infiltration between HPV-negative and HPV-positive tumors found in our recent study require further investigation of the tumor microenvironment. Tumor-associated antigens could be potentially responsible for different infiltration signatures. The aim of the study was to evaluate CT antigens expression in relation to HPV status and to link it with the number of adaptive immune infiltrates.

Methods

Eighty-five vSCC tumor specimens collected from surgically treated patients were classified as HPV-negative or HPV-positive based on p-16 expression. The expression of MAGE-A1, MAGE-A4 and NYESO-1 within these tumors was determined by immunohistochemistry.

Results

Of the 85 vSCC patients, 50 were HPV-negative (p16-) and 35 were HPV-positive (p16+). MAGE-A4 was expressed in 84% (42/50) of p-16 negative and in 40% (14/35) of p16- positive tumors (p=0.0005). Expression of MAGE-A1 was disclosed in 8% (4/50) of p16-negative and in 17% (6/35) of p16-positive tumors (p=0.305). NY-ESO-1 was notified in only one case, and was excluded from further analysis. Expression of MAGE-A4 and MAGE-A1 were not correlated with CD8+ and CD4+ infiltrates in HPV negative and positive tumors. Both CT-antigens had no impact on the overall survival.

Conclusion

MAGE-A4 expression depends on HPV status of the tumor. The greater infiltration of the adaptive immune effectors (CD8+ and CD4+ T lymphocytes) observed in p16-negative cancer nests coexists with the higher indices of MAGE-A4.

IGCSM-1062
Poster Shift II - Vulvar and Vaginal Cancer

SENTINEL LYMPH NODE ASSESSMENT IN CLINICALLY EARLY STAGE VULVAR CANCER: A SINGLE INSTITUTION NON-RANDOMIZED CLINICAL TRIAL

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Aims

To evaluate the results of the sentinel lymph node (SLN) assessment in early-stage vulvar cancer patients from a single institution.

Methods

Prospective non-randomized study, IRB approval 203/2009. All patients admitted with T1 or T2, <5cm, uni or multifocal carcinoma of the vulva were eligible. SLN detection included radiotracer and blue dye. Inguinofemoral lymphadenectomy was omitted when SLN was negative at the final ultrastaging. Oncological endpoints and morbidity were evaluated.

Results

From Feb/2009 to Nov/2013, a SLN biopsy was performed in 31 patients. No patient refused the trial. SLN detection rate was 90.3%. The median follow-up time was 29 months. Complete inguinofemoral lymphadenectomy was performed in 6 patients with positive SLN (4 unilateral and 2 bilateral). Negative SLN group 3-year OS was 94% (95% CI, 90% to 99%). 5 vulvar recurrences were observed in the SLN negative group, all of them with the smaller margin between 0.3 to 0.5cm. One patient (0.04%) had a contralateral groin recurrence and died from disease. There was a tendency of a better OS among patients with tumors <2cm and of worse OS for positive SLN (Figures 1 and 2). Any degree of lymphedema was observed in 6 patients (3 negative SLN and 3 positive SLN, 12% and 50% respectively). No DVT occurred.

Conclusion

Local recurrence was related to narrow margins and positive SLN. Morbidity was acceptable, as the accuracy of the SLN biopsy (without lymphadenectomy) in this setting.

IGCSM-1067
Poster Shift II - Vulvar and Vaginal Cancer

VALIDATION OF THE NEW FIGO STAGING SYSTEM (2009) FOR VULVAR CARCINOMA IN CHINESE POPULATION

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Aims

A new FIGO staging system for vulvar carcinoma was issued in 2009. The aim of this study is to identify its value in estimating the outcome of patients with vulvar squamous cell carcinoma (VSCC) in Chinese population.

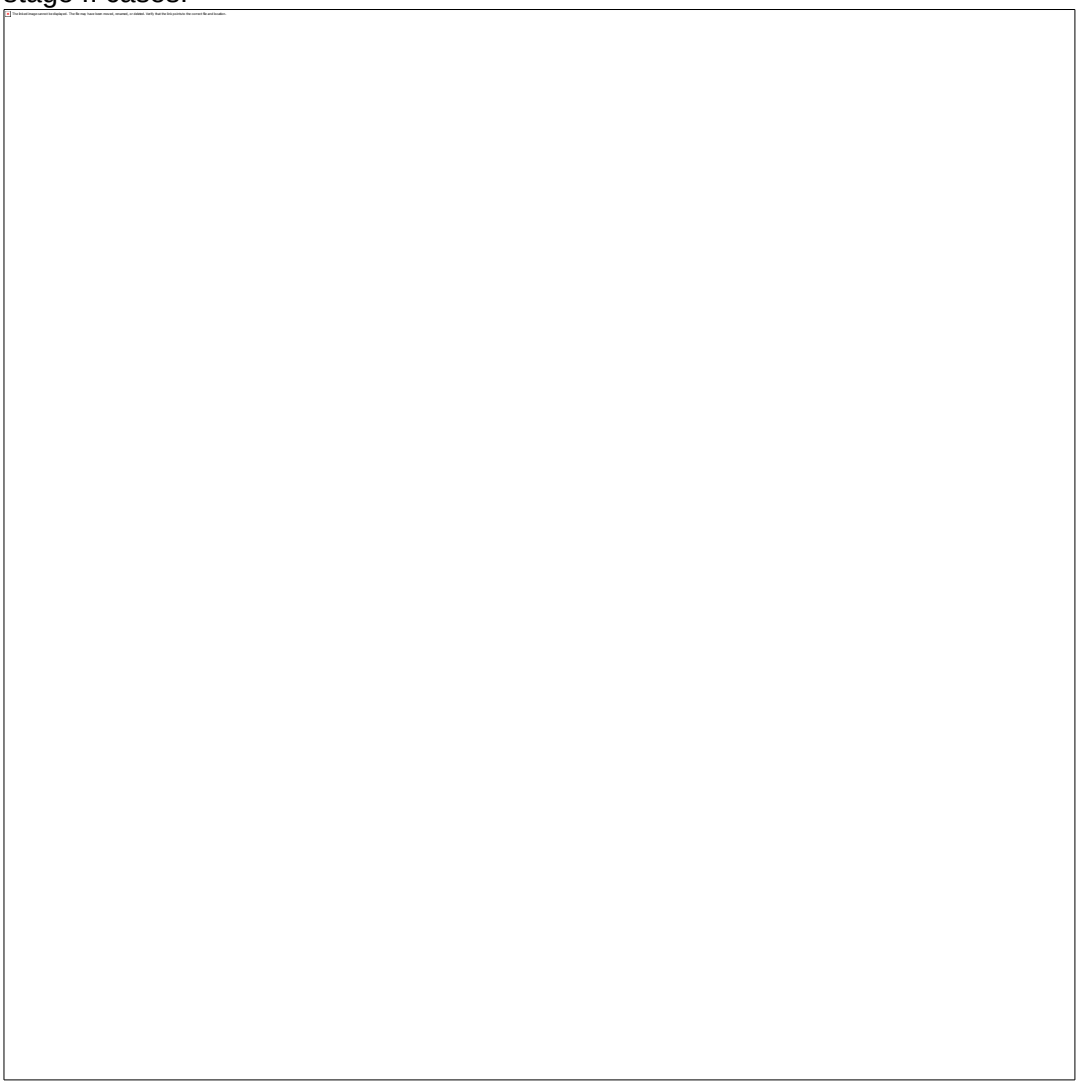
Methods

A total of 184 patients were recruited who underwent radical surgery for VSCC. Their medical records and pathology slides were reviewed. Reclassification was conducted according to the FIGO staging system (2009). Primary outcome was cause-specific survival(CSS), relapse-free survival(RFS) and overall survival (OS).

Results

The mean age of the patients was 60 years. The median follow-up was 56 months. Table 1 lists the details of survival rate according to the new staging system. Our findings include: (1) Patients were distinctly classified into 4 groups according to the survival: stage IA, stage IB/II/IIIA, stage IIIb, stage IIIc/IV ; (2) The 5-year CSS in patients with Stage IB, II and IIIA carcinomas were 84.4%,84.6% and 84.8% respectively ($p=0.986$), significantly higher than the patients with stage IIIB carcinomas (34.6%) ($p<0.001$). Thus, patients with stage IIIA carcinoma had favorable prognosis; (3) The 5-year RFS was significantly lower in patient with stage II carcinomas (46.2%) than the patients with stage IB (75.3%) and IIIA carcinoma (62.1%), though their CSSs were similar. Thus, recurrence could be resolved without comprimized overall survival for

stage II cases.



Conclusion

The changing of the New staging system was efficient for prognosis. A clear break was present between stage IIIA and stage IIIB as for survival.

IGCSM-1109
Poster Shift II - Vulvar and Vaginal Cancer

ANAL INTRAEPITHELIAL NEOPLASIA IN WOMEN WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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Aims

Background: Anal intraepithelial neoplasm (AIN) and squamous anal cell carcinoma (SACC) are uncommon malignancies (1.5-2% of all digestive tract cancers). Current data suggest an earlier and more severe onset of AIN and SACC in patients with immunosuppressive diseases, specially Systemic Lupus Erythematosus (SLE). There are associations between infection of Human Papillomavirus, AIN and immunosuppression caused by SLE. Aims: Present a case report and discussion of literature.

Methods

Case report.

Results

26 years old female, complained about genital warts that appeared 1 year after the diagnosis of SEL and lupus nephritis during immunosuppressive therapy. The patient started sexual activity at the age of 17 and had had 6 partners. Physical examination revealed an extensive vulvar/vaginal/anal condylomatoses. Anuscopy has showed exophytic clinical lesions in the anal canal up to 2cm above the external sphincter. Cervical cytology: low grade intraepithelial neoplasia (CIN1). Vaginal bacterioscopy: Nugent score=9, plus clue cells and yeast. The patient underwent electrocauterization and biopsy of the lesions. The histopathology revealed condylomatosis. During the follow-up, she developed new lesions, having used imiquimod/trichloroacetic acid and 5-fluorouracil for treatment. After 30 months, the patient returned complaining of perianal warts. Clinical examination revealed perianal verrucous lesion of 3cm in diameter on the perianal mucousa. A new surgical procedure for the cauterization was performed and identified AIN grade 3 with a surgical margin affected by condyloma.

Conclusion

Gynecological examination must include anuscopy in patients with genital infection for HPV especially with immunosuppressive diseases and a long term follow up is necessary due to the risk of relapse.

IGCSM-1226
Poster Shift II - Vulvar and Vaginal Cancer

DISSEMINATED LANGERHANS CELL HISTIOCYTOSIS: REPORT OF AN UNUSUAL CASE

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Aims

Langerhans cell histiocytosis (LCH) of the lower female genital tract was first reported in a 6-year old child in 1939. Histiocytosis encompasses a group of diverse disorders that are typically characterized by the accumulation and infiltration of monocytes, macrophages and dendritic cells in the affected tissues. LCH represents a disease continuum with varying clinical presentation, severity of involvement, organ dysfunction, and prognosis. LCH has been reported in multiple sites in the genital tract, including the vulva, vagina, cervix, uterus, and ovaries. We present a case of vulvar LCH with subsequent multiorgan involvement and discuss the management of this condition.

Methods

A 32-year old woman presented with a vulvar ulcer. The lesion was biopsied. Results of the immunohistochemical studies were consistent with LCH. Metastatic work up showed evidence of disease in the oral mucosa, bone and brain.

Results

The patient underwent chemotherapy with Cytarabine. After the first cycle, the patient suffered a thromboembolic event; consequently, amputation of the right lower extremity was performed. Response to chemotherapy was noted with reduction in the size of the vulvar mass and decrease in bone pain. However, the patient succumbed to death from complications.

Conclusion

This study undersores the fact that LCH should not be thought to be a disease exclusively of childhood. It encompasses distinct clinical presentations that may confound both the gynecologist and the pathologist. The disease in our case was responsive to Cytarabine. Unfortunately, response to the chemotherapy was not

completely assessed due mortality form complications. The difficulty lies in the unpredictability of LCH.

IGCSM-1303
Poster Shift II - Vulvar and Vaginal Cancer

SENTINEL LYMPH NODE MAPPING IN PATIENTS WITH VULVAR MALIGNANCIES USING INDOCYANINE GREEN AND A NEAR-INFRARED IMAGING SYSTEM: PRELIMINARY DETECTION RATE EXPERIENCE

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Aims

To assess indocyanine green (ICG) and a near-infrared (NIR) imaging system to perform sentinel lymph node (SLN) mapping in patient with vulvar malignancies.

Methods

We captured all patients in whom NIR imaging was used from 1/1/13 to 5/31/14. 25 mg of ICG powder was diluted in 20 ml sterile water and a standard injection was performed peri-tumoral on the vulva. NIR imaging was then performed using the SPY *Elite*® System (LifeCell™, Bridgewater, NJ). At-risk groins were defined based on the location of the tumor as being midline or not. Successful SLN mapping required the identification of lymph nodes in the specimen.

Results

NIR imaging was performed in 12 patients with 22 at-risk groins. Altogether, Tc99 in in conjunction with ICG was used in 9 cases encompassing 17 at-risk groins. Successful mapping was seen in 20 (91%) of 22 groins overall. Tc99 resulted in successful mapping in 14 (82%) of the 17 groins. In comparison, ICG resulted in successful mapping in 19 (86%) of 22 groins. No SLN was blue alone. ICG detected SLNs in 3 groins that were not mapped with Tc99. ICG alone without any other detector was used in 2 patients with 3 at risk groins. SLNs were identified in all 3 groins. SLN metastases (macro- or micromets) were identified in 4 (36%) of the other 11 patients.

Conclusion

The interstitial/cutaneous injection of ICG and NIR imaging for SLN mapping of vulvar malignancies seems promising. It may eliminate the inconvenience of Tc99 based SLN mapping pending further validation.

IGCSM-1347
Poster Shift II - Vulvar and Vaginal Cancer

TREATMENT AND OUTCOME OF LATE STAGE VULVA CANCER AT THE PRETORIA ACADEMIC HOSPITAL COMPLEX, SOUTH AFRICA

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BACKGROUND

Treatment of advanced vulva cancer remains challenging with no clear guidelines. Treatment completion and outcomes are unstudied in settings similar to ours and the success of primary radiation or chemo-radiation (RT/CRT) for inoperable patients is unknown. The aim of this study was to describe the clinical and tumour characteristics, treatment decisions and results of patients with advanced vulva cancer treated at our Centre.

MATERIALS AND METHOD

134 patients treated 2001-2013 for FIGOII+ vulva cancer at the University of Pretoria Academic Hospital complex were included in this audit. We studied demographics, co-morbidities, tumour characteristics, treatment decisions, completion and outcomes.

RESULTS

The median age was 43 years; 41% were HIV+ and 71% had PS >1. Haemoglobin was <10g% in 41% and albumin <30 in 35%. FIGO stages were stage II in 27%, stage III in 36% and stage IV in 36%; 12% of tumours were <4cm diameter. Among 69 operated women, 36.7% had positive groin nodes, 34.6% close/ positive margins and 59.2% received adjuvant radiation.

61 of 65 patients referred for primary RT/CRT, started radiation (33 palliative and 28 radical), but only 14 completed prescribed RT dosage. Secondary surgery was offered to 9 patients (13.8%), 4 accepted. Only 9/65 patients (13.8%) offered non-surgical primary treatment completed curative therapy.

CONCLUSION

These young patients, often HIV+, had very poor treatment completion rates for non-surgical therapy thus primary surgery may have to be reconsidered even when incontinence will result. Haemoglobin and nutritional status are factors influencing decisions against surgery that could be addressed.

IGCSM-0010
Poster Shift III - Basic/translational science

COST-EFFECTIVENESS ANALYSIS OF ANAL CANCER SCREENING IN WOMEN WITH CIN II OR CIN III

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Aims
Precursors to anal squamous cell carcinoma may be detectable through screening; however, the literature suggests that population-level testing is not cost-effective. Given that high-grade cervical intraepithelial neoplasia (CIN) is associated with an increased risk of developing anal cancer, and in light of changing guidelines for the follow-up and management of CIN, it is worthwhile to examine the costs and effectiveness of an anal cancer screening program delivered to women with previously-detected CIN.
Methods
A health state transition model of anal cancer screening and treatment was constructed, to estimate the cost-effectiveness of a population of CIN II/III+ women who were screened using anal cytology vs. one that received no anal cancer screening. Costs were based on Canadian estimates, and survival was based on estimates taken from the scientific literature. Effectiveness was measured in terms of life years gained (LYG) and quality-adjusted life years (QALYs). The model was run for 50 cycles, with each cycle representing one year
Results

Incremental cost (screened vs. unscreened) was $88.44 per woman in the model. Incremental effectiveness was 0.004 LYG, or -0.0364 QALY. An ICER of $19,680/LYG was calculated, while screening was dominated (cost more, is less effective) in terms of quality-adjusted survival.

Conclusion
Our analysis suggests that anal cancer screening is cost-effective in terms of LYG in women with a previous diagnosis of CIN II or CIN III as part of regular follow-up, but this could come at a cost of significant disutility because of side effects of screening related interventions.

IGCSM-0075
Poster Shift III - Basic/translational science

HNF1B OVEREXPRESSION SUPPRESSES EMT IN OVARIAN CLEAR CELL CANCER (OCCC) AND CONTRIBUTES TO ITS EARLY STAGE PRESENTATION

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Aims

HNF1B is overexpressed in >90% of OCCC and is a driver event. We determined the HNF1B-driven transcriptional programme and its effects on proliferation and metabolism in highly characterised OCCC cell lines.

Methods

shRNA and siRNA were used to knock down HNF1B in 6 OCCC cell lines (TOV21G, SKOV3, JHOC-5, JHOC-7, JHOC-9 and OVISE). In ovarian surface epithelium (IOSE4) cells we expressed HNF1B (IOSE4+HNF1B) using lentiviral transduction. RNA expression profiling from Illumina Beadchip arrays was analysed with MetaCore. Assay methods included SRB proliferation, scratch wound migration, Boyden chamber invasion, NMR characterization of intracellular and media metabolites and colorimetric quantification of intracellular glycogen.

Results

HNF1B was overexpressed in all 6 OCCC lines and knockdown (HNF1B-KD) significantly decreased proliferation (mean 47% SE 12%). PEO1 did not express HNF1B and HNF1B-KD had no effect on proliferation. Adhesion, cytoskeleton remodelling and EMT regulation pathways were the most significantly altered after HNF1B-KD in JHOC-5 and TOV21G cells (FDR<3.25×10^{-5}). HNF1B-KD increased migration in JHOC-5 and TOV21G ($p<0.0004$) and invasion in JHOC-5 cells only ($p=0.05$). HNF1B-KD in JHOC-5 cells reversed the Warburg effect, increased TCA cycle intermediaries and decreased glycogen content. Overexpression of HNF1B in IOSE4 cells increased proliferation (mean 74% SE 8%) and glycogen content ($p=0.04$) but decreased migration ($P<0.001$).

Conclusion

HNF1B overexpression confers proliferative and metabolic advantages in OCCC but suppresses migration and invasion. This may explain common clinical features of OCCC, particularly early stage at presentation and low frequency of transperitoneal metastasis. HNF1B and its downstream effectors are potential therapeutic targets in OCCC.

IGCSM-0115
Poster Shift III - Basic/translational science

4-METHYLUMBELLIFERONE INHIBITS OVARIAN CANCER GROWTH BY DOWN-REGULATING EXPRESSION OF THYMIDINE PHOSPHORYLASE.

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Aims

4-methylumbelliferone (MU), a hyaluronan (HA) synthase inhibitor, has been reported to exhibit antitumor activity in various cancer cells. However, few studies have focused on its effects on ovarian cancer. We investigated antitumor effects of MU on ovarian cancer.

Methods

Human ovarian serous adenocarcinoma cell line, HRA was used in this study. Antitumor effects of MU were examined by cell proliferation, migration, and invasion assays in *in vitro* as well as rat peritoneal carcinomatosis model in *in vivo*. mRNA expressions of HA synthase (HAS), HA receptor CD44, angiogenic factor thymidine phosphorylase (TP) in HRA were analyzed by realtime reverse transcriptase polymerase chain reaction.

Results

In vitro, MU inhibited cell proliferation of HRA dose-dependently. *In vivo*, MU administration reduced growth of intraperitoneal tumors and malignant ascites, and it prolonged survival period. MU significantly suppressed expression of TP mRNA. Genetic analysis revealed that altered expression of HAS and CD44 mRNAs in HRA was not found between the presence and absence of MU.

Conclusion

MU showed antitumor effect on ovarian cancer cell *in vivo* and *in vitro*. Although antitumor effect of MU was not related to inhibition of HAS, the present results suggested that MU could inhibit tumor development by anti-angiogenesis via suppressing TP.

IGCSM-0119
Poster Shift III - Basic/translational science

INHIBITION OF HDAC7 MAY SUPPRESS HIF-1 ACTIVATION IN OVARIAN CLEAR CELL ADENOCARCINOMA

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Aims

We have previously reported that hypoxia inducible factor -1 (HIF-1) has a high transcriptional activity in ovarian clear cell adenocarcinoma, and its activation is possibly associated with histone deacetylase 7 (HDAC7). Although there are some reports indicating that activation and stabilization of HIF-1 is associated with various HDAC families, the details have yet to be clarified. This time, we examined the relationship between the HDAC family and HIF-1 activation in ovarian clear cell adenocarcinoma.

Methods

Ovarian clear cell adenocarcinoma in glandular tissues.We added an HDAC inhibitor (SAHA: suberoylanilide hydroxamic acid: Vorinostat) to the culture medium of ovarian tumor cell lines at 2 concentrations (1μM and 5μM) and recovered cells 24 hours later to extract ribonucleic acid (RNA). Then we produced cDNA and used the real-time polymerase chain reaction (RT-PCR) to analyze changes of mRNA expression in each subtype of the HDAC family and each factor in the HIF family.

Results

In a recurrent tumor line (HUOCA-II), it was confirmed that SAHA suppressed the expression of HDAC7 and HIF-1α in a concentration-dependent manner.

Conclusion

Because it suppressed the HDAC family, including HDAC7, possible effectiveness of SAHA as a new HIF-1 inhibitor was suggested, based on its demonstrated suppression of HIF-1α expression.

IGCSM-0124
Poster Shift III - Basic/translational science

DNA DEMETHYLATION AGENT INHIBITS TUMORIGENESIS REGULATED BY HUMAN OVARIAN CARCINOMA STROMAL PROGENITOR CELLS

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Aims

The aims is to identify the influence on the demethylating agent treatment on the tumorigenesis of the isolated human ovarian carcinoma stromal progenitor cells.

Methods

The ovarian carcinoma stromal progenitor cells (OCSPCs) isolated from human ovarian cancer fresh tumor tissues and ascites samples were analyzed before and after 5-aza-2-deoxycytidine (5-AZA) treatment in vivo and in vitro.

Results

The OCSPCs possessed self-renewal and multipotent differentiation capacity with elevated expressions of the pluripotent factors, OCT4 and NANOG. The results showed that OCSPCs have unique gene expression profile with increased levels of BMP2, BMP4, Rex-1, AC133 and TGF-β. When combined with tumor cells *in vivo*, OCSPCs promoted tumor growth. DNA demethylating agent, 5-aza-dC inhibited the tumor promoting capabilities of OCSPCs by decreasing the proliferation of epithelial tumors cells in *in vivo* and *in vitro* studies. DNA demethylating agent also altered the methylation levels of tumor suppressor genes (TSGs) in OCSPCs with the methylation percentages of CDKN2B (50%), RASSFIA (44%), DLC1 (44%), CCND2 (31%) analyzed by MSMLPA. The expression levels of these TSGs were significantly lower in OCSPCs than those in tumor cells ($p<0.001$). 5-Aza-dC treatment was able to re-express those TSGs and inhibited the self-renewal and growth of OCSPCs.

Conclusion

The results showed that OCSPCs with decreased TSG expressions in the ovarian tumor microenvironment were able to promote tumorigenesis and which could be reversed by DNA demethylation agent. Thus, de-methylation reversing the TSG expression in stromal progenitors may present alternative therapeutic potential target for ovarian cancers.

IGCSM-0135
Poster Shift III - Basic/translational science

TRADITIONAL JAPANESE MEDICINE, GOSHAJINKIGAN, PREVENTS PACLITAXEL-INDUCED PERIPHERAL NERVE DISORDER

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Aims
This study aimed to evaluate the prophylactic effect of goshajinkigan (GJG) on paclitaxel (PTX)-induced neuropathy and elucidate the mechanism of action.
Methods
A dose of 10 mg/body of PTX was administered to 8-week-old rats on days 1, 8 and 15. GJG 30 mg/body was daily administered from one week before the start of PTX. Animals were divided into control, PTX, and PTX + GJG groups.
Results
There was a time-dependent irreversible decrease in pain threshold in PTX group. In PTX + GJG group, the pain threshold showed changes in the same level as control. Electron microscope showed that although the ganglion cells of control and PTX + GJG groups were normal, degeneration of the nucleus and swelling of the mitochondria were observed in PTX group. Validation by RT-PCR clarified that expression of *transient receptor potential vanilloid 4 (TRPV4)* gene in PTX group significantly increased compared with that in control and PTX + GJG groups. Tissue microarray demonstrated increased expressions of TRPV4, integrin and Src tyrosine kinase in the ganglion cells in PTX group, and decreased expression of TRPV4 in those in PTX + GJG group. In *TRPV4* knock-out mice, no PTX-induced hyperalgesia was observed, and there was no significant difference in the pain threshold between the 3 groups.
Conclusion
The results showed that PTX caused degeneration of the ganglion cells and suggested that it induced hyperalgesia by enhancing expression of TRPV4. The results also suggested that GJG might alleviate hyperalgesia by preventing degeneration of the ganglion cells and suppressing expression of TRPV4.

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IGCSM-0148
Poster Shift III - Basic/translational science

DECREASED EXPRESSION OF CARBONYL REDUCTASE1 PROMOTES PROLIFERATION AND GROWTH OF OVARIAN CANCER

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Aims

The level of human carbonyl reductase 1 (CBR1) expression is related to tumor progression. Decreased CBR1 expression is associated with poor prognosis in ovarian cancer. In this study, we investigated the relationship between the level of CBR1 expression and malignant potential of ovarian cancer.

Methods

1) We constructed CBR1-overexpressed or suppressed cells by transfecting CBR1 cDNA or siRNA into OVCAR-3 cells using electroporation. Cell proliferation and invasion potentials in *in vitro* were compared between both cells. 2) We also constructed subcutaneous CBR1-overexpressed OVCAR-3 tumors (n=10) and wild-type OVCAR-3 tumors (n=5) in nude mice and then injected CBR1 siRNA twice a week into 5 of 10 CBR1-overexpressed tumors. Tumor growth and metastatic behavior were observed 3 weeks after cell transplantation in tumors of 5 each.

Results

1) Cell proliferation significantly decreased in CBR1-overexpressed cell as compared to the control, whereas cell proliferation and invasion potentials significantly increased in CBR1-suppressed cells as compared to the control. 2) CBR1 siRNA-injected tumors significantly grew compared to the other 2 grouped tumors. Number of metastatic foci in lung was 7±2, 0, and 2±2 in mice bearing CBR1 siRNA-injected, CBR1-overexpressed, and wild-type tumors, respectively, being significant.

Conclusion

Overexpression of CBR1 inhibited tumor growth, while loss or decrease of CBR1 promoted tumor growth and metastatic potential, suggesting that CBR1 having control of tumor development might become a new candidate for molecular targeting therapy.

IGCSM-0179
Poster Shift III - Basic/translational science

HEAR THE ROR! THE ROLE OF WNT SIGNALLING IN OVARIAN CANCER.

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Aims

The poor overall prognosis for ovarian cancer patients results in part from ineffective therapy for advanced disease and resistance to therapy. A major challenge remains in the identification of molecular pathways to aid in prognosis and as targets for new therapeutic strategies. In recent years, members of the Wnt signalling pathway have been implicated in carcinogenesis and drug resistance, and have potential as diagnostic, prognostic and therapeutic targets. The aim of our study was to investigate the role of two novel Wnt receptor tyrosine kinases (RTKs), Ror1 and Ror2, in ovarian cancer.

Methods

We performed immunohistochemistry (IHC) for Wnt proteins on a large cohort of Swiss and Australian patient samples, including benign controls, borderline tumours and a range of epithelial ovarian cancer histotypes. In addition, we performed functional studies in ovarian cancer cell lines to investigate the role of Ror1 and Ror2 in epithelial to mesenchymal transition (EMT), chemoresistance and carcinogenesis.

Results

In vitro studies support the role of the Ror receptors in beta-catenin independent Wnt signaling, increased EMT, chemoresistance and increased cancer cell proliferation and migration. Ror1 and Ror2 expression is increased in ovarian cancer patient samples compared to borderline and benign controls.

Conclusion

The novel RTKs, Ror1 and Ror2, are upregulated in epithelial ovarian cancer and may represent targets for innovative future targeted therapy.

IGCSM-0185
Poster Shift III - Basic/translational science

PLAGL2 REGULATES ACTIN CYTOSKELETAL ARCHITECTURE AND CELL MIGRATION.

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Aims

Pleimorphic adenoma gene like-2 (PLAGL2), along with PLAG1 and PLAGL1, is a member of the PLAG family gene and contains C_2H_2 zinc finger motifs that are essential for DNA binding and transcriptional activation. PLAG1 is considered to be oncogenic because of chromosomal translocation associated with pleomorphic adenoma of salivary gland and increased expression in lipoblastoma and hepatoblastoma. PLAG1 promotes cell proliferation by inducing expression of insulin-like growth factor II (IGF-II), which is overexpressed in several types of human cancers.Loss of PLAGL1 expression has been reported in human tumors, including breast, ovary and prostate cancer, pituitary adenoma, squamous cell carcinoma of the head and neck, basal cell carcinoma, and hemangioblastoma. Although extensive studies have been performed on PLAG1 and PLAGL1, physiological role of PLAGL2 remains elusive.

Methods

Depletion of PALGL2 in two different ovarian cancer cells, ES-2 and HEY cells, induced activation of RhoA, whereas Rac1 was inactivated.

Results

Actin stress fiber formation was significantly promoted by PLAGL2 knockdown, which was dependent on the activity of RhoA. Conversely, exogenous expression of PLAGL2 in MDA-MB-231 cells, a breast cancer cells, resulted in the activation of Rac1 and the inactivation of RhoA. In addition, stress fiber formation was disrupted and robust formation of lamellipodia was induced by PLAGL2 overexpression. Finally, we show that CHN1 expression is crucial for the Rac1 inactivation in PLAGL2 depleted cells.

Conclusion

Our results demonstrate a crucial role of PLAGL2 for actin dynamics and give further insight for the role of PLAGL2 in cellular transformation and apoptosis.

IGCSM-0225
Poster Shift III - Basic/translational science

COMBINED DNA METHYLATION ANALYSIS IN HPV-INFECTED CERVICAL CELLS

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Aims

DNA methylation of tumor suppressor genes can serve as a mechanism of carcinogenesis. We assessed the methylation patterns of 4 genes in a full spectrum of cervical lesion.

Methods

A retrospective study was conducted on 206 patients including NIL (n=27), ASCUS (n=39), LSIL (n=44), HSIL (n=48), and cervical cancer (n=48) in liquid-based Pap tests and all patients were HPV-positive. DNA was extracted from cervical scrapings. Methylation levels of genes, such as adenylate cyclase activating polypeptide 1 (ADCYAP1), paired boxed gene 1 (PAX1), cell adhesion molecule 1 (CADM1) and T-lymphocyte maturation associated protein (MAL) were measured by using pyrosequencing. Cutoff values of the percentage of methylation reference (PMR) for different cervical lesions were determined to test the sensitivity and specificity and to generate receiver operating characteristic (ROC) curves.

Results

HPV 16 and 18 had higher incidence in the category of HSIL and carcinoma than less severe cytology category. ADCYP1 and PAX genes were significantly increased in HSIL and cancer compared to NILM, ASC-US and LSIL and MAX & CADM1 genes were significantly increased in cancer compared to other cytology. ASC-US showed variable level.

According to ROC curve analysis, the sensitivity and specificity for detecting cervical cancer were 89.6% and 92.3% for ADCYAP1, 77.1% and 100% for PAX1, 58.3% and 96.2% for CADM1, and 70.8% and 96.2% for MAL.

Conclusion

This study suggests that DNA methylation could be related with cervical cancer development and useful marker for early detection of cervical cancer**.**

IGCSM-0306
Poster Shift III - Basic/translational science

EXPRESSION LEVEL OF RECQL1 IS A PROGNOSTIC FACTOR IN EPITHELIAL OVARIAN CANCER

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Aims

Human RecQ DNA helicases family is involved in genomic stability. Gene mutations of *RecQL2, RecQL3, RecQL4* are associated with the genetic disorder and induce early aging and carcinogenesis. Although there are a few reports that expression level of RecQL1 is correlated with prognosis of some of malignancies. This study was conducted to investigate the relationship in prognosis between epithelial ovarian cancer and expression level of RecQL1, and to elucidate the functional role of RecQL1 in cancer cells.

Methods

The expression level of RecQL1 was immunohistochemically investigated in 111 patients with epithelial ovarian cancer who received initial treatment at our hospital between 2006 and 2011. Cell proliferation and apoptosis were compared between wild type of CVCAR-3 cells (RecQL1(+) cells) and those transfecting *RecQL1* siRNA (RecQL1(-) cells).

Results

Although the expression level of RecQL1 had no relation to histologic type, the clinical stage or retroperitoneal lymph node metastasis, it was significantly stronger ($p=0.002$) in patients with relapse than those without relapse. In the patients with stage III or IV cancer that had evaluable masses, RecQL1 significantly overexpressed in patients who did not achieved complete response ($p=0.03$) compared to those who achieved complete response. Colony formation assay showed that RecQL1(-) cells significantly reduced cell proliferation compared to RecQL1(+) cells. Flowcytometry after staining of annexin V -FITC and PI showed a significant increase of apoptotic cells in RecQL1(-) cells.

Conclusion

These results suggest that RecQL1 in epithelial ovarian cancer is one of the prognosticators and contributes to malignant potential via suppressing apoptosis.

IGCSM-0311
Poster Shift III - Basic/translational science

A NEW MARKER OF POOR OUTCOME AND POTENTIAL THERAPEUTIC TARGET IN OVARIAN CLEAR CELL CARCINOMA.

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Aims

Examine the role of the cellular receptor CDCP1 in ovarian clear cell carcinoma (OCC), and assess whether its expression in patients correlates with poor outcome.

Methods

Immunohistochemistry was performed on samples from 207 patients and 40 normal ovaries. Kaplan Meier analysis evaluated whether CDCP1 expression correlates with patient outcome. The effect of modulating CDCP1 expression on proliferation, migration, resistance to chemotherapy and sphere forming capacity of 3 OCC cell lines was assessed using in vitro assays. The effect on tumour growth and ascites formation of silencing CDCP1 and blocking its function using monoclonal antibodies, was studied using a mouse model.

Results

CDCP1 was expressed in 89% of evaluable cases. It was not detected in normal ovaries. Of the 108 patients who died of OCC, disease free survival was much shorter in the 84 patients expressing CDCP1 compared with the 24 non-expressers. There was a definite trend towards shorter overall survival for expressers compared with non-expressers however this did not quite reach statistical significance. Our in vitro assays demonstrated that CDCP1 mediates migration and non-adherent growth of OCC cells as spheroids, and also resistance to chemotherapy. Mouse assays showed that silencing of CDCP1 caused a marked reduction in tumor growth and accumulation of ascites. In addition, anti-CDCP1 function blocking antibodies were effective at reducing growth within the mouse peritoneum of OCC cells. These antibodies were also effective at reducing accumulation of ascites in this model system.

Conclusion

Further work is warranted to assess whether targeting CDCP1 may be beneficial for OCC patients.

Conflict of interest
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IGCSM-0386
Poster Shift III - Basic/translational science

THE ARID 1A PATHWAY IN OVARIAN CLEAR CELL AND ENDOMETRIOID CARCINOMA, IN CONTIGUOUS ENDOMETRIOSIS AND IN BENIGN ENDOMETRIOSIS

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Aims

Somatic mutations in ARID1A gene which encodes BAF250a, a key component of the SWI-SNF chromatin remodelling complex have been recently associated with loss of ARID1A (BAF250a) protein expression in ovarian clear cell and endometrioid cancers and in contiguous endometriosis. It has been postulate that inactivation of the SWI-SNF complex may facilitate DNA double-strand break repair by promoting H2AX phosphorylation without affecting the ATM pathway. We have adressed this hypothesis in ovarian clear cell and endometrioid carcinomas, in contiguous endometriosis and in benign endometriosis (cases without carcinoma).

Methods
A tissue microarray including 59 endometrioid carcinoma, 36 clear cell carcinoma, 18 caes of contiguous endometriosis and 66 cases of benign endometriosis was used in this study. Immunohistochemistry was performed to evaluate the level of ARID1A, DDR proteins (pATM, pChk2, H2AX) and apoptosis proteins (Bcl2, BAX and BIM).
Results
In the cases showing loss of ARID1A expression, H2AX, BIM and BAX expression were increased in clear cell and endometrioid carcinoma and in contiguous endometriosis whereas pATM and pCHK2 were low. In contrast, all these proteins had a low expression in benign endometriosis.
Conclusion

Loss of ARID1A expression appears to be an early molecular event and our results indicate that loss of the SWI SNF complex is accompanied by alterations in H2AX and a concomitant activation of the apoptosis pathway.

IGCSM-0391
Poster Shift III - Basic/translational science

PROPHYLACTIC OOPHORECTOMY FOR HEREDITARY SMALL-CELL CARCINOMA OF THE OVARY, HYPERCALCEMIC TYPE

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Aims

Small-cell carcinoma of the ovary, hypercalcemic type, (SCCOHT) is a rare, but highly lethal, cancer with a median age of 24 years. The ovarian cell of origin of SCCOHT is unknown. We recently demonstrated that germline and acquired mutations in the *SMARCA4* gene are the major, and possibly only, cause of SCCOHT. We now report the first instance of genetic counseling and prophylactic oophorectomy for hereditary SCCOHT.

Methods

Genetic counseling and mutational analysis of the *SMARCA4* gene was performed in an unaffected woman from a family with hereditary SCCOHT. The ovaries were serially sectioned and examined for pre-malignant lesions and for immunohistochemical expression of the BRG1 protein encoded by *SMARCA4*.

Results

Three females in this family had SCCOHT, and two died prior to age 30. A germline mutation in the *SMARCA4* gene (c.2617-3 C>T) was found that results in a truncated BRG1 protein. A 33 year old relative with three children underwent genetic counseling. Genetic testing demonstrated that she carried the same *SMARCA4* mutation and she underwent prophylactic bilateral oophorectomy. Serial sections of the ovaries showed no evidence of a premalignant lesion or loss of BRG1 protein.

Conclusion

With the discovery that germline *SMARCA4* mutations cause SCCOHT, genetic testing likely will increasingly be performed at younger ages. Non-carriers can be reassured that they are not at risk for SCCOHT. Because of the high penetrance, early onset and high lethality of SCCOHT, mutation carriers face difficult decisions.

These women may be appropriate candidates for cryopreservation of eggs or embryos prior to prophylactic oophorectomy.

IGCSM-0410
Poster Shift III - Basic/translational science

ZINC INDUCES APOPTOSIS ON CERVICAL CARCINOMA CELLS BY P53-DEPENDENT AND -INDEPENDENT PATHWAY

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Aims

There is evidence that the mineral zinc is involved in apoptotic cell death of the various carcinoma cells. In this study, we are aim to see whether zinc in the form of CIZAR induce apoptosis on cervical carcinoma cells by increasing intracellular zinc concentration.

Methods

CaSki, HeLa cervical carcinoma cells and HPV-16 DNA transformed keratinocyte (CRL2404) were treated with different concentrations of CIZAR. Cell viability test and intracellular level of zinc were determined and apoptosis was confirmed by flowcytometry after propidium iodide (PI) staining and fluorescence microscopy undr DAPI staining. Expression of cell cycle regulators were analyzed by Western blot and expression of HPV E6 and E7 genes by RT-PCR.

Results

Intracellular zinc accumulation induced the down-regulation of E6/E7 proteins through targeting for the specific transcriptional factors in the upstream regulatory region. p53 were induced after treatment of CIZAR and p53-dependent apoptosis was not occurred after knock down by p53 siRNA. In cervical carcinoma cells regardless of HPV-infection, CIZAR induces apoptosis by activation of the p53-independent pathways through the up-regulation of $p21^{waf1}$, the down-regulation of c-Myc, and also decreasing the Bcl-2/ Bax ratio.

Conclusion

In conclusion, CIZAR induces apoptosis not only through the restoration of p53/Rb-dependent pathways on HPV-positive cells but also through the activation of p53/Rb-independent pathways and the mitochondrial death-signal pathway on cervical carcinoma cells regardless of HPV-infection.

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IGCSM-0437
Poster Shift III - Basic/translational science

SERUM MICRORNAS IN CLEAR CELL CARCINOMA OF THE OVARY

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Aims

To identify candidate microRNAs (miRNAs) in the serum of patients with clear cell carcinomas for monitoring disease progression.

Methods

Sera of patients with diagnosis of ovarian clear cell carcinoma were collected prospectively from 2009 to 2012. Sera were collected side-by-side when CA125 determination was performed. Real-time quantitative PCR analysis for 270 miRNAs was performed. To offset the potential extraction bias, an equal amount of *Caenorhabditis elegans (C. elegans)* cel-miR-238 was added to each serum specimen before miRNA isolation. MiRNA expression was analyzed using the ΔCt method, with cel-miR-238 as controls. Wilcoxon tests were performed to identify significantly differential expression of miRNAs between preoperative and postoperative sera.

Results

A total of 21 patients with clear cell carcinoma were included. In the discovery phase on four pairs of pre- and postoperative sera, 18 differentially expressed miRNAs were selected from 270 miRNAs. In the validation phase on an independent set of 11 pairs of pre- and postoperative sera, 4 miRNAs (hsa-miR-130a, hsa-miR-138, hsa-miR-187, and hsa-miR-202) were confirmed to be higher in the pre-operative sera. In the application phase, hsa-miR-130a was in agreement with the different time points in 7 of the 10 patients during clinical follow-up periods. More importantly, in three patients, hsa-miR-130a levels were elevated in early disease recurrences before CA125 elevation.

Conclusion
Hsa-miR-130a may be a useful serum biomarker for detecting recurrence of ovarian clear cell cancer, and its use warrants further studies.

IGCSM-0438
Poster Shift III - Basic/translational science

ANTI-ANGIOGENIC EFFECT OF ITRACONAZOLE IN EPITHELIAL OVARIAN CANCER

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Aims

Recently, antifungal drug itraconazole identified as a novel agent with potential anti-angiogenic activity.The purpose of this study is to test the effects of itraconazole on tumor development and growth in epithelial ovarian cancer.

Methods

We treated itraconazole in ovarian cancer cells (HeyA8, SKOV3ip1, HeyA8-MDR, & SKOV3-TR) or endothelial cells (HUVEC & SVEC4-10) to evaluate the effect on cell proliferation. To check the VEGFR2, S6K1 and Glii1 level according to itraconazole treatment, we performed the Western blot and RT-PCR in endothelial cell lines.

In addition, therapy experiments of itraconazole with or without paclitaxel were done using human ovarian cancer cell lines SKOV3ip1 and HeyA8 in nude mice.

Results

Itraconazole treatment significantly inhibited the proliferation of endothelial cells including HUVEC & SVEC4-10s in a dose dependent manner. Treatment with 800nM itraconazole significantly decreased the expression of VEGFR2 compared to the negative control DMSO.

Moreover, we found that itraconazole inhibits mTOR pathway target marker such as ribosomal protein p70S6 kinase (S6K1).

Expression of Gli1, one of the main target of the Hh signaling was also inhibited by itraconazole in HUVEC.

In HeyA8 & SKOV3ip1 orthotopic mouse models, the mice treated with the combination of itraconazole and paclitaxel had significantly decreased tumor weight ($P < 0.05$) compared with control (PBS), paclitaxel alone, or itraconazole alone group, respectively.

Conclusion

These results suggest that itraconazole selectively inhibits endothelial cells rather than cancer cell itself through multiple mechanism of VEGFR2 degradation, Hh and mTOR pathway. Administration of itraconazole could be considered as new anti-angiogenic agents in treatment of epithelial ovarian cancer.

IGCSM-0439
Poster Shift III - Basic/translational science

EFFECT OF PROTON PUMP INHIBITOR IN CERVICAL CARCINOMA

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Aims

Some mechanisms of tumor resistance to cytotoxic drugs involve increased acidification of the tumor microenvironment. Here, we investigated whether PPI could increase the sensitivity of tumor cells to cytotoxic agents via inhibition of the V-ATPase in cervical cancer.

Methods

The sensitivity to chemotherapeutic agents following esomeprazole pretreatment was assessed in cervical cancer cell lines using MTT assay. To assess the apoptotic effect of esomeprazole, the level of active caspase-3 was measured by ELISA assay following esomeprazole pretreatment. Furthermore, to verify that esomeprazole treatment induces cytosolic acidification by inhibition of V-ATPase activity, the change of intracellular pH following esomeprazole treatment were measured by the intensity and distribution of the BCECF using confocal microscope LSM700, and the proceeding in vitro study using esomeprazole was also repeated with V-ATPase specific siRNA transfection.

Results

Esomeprazole pretreatment significantly enhanced the chemosensitivity to paclitaxel in cervical cancer cell lines, such as HeLa, SiHa, MS751, INT407 (all $P<0.01$). Esomeprazole pretreatment followed by paclitaxel treatment significantly increased the expression of active caspase-3 in HeLa, SiHa and INT407 cells, compared with paclitaxel treatment alone. Live-cell imaging of the BCECF distribution within the cells revealed that intracellular pH decreased after esomeprazole treatment in HeLa cells. Blocking V-ATPase by specific siRNA transfection like esomeprazole pretreatment also enhanced chemosensitivity and active caspase-3 expression in HeLa cell, compared with paclitaxel treatment alone (all $P<0.05$).

Conclusion

We found that the inhibition of V-ATPase via PPI (esomeprazole) or its specific siRNA enhanced the sensitivity of chemotherapeutic agents in cervical cancer cell lines.

IGCSM-0476
Poster Shift III - Basic/translational science

DYRK2 REGULATES EMT THROUGH SNAIL DEGRADATION IN OVARIAN SEROUS ADENOCARCINOMA

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Aims

EMT plays essential roles in ovarian cancer invasion, metastasis, and drug resistance. A hallmark of EMT is the loss of E-Cadherin, which is regulated by Snail. Recently, it was shown that DYRK2 could manipulate Snail degradation in breast cancer. The aim of this study is to clarify whether DYRK2 could regulate EMT through Snail degradation in ovarian serous adenocarcinoma (SA).

Methods

Expression of DYRK2 and Snail in pairs of cisplatin resistant and its original SA cell line were analyzed by western blot analysis as well as real-time RT-PCR analysis. Next, morphological change, invasion ability, and chemosensitivity were assessed by using DYRK2 stable knock down cell line in 2008.In addition, immunohistochemical analyses for DYRK2 and Snail were performed on tissue sections collected from primary SA surgical specimens. The correlations between the expression of these proteins and the clinicopathological parameters were studied.

Results

DYRK2 protein expression was post-translationally reduced in cisplatin resistant SA cell lines. In the contrary, Snail protein expression was upregulated in these cell lines consistent with Snail mRNA expression. 2008 shDYRK2 showed spindle morphology with tight clusters, and highly expressed Vimentin, suggesting that this cell line showed mesenchymal phenotype. In chemosensitivity assay, 2008 shDYRK2 showed resistant to cisplatin when compared with 2008 shControl. Immunohistochemical analysis demonstrated that DYRK2 expression inversely correlated with Snail expression, and reduced expression of DYRK2 was associated with shorter OS in SA.

Conclusion

DYRK2 may regulate EMT through Snail degradation in SA. DYRK2 may be a predictive marker for favorable prognosis in SA.

IGCSM-0481
Poster Shift III - Basic/translational science

HEALTH INFORMATION QUALITY ON THE INTERNET IN GYNAECOLOGICAL ONCOLOGY: A MULTILINGUAL EVALUATION

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Aims

Oncological internet information quality is considered variable but no comprehensive analysis of gynaecological malignancies exits. Our objectives were to compare the quality of common malignancy websites and to assess for language or disease differences; and secondly, to perform a quality comparison between medical and layperson terminology.

Methods

WHO Health on the Net (HON) principles may be applied to websites using an automated toolbar function. Using a search engine (http://www.google.com/) 8,400 websites were assessed using keywords ‘Endometrial, ‘Uterine’, ‘Cervical’, ‘Ovarian’, ‘Vaginal’, ‘Vulvar’, plus ‘cancer’, in English, French, German and Spanish; repeated for alternate terms e.g. ‘Cervix’, ‘Womb’.

Results

Searches for “vaginal’ ‘uterine’, ‘cervical’ and ‘endometrial’ each returned tens of millions of websites. ‘The total percentage of all assessed HON-accredited sites was notably low across all search terms (median 15%; Range 3-19%). Significant differences by malignancy type ($p < .0001$), language ($p < .0001$), and tertiles (thirds) of the first 150 websites returned ($p < .0001$). French language had most accredited websites. Using alternate terms demonstrated significant differences ($p<0.001$) in accredited websites for most gynaecological cancers.

Conclusion

Internet data on gynaecological malignancies is overwhelming . A lack of validation of the majority of gynaecological oncologic sites should be appreciated with discrepancies in quality and number of websites across diseases, languages and also between medical and layperson terms. Physicians should encourage and participate in the development of informative, ethical and reliable health websites on the internet and direct patients to them.

IGCSM-0509
Poster Shift III - Basic/translational science

INTRA-PERITONEAL HYPERTHERMIA ENHANCES POST-CHEMOTHERAPY HEMATOPOIESIS AND NEUTROPHIL RECOVERY

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Aims
The major therapy of ovarian cancer is surgical debulking and chemotherapy. Recently hyperthermic intra-peritoneal chemotherapy has been advocated as an effective strategy in treating ovarian cancer. In this study, we investigate intra-peritoneal hyperthermia on the effect of the concomitant chemotherapy-induced neutrophenia.
Methods
Bone marrow cells (obtained from tibia) in mice receiving intra-hyperthermia combining chemotherapy (Paclitaxel/Cisplatin) were harvested and processed. The hematopoietic stem and progenitor cell numbers were analyzed by flow cytometry and CFU assays. Cytokines concentrations in serum and bone marrow cell lysates were determined by bead-based multiplex immunoassay.
Results
In our study, hyperthermia treatment (combining chemotherapy) significantly increases the concentration of cytokine (GM-CSF, CXCL1/KC, and TGF-β) in blood, which leads to the increasing of hematopoietic stem cells and granulocytic progenitor cells, further increasing the percentage of granulocyte and lymphocyte in blood.
Conclusion
Through this pathway, the combination treatment can protect from the bone marrow damage which induced by chemotherapy, and increase the recovery rate of neutrophenia and lymphopenia.

IGCSM-0510
Poster Shift III - Basic/translational science

GLOBO H-BASED IMMUNOTHERAPY IN TREATING OVARIAN CANCER

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Aims
The main objective is to determine the immunogenicity of Globo H-KLH vaccine (plus QS-21) in patients with epithelial ovarian, fallopian tube, or primary peritoneal cancer after definitive treatment.

Methods
An open-labeled phase II clinical trial of Active immunotherapy with Globo H-KLH plus QS21 (OPT-822/821) in women who have non-progressive epithelial ovarian, fallopian tube, or primary peritoneal cancer was launched. Immunization was given on W1, 2, 3, 4, 12. 20. Serum was obtained before and 4 and 12 weeks after vacation. Anti-Globo H IgG and IgM was investigated through a bead-based immunoassay.

Results

Thirty-three patients with ovarian, tubal or peritoneal cancer receiving definitive debulking operation and platinum-based chemotherapy have been recruited so far, including 22 primary and 11 recurrent diseases. The median follow-up is 4 (2-5.5) months. Elevated titers of IgM and IgG antibody were documented in 88% and 43% of the patients who had more than 4 doses of vaccination. There is no severe adverse side effect noted in these patients, except some transient low-grade fever and local skin reaction.

Conclusion
Current data demonstrate Globo H-KLH vaccine efficiently induced recognizable anti-Globo H IgM and IgG, which are supposed to elicit subsequent Immune cascades and anti-tumor effect. The data also indicate this vaccine is safe and well tolerated.

IGCSM-0534
Poster Shift III - Basic/translational science

A PRELIMINARY ALLOGENEIC UTERINE TRANSPLANTATION STUDY IN NON-HUMAN PRIMATES MODELS

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Aims

For women with congenital uterine infertility, or for those who have undergone hysterectomy, uterine transplantation (UTx) is one of the potential treatments to regain fertility. UTx studies in primates provide important information for clinical application in humans, but there have been few UTx studies in primates. The aim of this study is to establish allogeneic UTx models in non-human primates.

Methods

Uteri of 2 cynomolgus monkeys were simultaneously removed, cooled at 4℃, and perfused with heparin saline. The uteri were interchanged with each other and then orthotopically transplanted. Immunosuppressive protocols included use of three agents (tacrolimus, mycophenolate mofetil and methylprednisolone) in Case 1 and two agents (tacrolimus and methylprednisolone) in Case 2. Transabdominal ultrasonography, vaginoscopy and biopsy of the transplanted uterine cervix were routinely conducted to monitor rejection after surgery.

Results

The blood concentration of tacrolimus decreased 11 days after surgery and evidence of rejection was found in biopsy of the uterine cervix in both cases. The suspected rejection disappeared 23 days after surgery in Case 1 and temporary menstruation resumed at 3 months after surgery. In Case 2, blood flow to the uterine artery gradually decreased and the uterus resulted in atrophy due to ischemia, which has been triggered by rejection.

Conclusion

Allogeneic UTx in the cynomolgus monkeys resulted in temporary recovery of menstruation with three immunosuppressants and uterine atrophy with two immunosuppressants. This preliminary experience suggests that recovery of uterine function after allogeneic UTx in non-human primates is possible but more experiments are required.

IGCSM-0578
Poster Shift III - Basic/translational science

"EVALUATION OF ANTI-ANGIOGENIC ACTIVITY BY HEXANE EXTRACT OF CURCUMA ZEDOARIA"

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Aims

Ovarian cancer is one of the deadliest female cancer worldwide. "Curcuma zedoaria (CZ) is a rare species of Curcuma. Traditionally, it is used to treat cancer and its use is prohibited in pregnancy. Our previous work showed that various CZ extracts could inhibit SKOV3 (metastatic ovarian cancer cells) and HUVEC (Human Umbilical Vein Endothelial cells) growth using Real Time Cell Analyzer (RTCA).
In this study, we aimed to determine anti-angiogenic activity of hexane extract of CZ using HUVEC cells model.

Methods

HUVEC cells were grown in Endothelial Growth Media (EGM). Cells were seeded and incubated for 24 hours. Then, cells were treated with various concentration of hexane extract of CZ. The treated and control cells were processed with Mitochondrial Membrane potential (MMP) dye, Membrane permeability dye, cytochrome c primary mouse antibody and Hoeschst dye, according to the protocol of Cellomics Multiparameter Cytotoxicity 3 Kit (Thermo Scientific). The images of stained HUVEC cells were captured using Cellomics ArrayScan HCS reader (Thermo Scientific).

Results

Exposure of HUVEC cells to hexane extract of CZ was found to have a concentration-dependent increment of membrane permeability, attenuation of MMP and increased cytochrome c in the cystol compared to untreated control, indicating apoptosis induction.

Conclusion

Our study revealed that hexane fraction of CZ induced apoptosis of HUVEC cells with effect on cell membrane, mitochondria and cytochrome c activity. This anti-angiogenic activity of CZ may be useful for new drug discovery in the treatment of metastatic Ovarian cancer.

IGCSM-0678
Poster Shift III - Basic/translational science

MECHANISM RESPONSIBLE FOR THE CHEMORESISTANCE OF UTERINE CERVICAL CANCER DISPLAYING TUMOR-RELATED LEUKOCYTOSIS

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Aims
The aim of this study is to investigate the chemosensitivity of and the mechanism responsible for the tumor related leukocytosis (TRL) in cervical cancer.
Methods
1) The clinical data from 89 patients treated with platinum-based combination chemotherapy for uterine cervical cancer at Osaka University hospital were retrospectively reviewed. Cox proportional hazards regression model was used to examine the prognostic significance of TRL (WBC≥9,000/μl), neutrophillia (≥6,5000/μl) and G-CSF expression in tumor. 2) Using the mice inoculated with G-CSF-producing cervical cancer cells, the role of G-CSF on WBC counts, Myeloid Derived Suppressor Cells (MDSC; $CD11b^{+}Gr1^{+}$ cells) production, and the chemosensitivity of cervical cancer were examined. 3) With a purpose to develop novel treatments, the effect of splenectomy or the depletion of MDSC by anti-Gr-1 neutralizing antibody on tumor progression and chemosensitivity were examined in TRL model mice.
Results
1) TRL and strong tumor G-CSF expression were associated with significantly shorter survival. Tumors from patients with TRL showed significantly greater immunoreactivity for G-CSF than those from patients without TRL. 2) G-CSF produced by cervical cancer cells induced marked leukocytosis and increased MDSC in tumor, which resulted in rapid tumor progression. G-CSF-producing cervical cancer also exhibited chemoresistance when compared with non-G-CSF-producing cervical cancer, which resulted in significantly shorter survival. 3) Removal of spleen or treatment with anti-Gr-1 neutralizing antibody decreased MDSCs in mice, and inhibited tumor-progression and improved chemosensitivity of G-CSF-producing cervical cancer.
Conclusion
Tumor-derived G-CSF-induced MDSC plays a central role in the progression and the chemoresistance of cervical cancer displaying TRL.

IGCSM-0732
Poster Shift III - Basic/translational science

PEDUNCULATED NABOTH CYST WHICH CAN BE CONFUSED WITH ENDOCERVICAL POLYP, FIBROID PROLAPSE INTO VAGINA

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Aims

Nabothian cyst is a common gynecologic findings and has rarely clinical significance. The covering of the columnar epithelium of the endocervical glands with proliferates squamous epithelium of the uterine cervix and continues to secrete mucoid material of endocervical glands during this process is development mechanism for nabothian cyst. This is important factor for the development of nabothian cysts

Methods

In our case, our patient is 38 years old, gravida 2, parity 2. Patient was admitted to our clinic with pain in the vagina during intercourse. Speculum examination revealed a 3x3 cm hard and mobile size fibroid prolapse into vagina was detected. Transvaginal ultrasonography showed an uterus with 75x40x40 mm in size, normal ovaries and the endometrial thickness was 4 mm. The cervix was detected enlarged to 3 cm and multiple cystic lesions seen varied 1 cm to 2 cm size in vagina.

Results

Hysteroscopy was planned. Hysteroscopic examination revealed the mass arising from the cervix and was diagnosed to be in the form of pedunculated polyps. Extirpation was performed by hysteroscopy. At the first examination of specimen gave an impression to be fibroid prolapse into vagina due to mobile and hard mass appearance , endocervical polyp was diagnosed after hysteroscopic examination. But pathologic examination of the mass revealed nabothian cysts (Figure 1)

Conclusion

Pedunculated nabothian cyst can be confused with fibroid prolapse into vagina and endocervical polyps.

IGCSM-0734
Poster Shift III - Basic/translational science

EXOME SEQUENCING OF LOW GRADE SEROUS OVARIAN TUMOURS

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Aims

Low grade serous ovarian tumours tend to follow a relatively indolent clinical course; however, they also tend to be highly refractory to standard ovarian chemotherapy. This chemo-resistance combined with characteristic *RAS/RAF* mutations has prompted a move to targeted MEK-inhibitor clinical trials. Much remains to determined and understood, however, regarding drivers in *RAS/RAF*-wildtype tumours and the molecular events that become deregulated in the progression from borderline tumour to carcinoma.

Methods

Whole exome sequencing was performed on serous borderline ovarian tumours (n=13) and low grade serous ovarian carcinomas (n=10) using the SeqCap EZ Human Exome v2 capture (Roche NimbleGen).

Results

Low grade serous ovarian tumours have a low mutation rate, with an average 15.8 somatic mutations/sample (range 7-34) for both borderline tumours and carcinomas. From a total of ~360 somatic variants, only 15 genes were recurrently mutated, these included typical candidates *KRAS*, *BRAF* and *NRAS* and genes previously associated with other tumour types. Non-recurrent, highly deleterious mutations were also observed in regulators of the RAS/MAPK pathway, including *NF1* and *RASSF1*. *KRAS/NRAS/BRAF*-wildtype tumours were found to carry mutations of unknown oncogenic potential in *ARAF* and *ERBB2*.

Conclusion

Although the mutation rate in serous borderline tumours and low grade serous carcinomas is low and the recurrently targeted genes are few due to the small sample size in this pilot set, there are clear recurring themes in targeted pathways. Not only does the classical MAPK pathway and its negative feedback regulators appear to be targeted, but also the JNK/p38 MAPK pathway.

IGCSM-0738
Poster Shift III - Basic/translational science

IMPROVEMENT OF SPECIFIC DETECTION OF CIRCULATING TUMOR CELLS USING NEW TECHNIQUES IN PATIENTS WITH EPITHELIAL OVARIAN CANCER

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Aims

This study is to find the reliable methods to detect and isolate CTCs through novel markers in ovarian cancer.

Methods

CTC analysis was performed in the spiking test to find cancer cells in the human serum mixed with WBCs. Four cell lines including OVCAR3, SKOV3, SNU8 and SNU251 were used and primary cancer cells from 4 patients were analyzed. Cancer cells were isolated on the basis of cell size by filtration through CytoGen^R capture device, followed by identification according to validated immunocytochemistry based on the expression of DAPI, CD45, EpCAM, CK, CA-125 and HE4.

Results

We obtained cancer cells more than 90% based on the cell size by filtration. Immunocytochemistry confirmed the epithelial origin through the expression of CK and EpCAM in cancer cell lines. The rate of expression was 35-99 % for CK and 1-99 % for EpCAM. A small number of cancer cell lines expressed CD45 that is the marker of WBC. The expression of CA-125 and HE4 showed their ovarian origin. The rate of expression was 7-98 % for CA-125 and 40-99 % for HE4 in cancer cell lines. Primary cancer cells were detected most effectively as the method of combination with 3 markers, including DAPI, CD45 and HE4, and we can detect CTCs from peripheral blood using these 3 markers.

Conclusion

Combination method of DAPI, CD45 and HE4 had improved sensitivity and specificity in detecting CTCs of ovarian cancers. This combined detection strategy may be useful in detecting or monitoring CTCs after ovarian cancer surgery.

IGCSM-0741
Poster Shift III - Basic/translational science

A PROTEOMIC ANALYSIS DEMONSTRATES SIMILAR EXPRESSION PATTERN BETWEEN OVARIAN AND ENDOMETRIAL HIGH-GRADE SEROUS CARCINOMA BEYOND AN ORGAN.

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Aims
Despite they occur in different organs, ovarian and endometrial high-grade serous carcinoma (HGSC) show similar clinical features. In this study we compare protein expression profile of ovarian and endometrial HGSC using exhaustive protein analysis and bioinformatics tools to find common features beyond these two organs.
Methods
Fresh frozen samples of 36 cancer tissues (9 of ovarian HGSC, endometrial HGSC, ovarian endometrioid Grade 1, and endometrial endometrioid Grade1, respectively) were used. Cancer cells were collected by laser capture micro-dissection and were prepared for proteomic analysis. We performed exhaustive protein expression analysis by using iTRAQ method and unsupervised hierarchical clustering analysis. In addition, with identified proteins, common activated pathways were analyzed by the protein ontology.
Results
By the iTRAQ method, proteomic analysis detected 826 proteins. Unsupervised hierarchical clustering analysis using these proteins evaluated the similarity of ovarian and endometrial high-grade serous carcinoma beyond the originated organs (p=0.0003). Protein ontology analysis using 118 of 826 proteins, which were statistically high expression in HGSC, detected 15 activated pathways. DNA-dependent DNA replication which is one of these terms was activated by minichoromosome maintenance protein (MCM) 2, 3, 5 and 7. Immunohistochemistry of MCMs for clinical samples showed similar staining in both ovarian and endometrial HGSC.
Conclusion
Our data showed the similarity of ovarian and endometrial HGSC beyond the originated organs in protein expression pattern. As commonly activated pathway in HGSC, DNA-dependent DNA replication was identified.

IGCSM-0769
Poster Shift III - Basic/translational science

COMBINATION OF ANTIGEN-SPECIFIC CELL-BASED VACCINE WITH IL-12 GENERATES POTENT OVARIAN CANCER IMMUNOTHERAPY

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Aims
Mesothelin, a secreted protein anchored at the cell membrane by glycosylphosphatidylinositol linkage, is over-expressed in several types of cancers including ovarian cancer. We would like to investigate if mesothelin can be a target antigen for the immunotherapy of ovarian cancer.

Methods
A novel cell-based, mesothelin over-expressed vaccine- Meso-VAX, was generated for generating an antigen-specific immunotherapy against ovarian cancer. Immunologic assays for detecting antigen-specific $CD4^+$ helper and $CD8^+$ cytotoxic T lymphocytes by flowcytometric analysis, and antigen-specific Ab responses by ELISA were performed. In vivo preventive and therapeutic experiments, and antibody depletion experiments were performed.

Results
Mice vaccinated with Meso-VAX and AAV-IL-12 exhibited a dramatic increase in mesothelin-specific $CD4^+$ and $CD8^+$ T cell precursors, and higher anti-mesothelin Abs. In addition, post-vaccination sera of mice receiving Meso-VAX with AAV-IL-12 could induce antibody-dependent cell-mediated cytotoxicity. Meso-VAX combined with AAV-IL-12 generated 100% anti-tumor effects in *in vivo* protective experiments. The tumor-bearing mice, when treated with Meso-VAX with AAV-IL-12, had smaller tumor burden and longer survival than those control group.

Conclusion
Mesothelin-specific cell-based vaccine combined with cytokine could generate potent mesothelin-specific immunological responses and anti-tumor effects of mesothelin over-expressing tumor. Antigen-specific cell-based vaccine can be a potential strategy for the therapy of ovarian cancer.

IGCSM-0779
Poster Shift III - Basic/translational science

PROGNOSTIC SIGNIFICANCE OF CANCER STEM CELL MARKERS IN CERVICAL CANCER

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Aims
Radiation therapy or chemotherapy mostly eliminated cancer cell including cervical cancer but part of cancer cells survive and acquired radiation or chemotherapy resistance. These resistant cancer cells have property of cancer stem cells (CSCs) showing self renewal and differentiation. Cancer stem cell marker including OCT4, SOX2 and BMI is found in various solid tumor. However, the prognostic significance of these markers is not clearly defined in cervical cancer. Here, we investigated proganostic significance of OCT4, SOX2 and BMI and their interaction by immunohistochemistry.
Methods

The study subjects included cervical intraepithelial neoplasia (CIN, n = 196), carcinoma in situ (CIS, n = 72), cervical cancer (n = 181). Immunohistochemistry (IHC) was performed to identify OCT4, SOX2 and BMI. IHC scoring was performed using automated digital image analysis and the association of the markers with prognostic outcome was evaluated.

Results

OCT4, SOX2 and BMI expression were higher in cervical cancer than normal cervix (all $p<0.001$) High expression of OCT4 showed worse 5-year overall survival rate ($P = 0.028$) than low expression group while positive SOX2 showed better survival and positive BMI did not show survival significance. After adjusting the prognostic covariates, OCT4 was found to be an independent risk factor (HR=5.29; 95% CI, 1.06-26.3, $P = 0.042$) for overall survival in cervical cancer.

Conclusion

We demonstrate that OCT4 is prognostic factor in survival in cervical cancer. This data suggest that drugs that target OCT4 may have therapeutic utility in the treatment of invasive cervical cancer

IGCSM-0783
Poster Shift III - Basic/translational science

ATTENUATION OF CERVICAL CANCER CELL GROWTH BY DELIVERY OF SMALL HAIRPIN RNA TARGETING ANGIOGENETIC FACTOR CD105

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Aims
CD105 is highly expressed on human proliferating vascular endothelial cells, suggesting that it is an angiogenesis marker. An increment in microvessel density, as determined by CD105 immunohistochemical staining, was found to be an independent prognostic factor in cervical cancer. Other studies also showed that CD105 could be expressed in cancer cells other than endothelial cells; however, its clinical significance is unknown. We attempted to investigate the role of CD105 in cervical cancer cell in vitro models.
Methods
Cervical cancer cell lines (HeLa) were transfected with lipofetamine expressing small-hairpin RNA (shRNA) targeting CD105, and examined for their levels of CD105 using immunoblot. We used qRT-PCR to screen for differential expression of candidate genes that associated with tumor growth and further confirmed by immunoblotting. We then determined the effects of CD105 knockdown on cell growth by MTT and cell migration/invasion assays.
Results
HeLa cells expressed high levels of CD105. We successfully established HeLa cells stable clones with different CD105 expression by gene silencing with shRNA. Quantitative RT-PCR found that CD105 positively correlated with MMP-2, JUN, and negatively correlated with TNSF10, SERPINB5 mRNA expression. The corresponding proteins expression was further validated with Western-blotting, which demonstrated consistent results. MTT and cell migration/invasion assays showed that CD105 knockdown significantly attenuated the growth of HeLa cells.
Conclusion

We demonstrated that CD105 in cervical cancer enhances their invasive phenotype via the modulation of MMP-2, JUN, TNSF10, and SERPINB5 expression. Silencing of CD105 expression by shRNA may attenuate malignant potential. In vivo study is warranted for further confirmation.

IGCSM-0803
Poster Shift III - Basic/translational science

NON-CLASSICAL ESTROGEN RECEPTOR ALPHA SIGNAL PROMOTES OVARIAN TERATOMA CANCER STEM AND MOBILITY THROUGH MIRNA-21

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Aims
Malignant immature ovarian teratomas (IOT) most occur in women of reproductive age. However, what roles estrogenic signaling plays in IOT is unknown. Cancer stem/progenitor cells (CSPCs) is known to be regulated by small non-coding RNA, miRNA-21, which linked to ovarian malignancies. In this study, we examined estrogen receptors (ERa and b) roles in IOT, and it's relation to miRNA-21.

Methods
Estrodiol (E2), PPT and DPN (ERa- and b-specific agonists), as well as ERa- or ERb-specific shRNAs were applied to PA-1 IOT cells.

Results
We found E2/ERa signals promote cell migration and invasion through non-classical transactivation function. The data showed non-genomic E2/ERa activations of focal adhesion kinase-Ras homolog gene family member A (FAK-RhoA) and ERK governed cell mobility. The E2/ERa signaling induces epithelial-mesenchymal transition (EMT) and overexpression of CD133 through upregulation of miRNA-21, and ERK phosphorylations. Knockdown of miRNA-21 in PA1 cells attenuated whereas overexpression of miRNA-21 promoted cell growth. Moreover, knockdown of miRNA-21 resulted in a marked reduction in the CD133+ population and sphere formation of CSPCs. In contrast, overexpression of miRNA-21 resulted in a marked increase in the population of CD133+ cells and sphere formation of CSPCs. Furthermore, E2/ERa signals trigger a positive feedback regulatory loop within miRNA-21 and ERK. At last, cytosolic ERa, CD133, and EMT markers, but not epithelial cell markers, in IOT tissue samples were co-expressed.

Conclusion
Estrogenic signals exert malignant transformation capacity of cancer cells, exclusively through non-genomic regulation in female germ cell tumors.

IGCSM-0808
Poster Shift III - Basic/translational science

WHOLE-EXOME SEQUENCING IN NON-EPITHELIAL OVARIAN CANCER

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Aims

Non-epithelial ovarian cancer (NEOC), comprising of sex-cord stromal tumors and germ cell tumors, are uncommon and account for 10% of all ovarian cancers. The molecular background of these tumors remains largely unresolved. Whole exome sequencing (WES) is a highly effective method for identifying mutational drivers in cancer biology.

Methods

We performed WES in 10 frozen paired tumor and germline samples of NEOC (2 granulosa, 3 sertoli-leydig, 1 dysgerminoma, 1 embryonal carcinoma, 1 immature teratoma and 2 mixed germ cell tumors). Over 90% of the exome was covered >10x in nearly all samples. The average sequencing depth for all samples was 45x. Sequence processing and variant calling were performed using standard bioinformatics tools. A filtering system was used to select somatic variants of possible functional significance for validation by Sequenom.

Results

NEOC is characterized by a limited amount of somatic mutations. Among the identified mutations, we found a recurrent mutation in Dentin Sialophosphoprotein (DSPP) gene, of which overexpression has been described in oral squamous, prostate, breast and lung cancer, and mutations in known oncogenes such as KTN1, KRAS and EPS15. Insertion/deletions were found, amongst others, in RB1, REXO1, BUB1B and SMARCA4. The latter has recently been described in small cell carcinoma of the ovary. The most common mutated genes in high grade serous ovarian cancer, p53 and BRCA ½, were not found.

Conclusion

Herein we report the first exome sequence experiment in NEOC. Our findings may provide opportunities for novel targeted therapies in these rare tumors.

IGCSM-0845
Poster Shift III - Basic/translational science

INHIBITION OF THE INVASIVE AND METASTATIC CAPACITY OF OVARIAN CANCER CELLS BY DOWNREGULATING REGULATION THE EXPRESSION OF MATRIPTASE, A POTENTIAL ADJUVANT THERAPEUTIC TARGET

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Aims
To evaluate the role of matriptase in cellular invasion and metastasis and its potential therapeutic value in human ovarian cancer.

Methods

HO-8910 human ovarian cancer cells and homologous high-metastatic HO-8910PM cells were used as *in vitro* cellular models. The invasive and metastatic abilities and the matriptase mRNA and protein expression levels of these cell lines were detected using scratch assays, Transwell chamber migration assays, quantitative RT-PCR, western blotting, and fluorescent immunocytochemistry. After matriptase-targeting small interfering RNA was constructed and used to transfect HO-8910PM cells, cell cycle and apoptosis were analyzed.

Results

Compared with HO-8910 cells, the migration distanceand number of cells that penetrated the transwell apparatus were significantly higher in HO-8910PM cells. Moreover, the HO-8910PM cells had significantly higher matriptase mRNA and protein expression. Immunocytochemistry revealed that the protein expression of matriptase is mainly localized to the cytoplasm and cell membrane. Moreover, stronger signal intensity was detected in HO-8910PM cells than in HO-8910 cells (15.63 ± 0.83 *vs.* 7.65 ± 1.30, $P < 0.01$). The metastatic and invasive abilities were positively correlated with the mRNA and protein expression level of matriptase. Matriptase downregulation resulted in inhibition of the invasive and metastatic abilities of HO-8910PM cells and cell cycle arrest in the G_0/G_1 phase (54.81% ± 0.34% *vs.* 43.08% ± 0.47%) and increased apoptosis (15.10% ± 0.81% *vs.* 5.2% ± 0.39%).

Conclusion
The mRNA and protein expression of matriptase are reliable biomarkers that reflect the aggressiveness of ovarian cancer cells, making matriptase a potential adjuvant therapeutic target for inhibiting ovarian cancer invasion and metastasis.

Conflict of interest
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IGCSM-0848
Poster Shift III - Basic/translational science

PEPTIDE IMAGING MASS SPECTROMETRY ON FORMALIN FIXED PARAFFIN EMBEDDED TISSUE IN GYNAECOLOGICAL CANCER

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Aims
The increasing knowledge about the molecular biology of gynaecological cancers will move their management from empirical treatment to an individualized approach based on specific features of a tumour. We are using the new technology Imaging Mass Spectrometry (IMS) to identify predictive tissue markers for gynaecological malignancies.
Methods

The technology Imaging Mass Spectrometry (IMS) allows acquisition of mass data for peptides and proteins directly from tissue sections. This has traditionally been performed on frozen tissues, however, our group has recently developed a method called Tryptic Peptide Imaging (where proteins are cleaved on tissue with the enzyme trypsin into peptides) which can then be used to analyse formalin-fixed paraffin embedded (FFPE) tissue. FFPE tissue archives have the additional advantage of providing large sample numbers complete with patient and disease specific annotations.

Results

We have employed IMS on FFPE tissue to discover tissue peptide markers which a) are indicative for lymph node metastasis in endometrial and vulval cancer and b) reflect resistance to chemotherapy in ovarian cancer.
We have isolated those tissue specific peptides using laser capture dissection microscopy of tissue regions of interest and identified them using LC-MS/MS. Identifications of the tissue peptide markers is then done by aligning identified peptide masses from LC-MS/MS with the peptide makers discovered in the IMS experiment.

Conclusion

Our preliminary data confirm the great potential of Imaging Mass Spectrometry as powerful molecular diagnostic tool for personalization gynaecological cancer treatment.

IGCSM-0864
Poster Shift III - Basic/translational science

HIGHLY SULFATED CHONDROITIN SULFATES ARE ASSOCIATED WITH AN EARLY STAGE OF OVARIAN CANCER DEVELOPMENT

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Aims

Characterization of precursor lesions is fundamental in elucidating the molecular pathogenesis of ovarian cancer and has profound implications for early detection, prevention and treatment. The extracellular matrix of cancer cells is involved in cancer development and multiple tumor-related alterations have been described. Chondroitin sulfate (CS) is a class within the group of negatively charged polysaccharides, glycosaminoglycans, and mainly located in the extracellular matrix. By binding to several effector molecules, CS is involved in cancer development. Specific highly sulfated chondroitin sulfates are upregulated in the extracellular ovarian cancer matrix and correlated with poor prognosis. To further characterize ovarian cancer precursor lesions, we analyzed specific glycosaminoglycans in the extracellular matrix of serous tubal intraepithelial carcinomas.

Methods

Paraffin embedded tissues of normal tubal epithelium, serous tubal intraepithelial carcinomas and corresponding primary tumors were assessed by immunohistochemistry for the expression of the highly sulfated CS epitope defined by a single chain variable fragment antibody. By statistical analysis the expression pattern was correlated with pathological parameters.

Results

In serous tubal intraepithelial carcinomas, strong expression of the highly sulfated CS epitope was found in the extracellular matrix while no or limited expression was found in normal tubal epithelium. The expression of the highly sulfated CS epitope in precursor lesions was correlated to the expression of the epitope in corresponding primary tumors.

Conclusion

This study shows that alterations in the extracellular matrix with respect to specific highly sulfated chondroitin sulfates occur at an early stage in ovarian cancer development. These specific matrix molecules may represent a novel class of biomarkers.

IGCSM-0879
Poster Shift III - Basic/translational science

EPIGENETICS INFORMING FUTURE TREATMENT STRATEGIES FOR SEROUS EPITHELIAL OVARIAN CANCER – LOOKING TO HISTONES, UBIQUITIN AND CHROMATIN RELAXATION

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Aims

Histones are the most abundant proteins bound to DNA in eukaryotic cells. Post-translational modifications of histones, such as methylation, acetylation and ubiquitination influence accessibility to DNA of factors involved in key cellular processes. Monoubiquitination of histone H2B at lysine 120 (H2Bub1) leads to physical separation of chromatin strands and active recruitment of factors involved in histone cross-talk, transcription and repair of DNA damage. Monoubiquitination is controlled by E3 ubiquitin ligases and deubiquitinases (DUBs). Both BRCA1 and the ring finger protein RNF20 are H2Bub1-associated E3 ubiquitin ligases. Given the known involvement of BRCA1 in serous epithelial ovarian cancer (SEOC), this study aimed to determine the influence of *BRCA1* mutation and RNF20 levels on H2Bub1 in this malignancy.

Methods

We investigated a large SEOC patient cohort using immunohistochemistry to determine global tumour levels of H2Bub1 and RNF20, and analysed the association of H2Bub1 levels with germ-line *BRCA1* mutation status. Additionally, we used SEOC cell line models to determine the relationship between BRCA1 expression, RNF20 and H2Bub1.

Results

Global H2Bub1 was lost in over 70% of SEOC. A trend towards poorer overall survival was observed for patients who retained H2Bub1. No significant correlation was observed between germ-line *BRCA1* mutation status or RNF20 levels and H2Bub1; however, manipulation of BRCA1 and RNF20 expression in SEOC cell line models influenced global H2Bub1 levels.

Conclusion
H2Bub1 regulation is complex, appearing to rely on multiple enzymatic processes. Targeting H2Bub1 may pose an attractive strategy for the development of epigenetic based therapies for SEOC.

IGCSM-0884
Poster Shift III - Basic/translational science

ASSOCIATION BETWEEN FAS –670A>G PROMOTER POLYMORPHISM AND HPV-MEDIATED CERVICAL CANCER RISK IN MALAYSIAN POPULATION-PRELIMINARY DATA

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Aims
Apoptosis evasion is a hallmark of cancer. Fas receptor, encoded by *FAS* gene, is a transmembrane protein which plays a major function in mediating apoptosis. The –670A>G promoter polymorphism of *FAS* can alter the transcriptional activity of the gene. We aimed to investigate the association of *FAS* –670A>G polymorphism with human papillomavirus (HPV)-mediated cervical cancer risk among Malaysian subjects of Malay and Chinese ethnicities.
Methods
The polymorphism was genotyped on 58 cervical cancer patients and 58 cancer-free female controls with PCR-RFLP technique.
The association between the polymorphic genotypes and cervical cancer risk was assessed by using unconditional logistic regression analysis.
Results

By using the wild type genotype as the reference, both the heterozygous (AG) and homozygous variant (GG) genotypes were found to increase cervical cancer risk (heterozygous OR=3.14, 95% CI=1.31-7.54, P=0.01; homozygous variant OR=6.14, 95% CI=1.89-19.93, P<0.01). When the results were stratified according to the ethnicity of the subjects, the association was present only among Malays (heterozygous OR=4.41, 95% CI=1.50-12.98, P=0.01; homozygous variant OR=6.71, 95% CI=1.46-30.73, P=0.01), but not among Chinese (P>0.05).
Besides, stratification by HPV genotype of the patients revealed that significant risk modification effects exist only among cases with homozygous variant genotype who were infected by HPV-18 (OR=5.63, 95% CI=1.15-27.44, P=0.03) or simultaneously co-infected by more than one HPV genotype (OR=18.00, 95% CI=1.69-191.24, P=0.02).

Conclusion

In conclusion, the variant allele of the *FAS* –670A>G polymorphism could increase cervical cancer risk in the population studied, especially among Malays and among patients with HPV-18 infection or co-infected by more than one HPV genotype.

IGCSM-0904
Poster Shift III - Basic/translational science

SHOULD WE BE WORRIED ABOUT THE RESERVOIR OF INTEGRATED HPV 16 IN THE CERVICES OF MIDDLE-AGED AND ELDERLY WOMEN?

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Aims

To determine the prevalence and physical state of human papillomavirus (HPV) type 16 genomes in the cervices of elderly women.

Methods

99 women who had a hysterectomy for reasons unrelated to epithelial abnormalityof the cervix were tested for high-risk HPV types using Ventana in situ hybridisation (ISH). Cervices which tested positive were also tested for HPV16 using nested E6 Q-PCR and the Luminex assay. Immunopositivity for HPV E4 and L2 was used as a marker of productive viral infection, and p16 staining as a marker of HPV transcriptional activity. Nested PCR for HPV16 E2 was used to determine the physical state of the virus.

Results

Of 88 cervices which were evaluable using ISH, 37 (42%) were found to be HPV positive. Compared to cervices which tested negative using ISH, those which tested positive were more likely to test positive for HPV16 using nested E6 Q-PCR (75% vs. 21%:RR= 3.6 95%CI 1.6 to 8.1); and to have had a history of preceding cytological abnormality (41.7% vs. 17.5%: RR= 2.8 95%CI 1.4 to 7.6). Analysis of subsets of the study population revealed no evidence of productive HPV infection or of viral transcriptional activity. Critically HPV16 was only detected in integrated forms.

Conclusion

These findings point to a reservoir of integrated HPV16 sequences in histologically normal cervices in middle-aged and elderly women. Re-expression of transcriptionally silent integrants could explain the surge in incidence of cervical cancer observed in later

life and would have substantial implications for when women should exit cervical screening programmes.

IGCSM-0920
Poster Shift III - Basic/translational science

GENIPOSIDE INHIBITS GROWTH OF OVARIAN CANCER CELL LINES IN VITRO VIA CYCLOOXYGENASE-2 AND APOPTOTIC PATHWAYS

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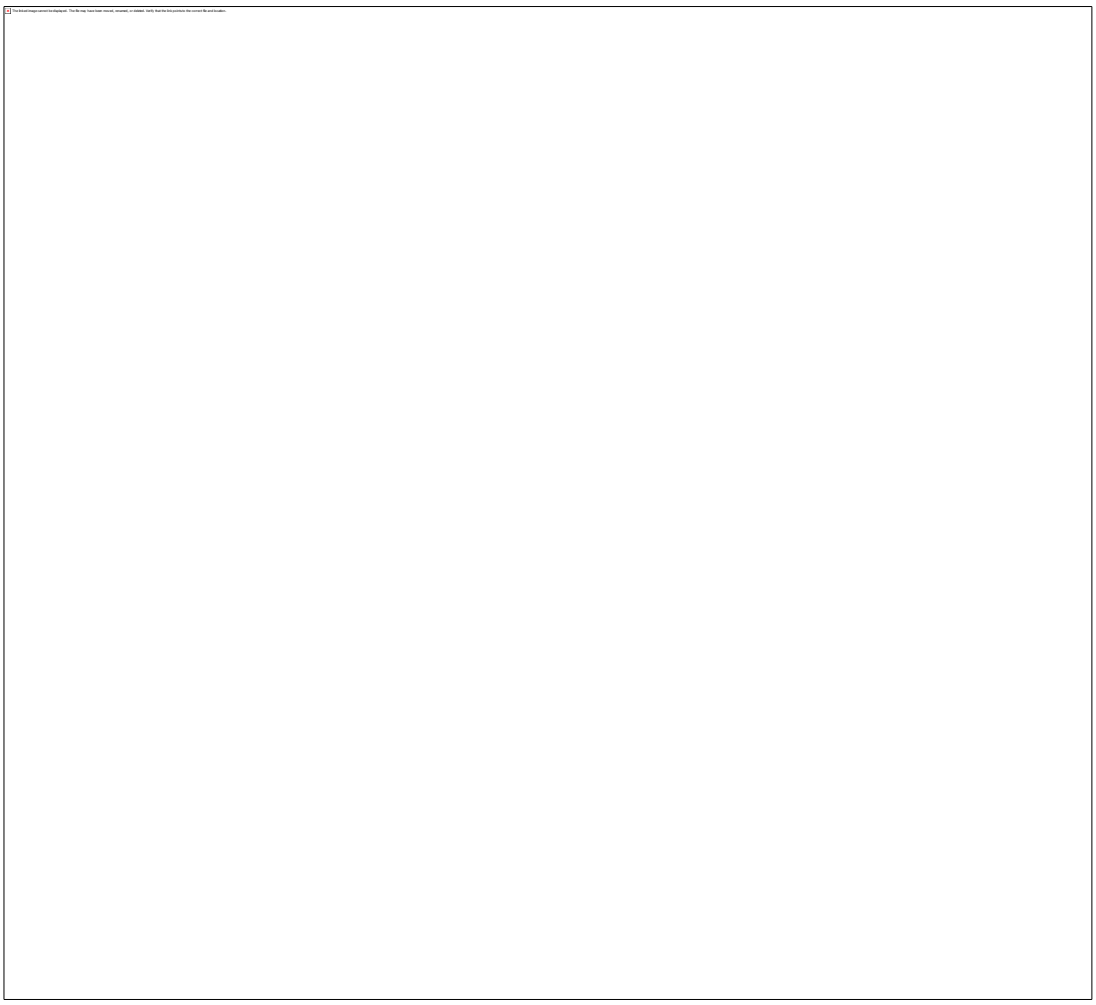
Aims
Overexpression of cyclooxygenase-2 (COX-2) has been associated with increased risk of ovarian cancer. In this study, we report the role of geniposide inhibit lipopolysaccharide (LPS)-induced expression of COX-2 in ovarian cancer cell lines.
Methods
The effects of geniposide were evaluated in terms of (1) cell viability by MTT; (2)secretion of IL-6, IL-8 and prostaglandin E2(PGE2) into culture media by ELISA; (3) COX-1/2 mRNA expression by qRT-PCR; (4) protein expression of COX-1, COX-2, p-ERK1/2, p53, nuclear and cytoplasmic fraction NF-kB p65 by western blot; and (5) apoptosis detection by flow cytometry and protein expression of Bax/Bcl-2 and caspase-3 by western blot.
Results
Pharmacological activity of geniposide was assessed in SKOV3 and OVCAR cell lines by estimating COX-2 expression, cell viability and caspase-dependent apoptosis. Geniposide inhibited growth of SKOV3 and OVCAR cells with IC50 of 11 and 45 μM respectively. Geniposide inhibited ERK1/2 and COX-2 but not COX-1 expression in the two cell lines. Geniposide also caused dose-dependent inhibition of IL-6, IL-8 and PGE2 synthesis with LPS stimulation. Moreover, geniposide decreased the cellular amounts of anti-apoptotic proteins such as NF-κB and Bcl-2 and increased proapototic proteins Bax, p53 and caspase-3.
Conclusion
The anticancer effects of geniposide are through a COX-2-dependent pathway to inhibit PGE2-synthesis as well as a COX-2-independent pathway to regulate apoptosis of ovarian cancer with overall pathway LPS-ERK1/2-NF-κB-COX-2-PGE2-apoptosis. Geniposide shows promise as a COX-2 targeted anticancer agent for ovarian cancer prevention and treatment.



IGCSM-0932
Poster Shift III - Basic/translational science

EPITHELIAL-MESENCHYMAL TRANSITION DRIVEN BY TRANSCRIPTIONAL FEEDBACK LOOPS CONTRIBUTES TO INTERTUMORAL MOLECULAR HETEROGENEITY IN THE METASTASIS AND RELAPSE OF EPITHELIAL OVARIAN CANCER

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Aims
Epithelial ovarian cancer (EOC) is highly heterogeneous with five molecular subgroups, Epi-A, Epi-B, Mes, Stem-A and Stem-B, being identified. The mechanisms behind the clonal evolution and intertumoral molecular heterogeneity are not fully elucidated.

Methods
Previously, we performed EOC profiling meta-analysis to identify epithelial-mesenchymal transition (EMT) as the crucial mechanism for molecular heterogeneity. Transcription factors SNAI1, SNAI2, ZEB1, ZEB1, TWIST1, and GRHL2 were identified as crucial regulators for the Mes subtype which has undergone EMT. Here, we utilized three in-vitro EOC cell lines, PEO1, OVCA420, and OVCA429, to model the EMT-driven clonal evolution by manipulating the expression levels of these EMT transcriptional regulators.

Results
We analysed the molecular subtypes of matched primary tumor versus peritoneal metastases. Six out of 11 pairs showed concordant molecular subtypes. We also analysed a dataset of matched primary tumor versus omental metastases. Four out of 9 pairs showed concordant molecular subtypes. Among the 10 pairs showing a shift of molecular subtypes, 5 out of 5 omental metastases were designated as Mes. The variation in the evolution of molecular heterogeneity can be explained by the differences in the EMT transcriptional cross-regulation of the in-vitro models. Manipulating EMT regulators in PEO1 did not induce any transcriptional cross-regulation with no molecular subtype switching observed. However, manipulating EMT regulators in OVCA420 and OVCA429 caused hierarchical transcriptional control and feedback loop regulation, respectively. The OVCA429 model showed molecular subtype switch from Epi-A to Mes.

Conclusion
In conclusion, the heterogeneity caused by EMT-driven clonal evolution is the consequence of transcriptional feedback loops of EMT regulators.

IGCSM-0964
Poster Shift III - Basic/translational science

THE FLAVONE BAICALEIN IS A NOVEL POTENT INHIBITOR OF ENDOMETRIAL CANCER CELL PROLIFERATION AND INHIBITS MTOR ACTIVITY

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Aims
The mTOR pathway is a promising target for endometrial cancer therapy commonly due to loss of PTEN expression. Recently, metformin has been shown to inhibit endometrial cancer cell proliferation and is currently in phase II/III clinical trials. We have identified a natural flavone, baicalein, which markedly upregulates DNA Damage Induced Transcript 4 (DDIT4), suppresses breast and ovarian cancer cell growth, and alters mTOR pathway. We examined the activity of baicalein in endometrial cancer cells.

Methods
The endometrial cancer cell lines ECC-1 and RL95-2 were treated with baicalein or metformin (5-80 µM) and growth was assessed at 24-72 hours by MTT assay. Total protein lysates were obtained for western blot analysis to evaluate mTOR pathway mediators and DDIT4 levels.

Results
Baicalein inhibited growth of both ECC-1 and RL95-2 (IC50 approximately 8 and 9 µM, respectively) cell lines in a dose dependent fashion. Same concentrations of metformin had no effect on cell growth, while higher millimolar concentrations (>1000 fold) were required to inhibit growth. The observed growth inhibition with baicalein was associated with decreased PS6K1, PS6, and p4EBP1 levels and increased DDIT4 levels in both cell lines at the same concentrations. Similar changes were noted in metformin treated ECC-1 cell line except that 1 mM or higher doses were required.

Conclusion
Baicalein is a potent inhibitor of endometrial cancer cell proliferation, working at micromolar concentrations. The inhibitory effect correlates with inhibition of the mTOR pathway and increase in DDIT4 expression. Baicalein may offer a novel treatment for endometrial cancer.

IGCSM-1011
Poster Shift III - Basic/translational science

EVALUATION OF DNA REPAIR BIOMARKERS IN HIGH-RISK ENDOMETRIAL CANCER: A TRANSPORTEC PILOT STUDY

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Aims

To describe the expression of DNA repair biomarkers in high-risk endometrial cancer (EC) and evaluate their prognostic value.

Methods

TransPORTEC is an international consortium dedicated to translational research within the PORTEC-3 trial. To evaluate the expression of biomarkers to be tested in PORTEC-3, an independent pilot TMA was constructed using FFPE tumor samples of high-risk EC representative of patients enrolled in PORTEC-3. Expression of DNA-pk, 53BP, PARP and FANCD2 was scored by immunohistochemistry using an H-score (0-300). Markers were analysed with a Cox model to predict overall survival (OS) and distant relapse free survival (DRFS).

Results

Samples from 120 patients with high risk EC were collected including G3 endometrioid (47%), G3 serous (15%), clear cell (11%) and G1/2 endometrioid (27%) tumors. Treatment details were available on 95 patients and included radiotherapy (86%) and/or chemotherapy (16%). Median H-scores were 53BP=148 (SD: 72), DNApk=15 (SD:53), PARP=175 (SD:79) and FANCD2=12 (SD:36). OS for the 13% of patients lacking expression of all 4 markers (H-score=0) was 57 months versus 28.2 for patients expressing all 4 markers (p=0.1). There was a trend for improved DRFS with low DNApk (10-year DRFS=48% vs 37%, p=0.07) and with low PARP (10-year DRFS=50% vs 30%, p=0.08) expression.

Conclusion

While numbers are small, there is a trend for low DNApk and PARP expression to predict good outcome. Whether DNA repair profile predicts benefit from adjuvant chemotherapy will be investigated in TransPORTEC. Evaluation of a more complete

panel of DNA repair markers is ongoing and will be presented.

IGCSM-1037
Poster Shift III - Basic/translational science

THE CLONAL AND MUTATIONAL EVOLUTION TOWARDS PLATINUM RESISTANCE IN HIGH GRADE SEROUS OVARIAN CANCER (HGSOC)

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Aims

We aim to study the evolution of genetic changes over time and their correlation with platinum-resistance in HGSOC.

Methods

Illumina whole exome sequencing was performed on paired fresh frozen diagnosis-recurrence biopsies of 15 HGSOC-patients. Afterwards, ultra-deep targeted re-sequencing of detected somatic mutations was performed. SNP arrays were used for copy number aberration (CNA) profiling.

Results

Substantial heterogeneity in the somatic mutation and CNA landscape was noted when pairwise comparing the diagnostic and recurrence biopsy. In particular, all recurrent tumors exhibited unique mutations, which constituted between 8-54% of all mutations

detected. Notably, 10 primary tumors also exhibited mutations that were unique for the primary tumor, constituting between 2%-45% of all mutations detected. Similar observations were done for CNAs.

Although we identified only one BRCA1 germline mutation, all tumors exhibited somatic loss of heterozygosity (LOH) in BRCA1 and RAD51C. Likewise, LOH for BRCA2 and CHEK2 were frequently detected. Although each of the recurrent tumors was more resistant to platinum than in first-line, we did not identify any somatic events reactivating these genes, suggesting that reactivation of the homologous recombination pathway does not underlie resistance to platinum therapy. Consistent herewith, observed mutation patterns were similar to previously described BRCA deficient breast cancer patterns, no difference was observed between platinum-exposed and non-platinum-exposed mutations. Correlation of the number recurrence-specific mutations or CNAs with PFS or OS was not significant.

Conclusion

Although there is a high number of heterogeneity between HGSOC biopsies over time, the role of the homologous recombination pathway is clear.

IGCSM-1044
Poster Shift III - Basic/translational science

MICRORNA EXPRESSION PROFILING OF PELVIC HIGH-GRADE SEROUS CANCER IN BRCA1 CARRIERS.

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Aims

BRCA1 carriers are predisposed to develop pelvic high-grade serous cancer (PHGSC) which most likely originates from tubal instead of ovarian epithelium. To gain more insight in this disease, we aimed to generate a miRNA expression profile of PHGSC of *BRCA1* carriers using tubal tissue as benign control. We validated the results on an independent cohort of *BRCA1* and non-*BRCA* carriers.

Methods

Small RNA sequencing (Illumina 2000) was performed on 8 benign samples and 5 PHGSC samples of *BRCA1* carriers. Expression data was analyzed in GeneSpring. Ten miRNAs were selected for validation by qRT-PCR (TaqMan) which was performed first on the small RNA sequencing samples and then on the independent cohort. Comparisons of the independent cohort were made between *BRCA1* benign (n=8) and *BRCA1* PHGSC (n=11) and between non-*BRCA* benign (n=8) and non-*BRCA* PHGSC (n=12).

Results

Small RNA sequencing showed 166 differentially expressed (p<0.05) miRNAs of which 143 (107 up and 36 downregulated) showed >2 fold expression and 64 (40 up and 24 downregulated) showed >4 fold expression. Principle component analysis perfectly separated the PHGSC samples from the benign samples. qRT-PCR showed the same

pattern as small RNA sequencing. Validation of the independent cohort confirmed deregulation in PHGSC and reached significance (p<0.05) for 7/10 miRNAs in *BRCA1* PHGSC and 9/10 miRNAs in non-*BRCA* PHGSC.

Conclusion

Small RNA sequencing identified a specific miRNA expression profile of PHGSC of *BRCA1* carriers of which a selection was validated independently. Our findings contribute in understanding the poorly understood pathogenesis of PHGSC.

IGCSM-1104
Poster Shift III - Basic/translational science

ACTIVATION OF INTRACELLULAR ANGIOTENSIN AT2 RECEPTORS IN HUMAN UTERINE LEIOMYOSARCOMA CELLS INDUCES RAPID CELL DEATH

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Aims

The angiotensin type 2 (AT_2) receptor in tumour tissue inhibits cell proliferation and initiates apoptosis. The presence of the AT_2 receptor in mitochondria and its role in mitochondrial NO generation were recently demonstrated in a variety of human and mouse non-tumour cells. In the present study, we studied the expression and intracellular distribution of AT_2 receptors in human leiomyosarcoma (SK-UT-1)- and primary uterine smooth muscle (HutSMC) cells including their presence in mitochondria and their role in induction of apoptosis and cell death.

Methods

The expression of AT_2 receptors, apoptosis and cell death were analysed by RT-PCR, Western blotting, confocal laser microscopy, histochemistry and lactate-dehydrogenase assay.

Results

The expression of AT_2 receptors in SK-UT-1 cells depends on the cellular state. The density of intracellular AT_2 receptors is low in proliferating SK-UT-1 cells but the receptor is substantially up-regulated in quiescent SK-UT-1 cells with high densities in mitochondria. Stimulation of membrane AT_2 receptors by Ang II activates intrinsic apoptotic pathway. We demonstrate that the high-affinity, non-peptide AT_2 receptor agonist, Compound 21 (C21) passes through the cell membrane and induces rapid cell death via activation of intracellular AT_2 receptors in quiescent SK-UT-1 cells. The cells, which survived the exposure to C21, show activation of the intrinsic, mitochondria-mediated apoptotic pathway. C21 was devoid of cytotoxic or apoptotic effects in proliferating SK-UT-1 cells and in HutSMC.

Conclusion

Treatment with C21 may eliminate non-cycling uterine leiomyosarcoma cells providing that they over-express the AT_2 receptor, and limit the progression of the disease.

IGCSM-1113
Poster Shift III - Basic/translational science

NOVEL STRATEGIES TO TARGET THE C5 SUBCLASS OF HIGH-GRADE SEROUS OVARIAN CANCER (HGSC) USING PATIENT-DERIVED XENOGRAFTS.

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Aims
The most common epithelial ovarian cancer subtype, HGSC, can be divided into four subgroups based on molecular characteristics.The C5 subgroup is defined by *MYCN* pathway activation and may be associated with stem cell like behavior. Commonly used HGSC cell lines are suboptimal experimental models whereas patient-derived xenografts (PDX) retain pathological and immunohistochemical features of primary tumor, providing a valuable pre-clinical resource for therapeutic exploration
Methods
Twelve HGSC PDX were generated from tumor tissue transplanted into NOD-SCID-IL2Rγ^{null} mice and identified as 'C5-like' using *MYCN* pathway (*MYCN, HMGA2*, *LIN28B)* expression analysis by qRT-PCR or by Affymetrix gene expression analysis. Additional molecular analyses performed included qRT-PCR for the drug resistance marker, *CCNE1* and sequencing of DNA repair genes. *In vivo* response to cisplatin (delivered i.p. on D1, D8, D18) was evaluated, given that platinum response provides prognostic information in the clinic. *In vivo* response to therapies targeting the MYCN pathway is underway and each response will be considered in light of molecular phenotype.
Results
Preliminary analyses revealed eight 'C5' PDX over-expressing *MYCN* and six over-expressing *LIN28B*. Three over-expressed *CCNE1* and three PDX harbored mutations in DNA repair genes (marker of platinum sensitivity). Three PDX were sensitive to cisplatin, two were resistant, four were refractory (three are underway).
Conclusion
Utilising this cohort of molecularly annotated, complex and heterogenous C5-like PDX, we aim to demonstrate novel effective strategies targeting the C5 subclass to inform a

clinical trial

IGCSM-1117
Poster Shift III - Basic/translational science

MONEPANTEL EXERTS ANTI-INFLAMMATORY PROPERTIES IN MURINE MACROPHAGES: POSSIBLE MEDIATION THROUGH THE INHIBITION OF NF-?B SIGNALLING.

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Aims

Accumulated evidence supports the critical role of inflammation in ovarian cancer. Tumour associated immune cells are known to trigger an inflammatory microenvironment in ovarian tumours through activation of NF-kB pathway thus facilitating the neoplastic process. Monepantel (MPL) is a new nematode-specific anthelmintic agent. We have recently communicated the preliminary results showing the anti-tumour activity of this agent in ovarian carcinoma and herein report a companion laboratory study to test if this effect is associated with attenuation of inflammation.

Methods

LPS-stimulated RAW 264.7 cells macrophages were utilized as an *in vitro* model of inflammation. Evaluation of pro-inflammatory agents IL-6 and TGF-β performed using western blot analysis. NF-κB pathway modulation was ascertained using immunocytochemistry and western blotting.

Results

Treatment with MPL resulted in significant suppression of both basal and LPS-induced IL-6 and TGF-β expression of RAW 264.7 cells. MPL could also inhibit NF-κB p65 phosphorylation and nuclear translocation; events which were highly correlated with attenuation of I?Bα kinase (IKK) activation and I?Bα Phosphorylation.

Conclusion

Our results reveal the therapeutic potential of MPL as an anti-inflammatory agent targeting the pro-oncogenic NF-κB pathway. These data warrant further evaluation of this agent in the treatment of ovarian cancer and other inflammation- associated ailments.

IGCSM-1248
Poster Shift III - Basic/translational science

PATHOLOGIC ANALYSIS OF TISSUE DESTRUCTION WITH NEUTRAL ARGON PLASMA

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Introduction

Many electrosurgical devices and lasers have been developed over the years to aid tissue dissection and destruction. Each device has specific applications with advantages and disadvantages. Lateral thermal spread(LTS) and collateral tissue destruction(TD) are the principal concerns when considering a new operative energy source.

Objective

This study reports the histopathological effects of TD following neutral argon plasma (PJ) use on fresh ex-vivo human malignant tissues including at different power settings, tissue interaction time examining depth of destruction and LTS.

Methods

Following consent, fresh tissue was harvested intra-operatively. Following tissue excision, 1cm^3 sections of bowel, diaphragm and omental tissue was exposed to PJ at 4 power settings (20%,40%,60%,80%) and increasing time of exposure ranging from 1-5seconds. Power is expressed stepwise as a percentage (10-80%) on the PJ. Specimens were formalin-fixed and stained after PJ exposure. Histological examination of TD included assessment of cavity depth and extent of burn at the base of cavity (eschar) is used as a surrogate marker of LTS.

Results

TD increased with power setting and ranged from 0.8 mm at (20%) to 2.95 mm at 80%. However, depth of eschar remained fairly constant despite increasing the power(0.12-0.20mm). Duration of tissue exposure appeared to be more important than increasing power settings.

Conclusion

PJ is a safe device that may be used on various tissue surfaces. Extent of tissue vaporisation produced is dependent upon both power settings and duration of exposure. However, increasing these parameters did not seem to impact on lateral thermal spread

making the PJ an attractive electrosurgical device.

Conflict of interest
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IGCSM-1278
Poster Shift III - Basic/translational science

A REVIEW OF GYNECOLOGIC ONCOLOGY CASES PERFORMED WITHIN A 7-YEAR PERIOD IN A TERTIARY REFERRAL HOSPITAL IN ANKARA, TURKEY

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Aims

Gynecologic oncology is a medical discipline with high rate of evolution. With the introduction of technological, technical and medical improvements, many surgeries that were once associated with high morbidity and mortality are carried out with low incidence of complications.. Many institutions throughout the world have highly educated staff and technical resources to provide care for gynecologic oncological cases.

Methods

In this report, we review the cases that were carried out in our institution, which is a tertiary referral center for women's health in Ankara, Turkey Institutional cancer registry database was reviewed for all malignant cases that were managed in our center's gynecologic oncology department within a 7-year period between January 2007 and January 2014

Results

A total of 1843 malignant cases were identified during a seven year period. Endometrial cancer including sarcoma was diagnosed in 708(38.4%) cases, cervical cancer in 507 (27.5%) cases, ovarian cancer in 446 (24,2%) cases, , gastrointestinal cancer in 46 cases, (2,5%) vulvar cancer in 43 (2,3%) cases, , primary peritoneal carcinoma in 37 cases, tubal cancer in 23 (1.4%) cases (2.3%), vaginal cancer in 15 cases(0.8%), gestational choriocarcinoma in 7 cases(0.4%), urinary bladder cancer in 2 cases(0.1%), lymphoma in 3 cases(0.16 %) and malignancy of unknown primary in 6 cases(0.3%).

Conclusion

In tertiary referral centers, various gynecologic oncological as well as nongynecologic malignancies are encountered. Multidisciplinary approach is crucial especially in cases with nongynecologic tumors.Investigations of databese in annual manner shows steady ratio of major malignancies like ovarian, endometrium and cervix cancer.

IGCSM-0022
Poster Shift III - Breast Cancer

EVALUATION OF PREDICTIVE MARKERS FOR CLINICAL OUTCOME AFTER NEOADJUVANT RADIOCHEMOTHERAPY IN BREAST CANCER

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Aims
Neoadjuvant radiochemotherapy (NRT-CHX) in locally advanced noninflammatory breast cancer (LABC) is still under debate. Proliferation markers make up the majority of genes included in RNA-based prognostic gene signatures applied for breast cancer patients.
Methods
During 1991-1998, a total of 315 LABC patients (cT1-cT4/cN0-N1) were treated with NRT-CHX. The impact of age, tumor grade, nodal status, hormone and growth factor receptor status (ER, PR, EGFR), p53, ki-67, HER2/neu, and bcl-2 on pathological complete response pCR and disease-free survival were examined in uni- and multivariate terms. In this subgroup analysis long-term clinical outcome data and predictive factors were analyzed.

Results
Hormone receptor status, proliferative activity, bcl-2, EGFR-status and clinical tumor size had a significant impact on predicting neoadjuvant therapy success. Age, cN, grading, p53, and HER2/neu status failed to reach a significant correlation to complete remission. All examined immunohistochemical factors with the exception of EGFR, and all clinical factors displayed an univariately significant impact on DSF. Particularly, while HER-2/neu had no predictive value for pCR it displayed the highest impact on disease free survival after complete response (n=92) , even in a multivariate setting with clinical tumor size and nodal status. Complementary, p53 was the most superior immunhistochemical factor for prognosis after neoadjuvant incomplete remission (n=223).
Conclusion
Her2/neu is a predictive marker for overall survival independent from the pCR. It has no predictive value for the pCR. P53 is a prognostic marker for patients with incomplete remission.

IGCSM-0048
Poster Shift III - Breast Cancer

STATUS OF VITAMIN D IN BREAST CANCER SURVIVORS

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Aims
The materialization of vitamin D deficiency as a factor in multiple illnesses has focused attention among a wide variety of populations across the World. Breast Cancer is the most common type of cancer diagnosed and the survival has been correlated with treatment.
Methods
Study was conducted on 100 Breast Cancer Survivors (BCS) of stage one or two, who had completed their treatment at least six months before initiation of this study and 50 control subjects were recruited. The BCS who participated in the study were women with no active cancer growth after completion of their standard treatments. All participants provide an informal consent and a questionnaire regarding vitamin D supplements intake, sunlight exposure and food frequency. Blood samples were collected and tested for 25(OH) D.
Results

70% of BCS had estrogen receptor, 55% progesterone-receptor positive tumors and 80% had HER2 negative tumors. The majority of BCS and control did not consume adequate amount of dietary vitamin D but BCS were prescribed supplements intake of vitamin D which may be due to burden of bone diseases in them. Only 2% of BCS were having adequate sun light exposure which did not appears to significantly contribute to vitamin D status in the study. Vitamin D deficiency were observed in 77% of BCS and 85% of controls women ($P<0.0175$) which appears that the majority of both groups were deficient in vitamin D.

Conclusion

Vitamin D status should be routinely evaluated for all women as part of regular preventive care.

IGCSM-0090
Poster Shift III - Breast Cancer

THE RELATIONSHIPS BETWEEN SUBJECTIVE WELL-BEING AND BODY IMAGE AMONG WOMEN AFTER MASTECTOMY AND THEIR DAUGHTERS

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Aims

Mastectomy is a surgical procedure that affects not only the body, but also the mind of the women who undergo it. Physical changes caused by mastectomy influence the women's cognitive and emotional processes leading to alterations in their subjective well-being and body image. Mastectomy also makes an impact on the women's daughters who partially evaluate their lives in relation to their mother's health.

Methods

120 women were asked to fill in questionnaires measuring subjective well-being and body image. The research group consisted of women who underwent mastectomy and their adult daughters oncological undiagnosed (60 subjects).The control group comprised randomly selected undiagnosed women and their adult daughters (60 subjects). Three methods were used: the Image of the Body Questionnaire, the PANAS-X Scale, and the Satisfaction with Life Questionnaire.

Results

There were associations between body image and subjective well-being among the daughters of women after mastectomy. In contrast, no such relationships were observed in the control group. There were statistically significant differences between both groups in the level of emotions, but not cognitions and body image. Both mothers and daughters in the research group were characterized by more frequent negative emotional states and less frequent positive emotions than the control group.

Conclusion

The procedure of mastectomy tends to affect mainly the emotional processes of the women who underwent it and their daughters. The cognitive processes are far less

influenced. The results revealed that the syndrome of "Sword of Damocles" appears not only in women with breast cancer, but also in their daughters.

IGCSM-0138
Poster Shift III - Breast Cancer

THE ROLE OF INTRADERMAL MICROBUBBLES AND SENTINEL LYMPH NODE BIOPSY IN BREAST CANCER

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Aims
The concept of sentinel lymph node is not new to medical practice especially for patients with breast cancer. An innovative technique is applied with the same purpose by using U/S contrast agents based on the use of dispersion with sulfur hexafluoride gas called microbubble technique. The aim of this review is to examine the clinical evidence for the intradermally injected microbubbles as a technique of preoperative identification of SLNs in patients with breast cancer.

Methods
A systematic search was performed in PubMed (10 July 2013) and Scopus (10 July 2013).

Results
Five prospective studies were included in the study. The total number of patients included was 727. The age of the include patients ranged from 19 to 93 years old. The median diameter of tumor ranged from 2 to 120 mm. Regarding the histological type, ductal carcinoma in situ was present in 31 patients, invasive ductal carcinoma in 438, invasive lobular carcinoma in 71 and not defined invasive breast tumors in 52 patients. The SLN identification rate ranged from 9.3% to 55.2% and the sensitivity from 61% to 89% while the false negative rate from 6.6% to 39% and the presence of micro/macrometastases from 1.9% to 64.3%.

Conclusion
Microbubble technique is an alternative for sentinel lymph node detection in patients with breast cancer. Further studies are necessary to standardize the method and clarify its specificity and sensitivity.

IGCSM-0364
Poster Shift III - Breast Cancer

ASSESSMENT OF TREATMENT RESPONSE WITH FULVESTRANT (F) 500 MG IN STANDARD CLINICAL PRACTICE THROUGH A RESTROSPECTIVE STUDY

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Aims
F500 is one of the standard treatments for patients with oestrogen receptor (ER+) Metastatic Breast Cancer (MBC) who previously had progressed on hormonal treatment. 500 mg of fulvestrant have been shown to be more effective than 250 mg, without significant differences in the toxicity profile. The aim of this study is to describe our clinical experience with F500 in patients (P) with MBC.
Methods
Retrospective data collection was recorded from clinical records of P with MBC who received at any time F 500 from January 2010 to June 2013.
Results
31 P in our center were included in the study. Median age was 64 (46-89). Histology: 83,87% ductal, 12,9% lobulillar and 3,22% others. 25,8% of P had visceral metastases, 9,67% lymph nodes/soft tissue, 32,25% bone and 32,25 mixed when F started. Average of treatments previously used to F: 3,48. Average prior lines in metastatic disease: 1,87. Average prior lines with hormonal treatment: 1,83. Patients progressing despite treatment: 18 (58,06%). Disease-free survival: 13.51 months. Median Overall Survival since the first diagnosis of breast cancer was 104.57 months. More frequent toxicities were: local injection site pain (16,1%), joint disorders (9,6%), gastrointestinal disorders (16,1%), hot flushes (12,9%), asthenia (6,45%) and others (9,6%). Current status of P: 45,16% exitus, 38,7% alive with disease (partial response and stable disease) and 16,12% alive without disease (complete response).
Conclusion
In our experience, F500 has demonstrated to be an efficacious treatment for patients with ER+ MBC with a good toxicity profile, in line with phase III trials.

IGCSM-0369
Poster Shift III - Breast Cancer

CLINICAL EXPERIENCE WITH TRABECTEDIN IN MONOTHERAPY OR WITH DOXORRUBICINE HIDROCLORURE IN PATIENTS WITH METASTATIC CANCER. A RETROSPECTIVE REVIEW.

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Aims

Trabectedin is a treatment used in patients with metastatic / relapsed ovarian cancer or soft tissue sarcoma. Its clinical use is recent and the experiences obtained until now are small and with few cases series.
Our aim is to show our clinical experience with this drug in monotherapy as in combination with doxorrubicine hidroclorure, liposomal pegylated formulation.

Methods

Retrospective review of the results obtained with trabectedin since its authorization until February 2014 in patients with metastatic ovarian cancer or soft tissue sarcoma.

Results

Patients with treatment: 22 patients. Average Age: 57.4 years old (43-68). Histological type: 13 papillary serous ovarian (59%), 6 others ovarian tumors (27%), 3 sarcoma (13.63%). Initial stage: 15 IIIC (68.12%), 4 IIIB (18.2%), 1 IV (4.54%), 2 others (9.1%). Therapy: 18 With doxorrubicine hidroclorure, liposomal pegylated formulation (82%), 4 monotherapy (18%). Average previous lines before trabectedin: 2.18 (1-10). Average cycles administrated: 6.22 (1-12). Disease-free survival: 30.04 months (1-235). Progression-free survival: 12.31 months (3-48). Overall Survival since the first diagnosis of cancer: 59.77 months (3-277). Overall survival after starting trabectedin: 12.66 months (3-43). Main adverse events detected: general malaise (2), pancytopenia / anemia (2), allergic reaction (1). Total: 5 cases (22.72%).
Current status of the patients: 9 (41%) exitus, 9 (41%) alive with disease (partial response and stable disease), 4 (18%) alive without disease (complete response).

Conclusion

Our Progression free-survival date shows that trabectedin has efficacy in the treatment of relapsed ovarian cancer and carcinoma. In our experience trabectedin shows a safe profile with adequate tolerance.

IGCSM-0518
Poster Shift III - Breast Cancer

INTRAOPERATIVE TOPOGRAPHY OF LYMPHATICS OF ARM IN AXILLARY REGION – FUNCTIONAL LYMPHATIC ANATOMY FOR AXILLA SURGERY IN BREAST CANCER PATIENT.

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Aims

To improve the technique of axillary staging in breast cancer patients with aim to spare lymphatics passing from arm, based on the functional anatomy of the breast and arm. To acquire a orientation and to map the lymphatics running through the axilla.

Methods

A intraoperative study was performed on 50 female patients with breast cancer after neoadjuvant chemotherapy for N1 clinical stage undergoing axillary dissection. After intradermal administration of radioisotope (Nannocol©) into the arm (hand), the lympahtics were intraoperatively localised by using gamaprobe and removed.

Results

Radioactive axillary nodes were found in all patients. There were harvested together 230 radioactive nodes (average 4,4nodes for case). In all patients were found and removed 21 nodes which were together radioactive and metastatic and were localised in central or lower part of the axilla. If we consider all 230 radiactive nodes as 100%, than lymph from upper arm flows in 65% in upper, in 31 % in central and in 4 % in lower axillary nodes. These result points on functional link between lymphatics of the arm and breast.

Conclusion

Lymph from arm flow through nodes in central and lower axilla approximately in 35% of cases. We can assume, that sparing the lymphatics running from arm when axillary staging in breast cancer patients is perfomed to prevent the occurence of lymphedema is not oncologicaly safe. There is need to perform subsequent study to prove result of this study.

IGCSM-0616
Poster Shift III - Breast Cancer

BREAST CONSERVING SURGERY OF NONPALPABLE BREAST CANCER USING INTRAOPERATIVE ULTRASOUND

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Aims

Breast conserving surgery is the preferred treatment of early-stage breast cancer but can be challenging in nonpalpable lesions because of the need for accurate tumor localization. We performed a retrospective study to evaluate the success of intraoperative ultrasound which has been used for nonpalpable lesion localization at our institution since 2009.

Methods

A statistical analysis of the data for 125 patients with histologically diagnosed nonpalpable breast cancer in whom ultrasound-guided lumpectomy was performed in Maribor University Clinical Center, Slovenia, between January 2009 and December 2012 was carried out retrospectively.

Results

The excised tissue measured on average 42.1 ccm (± 22.0 ccm). In 27 patients (21.6%), re-excision was performed during the same procedure after ultrasound examination of the excised tissue. Only 4 patients (3.2%) had histologically positive surgical margins after the primary operation and needed a secondary procedure.

Conclusion

Intraoperative ultrasound is a suitable method for nonpalpable breast cancer localization and seems to present some advantages such as small excision volumes and low secondary re-excision rates compared to other localization techniques.

IGCSM-0632
Poster Shift III - Breast Cancer

IMPACT OF ITRACONAZOLE ON THE SURVIVAL OF HEAVILY PRETREATED PATIENTS WITH TRIPLE-NEGATIVE BREAST CANCER

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Aims
Recurrent triple-negative breast cancer (TNBC) patients have poor prognoses and limited treatment options, especially after progression during prior chemotherapy. Itraconazole, a common antifungal agent, potently reverses resistance to anticancer drugs and inhibits angiogenesis and Hedgehog pathways.This study aimed to determine the impact of itraconazole with chemotherapy in these patients.

Methods

Medical records of recurrent TNBC patients receiving itraconazole with chemotherapy between 2008 and 2012 after written informed consent and approval of the institutional review board were retrospectively reviewed.

Results
Among 13 eligible patients, all had previously received anthracyclines and taxanes, progressed during prior chemotherapy, and had a treatment-free interval of less than 3 months. 12 had visceral organ metastases. 12 had 2 or more lines of chemotherapy after reucurrence. All patients had combination chemotherapy of docetaxel, carboplatin, and gemcitabine with itraconazole. Additionally, 3 patients with pleural effusion and 2 with inflammatory breast cancer received bevacizumab. No febrile neutropenia, platelet transfusion, or chemotherapy-related death was observed during treatment with itraconazole. The response rate, median progression-free survival, and median overall survival were 62% (95% confidence interval [CI]: 35–88%), 10.8 months (95%CI: 7.6–15.3 months), and 20.4 months (95%CI: 13.1–41.4 months), respectively.

Conclusion
Chemotherapy with itraconazole is promising for heavily pretreated TNBC patients.

IGCSM-0654
Poster Shift III - Breast Cancer

LONG TERM ANALYSIS OF COSMETIC OUTCOME IN BREAST CONSERVATION AND ITS CORRELATION WITH TYPE OF RADIOTHERAPY BOOST – AN INDIAN EXPERIENCE.

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Aims

This retrospective analysis aims to explore impact of modality of boost radiotherapy (electron vs. HDR interstitial brachytherapy) on long term cosmesis in Breast Conservation Surgery.

Methods

194 early breast cancer patients (T1N0, T2N0, T1N1) underwent BCS + N3 nodal dissection between July 2004 and March 2010 after metastatic work up.Whole breast radiotherapy was given to all (50 Gy/ 25 fractions with CT-based planning). 145/194 patients also received boost - either 15 Gy/ 6 fractions electron or 10 Gy/ single fraction HDR interstitial implant (2 or 3-planes) with individualized CT-based planning and geometrical optimization. DVH was analyzed in each for D90, Coverege index, DNR and COIN. Cosmetic outcome was analyzed in each follow up visit using 4-point scale (excellent, good, fair, poor).

Results

Out of evaluable 173/ 194 patients with minimum follow up of 36 months, 86 received electron boost and 38 received HDR. Local recurrence was in none. The PTV differed significantly - median 38 cc with HDR vs. median 90 cc with electron. Cosmetic outcome was significantly different – only 48/86 patients receiving electron boost have 'excellent and good' cosmesis compared to 31/38 receiving HDR brachytherapy (P = 0.008). Grade 1-2 fibrosis was seen in 39/86 (46%) with electron and 6/38 with brachytherapy (P= 0.002). Grade 1-2 telengiectasia was also significantly lower with HDR brachy 3/38 vs 29/86 with electron (P= 0.0019). Arm oedema was 2.8%.

Conclusion

For best cosmetic outcome after BCS, HDR brachytherapy (with CT-based 3D planning) for patients requiring boost radiotherapy appears to be much better option compared to electron unless the tumour is very superficial.

IGCSM-0693
Poster Shift III - Breast Cancer

AXILLARY REVERSE MAPPING

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Aims
1. To confirm the existence of a constant sentry node in the axilla that drains the lymphatics of the upper limb. 2. To find out the percentage of cases in which the ARM node harbours metastasis in clinically/pathological N0, N1, N2 and N3 disease.
Methods
Patients who had previous chemotherapy / axillary were excluded. 100 breast cancer patients undergoing axillary clearance had an injection of radio-isotope into the dorsum of the hand A hand held portable gamma probe was used to identify the ARM node.
Results
The ARM node was successfully identified in 94/100 cases.The location of the ARM node was found to be constant in about 80% of cases (76/94). Of the 94 patients the ARM node harbored metastasis in 9 patients. 45% of patients with N3 disease 14% patients with N2 disease and 4% patients with N1 disease had metastasis in the ARM node.
Conclusion
Axillary reverse mapping can successfully identify the sentinel node of the upper limb in 94% of the patients. Anatomically the location of the node is fairly constant in 80%. It is usually not involved in metastasis in early breast cancer

IGCSM-0747
Poster Shift III - Breast Cancer

THE ROLE OF 18FDG-PET/CT AND KI67 IN THE EVALUATION OF EARLY RESPONSE TO NEO-ADJUVANT CHEMOTHERAPY IN LOCALLY ADVANCED BREAST CANCER (LABC).

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Aims
The role of ^{18}FDG-PET/CT and Ki67 in the early response evaluation of neo-adjuvant chemotherapy (NACT) for LABC are actively studied. The aim of this study is to determine the ability of ^{18}FDG-PET/CT and Ki67 to predict pathological outcome in LABC patients (pts) treated with NACT.
Methods
Pts with tumors: T2 (≥3cm)-T4, N1-3 were included. All pts received the same NACT +/- trastuzumab according to Her-2 status. Serial ^{18}FDG-PET/CTs were performed, at baseline and after 2 cycles NACT. Changes in SUV_{max} were calculated. Immunohistochemical staining of pre-operative Ki67 was performed on paraffin-embedded tissue. According to ER, HER2 status and Ki67, tumors were classified into the following subtypes: HER2+, triple negative, luminal A and luminal B. Statistical analyses were performed with Jonckheere-Terpstra test and Chi square.
Results
Eighty-nine pts with invasive LABC were included between 2008 and 2013. Sixty-two could be assessed for ^{18}FDG-PET response and Ki67. Twenty-eight pts (45.2%) had a HER2 positive tumor. The median age was 49 years (range: 26-76). Pathological response rates were: pCR 17.8%; PR 66.1%; SD 11.3% and PD 4.8%. Higher reduction in SUV_{max} of the primary tumors was associated with a better pathological response category (p=0.01). Ki67 pre-operative and tumor subtype were correlated with SUV_{max} breast baseline, respectively p=0.01, Pearson=0.62 and p=0.048.
Conclusion
Ki67 is correlated with $SUV_{max,}$ suggesting that lower SUV_{max} could well be correlated with luminal B subtype. ^{18}FDG-PET at baseline was able to distinguish between tumor subtypes.^{18}FDG-PET is a useful biomarker as predictor of response to NACT in patients with LABC.

IGCSM-0792
Poster Shift III - Breast Cancer

PEGASUS - PREVALENCE AND SEVERITY OF GENITOURINARY SYMPTOMS AND IMPACT ON SEXUAL FUNCTION AND QOL IN POSTMENOPAUSAL WOMEN RECEIVING ENDOCRINE THERAPY FOR EARLY BREAST CANCER

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Aims
We report the results of the first 128 patients from an ongoing multi-center prospective study. Using standardized instruments we measure prevalence and severity of genitourinary symptoms such as urinary frequency, urgency, incontinence, dysuria, recurrent UTI, dryness and pelvic floor dysfunction, in addition to their impact on sexual function and QOL in postmenopausal women receiving adjuvant endocrine therapy for early stage breast cancer.

Methods
280 patients will be recruited in this study. Participants complete self-administered questionnaires at baseline (prior to the commencement of an AI or TAM), and 6-month, 1- and 2-year follow-ups.

Results
Baseline data presented. Two-thirds of the respondents reported that they occasionally/sometimes leak urine and nearly 52% were bothered about this. Participants indicated that their household tasks (13%), jobs (13%) and physical activities (30%) were affected by genitourinary symptoms; in addition to feeling depressed (12%) or anxious (19%) because of these symptoms. Vaginal soreness was reported by 19% of respondents, vaginal dryness by 53% and reduced sensation in or around the vagina by 22%. In 11% a bulge coming down the vagina was reported. Of those who have a sex life (n=47), worries about genitourinary symptoms interfered a little/somewhat with their sexual activities (21%) and with their relationship with their partners (26%).

Conclusion

While these findings are still preliminary, we believe that this study has the potential to document the extent and impact of genitourinary symptoms in breast cancer survivors about to start adjuvant endocrine therapy and what happens over time. It will also lead to intervention studies in the future.

IGCSM-0824
Poster Shift III - Breast Cancer

BREAST CANCER AWARENESS AT THE COMMUNITY LEVEL AMONG WOMEN IN DELHI

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Aims

To assess women's awareness from diverse sections of society in Delhi regarding various aspects of breast cancer (BC) – perceptions, signs and symptoms, risk factors, prevention, screening and treatment.

Methods

Community-level survey was undertaken in association with the Indian Cancer Society (ICS), Delhi during May 2013-March 2014. Women attending BC awareness workshops by ICS were given self-administered questionnaires to assess BC awareness. Information provided by 2017 women was converted into awareness scores for analysis using SPSS. Bivariate and multivariate analysis provided *P*-values, odds ratios (ORs) and 95% confidence intervals (CIs).

Results

Broadly, 53.4% women were aware about various aspects of BC. Notably, 49.1% women believed that BC was incurable and 73.9% women believed pain to be an initial BC symptom. Only 34.9% women performed self breast examination (SBE) and 6.9% women had undergone clinical breast-examination/mammography. 40.5% women were more aware (awareness score ≥ median score of 20), which was associated with education [graduates (OR = 2.31; 95% CI = 1.72, 3.10), post-graduates (OR = 7.13; 95% CI = 4.10, 12.42) compared to ≤ high school] and socio-economic status (SES) [low-middle (OR = 4.29; 95% CI = 2.76, 6.65), middle (OR = 6.15; 95% CI = 3.88, 9.75) and upper (OR = 7.30; 95% CI = 4.22, 12.65) compared to low SES].

Conclusion

BC awareness of women in Delhi was low (~50% believed BC to be incurable) and was associated with low SES and education levels. Awareness needs to be drastically

increased as a first step in fight against BC.

IGCSM-0844
Poster Shift III - Breast Cancer

ER/PR STATUS IN BREAST CANCER HISTOLOGICAL SPECIMEN AND OUTCOME OF TAMOXIFEN BLANKET THERAPY– AN OVERALL PROTECTION IN PATIENTS OF DEVELOPING COUNTRIES

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Aims

Prescribing anti-oestrogen in recent decades depends totally on ER/PR status of the breast cancer specimen. As the fallacies and shortcomings of ER/PR status started surfacing up, little attention was paid towards the ultimate outcome on therapeutics of breast cancer patients especially in poor socio-economic settings where Tamoxifen can still prove a rescuer. We compared survival and recurrence data in patient cohort receiving and not receiving Tamoxifen in triple negative patients.

Methods

Three arm analytical study on Breast cancer, stage III ER/PR negative receiving or not receiving Tamoxifen and ER/PR positive receiving Tamoxifen. The survival data at 10 years evaluated with regards to disease free survival, recurrence rates and treatment to disease progression time.

Tamoxifen 20mg daily with close evaluation of cardiologic status, endometrial status given for five years after standard regimen of post operative radiation and six courses of chemotherapy.

Results

In triple negative patients receiving Tamoxifen, ten year disease free survival was close to ER/PR positive patients receiving Tamoxifen (50% and 57%). While triple negative not receiving Tamoxifen succumbed at less than half the survival time (27%) when compared to patients receiving Tamoxifen.

Conclusion

The large poor socio-economic population, afflicted by breast cancer and that deserves a hormonal manipulation after completion of Post-operative chemo radiotherapy has to be recommended a cost effective affordable therapy. Tamoxifen stands the test for its

low cost with not much of side effects, easy vigilance with cardiac, endometrial and ultrasound guided monitoring.

IGCSM-0937
Poster Shift III - Breast Cancer

EARLY ONSET BREAST CANCER - CALL FOR A PARADIGM SHIFT ?

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Aims
Early onset breast cancer (EOBC) in an unscreened population is a relatively unaddressed issue .The disease throws up questions regarding the nature of presentation, extent of disease,tumour biology and the propensity for metastases. This retrospective study aims to determine the clinicopathological, histological, therapeutic and prognostic features associated with EOBC.

Methods
Retrospective data collected from the records of 489 patients of a single unit at our Institute between 06/2008 and 01/2012 form the basis of this study. Epidemiological, clinical, histological, and therapeutic data were analyzed.

Results
A total of 141/489 (28.83%) women had EOBC. Obvious clinical evidence of malignancy was found in only 52 patients (36.87%). Mean age was 38.82 yrs, (median 37 yrs).TNM status,available on 109 patients showed an average T to be 2.67,(median 2), 32 patients were Tx. Lymph node status was positive in 72 patients, with Nx in 12 patients AND M in 6 patients. On HPE, 41.13 % patients had poorly differentiated histology and vascular invasion was found in 32% of cases.39 % of patients were triple negative,(ER/PR; HER2 receptor negative).40 patients have been lost to follow up. Upon follow up(range 0 months to 6 1/2 years), 18 patients had metastases.(skeletal metastases 13,malignant pleural effusion 3,liver metastases 2, multiple systemic metastases 3).

Conclusion
Early onset breast cancer remains a clinical challenge. We present our spectrum of cases of early onset breast cancer. The study raises questions regarding attitude towards breast masses and effective screening in young females.

IGCSM-0956
Poster Shift III - Breast Cancer

FACTORS AFFECTING LOCAL RECURRENCE (LR) AND LOCO-REGIONAL RECURRENCE (LRR) IN EARLY BREAST CANCER IN PATIENTS TREATED WITH CHEMOTHERAPY AND RADIOTHERAPY: RESULTS FROM THE SECRAB TRIAL.

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Aims

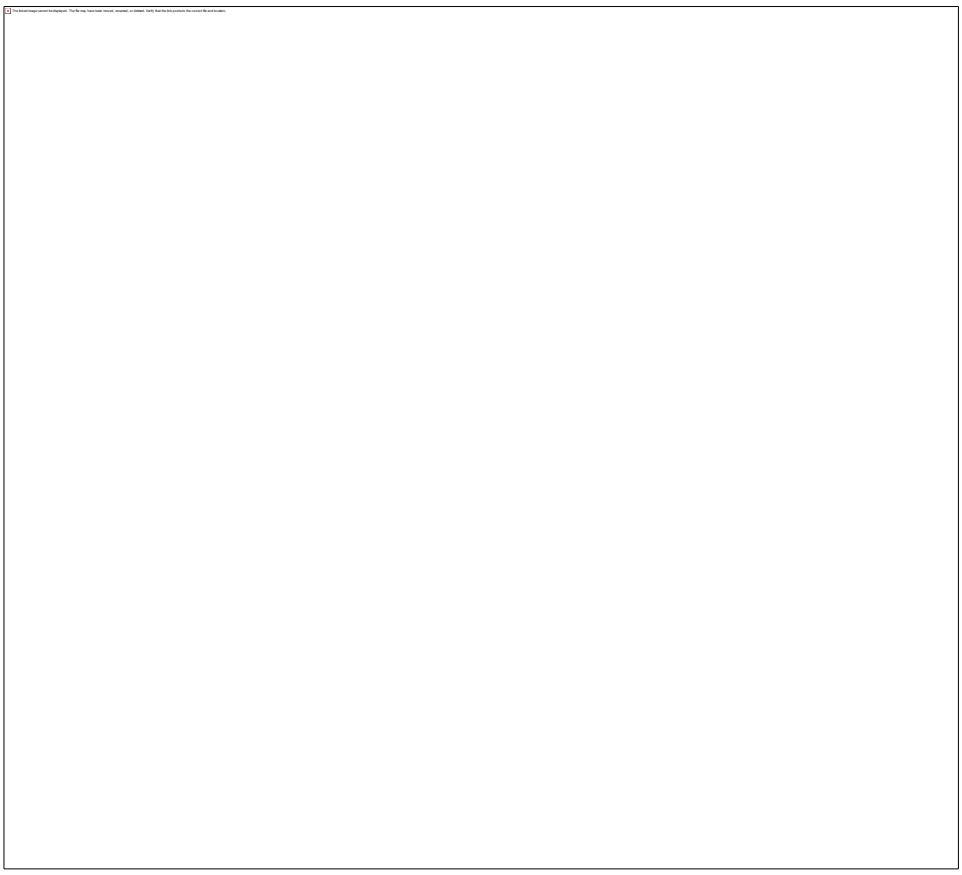
Preliminary results of the SECRAB trial in early stage breast cancer showed a significant reduction in LR and in-field LRR for patients having synchronous chemo-radiation with a CMF or E-CMF regimen in combination with 3 or >3 weeks of radiotherapy. The aim of this analysis was to look at factors effecting LR and LRR for all patients within the trial.

Methods

Time until LR and LRR was analysed using proportional hazard modelling to assess the effect of the following factors in patients treated by conservative surgery or mastectomy in the SECRAB trial (n=2296): age, tumour size, grade, lymphovascular invasion (LVI), nodal involvement, oestrogen receptor (ER) status, axillary surgery, excision margin, chemotherapy regimen, radiotherapy fractionation and boost for conservative surgery patients.

Results

With a median follow-up of 10.2 years the main factors which affected LR and LRR are shown in the table.



Conclusion

In this large prospective trial of high risk patients who have been treated with both chemotherapy and radiotherapy five main factors were found to affect LR these were number of nodes involved, tumour grade, LVI, radiotherapy fractionation and ER status. In addition, for LRR tumour diameter was also significant. The finding that >3 weeks radiotherapy fractionation resulted in a lower rate of LR and LRR in this high risk patient group was unexpected in light of other recent randomised trials. It should be noted that there were only 118 LRs and 195 LRR recorded in the trial. The possible reasons for this result will be discussed further.

IGCSM-1127
Poster Shift III - Breast Cancer

CONCURRENT CHEMORADIATION AFTER INITIAL ANTHRACYCLINE THERAPY IN LOCALLY ADVANCED BREAST CANCER: A PHASE II STUDY

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Aims
The aim of this Phase II study was to look at the feasibility of concurrent chemo-radiation using biweekly paclitaxel after initial anthracycline based chemotherapy in Indian patients with Locally advanced Breast cancers (LABC) with special reference to the toxicity profile and long term outcomes.
Methods
Patients with biopsy proven LABC were given 4 cycles of AC(adriamycin/cyclophopshamide) chemotherapy followed by external radiation 45Gy in 25fractions at 1.8Gy/fraction and a boost of 14Gy to the primary tumor site over 7 fractions. Concurrent chemotherapy with biweekly paclitaxel at 30mg/m2 was administered during the entire radiation period. Surgery was done 4 weeks after completion of the concurrent chemo-Radiation. Pathologic response was assessed and all alive patients were followed up for a minimum period of 5 years
Results

14 patients were enrolled, of which 12 patients completed treatment. 4 patients had a pathological complete response. 5 patients had treatment breaks of more than a week; 4 of these were due to severe skin reaction, and occurred after the initial 25 fractions. 6 patients are alive and free of disease more than 5 years after completion of therapy; all these 6 had pathologic complete response in the nodes.

Conclusion
Concurrent chemo-radiation with biweekly paclitaxel after initial anthracycline based chemotherapy is feasible in Indian patients with LABC, though the skin toxicity after 25fractions is a matter of concern. Pathological node negativity after concurrent therapy seems to be a better surrogate of long term survival than path CR at the primary site alone.

IGCSM-1150
Poster Shift III - Breast Cancer

POLYMORPHISMS OF BRCA GENES IN IRANIAN BREAST CANCER FAMILIES

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Aims

Breast cancer–susceptibility genes BRCA1 and BRCA2 have recently been identified on the human genome. Women who carry a mutation of one of these genes have a greatly increased chance of developing breast and ovarian cancer.

Methods

All study subjects (100breast cancer patients (at age ≤ 40 years) or with family history of breast or ovarian cancer) and 50 controls were recruited at kawsar Human Genetics Research Center, Iran. After collecting blood samples and extracting DNA, their BRCA1 and BRCA2 genes were fully sequenced

Results

codon, Leu1418Stop codon, p.Lys581Stop, The missense substitutions p.Leu3Stop E212catctgGTAAGTCAGC,p. Ile21Val, p. Gly1738Glu, CD26SmallINSGTCCC^ATCTG Leu1522Phe and 1994insA 1995 in BRCA2 are .C) in BRCA1 and p<IVS2-1(G .(pathogenic (%7

:in breast cancer development Two haplotypes may have a pathogenic role

Arg7Cys ,Glu23Gln, Ile26Ieu, Ile15Ieu .1

.Ser1613Gly ,Gly1140SerLeu871Pro, GLu1038Gly.2

Conclusion

hypothesis that genetic polymorphisms are Studies are required to confirm the .cancer associated with breast

and the families with the disease-causing pathogenic percent of mutations were 7 In addition, the total .families to review allocated mutations were 16 percent of all

substitutions and the number 42 is assortment of more than 80 percent of number of related to the BRCA1 gene and less than 20 percent due to mutations in the them .gene BRCA2

IGCSM-1245
Poster Shift III - Breast Cancer

NEW ASPECTS CONCERNING THE RADIATION OF BREAST CANCER

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Aims

Radiotherapy improves overall survival (OS) of breast cancer patients after breast conserving surgery and after mastectomy in patients with involved lymph nodes (LN). The contribution of RT to the regional LN to this survival benefit is still under debate.

Methods

The abstracts of the MA.20 (n=1832), the EORTC 22922-10925 (n=4004) trial and a French trial (n=1334) were basis of the meta-analysis. Main eligibility criteria were positive axillary LN, LN negative disease with high risk for recurrence (MA.20), and medial/central tumor location (French, EORTC).

Results

Regional RT of the MS-LN and the IM-LN (MA.20 and EORTC) resulted in a significant improvement of OS (Hazard Ratio (HR) 0.85 (95% CL 0.75 - 0.96)). Adding the results of the French trial and using the random effects model to respect the different design of the French trial, the effect on OS of regional radiotherapy was still significant (HR 0.88 (95% CL 0.80 - 0.97)). The absolute benefits in OS were 1.6% in the MA.20 trial at 5 years, 1.6% in the EORTC trial at 10 years, and 3.3% in the French trial at 10 years (not significant in single trials). Regional radiotherapy of the MS-LN and the IM-LN (MA.20 and EORTC) was associated with a significant improvement of DFS (HR 0.85 (95% CL 0.77 - 0.94)) and DMFS (HR 0.82 (95% CL 0.73 - 0.92)). The effect sizes were not significantly different between trials for any end point.

Conclusion

Regional radiotherapy to the internal mammary and medial supraclavicular lymph nodes statistically significantly improves DFS, DMFS, and overall survival in stage I-III breast cancer.

IGCSM-1264
Poster Shift III - Breast Cancer

PREGNANCY ASSOCIATED BREAST CANCER (PABC) – A STUDY OF 20 PATIENTS FROM AN ONCOLOGY CENTRE IN NORTHERN INDIA

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Aims

Breast cancer during pregnancy or within first year after delivery is considered as pregnancy associated breast cancer. Incidence has been reported as 1 in 3,000 deliveries.

Methods

We found 20 cases of PABC by searching retrospectively our prospectively maintained database of breast cancer patients from January 2004 to January 2014.

Results

Out of 20 cases, 13 (65%) were in antenatal period, 10 in 2nd trimester and 3 in 3rd trimester. 7(35%) were diagnosed postpartum. Age ranged from 23 to 34 years. 14 patients were in stage I and II and rest 6 were in stage III. Pregnancy termination was done in 3 cases due to reasons unrelated to diagnosis of cancer. In antenatal patients, modified radical mastectomy was done in 9 patients and one patient underwent breast conservation surgery. In postpartum cases, 4 patients underwent breast conservation and 3 underwent modified radical mastectomy. 5 patients received chemotherapy during pregnancy, three in neoadjuvant setting and two in adjuvant setting. Radiation therapy was indicated in 8 patients and delayed till completion of pregnancy. There was no congenital malformation in any of the babies. In 5 patients where chemotherapy was administered during pregnancy had normal healthy babies with no congenital malformation. Overall follow up ranged from 9 months to 6 years. 4 patients had expired. Two patients had 2nd pregnancy after initial treatment at 3 and 4 years interval with normal healthy outcome.

Conclusion

PABC can be successfully treated with good obstetrical and oncology outcome. Chemotherapy is safe during 2nd and 3rd trimester of pregnancy.

IGCSM-1281
Poster Shift III - Breast Cancer

DIEATERY FACTOR OBESITY AND BREAST CANCER

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Aims

to assess the causal relationship between dietary factor, obesity and breast cancer risk.

Methods

female patients with breast cancer were compared to healthy controls at the National Institute of Oncology of Rabat during 2008-2010 and were interviewed for their eating habits.

Results

Eight hundred women were included in this study(4OO cases and 400 controls).Résult of univariate analysis showed that significant factors associated with the etiologie of breast cancer :high body mass index (odds ratio [OR]=1.30; 95% confidence interval [CI] =1.25–1.37),red meat (OR =1.33; 95% CI 1, 27–1,.40), processed meat (OR =1.44; 95% CI =1.35–1.54), eggs (OR=1.20; 95% CI =1.14–1.23),poultry (OR=0.70; 95% CI =0.60–0.80),fish (OR=0.67; 95% CI =0.61–0.73),fruit (OR=0.67; 95% CI =0.62–0.72), and vegetable (OR=0,72; 95% CI =0.67–0.78). Multivariate analysis indicated that a significantly elevated risk of contracting breast cancer was associated with higher body mass index (OR = 9.61, 95% CI = 6.1-15.15), red meat (OR = 4, 61, 95% CI = 2.26 - 9.44) and processed meat (OR = 9.78-95% CI = 4.73-20.24).In contrast consumption of fish (OR = 0, 07, 95% CI = 0.02-0.24), poultry (OR = 0,61, 95% CI = 0.46-0.81), fruit (OR = 0, 001, 95% CI = 0.00-0.004), and vegetable (OR = 0,82, 95% CI = 0.22-3.08) remained as significant beneficial factor associated with breast cancer.

Conclusion

This study is rather in favour of positive association between obesity, consumption of food rich in fatty matter and breast cancer, which is consistent with data from the literature using the same type of investigation.

IGCSM-1283
Poster Shift III - Breast Cancer

LIPID PROFILE AMONG MOROCCAN OVERWEIGHT WOMEN AND BREAST CANCER: A CASE-CONTROL STUDY

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Aims

: This two-year long case-control study was conducted to assess the causal relationship between the lipidic profile among overweight Moroccan women and breast cancer.

Methods

400 overweight female patients with breast cancer were compared to 400 healthy controls at the National Institute of Oncology of Rabat. The epidemiological data on the disease and physical activity was gathered by interviewing the patients who received lipid profile (TC, TG, HDLc, and LDLc). As regards overweight, it was measured by body mass index.

Results

Univariate analysis revealed a significant association between high body mass index and breast cancer (OR=1.31; 95% CI = 1.25-1.37), menopause (OR=2.68; 95 % CI =2-3.55), lack of physical activity (OR= 0.26; 95 % CI = 0.21-0.31) and triglyceridemia (OR= 3.78; 95 % CI = 2.73-5.23). Multivariate analysis revealed that the statistically significant increase in breast cancer risk was associated with a higher body mass index (OR = 1. 11; 95% CI = 1.04 -1.18), menopause (OR = 9.11; 95% CI = 4.76-17.47) and a high triglyceride levels (OR = 4.5; 95% CI = 2.94- 6.88). However, a protective effect of physical activity was detected (OR = 0.35; 95% CI = 0.26 -0.48).

Conclusion

This study suggests that there is a connection between hypertriglyceridemia, obesity and breast cancer risk and confirms a protective role of physical activity on breast cancer risk.

IGCSM-1321
Poster Shift III - Breast Cancer

A PHASE II NEOADJUVANT TRIAL OF GENEXOL® (PACLITAXEL) AND EPIRUBICIN IN LOCALLY ADVANCED BREAST CANCER

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Aims: Neoadjuvant chemotherapy (NC) has not yet had the definitive treatment regimen for locally advanced breast cancer determined through clinical trials. The aim of this study was to determine the efficacy and toxicities of neoadjuvant epirubicin and paclitaxel. **Methods:** This study had 50 patients enrolled in an open label, phase II, multicenter study, with treatment at 5 separate institutions. All patients were to receive preoperative 4 cycles of 60 mg/m^2 epiriubicin and 175 mg/m^2 paclitaxel every 3weeks unless the patients had a profound side effect or disease progression. After curative surgery, 2 additional cycles of the same chemotherapy was given if they had shown good response to NC. **Results:** A complete disappearance of invasive foci of the primary tumor with negative axillary lymph node was confirmed in 8 patients (16%) post operation. The cumulative 5-year disease free survival (DFS) was 70.0% for patients with complete remission and partial remission (CR/PR), and 33.3% for patients with stable disease and progressive disease (SD/PD) (p=0.018). The cumulative 5-year overall survival was 90.0% for patients who had CR/PR. And the results were 55.6% for the patients who had SD/PD (p=0.001). Neutropenia (42.0%) was the most common grade 3/4 toxicity. However, there were no toxicities that resulted in cessation of the treatment. **Conclusion:** The encouraging pathologic response from the patients in the study with NC treatment of epirubicin plus paclitaxel suggests that epirubicin could be a substitute for doxorubicin, which is the most causative agent of cardiotoxicity.

IGCSM-0040
Poster Shift III - Gestational Trophoblastic Neoplasia

EVALUATION OF RESPONSE RATE TO SURGERY OF GESTATIONAL TROPHOBLASTIC NEOPLASIA (GTN)

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Aims

gestational trophoblastic disease (GTD) is a group of rare tumors ranging from the benign hydatidiform mole to the malignant choriocarcinoma. Majority of patients are cured with chemotherapy treatment but some of them become chemotherapy resistant and need to salvage surgical procedures. The role of surgery in treatment of patients is not clear. This study performed to evaluate the response rate to surgery *of* gestational trophoblastic neoplasia.

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Methods

All files related to patient with GTD who underwent surgical procedures during treatment in Medical Gynecologic Oncology Research Center, ghaem & omid hospital from March 2000 to March 2010 were studies retrospectively. Surgical procedures included hysterectomy, hysterotomy, lung resection and craniotomy. Indications for adjuvant surgery were resistance to chemotherapy and bleeding. Therapeutic response was defined as complete with normalization of human chorionic gonadotropin (hCG) concentration, partial response with a decrease of more than 50%, and no response with a decrease of 50% or less in 6 weeks after surgery

Results

patient with GTD who underwent surgical procedures accounted for 31 cases. No deaths were recorded. Survival rate in mean of follow up (12 month) were 100%. Mean (SD: 10.55) age was 36 years. Surgical procedures included hysterectomy in 21 patients (67.7%), hysterotomy in 6 patients (19.4%), lung resection in 3 patients (9.7%) and craniotomy in 1 patient (3.2%). 22 patients (71%) showed complete response and 9 patients (29%) showed partial response.

Conclusion

surgical procedures play an important role in management of GTD.Antecedent non molar pregnancy, tumor stage, WHO scoring are clinicalpredictors of response to surgery.

IGCSM-0057
Poster Shift III - Gestational Trophoblastic Neoplasia

GESTATIONAL THROPHOBLASTIC DISEASES IN NORTH EAST OF IRAN: 10 YEARS (2001-2010) PROSPECTIVE EPIDEMIOLOGICAL AND CLINICOPATHOLOGICAL STUDY

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Aims

Many aspects of epidemiological and clinicopathological features of gestational trophoblastic disease (GTD), one of the important subject in gynecology oncology, needs to be defined so as to recommend the best approach and management toward it. In the present study, we evaluated 10-years incidence of throphoblastic diseases in north east of Iran in prospective epidemiological and clinicopathological study.

Methods

We reviewed the registered histopathology database archive (120 records) related to throphoblastic diseases of the Ghaem Hospital, Mashhad University of Medical Sciences from 2001 to 2010.

Results

Evaluation of the pathological reports revealed 5 (4.2%) choriocarcinom and 115 (95.8%) of hydatidiform mole (HM), with complete and partial HM diagnosis in 29 (25.2%) and 86 (74.8%) patients, respectively. The pregnancy rate of HM patients (2.72 ± 1.86) and choriocarcinoma patients (3.56 ± 2.8) was not significantly different (P = 0.61). There was no statistical significant difference between the number of pregnancies in HM (2.90 ± 3.13) and choriocarcinoma (3.84 ± 3.80) patients (P = 0.46). The ratio of complete to partial mole increased with age, although this correlation was not significant. Most patients in both the groups had no history of abortion. O positive was the predominant blood group among the studied patients.

Conclusion

Throphoblastic diseases occur during the fertility age mostly, and there is an increased risk with more previous pregnancies; ultrasound sonography is a useful method for primary diagnosis of this disease. Further pathological studies are needed to define the mole type.

IGCSM-0167
Poster Shift III - Gestational Trophoblastic Neoplasia

GENETIC SUSCEPTIBILITY TO GESTATIONAL TROPHOBLASTIC DISEASE A CASE REPORT OF FIVE CONSECUTIVE MOLAR PREGNANCIES AND A REVIEW OF LITERATURE.

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Aims

Hydatidiform mole is the most common form of gestational trophoblastic disease. Recurrent molar pregnancies are extremely rare. Herein, we report the case of a patient with four consecutive molar, and one partial mole complicated by HELLP syndrome and DIC.

Methods

A 32 year old lady presented to our unit at 20 weeks with a previous history of 3 consecutive molar pregnancies, placenta looked bulky with a normal looking fetus. She developed severe preeclampsia complicated by DIC at 26 weeks gestation. Termination of pregnancy was done. Genetic studies revealed a tetraploidy. BhCG took 9 months till normalization.

One year later she was found to be pregnant. BhcG at 12 weeks was 200,000. Chorionic Villus Sampling done at 12 weeks and found to be tetraploidy. Uneventful evacuation of retained products of conception done.

Results

Familial predisposition has recently been evaluated. Familial recurrent HM are considered exceedingly rare with only 21 families reported in the medical literature. In these cases the Hydatidiform mole are diploid, but biparental rather than androgenic in origin. These patients have an autosomal recessive condition, causing them to have recurrent molar, and they have little chance to have a successful pregnancy. Genetic studies revealed to have mutation in both alleles of the NLR7, which is located on chromosome 19.

Conclusion

Recurrent molar pregnancy is a genetically inherited disease related to childlessness, psychological trauma and increase incidence of malignancy. It's recommended that patients who present with recurrent molar pregnancy should be offered genetic testing aiding in counseling and prognosis for future pregnancies.

IGCSM-0240
Poster Shift III - Gestational Trophoblastic Neoplasia

RARE PRESENTATIONS OF PLACENTAL SITE TROPHOBLASTIC TUMORS: TWO CHALLENGING CASES

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Aims
Two unusual cases reported.
Methods
42 years, G5P2L2A2, presented with 3 months amenorrhea and spotting. Vaginal examination revealed 6 weeks uterus, 3cm mass in right fornix and βhCG 10,737 mIU/ml. TVS showed heteroechoic lesion close to uterus with increased vascularity. Provisional diagnosis was ectopic pregnancy and methotrexate given. On day 14 severe pain necessitated laparoscopy. Bulky uterus and normal adnexa seen. CECT showed dilated tortuous vascular channels with contrast filling in arterial phase in anterior myometrium and right adnexa suggestive of GTN.
35 year old, P2L2, last child birth 12 years, previous LSCS, presented to emergency with excessive vaginal bleeding for 4 days. βhCG was 124miU/ml. Per vaginally uterus was bulky, soft and fornices normal. TVS suggested retained products, therapeutic D&C done, no chorionic villi on HPE. Two weeks later she presented with massive uterine bleeding in hemorrhagic shock. Ultrasound and emergency CECT suggested fluid collection in endocervical canal. Conservatively managed on intravenous haemostatics; serial βhCG values became normal.
Results
TAH with bilateral salpingectomy performed in Case 1. On cut section a 1 x 1 cm vascular growth was seen on right cornua. Histopathology confirmed PSTT confined to uterus, no lymphovascular invasion and free margins. Post-surgery βhCG plateaued and chemotherapy given.
Alarming uterine hemorrhage a week later necessitated hysterectomy in Case 2. An excavated lesion with necrosis seen in posterior myometrium and reported as PSTT with myometrial and vessel wall invasion on HPE.

Conclusion
PSTT presenting with hemorrhagic shock reported for the first time in literature.

IGCSM-0275
Poster Shift III - Gestational Trophoblastic Neoplasia

TREATMENT OUTCOME OF METASTASTIC GESTATIONAL TROPHOBLASTIC NEOPLASIA IN CHIANG MAI UNIVERSITY HOSPITAL

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Aims

Gestational trophoblastic neoplasia (GTN) is a very interesting disease due to a typical character and highly response to chemotherapy even in metastatic status. This study was conducted to identify the treatment outcome of these metastatic GTN patients.

Methods

Medical records of the metastatic GTN patients treated at our center between January 1999 and December 2010 were reviewed.

Results

The median age of the studied patients was 30.5 years (16-60 years). Most of them presented in FIGO stage III (77.1%) followed by stage IV (16.7%) and stage II (6.3%). Most frequent antecedent pregnancy was complete mole (60.4%) and 20.8% of the studied patients developed GTN after term pregnancy. The median interval between the prior pregnancy and the time developed GTN was 2.50 months (1-384 months). One-third of the studied patients were asymptomatic. The median level of pretreatment B-hCG was 47,543 mIU/ml. (58 -4,124,000 mIU/ml). 19 patients (39.6%) received single chemotherapy with methotrexate and showed a remission rate of 72.2% while the rest of them received combination of chemotherapy which consisted of etoposide,methotrexate,actinomycin D (EMA) in 20 patients, etoposide & methotrexate, cisplatin (EMP) in 6 patients , etoposide & methotrexate & actinomycin D & cyclophosphamide, vincristine (EMA-CO) in 2 patients, and ifosfamide & cisplatin & etoposide (ICE) in 1 patient. The remission rate in these patients was 71.4%. In addition, 20 patients (41.7%) received surgery during the treatment. Most type of operation was hysterectomy (70.0%).

Conclusion

Metastatic GTN revealed high response rate of chemotherapy even in single agent.

IGCSM-0352
Poster Shift III - Gestational Trophoblastic Neoplasia

SEVEN YEARS REVIEW OF GESTATIONAL TROPHOBLASTIC NEOPLASIA IN BANGABANDHU SHEIKH MUJIB MEDICAL UNIVERSITY.

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Aims

To find out the clinical characteristics and effective management protocol of Gestational Trophoblastic Neoplasia (GTN) patients in BSMMU.

Methods

Bangabandhu Sheikh Mujib Medical University (BSMMU) is the only medical university in Bangladesh which is a low income country. This retrospective analytic study was done at the Gynaecologic Oncology Division of BSMMU from the record of the "MOLOR CARD" from 2007 to 2013. Number of cases were 275. Variables studied were age, para, gravida, income, blood group, residence, interval between diagnosis and treatment, pre and post evacuation β-hCG, management by surgery or chemotherapy etc. Values of these parameters were calculated and expressed in percentage.

Results

Prevalence of GTN in BSMMU was 2 among 100 pregnancies. Prevalence was highest in the age group 21-25 years (33%) , para was nil in 39.32%, primigravida was 31.58%, income < 100$ per month was in 53% cases, blood group was“0”+ve in 34.56% cases, duration of amenorrhoea > 8 weeks was in 67.24% cases, residence of 64.56% patients was outside Dhaka city .

Pre-evacuation β-hCG was estimated in 75.73%. Diagnosis was performed by USG in 84.84%. Interval between diagnosis and evacuation was <1 month in 87.59%. Histopathology of evacuated specimen was available in 57.25%. Serum β-hCG report, 48 hours after evacuation was available in only 28.08%. Post-evacuation USG report was available in 37.70%. Chemotherapy required in 19% cases. Surgical treatment was given only in 8.72% ceses . Mortality was nil among the cases.

Conclusion

An effective management protocol can save the life of 100% of GTN patients.

Conflict of interest
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IGCSM-0409
Poster Shift III - Gestational Trophoblastic Neoplasia

TREATMENT OF PATIENTS WITH GESTATIONAL TROPHOBLASTIC NEOPLASIA (GTN) IN TWELVE SOUTH AMERICA REFERRAL CENTERS. RESULTS AFTER TEN YEARS SINCE INTERNATIONAL CONSENSUS

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Aims

GTN is a curable disease. The quality of care following international guidelines and multidisciplinary dedicated teams are cornerstones to achieve successful results. Reports from South America are rare. We report results with patients with GTN according to disease progression and FIGO staging, survival, pathological diagnosis of previous gestation and adherence to follow-up

Methods

We reviewed medical records and databases from twelve referal centers in South America. Patients were treated between 2000-2011

Results

Gestational Trophoblastic Disease was diagnosed in 5,771 pts. Mostly were Brazilian origin (86%) and other countries 14%. Spontaneous remission were reported in 4,438 pts (76.9%) and 1,333 pts (23.1%) were diagnosed as GTN. According to the OMS / FIGO staging, 963 (72.2%) patients were in Stage I; 67 (5.0%) Stage II; 268 (20.1%) Stage III and 35 (2.6%) Stage IV. All pts were scored as low-risk GTN 1,069 (80.2%) cases, and high-risk 246 (18.5) .Eighteen pts 18 (1.4%) had placental site trophoblastic tumor (PSTT). The cure was achieved in 95.6% of the pts in the intent to treat group; 99.6% in low risk GTN, 89.4% in high risk, without differences between countries. In the setting of PSTT the overall survival was 83.3%. Compliance was high in GTN: 1,157 of 1303 patients (88.8%) completed the follow-up.

Conclusion

This is the biggest report on GTN from South America. Results show high rate of long term remissions following international guidelines across the continent with social and economic disparities. Patients with molar gestations should be refered to a referal centers for an early diagnosis and treatment fo GTN.

IGCSM-0515
Poster Shift III - Gestational Trophoblastic Neoplasia

MAJOR SURGERY IN GESTATIONAL TROPHOBLASTIC NEOPLASMS IN TEHRAN, IRAN, 1995–2005.

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Aims

To evaluate incidence, indications, and outcome of surgery in women presenting with gestational trophoblastic neoplasms.

Methods

A prospective observational study was done using a standardized protocol for registration, assessment, and treatment of gestational trophoblastic disease. During January 1995 -December 2005, one hundred two patients with a diagnosis of persistent gestational trophoblastic neoplasm were treated in Gynecologic Oncology Department, Vali Asr Hospital, Tehran, Iran. Data from the patients' files and pathologic reports were analyzed. patients who had only minor surgery (D&C) were excluded.

Results

Eighty of the 110 patients with persistent GTN were low risk and 30 were high risk. We evaluated treatment responses and outcomes in 102 patients. Of 102 patients, 23 required major surgery. All patients had chemotherapy and 5 patients needed more than one regimen. Eighteen patients underwent hysterectomy. The most common indications for hysterectomy included localized chemo-resistant disease (12/18) and intraabdominal bleeding or uncontrollable vaginal bleeding (6/18) thus, hysterectomy as an emergency procedure was necessary in 6 patients. There were 6 deaths in all registered patients (102) with GTN and 1 patient was in the surgery group (23).

Conclusion

Although chemotherapy is the main modality of treatment in patients with GTN, but surgery may be need in hemorrhagic and resistant patients. These patients are in high risk group**.** Patients needing surgery represent increased-risk group as indicated by their

high pretreatment risk scores and stages, but it seems that surgery does not effect to more course chemotherapy.

IGCSM-0594
Poster Shift III - Gestational Trophoblastic Neoplasia

"CRITICALLY ILL PATIENT WITH HIGH RISK GESTATIONAL TROPHOBLASTIC NEOPLASIA: AN UNIQUE EXPERIENCE IN A TEACHING HOSPITAL"

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Aims
Gestational trophoblastic Neoplasia (GTN) is a common gynaecological problem in countries at Pacific bin. Clinical presentations vary from vaginal bleeding, anaemia, hyperemesis gravidarum and pre-eclampsia. Hyperthyroidism occurs in 5% of patients. Here, we report a patient who presented in critically ill condition with GTN.
Methods
Case Report
Results
MBJ is 45 year old lady gravida 4, presented with 10 weeks history of amenorrhoea and increasing severe shortness of breath in the past several days. She was tachycardic, hypertensive with signs of heart failure and hyperthyroidism. ECHO study showed ejection fraction of only 40%. She also looked clinically unwell and has uterine mass equivalent to an 18 weeks gestation. Ultrasound of the abdomen showed features of snow storm appearance in the uterus with beta HCG level of 1,196,000 IU/L. Her Free Thyroid hormone was 51.9 pmol/L with TSH less than 0.01 mIU/L. She was treated with Lugol Iodine, Propylthiouracil and Intravenous Esmolol. She was electively ventilated and after stabilization, molar tissues were evacuated via suction under general anesthesia. Her condition improved drastically after suction curettage. No radiological evidence of distant metastasis. Currently she is on Methotrexate chemotherapy with evidence of reduction in her beta HCG level.
Conclusion
Diagnostic delay in molar pregnancy is uncommon and mostly due to late presentation. This could lead to unnecessary life threatening situation. The suction evacuation is the main treatment. Combine care by the gynaecologist, anesthetist, cardiologist and endocrinologist and good ICU support are essential to favorable outcome.

IGCSM-0644
Poster Shift III - Gestational Trophoblastic Neoplasia

METASTATIC CHORIOCARCINOMA IN AMENORRHEIC WOMAN FOLLOWING NORMAL VAGINAL DELIVERY

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Aims
Gestational choriocarcinoma usually occurs following an intrauterine pregnancy. We report a case of metastatic choriocarcinoma to kidney with long term intermittent amenorrhea and vaginal bleeding after a normal vaginal delivery
Methods
A 43 year old rural woman presented with three years intermittent amenorrhea and vaginal bleeding following normal vaginal delivery. She also complained of gross hematuria and left flank pain and had a rising titer of serum β- hCG. Pathologic examination of endometrial curettage specimen revealed choriocarcinoma. Ultrasound revealed enlarged uterus involved by an irregular mass with heterogenous echo pattern and extensive myometrial invasion. A mass with similar echo pattern was also evident in the left kidney. Computerized tomography confirmed the intrauterine mass and involvement of the left kidney. On chest X ray, metastatic nodules were seen in both lungs and in the left retrocardiac space
Results

. The patient underwent chemotherapy with EMA-CO regimen (etoposide, methotrexate, actinomycin D, cyclophosphamide, and vincristine/oncovine). During chemotherapy, she became pancytopenic and febrile. This condition was successfully managed with G-CSF, leukovorin and antibiotics.She underwent adjuvant hysterectomy too. The patient is now well and in remission. Her serum β- hCG level fell to 6 IU/ml.

Conclusion
Gestational trophoblastic neoplasia rarely metastatises to kidney.In the case of persistent hematuria and prolonged high level of hCG this diagnosis should be in mind.

IGCSM-0648
Poster Shift III - Gestational Trophoblastic Neoplasia

COMPARISION OF METHOTREXATE-FOLINIC ACID VERSUS PULSED ACTINOMYCIN D FOR THE TREATMENT OF STAGE I, LOW- RISK GESTATIONAL TROPHOBLASTIC NEOPLASIA : A RANDOMIZED CONTROLLED TRIAL

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Aims

The aim of this study was to compare the efficacy and side effects of pulsed ?ctinmycin-D (ACT-D) and Methotrexate-Folinic Acid (MTX-FA) for Stage I, Low-risk Gestational Trophoblastic Neoplasia (GTN).

Methods

In a randomized single- blinded clinical trial 64 patients with stage I, Low- risk GTN refered to the gynecological oncology clinic at the Tabriz University of Medical Sciences during 2011 and 2012, randomly assigned to receive either a pulsed intravenous bolus of 1.25 of (ACT-D) every 2 weeks (n=32) or an intramuscular Methotrexate 1mg/kg per day on days 1,3,5,and 7 with intramuscular Folinic Acid 0/1 ml/kg per day on days 2,4,6, and 8(n=32). Data was analyzed using SPSS software (version 16) by the Fisher exact test , the Mann Whitney U test ,the independent sample t-test? and chi square test.P value less than 0.05 was considered significant.

Results

Response to treatment rates were 61.3% and 84.85% for the MTX-FA and ACT-D groups, respectively (p=0.032). The risk of treatment failure was 72 greater with MTX-FA than with ACT-D (95% confidence interval, 52%-99% ; P=0.032). The interval between drug administration and response was shorter with ACT-D in comparison with MTX-FA (p<0/001). Drug toxicity necessitating changes in chemotherapy was reported in one out of 33 patients only in the MTX-FA group. MTX-FA was more cost-effect regimen than ACT-D (p<0/001).

Conclusion

Pulsed ACT-D may be an appropriate option than MTX-FA as a first-line chemotherapy agent for patients with stage I, low-risk GTN

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IGCSM-0860
Poster Shift III - Gestational Trophoblastic Neoplasia

RELATIONSHIP MRNA GENE EXPRESSION OF EPIDERMAL GROWTH FACTOR RECEPTOR WITH DECREASED LEVELS OF SERUM ?-HCG POST COMPLETE HYDATIDIFORM MOLE EVACUATION

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Aims
In 2008, the incidence of hydatidiform mole that occurred in West Java around 1:28. Malignant transformation of Complete Hydatidiform Mole (CHM) is influenced by many factors, among others, is the expression of the epidermal growth factor receptor (EGFR).
Methods
This study uses Historical Cohort to retrieve CHM patients data and trophoblastic tissue paraffin block in 2007-2012, and perform examination of Polymerase chain reaction.
Results
Results of the study: 40 CHM patients, 24 with EGFR (-) and 16 with EGFR (+), at 12 weeks monitoring post evacuation using the Mochizuki regression curve was not obtained persistent mole in the group with EGFR (-), while the group of EGFR (+), all showed an increase in β-hCG levels. Relative risk (RR) of 3.4 in the CHM group with EGFR (+) into a persistent mole compared with EGFR (-) at 6th week and RR of 13.0 in CHM group with EGFR (+) into a persistent mole compared with EGFR (-) at 8th week.
Conclusion
The conclusion of this study demonstrate the suitability of the hypothesis that the higher expression of EGFR, the slower decrease in serum levels of β-hCG after CHM evacuation and mRNA gene expression of EGFR (+) may be a predictor of the occurrence of persistent mole.

IGCSM-0893
Poster Shift III - Gestational Trophoblastic Neoplasia

CLINICAL CHARACTERISTICS AND MANAGEMENT OF GESTATIONAL TROPHOBLASTIC NEOPLASM IN WOMEN AGED 40 YEARS

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Aims

To investigate the clinical characteristics, management and prognosis of gestational trophoblastic neoplasm in women aged 40 years or more.

Methods

Twenty-one cases of gestational trophoblastic neoplasm in women aged 40 years or more treated in Xiangya hospital central south university between 2009 and 2014, were reviewed retrospectively.

Results

The 21 cases, including 11 high risk and 10 low risk GTNs based on FIGO and WHO risk factor scores, presented with abnormal vaginal bleeding. Twelve of them developed lung metastasis. The median age was 46 years (range from 40 to 52 years). Only fifteen cases who finished complete treatment were reviewed. Six cases underwent hysterectomy during chemotherapy, complete remission was achieved in 83.3%(5/6); other nine cases received chemotherapy only, complete remission was achieved in 77.8%(7/9). Twelve of thirteen cases, following up until now, have not been recurrence(range, 1-34 months). One case died of chemo-resistance and uncontrolled pulmonary metastasis.

Conclusion

Once gestational trophoblastic neoplasm in wom en aged 40 years or more is diagnosed, chemotherapy should be given as soon as possible. Hysterectomy may improve the prognosis of gestational trophoblastic neoplasm in the elderly w omen.

IGCSM-0907
Poster Shift III - Gestational Trophoblastic Neoplasia

LUNG METASTASES IN GESTATIONAL TROPHOBLASTIC DISEASE AND RESPONSE TO METHOTREXATE.

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Aims

The presence of lung metastases in gestational trophoblastic disease (GTD) is considered a low risk factor not influencing prognosis. However, in a recent study in the Netherlands, patients with lung metastases have a higher recurrence rate (9.5% vs. 2.3%) and more methotrexate (MTX) resistance compared to patients without metastases. The aim of the present study was to confirm these findings in another population from a specialized trophoblast referral center.

Methods

All Gestational Trophoblastic Neoplasia (GTN) patients registered in the Charing Cross Hospital (UK) presenting with pulmonary metastases between 2002 and 2012 were eligible. Patients with lung metastases at recurrence after initial chemotherapy or PSTT or with ETT were excluded. Patient data was collected in a database.

Results

A total of 93 GTN patients with only lung metastases were identified. Mean FIGO score of the patients was 6.4 (range 2-17), 50 patients had low-risk disease. Mean number of MTX courses necessary to achieve remission was 5.7. MTX resistance occurred in 70.4% of the patients (69.6% in low-risk group) and 6.5% had a recurrence. Nevertheless, 98.9% of the patients were cured.

Conclusion

The recurrence rate of GTD and the incidence of MTX resistance in patients with lung metastases, even in low-risk disease was increased compared to previously reported rates for GTD. Therefore, patients with lung metastases seem to represent a group with higher risk for recurrence and MTX resistance. If this is proven to be an independent unfavorable prognostic factor, it could be necessary to adjust current scoring systems and value lung metastases differently.

IGCSM-0990
Poster Shift III - Gestational Trophoblastic Neoplasia

INCIDENCE OF HYDATIDIFORM MOLE IN UKRAINE

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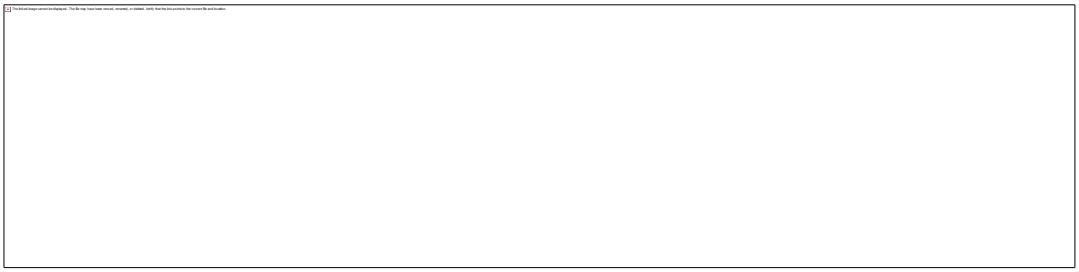
Aims

To examine the prevalence of hydatidiform mole (HM) in Ukraine

Methods

Nowadays there is no central registration of all cases of gestational trophoblastic disease in Ukraine. We have collected information from the regions in 2009. In order to count the number of HM cases per 1000 pregnancies, the information in a statistically-analytical reference Center for Health Statistics of Ukraine was used.

Results



Frequency of HM in Ukraine in 2009 was 0.34 per 1000 pregnancies. These results are consistent with the most important population-based studies on the epidemiology of the HM. However, analysis of the incidence of HM by regions shows significant fluctuations at different administrative areas from 0 to 0.98 per 1000 pregnancies in Sumy and Volyn regions. The problem is especially urgent in the Sumy region as an area with a high disease rate among adolescents - 33.3% of cases among women younger than 20 years.

Conclusion

Molar pregnancy is a pressing problem, not only for South-East Asia, but also for the European countries, including Ukraine. Our results indicate timeliness EOTTD European initiative to establish the register of all cases of gestational trophoblastic disease, including hydatidiform mole, to prevent the development of metastatic forms of GTN.

IGCSM-0991
Poster Shift III - Gestational Trophoblastic Neoplasia

HYDATIDIFORM MOLE AND SUBSEQUENT PREGNANCY OUTCOME: A POPULATION-BASED COHORT STUDY

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Aims
To investigate whether a history of hydatidiform mole (HM) is associated with an increased risk of adverse outcomes in subsequent pregnancies.
Methods
This was a nationwide cohort study with data from population-based registers. The study population consisted of all children registered in the Swedish Medical Birth Register 1973-2009 (n=3,730,825). Odds ratios with 95% confidence intervals were estimated for adverse maternal and offspring pregnancy outcomes by maternal history of HM prior to the delivery, with children to women with no maternal history of HM as reference. Risk estimates were adjusted for maternal age at delivery and maternal country of birth.
Results
A history of HM was not associated with an increased risk of adverse maternal outcomes in subsequent pregnancies (n=5,186). Women exposed to a molar pregnancy prior to the index birth were at an almost 25 % increased risk of preterm birth (OR: 1.23 (1.06-1.43)), while women with at least one birth between the HM and the index birth were at increased risk of large for gestational age (LGA) birth and stillbirth (OR: 1.35 (1.10-1.67) and OR: 1.81 (1.11-2.96) respectively). The risk of repeat mole was 0.4%.
Conclusion

Women with a history of HM are at no increased risk of adverse maternal outcomes in subsequent pregnancies, but have an increased risk of LGA birth, stillbirth and preterm birth. However, in absolute terms, the risk of subsequent adverse offspring outcomes is very low.

IGCSM-1001
Poster Shift III - Gestational Trophoblastic Neoplasia

MEDICAL AND PSYCHOLOGICAL CARE AS A UNIT OF SECONDARY PREVENTION OF POSTMOLAR GESTATIONAL TROPHOBLASTIC NEOPLASMS

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Aims

To explore the psychological symptoms of patients with hydatidiform mole (HM) to determine the feasibility of additional measures aimed at improving the quality of life and secondary prevention of postmolar GTN.

Methods

Examined 19 patients with morphologically verified diagnosis of hydatidiform mole aged from 21 to 28 years. A clinical interview was used for studying the personality dispositions of patients. The SF-36, WPPF and test score stressor global change were used to identify the relationship to their patients, "ego", "Health" and stress reactions . To study the level of personal and situational anxiety, as well as the structure of each patient anxiety questionnaire Spielberg – Haninab was used.

Results

We have identified high level of personal (66,22 ± 7,43)% and situational anxiety (71,15 ± 3,08)%, the state of guilt (87 ± 5,03)%, resentment (67 ± 6 , 97) % , fear of (53 ± 8,0)% and anger (40 ± 5,23)%.
The analysis revealed the presence of psychosomatic disorders in (93,33 ± 7,12)% of patients. The most frequent manifestations of such violations : the need for empathy - at (80 ± 10,05)%, depreciation expressed themselves as women - at (66,33 ± 8,01)%, the rejection of sexuality - at (47 ± 7,0)%, blame themselves - at (40 ± 6,43)%. In the vast majority of cases (76,67 ± 8,37)% observed low degree of resistance to stressors.

Conclusion

These results suggest the desirability of continuing this study and the need for medical and psychological support of patients with hydatidiform mole, based on positive psychotherapy and self-control techniques.

IGCSM-1022
Poster Shift III - Gestational Trophoblastic Neoplasia

MANAGING CHORIOCARCINOMA IN LAGOS UNIVERSITY TEACHING HOSPITAL: A FIVE YEAR REVIEW (2006 – 2010)

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Aims
To evaluate the management of choriocarcinoma in Lagos University Teaching Hospital between the years 2006 and 2010
Methods

A retrospective study of patients with diagnosed choriocarcinoma admitted into the Oncology and Pathological study Unit of the Lagos University Teaching Hospital, Lagos between 1st January 2006 and 31st December 2010 was undertaken. Data of 25 cases of choriocarcinoma were retrieved from available medical records.

Results

Twenty-eight cases of choriocarcinoma were managed over a five year period constituting about 1.97% of the gynaecological admissions, but data were available for only 25 of the cases. The mean age of the 25 patients was 29.4 years with a range of 18-51 years and a mean parity 3.76 (Range: 0-12). Amenorrhoea was the commonest presenting symptom 22 (88.0%), while uterine enlargement was the commonest physical sign 21 (84.0%). Methotrexate, Actinomycin and cyclophosphamide (MAC) was the commonly used chemotherapy regimen (18, 72.0%) and most of the patients (15, 60.0%) were lost to follow up due to financial constraints.

Conclusion
Choriocarcinoma occurred among women of reproductive age group with amenorrhoea and uterine enlargement being the commonest presenting symptom and sign respectively. The investigations, treatment and follow up of patients with choriocarcinoma needs to be subsidized in order to prevent treatment failure.

IGCSM-1095
Poster Shift III - Gestational Trophoblastic Neoplasia

GESTATIONAL TROPHOBLASTIC DISEASE: A 10-YEAR REVIEW OF THE CLINICAL EXPERIENCE AT OBSTETRICS AND GYNECOLOGY HOSPITAL OF FUDAN UNIVERSITY

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Aims

To evaluate the treatments and outcomes of GTD in Obstetrics and Gynecology Hospital of Fudan University.

Methods

A review of the clinical records of 619 patients with a diagnosis of GTD admitted to our hospital between January 2003 and December 2012 was performed. Features of diagnosis, treatment and follow-up were analyzed.

Results

A total of 619 cases of GTD were reviewed. Hydatidiform mole was diagnosed in 358 patients; Among 268 patients with persistent gestational trophoblastic neoplasia (GTN), including 15 cases of placental site trophoblastic tumor (PSTT), 4 cases of ectopic GTN and 2 cases of GTN after CMCF. In the low-risk group the first-line treatment was methotrexate and actinomycin D. High-risk patients whose WHO prognostic scores were over 7 were treated initially with EMA/CO or EMA/EP, the complete response rate was 98.6%. There are 40.8% intermedite risk (WHO score 5-6) had a history converted from single agent chemotherapy to multiple agents chemotherapy. 85.7% patients with PSTT underwent hysterectomy combined with chemotherapy. All the cases of ectopic GTN had been misdiagnosed to ectopic pregancy at first and got complete remission after larparoscopic surgery followed by single agent chemotherapy. Sharp increasing of serum β-hCG and lung metastases was detected at 4 weeks after termination of pregnancy in two cases of CMCF. Patients got complete remission after 7-9 cycles of EMA-CO chemotherapy.

Conclusion

Conventional chemotherapy for GTN is effective. Prognosis remains excellent. It is necessary to find most effective stratigies for intermediate risk GTN. The rare GTN should be concerned.

IGCSM-1121
Poster Shift III - Gestational Trophoblastic Neoplasia

2 CASES OF EXAGGERATED PLACENTAL SIDE IN CURETTAGE MATERIAL

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Aims

Exaggerated placental side (EPS) is characterised as nonneoplastic proliferation of extra villous intermediate trophoblasts with myometrial and capillary invasion in normal placental implantation area. Seen mostly in abortus material but also rarely in normal pregnancies.

Methods

Case 1

49 years old woman with the complaint of vaginal hemorrage refered to our clinic. After vaginal examination and ultrasonography diagnosis of incomplete abortus is made and she underwent curettage.

Case2

34 years old patient with the complaint of active vaginal bleeding underwent curettage with the diagnosis of abortus imminens.

Results

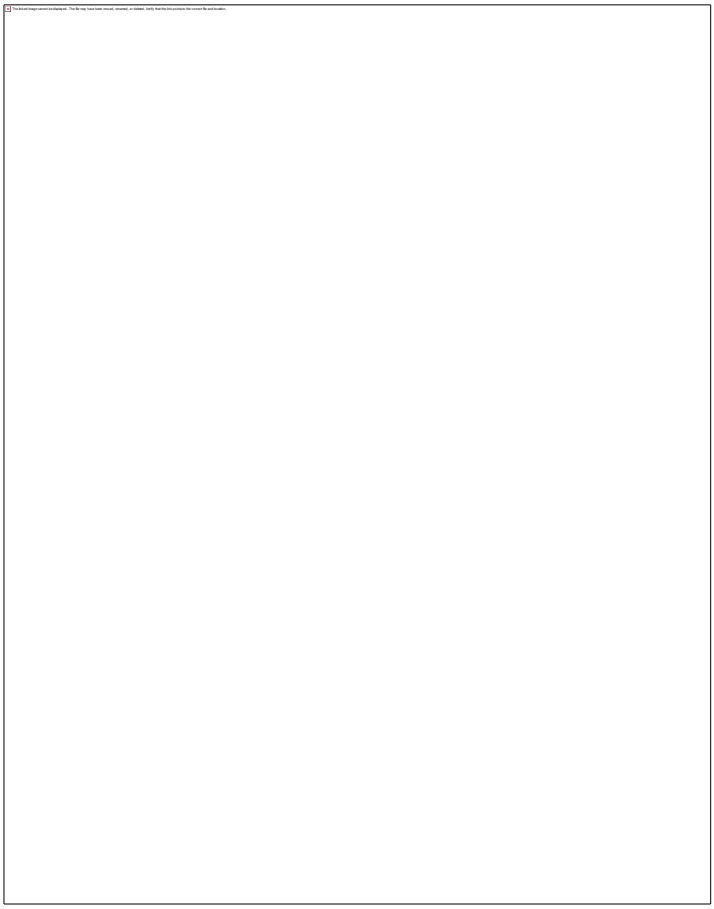

Figure1: intermediate trophoblasts between myometrial fibers

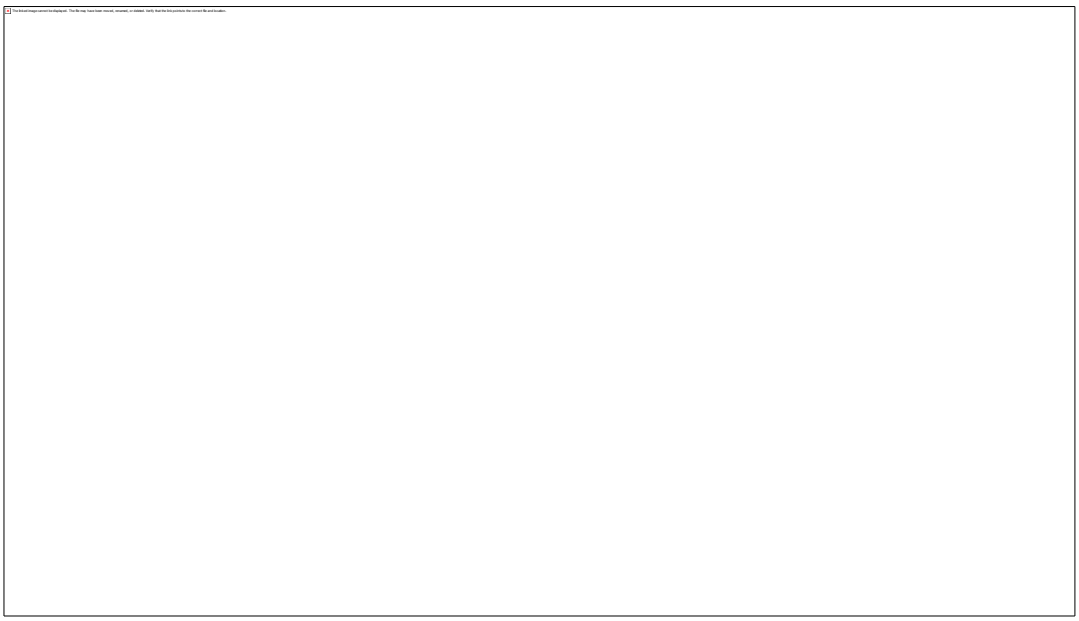

Figure 2:Placental side region between fibrin

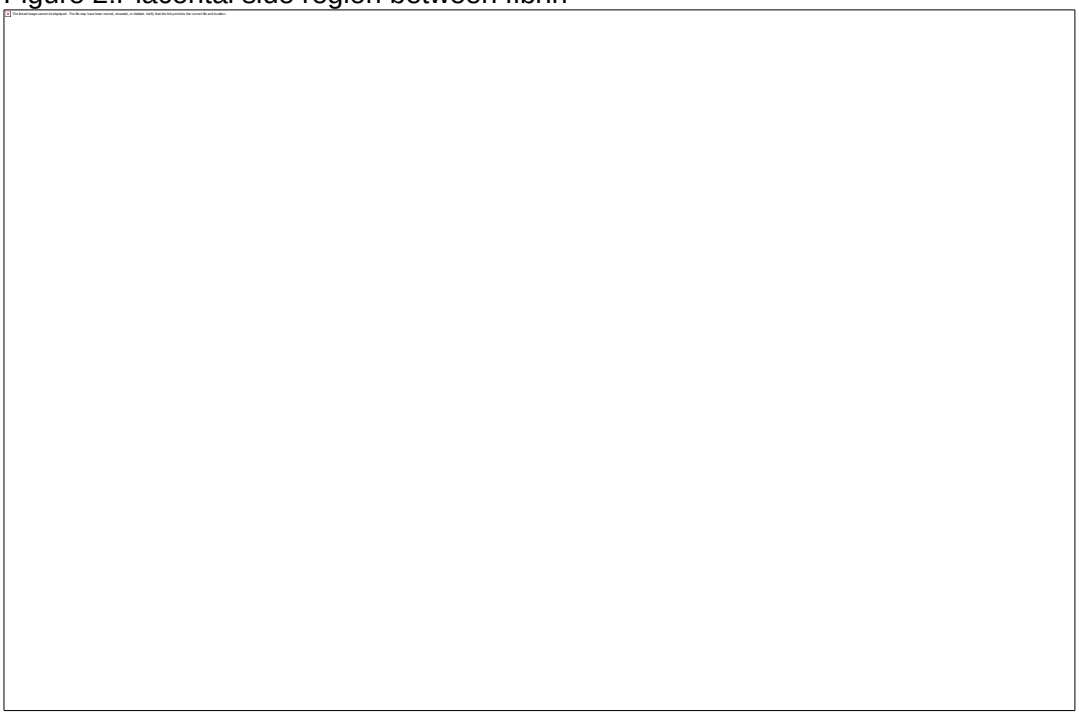

Figure3: Pleomorphism in intermediate trophoblasts

In microscopic examination of both cases, abundant noninvoluted intermediate trophoblastic cells, which are of an identical type to those of a normal implantation site, but the glandular architecture is usually not disrupted. Immunohystochemically these areas showed human placental lactogene hPL(+), hCG(+) and %1 Ki67. With these

morphological and immunohystochemical findings diagnosis of ESP is made. Patients followed up with serum hCG levels.

Conclusion

The diagnosis of EPS depends mainly on pathologic findings, and it should be distinguished from placental site trophoblastic tumor(PSTT), placental site nodule and choriocarcinoma. Especially, differantial diagnosis with PSTT is extremely difficult in the curettage specimen since the infiltrated cells have quite a high Ki-67 labeling index, exceeding 5%. In those cases, monitoring of β-hCG is required

IGCSM-1126
Poster Shift III - Gestational Trophoblastic Neoplasia

FIRST DESCRIPTION OF A TRIAD OF RARE MALIGNANCIES IN A SINGLE PATIENT

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Aims

We describe the first report of a single patient with Granulosa cell tumour; Sertoli-Leydig tumour and Rhabdomyosarcoma.

Methods

The case notes, radiological imaging and histology from our patient were reviewed in detail. A literature search was performed to look at possible germ line mutations linking the cancers.

Results

The forkhead box (FOX) family of transcription factors play a role in all teh tumours that our patient has developed over her life time.

Conclusion

Granulosa cell tumour, Sertoli-Lydig tumour and rhabdomyosarcoma are rare tumours. - Tumourgenesis of these malignancies may be associated with forkhead transcription factor proteins

IGCSM-1148
Poster Shift III - Gestational Trophoblastic Neoplasia

DOES POST EVACUATION ?-HUMAN CHORIONIC GONADOTROPIN LEVEL PREDICT THE PERSISTENT GESTATIONAL TROPHOBLASTIC NEOPLASIA?

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Aims

The aim of this study was to evaluate β-HCG regression after evacuation as a predictive factor of malignant gestational trophoblastic neoplasia in complete molar pregnancy.

Methods
In this cross-sectional study, we evaluated a total of 260 patients referred to the Gynecology Oncology Department, Imam Khomeini Hospital of Tehran University of Medical Sciences with complete molar pregnancy. Sixteen of the 260 patients were excluded. Seven patients who received prophylactic chemotherapy before molar evacuation and 9 patients who discontinued the follow-up process were excluded. Serum levels of HCG were measured in all patients before treatment and after evacuation. HCG level was measured weekly until it reached a level lower than5 mIU/ml. Persistent GTN was defined according to the criteria of the 2000 International Federation of Gynecology and Obstetrics. Patients were divided into two groups, namely: group A, in remission; and group B, persistent GTN. Data were analyzed using SPSS 20.0 software.
Results

The cut-off point for the pre-evacuation HCG level was 6000 mIU/ml (area under the curve, AUC, 0.58; sensitivity, 38.53%; specificity, 77.4%), whereas cut-off points for HCG levels oneand two weeks after evacuation were 6288 mIU/ml (AUC, 0.63; sensitivity, 50.46%; specificity, 77.0%) and 801 mIU/ml (AUC, 0.80; sensitivity, 79.82%; specificity, 71.64%), respectively.

Conclusion
The rate of decrease of HCG level at two weeks after surgical evacuation is the most reliable and strongest predictive factor for the progression of molar pregnancies to persistent GTN. The ratio of HCG level pre-evacuation to HCG level two weeks after evacuation is a better predictive factor than other factors.

Conflict of interest
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IGCSM-1290
Poster Shift III - Gestational Trophoblastic Neoplasia

A PHASE II STUDY TO DETERMINE THE RESPONSE TO SECOND CURETTAGE AS INITIAL MANAGEMENT FOR PERSISTENT "LOW-RISK" NON-METASTATIC GESTATIONAL TROPHOBLASTIC NEOPLASIA: A GYNECOLOGIC ONCOLOGY GROUP STUDY.

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[2]Statistical and Data Center, G.O.G., Buffalo, USA
[3]Gyn Oncology, University of Oklahoma, Oklahoma City, USA
[4]Gyn Oncology, University of Colorado, Denver, USA
[5]Gyn Oncology, New Britain General Hospital, Plainville, USA
[6]Gyn Oncology, Women's Cancer Center, Las Vegas, USA
[7]Gyn Oncology, University of California San Francisco, San Francisco, USA
[8]Gyn Oncology, Spectrum Health, Grand Rapids, USA
[9]Gyn Oncology, University of Sheffield, Sheffield, United Kingdom
[10]Gyn Oncology, University of Texas Southwestern, Dallas, USA

Aims
To prospectively determine hCG response to second curettage as initial treatment for patients with low-risk, non-metastatic GTN. Secondary outcomes: to determine if lesion size, myometrial invasion, W.H.O. risk score or hCG level predict surgical failure, and to describe surgical complications.

Methods
Multi-centered phase II study. Eligible patients staged: hCG assay, pelvic ultrasound and chest x-ray. Pathology centrally reviewed. Patients categorized according to W.H.O. risk score (low risk 0-6), hCG level, lesion size and volume, and myometrial invasion. Surgical cure/response defined as absence of rise/plateau in hCG level for 6 months post-evacuation.

Results
Sixty-four women were enrolled;four excluded. 53/59 evaluable patients (88%) had a complete mole, 12% >39 years of age, 7% <19 years old and 8% had risk score of 5/6. HCG level was $>10^4$ miu/ml in 40% and $>10^5$ in 7%. Twenty-three patients (38%) successfully completed study (surgical cure). Two patients (3%) achieved complete response but did not complete follow-up (surgical response). Four patients had PSTT.

Uterine perforation (1) treated conservatively. Persistence occurred in 33 women (55%) and new metastatic disease (lung) in 2 patients.

Conclusion

In this study, second curettage produced clinical benefit for 29/59 (49%) women: hCG normalization for at least 6 months in 23 (38%) patients (95% lower confidence limit: 28%), surgical response in 2 (3%) patients with incomplete follow-up and 4 (7%) further patients when PSTT identified before ineffective chemotherapy commenced. Analysis of the association of baseline hCG level, W.H.O. risk score and lesion size, volume and depth of invasion with response is underway.

IGCSM-1346
Poster Shift III - Gestational Trophoblastic Neoplasia

SPONTANEOUS PNEUMOTHORAX IN METASTATIC MHORICARCINOMA

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Background and aims: Gestational trophoblastic neoplasia (GTN) is a rare spectrum of pregnancy disease that present with abnormal trophoblastic proliferation. Choriocarcinoma can frequently metastasis to lung but in rare cases can manifest as pneumothorax.

Methods: RP is a 30Y.O. lady (G2L2) referred to our hospital with chief complaint of dyspnea and hemoptysis since 5 days prior to admission. She also complained of weight loss, and headache. There was past medical history of hysterectomy 4 years ago but due to low socioeconomic status/ communication problem, access to her medical records and history taking was extremely difficult. She was admitted in another hospital with diagnosis of spontaneous pneumothorax with bilateral chest tube insertion, discharged after 2-3 weeks.

Results: Chest imaging revealed pneumothorax in right lung and large left sided consolidation. Brain and Abdomino-pelvic CT scan showed brain, liver, and pancreatic metastasis. We were facing a patient with spontaneous pneumothorax and multiple metastases with obscure primary origin. Tumor markers were normal. Only B-HCG was positive (50 mIU/ml). With impression of “hook effect”, dilution of serum was done, beta HCG rechecked and was 100000 mIU/ml. She developed convulsion and then expired.

Conclusion: The possibility of malignant GTN should be suspected in any woman of reproductive age who presents with respiratory symptoms or metastatic disease from an unknown primary site. The HCG assay should always be performed in several dilutions whenever a high level is suspected on clinical grounds.

IGCSM-0032
Poster Shift III - Imaging/Staging

MATURE CYSTIC TERATOMA OF THE UTERUS: A CASE REPORT

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Aims

Teratomas are the most common germ cell tumors and are most frequently found in the gonads. Extragonadal teratomas are rare and are infrequently reported. In this article, we report a case of a 27-year-old woman who presented with sonologic findings of endometrial polyp and subsequently underwent operative hysteroscopy: transcervical resection of polyp and endometrial curettage. Histopathology report of the specimen showed mature teratoma.

Methods

A literature search using Pubmed was done using the keywords *mature teratoma, uterine mature teratoma, endometrial polyp, endocervical polyp* and *extragonadal teratoma.* Only ten published literatures were generated and out of those, only five were of significance to the paper. The same keywords were used in doing literature search using Herdin, however, there were no reports generated similar to the case being presented.

Results

Although the case presented a patient who initially presented with a problem of endometrial polyp, the histopathology result of the specimen obtained after surgery revealed a mature teratoma. Mature teratomas of the uterus are rare. The two proposed hypotheses regarding the origin of uterine teratomas: the Blastomere Theory and the Parthenogenic Theory, were then reviewed.

Conclusion

Although a very rare occurrence, uterine teratomas should be considered as part of the differential diagnoses of patients presenting with any uterine mass, even in the absence of typical sonologic features.

IGCSM-0221
Poster Shift III - Imaging/Staging

A RARE CASE OF BRAIN TUMOR INSIDE A DERMOID.

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Aims

Mature cystic teratomas are the most common ovarian tumors in children and adolescent. Well differentiated neuroepithelial tissues have been reported to be present in around four fifths of all ovarian teratomas. The most common type of malignant transformation is squamous cell carcinoma. Malignant transformation in neural tissues is extremely rare. We report a rare case of low grade astrocytoma arising on a background of mature ovarian teratoma

Methods

The patient was a previously healthy 15 year old female, presented with abdominal pain of one month duration. Right ovarian mass of 13x8x5 cm identified, compressing of the right ureter causing hydrouretronephrosis. Tumour markers were within normal. The patient then underwent right salpingo-oophorectomy and omentumal biopsy.

Results

Histology confirmed areas of mature neural tissue composed of mature neurons, astrocytes, oligodendroglial cells, ependymal canals, choroid plexus and sympathetic ganglia .No immature tissue was seen. A separate nodule was identified within the solid area that measured 2.5x 2x 1.5 cm consistent with a low grade astrocytoma. Immunohistochemical studies with glial fibrillary acidic protein (GFAP) and P53 were diffusely positive. MIB-1 immunostain showed an average proliferative index of 4%. Postoperative clinical, laboratory, and imaging studies remain negative for our patient 18 months postoperatively with no evidence of gliomatosis peritonei.

Conclusion

Identification of malignant transformation inside the dermoid preoperatively is extremely difficult. Whether the patient would be at a higher risk of developing brain tumor is unknown. Management of this case would have been difficult if there was a surgical spill. Care should always be taken to remove suspicious masses intact.

IGCSM-0287
Poster Shift III - Imaging/Staging

PREOPERATIVE PREDICTION OF LYMPH NODE METASTASIS BY USING 18F-FDG PET/CT IN ENDOMETRIAL CANCER PATIENTS: AN ANALYSIS OF 100 CASES

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Aims

Lymphadenectomy performed according to histologic findings in endometrial cancer results in many unnecessary comprehensive surgeries to diagnose very few cases who have lymph node metastasis (LNM). In this study we evaluated the success of preoperative PET/CT in predicting LNM.

Methods

One hundred clinical Stage I endometrial cancer patients diagnosed by endometrial sampling were included to this study. Preoperative PET/CT, followed by total hysterectomy, bilateral salpingo-oophorectomy and lymphadenectomy were performed. After the final histopathologic findings were defined, LNM prediction success of PET/CT in all cases (n:100) and in high risk subgroup (n:62) (non-endometrioid histology or grade 2 with depth myometrial invasion or grade 3) were analyzed.

Results

LNM was present in 13 cases and PET/CT detected 7 of them. Other 6 cases were missed by this technique. Twelve of 13 metastases were in high risk group (n:62), 7 were truly detected and 5 were missed by PET/CT. Among all cases, PET/CT was truly negative in 83 of 87 LNM (-) cases. In high risk group, PET-CT was truly negative in 47 of 50 LNM (-) cases.Sensitivity, specifity, PPV and NPV of PET/CT were 53.3%, 95.4%, 63.6% and 93.2, respectively, in all cases and 58.3%, 94%, 70% and 90.3%, respectively, in high risk group.

Conclusion

To preclude unnecessary lymph node dissection, we need a tool with high positive predictive value and detection rate for LNM. PET/CT does not have acceptable positive predictive value to decide the extent of surgery. High negative predictive value of PET/CT can be beneficial to save the patients with co-morbidities from extensive surgery.

IGCSM-0316
Poster Shift III - Imaging/Staging

EFFICACIOUS USAGE OF 18-FDG PET/CT IN PATIENTS WITH OVARIAN CANCER

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Aims
To evaluate the value of PET/CT in diagnosing primary mullerian carcinoma.
Methods

The findings of ^{18}-FDG PET/CT (PET/CT) were retrospectively reviewed in 124 patients suspicious of primary mullerian malignancy between June 2008 and April 2014. Of those, 82 and 118 underwent CT and MRI, respectively. Imaging and histological findings after surgery were compared. Diagnostic accuracy was evaluated.

Results

Of 124 patients, 44 had benign tumors, 20 borderline tumors, 57 primary mullerian cancers and 3 others. Most of primary mullerian cancers were ovarian cancer (87.7%). Histologic types were serous adenocarcinoma in 34%, endometrioid adenocarcinoma in 28%, clear cell adenocarcinoma in 26% and others. Sensitivity, specificity and accuracy in detection of cancer were 93%, 81% and 87%, respectively, for PET/CT, and 95%, 29% and 68%, respectively, for CT, and 90%, 38% and 62%, respectively, for MRI. Sensitivity, specificity and accuracy in detection of cancer and borderline tumor were 83%, 89% and 84%, respectively, for PET/CT, and 92%, 37% and 79%, respectively, for CT, and 92%, 39% and 74%, respectively, for MRI. PET/CT showed false negative presentation in 2 serous adenocarcinomas and 2 pseudomyxomas peritonei. Most of false positive presentations in PET/CT were borderline tumor. The mean values of SUV max of borderline tumors and ovarian cancers were 3.6 and 11.5, respectively. The mean value of SUV max of clear cell adenocarcinoma (8.2) was lower than serous and endometrioid adenocarcinomas (12.0).

Conclusion

These results suggest that PET/CT is the most useful tool in diagnosing ovarian malignancy, although practical significance in detecting borderline tumor remains unsettled.

IGCSM-0356
Poster Shift III - Imaging/Staging

BRACHYTHERAPY & LIVERPOOL CANCER THERAPY CENTRE'S IN-HOUSE MRI

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Aims

Brachytherapy has been offered to gynaecological patients within Liverpool Cancer Therapy Centre (CTC) since 1996. As of September 2012, the centre changed from using CT data sets to MRI scans. From August 2013, our brachytherapy patients have been simulated in our in-house Siemens 3T Skyra MRI Simulator, which was installed in June 2013.

Methods

Once the MRI Simulator was commissioned, a number of volunteer scans were performed to determine the optimal and most efficient sequences to ensure a smooth planning process on this group of patients. Logistics were investigated to determine a streamlined process from data acquisition to treatment planning. This was done in a number of steps including training and communication with the hospital radiology department and vendor training.

Results

We have successfully implemented an MRI Gynecological Brachytherapy Scanning Protocol within Liverpool Cancer Therapy Centre's In House MRI Simulator and have scanned 27 brachytherapy treatments to date. We currently run T2 TSE, T2 Haste and DWI on this group of patients with imaging in the para-axial, para-coronal and para-sagital planes. A standard bladder filling protocol is used.

Conclusion

The introduction of our own MRI Simulator shortened the timeframe from brachytherapy applicator insertion to imaging reducing patient transfers and improving the quality of care they receive. Challenges have included training of radiotherapy and nursing staff in principles of MRI and MRI safety, along with the creation of specific scanning protocols.

IGCSM-0362
Poster Shift III - Imaging/Staging

18F-FDG PET/CT IN THE ASSESSMENT OF METABOLIC RESPONSE TO CHEMORADIATION THERAPY IN LOCALLY ADVANCED CERVICAL CANCER.

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Aims
To investigate if a ratio of standard uptake value (SUV) and metabolic tumor volume (MTV) between pretreatment and post-treatment measured by 18F-FDG PET/CT has prognostic value in patients with locally advanced cervical cancer who were treated with primary chemoradiation therapy.
Methods
One hundred seventy two case of patients with locally advanced cervical cancer (FIGO stage IB2 to IVA) who had been treated with concurrent chemoradiation therapy were reviewed. 18F-FDG PET/CT parameters including SUV and MTV were measured from 18F-FDG PET/CT, which was performed before treatment and 6 weeks after the end of treatment, and compared to radiologic response.
Results
One hundred sixty one patients received chemoradiation therapy showed metabolic and volumetric response (69.7% decrease in SUVs, 88% decrease in MTV). Eleven patients showed persistent or progressed disease on 6-week post-treatment PET. These non-responders showed both higher average SUVs, larger MTVs that are measured before and after their treatment (PET-non responder had higher recurrence rate than responder (OR 32.3, p=0.001), which shows more productive power than that of RECIST criteria (OR 1.4, p=0.434). There was a significant correlation between metabolic response and progression free survival (PFS) (P <0.05) or overall survival (OS) (P <0.05), while there was a weak correlation between radiologic response and PFS or OS.
Conclusion
A ratio of SUV and MTV between pre-treatment and post-treatment exhibited a strong significant association with survival of locally advanced cervical cancer patients treated with concurrent chemoradiotherapy.

IGCSM-0513
Poster Shift III - Imaging/Staging

CAPABILITIES OF NEW COMPLEX PELVIC MRI EXAMINATION IN VAGINA NEOPLASTIC LESION DIAGNOSIS AND TREATMENT PLANNING.

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While one consider MRI "gold standard" in GYN tumors diagnosis, its accuracy in vagina neoplastic lesion determination is far from ideal.

Aim. To evaluate the capabilities of new complex pelvic MRI examination in identification and treatment monitoring of primary and recurrent vaginal tumors.

Methods

Complex MRI (Toshiba Vantage Atlas,1,5 Tl) pelvic examinations (CMRE) with contrast enhancement were done in 62 patients aged 34 - 79 (mean age 53.5 years) with vagina neoplastic lesion suspicion, consisted of native scanning, diffusion-weighted imaging (DWI), dynamic contrast enhanced (DCE) examination with additional endovaginal gel-containing applicator introduction. Neoplastic process in vagina was confirmed histologically in all cases.

Results

Neoplastic lesions in vagina were found during CMRE in 54 (87,1%) pts, at lower third - in 5 (9%), as endometrial and vulvar cancer progression, at middle 1\3 - in 9 (17%) pts, at upper 1\3 - in 40 (74%), included 18 (33%) pts with vaginal cuff relapse. It was revealed as a zone with decreasing signal inT2-weighted sequence and contrast accumulation in the arterial and venous phases. Differential diagnosis with post-radiation fibrosis demanded image fusion of T2-weighted fat-saturation sequence, DWI and DCE with endovaginal gel-containing applicator, which created conditions for better visualization of vaginal wall structure and tumor localization because of fold smoothing. Tis and intramucose T1 tumors weren't clearly visualized during complex MRI in any sequences.

Conclusion

CMRE increases the accuracy of primary and recurrent vaginal tumors determination and treatment results evaluation, especially after radiotherapy.

IGCSM-0566
Poster Shift III - Imaging/Staging

PARA-AORTIC LYMPH NODE METASTASES IN LOCALLY ADVANCED CERVICAL CANCER : COMPARING SURGICAL STAGING AND PET-CT STAGING IN 336 PATIENTS.

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Aims
Aim of this study is to compare the results of surgical staging with imaging (PET-CT,PET or CT) of the para-aortic lymph nodes (PAOLN) in locally advanced cervical cancer (LACC).
Methods
Monocentric retrospective study of 336 patients with cervical cancer FIGO stage IB2-IVa, diagnosed between December 1994 and August 2013. Patients underwent staging of the PAOLN using imaging by PET-CT, PET or CT. 204 Patients with normal or not overt malignant imaging results underwent surgical endoscopic para-aortic staging (SS). When PAOLN metastases were for sure present on imaging, no surgical staging followed. The patient group was divided into 4: positive (S+), or negative SS (S-), positive imaging without SS (I+) and negative imaging with no result of SS (I-/no S).
Results
Twenty (5.9%) patients had overt PAOLN metastases on imaging. 13 patients (7.3%) had metastases in the PAO nodes at pathological examination despite negative imaging results . Of 10 patients with suspicious but not overtly malignant PAOLN imaging, 3 had positive PAOLN. Overall, 16 patients (8.5%) had positive PAOLN after surgical staging. Peroperative complications were minor. The median follow-up was 31 months (1–218). Overall survival at 2 years were 40% for S+, 83% for S-, 58% for I+, and 69% for I-/no S ($p<0.001$).
Conclusion

Despite negative imaging PAOLN metastases are present in 8,5% of the patients at surgical staging. The survival is significantly influenced by the presence of PAOLN metastases, despite radiotherapy on the PAOLN in patients with PAOLN metastases.

IGCSM-0598
Poster Shift III - Imaging/Staging

FEATURES OF OVARIAN FIBROMA ON MAGNETIC RESONANCE IMAGES

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[2]Pathology, Kokura medical center, Kitakyushu, Japan

Aims
The objective of the present study was to clarify the features of ovarian fibroma on magnetic resonance (MR) images.

Methods
Fourteen patients (age range, 37–73 years; median age, 57 years) with fifteen pathologically diagnosed ovarian fibroma, were included in the present study. MR imaging features were evaluated retrospectively for tumor diameter, presence of cystic degeneration, edema, and hemorrhagic content. The signal intensity of solid component on T2-weighted image (T2WI) were also recorded and correlated with pathologic features.

Results
Maximum tumor diameter ranged from 2.6 to 16.1cm (median diameter, 8.3cm). Six tumors (40%) showed cystic degeneration, eleven tumors (73.3%) showed edema, and one tumor (6.7%) showed hemorrhagic content. Signal intensity on T2WI was found to be low in thirteen tumors (86.7%), and slightly high in two tumors (13.3%). Among the eight larger tumors (defined as more than 8cm in tumor diameter), five tumors (62.5%) showed cystic degeneration and seven tumors (87.5%) showed edema. Conversely, among the seven smaller tumors (defined as less than 8cm in tumor diameter), one tumor (14.3%) showed cystic degeneration and four tumors (57.1%) showed edema. Of the six tumors with cystic degeneration, the predominant cyst location was peripheral in all six tumors.

Conclusion
In addition to low signal intensity of solid component on T2WI, a detailed evaluation of other MR imaging features, such as peripheral cyst formation, can assist in preoperative diagnosis of ovarian fibroma.

IGCSM-0624
Poster Shift III - Imaging/Staging

DOES MAGNETIC RESONANCE IMAGING PLAY A ROLE IN THE PRE-OPERATIVE STAGING OF CERVICAL-CANCER PATIENTS UNDERWENT NEOADJUVANT TREATMENT? A SURGICAL-PATHOLOGIC COMPARISON

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Aims

To evaluate the role of Magnetic Risonance Imaging (MRI) in the preoperative staging of the patients with cervical cancer submitted or not to neoadjuvant treatment.

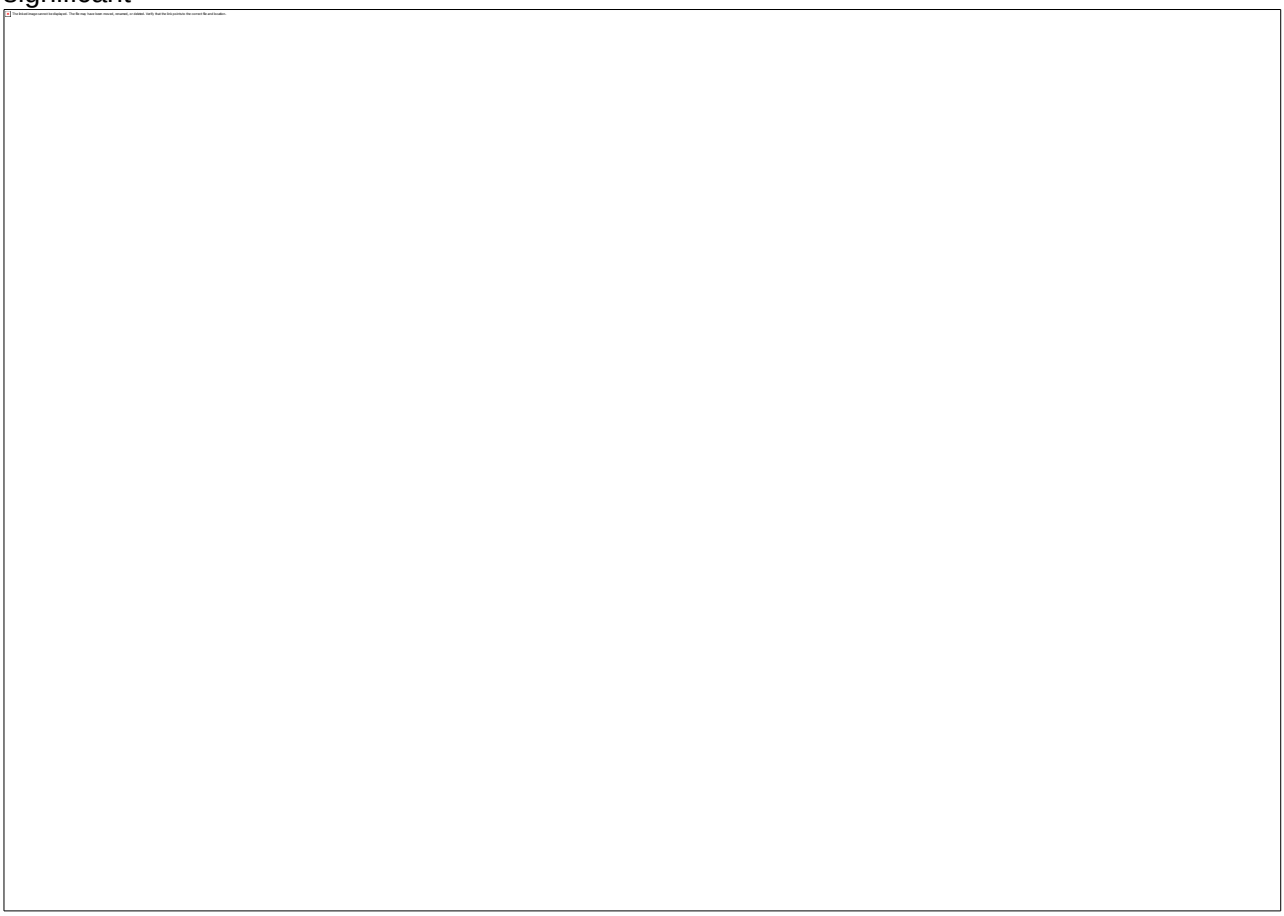
Methods

One hundred and twenty six consecutive patients with primary cervical cancer were retrospectively evaluated. All the patients concerned had been submitted to MRI before surgery and had then undergone a radical hysterectomy with pelvic lymphadenectomy. Findings from the pre-operative MRI were correlated with the histopathological findings to assess accuracy (A), sensitivity (Se), specificity (Sp), positive predictive value (PPV), and negative predictive value (NPV).

Results

The overall accuracy of tumor staging by MRI was 46%, and it was not better than clinical staging. Overall MRI accuracy for parametrial, vaginal and lymph node status were 66%, 79% and 79%, respectively. The accuracy rate for parametrial metastases, as well lymph node and vaginal metastases, in the group of pre-treated patients were lower than that of the patients who were not pre-treated, but the difference was not

significant



Conclusion

The overall accuracy rate of MRI in the preoperative staging of cervical cancer treated with neoadjuvant chemotherapy seems to be not satisfying. The limitations of MRI staging when diagnosing the spread of the disease outside the cervix are especially clear when dealing with pre-treated patients. Currently, in this subset of patients MRI probably plays a limited role in the evaluation of cervical cancer.

IGCSM-0810
Poster Shift III - Imaging/Staging

DIFFERENCES IN APPARENT DIFFUSION COEFFICIENTS BETWEEN MALIGNANT AND LOW MALIGNANT POTENTIAL SOLID OVARIAN TUMORS.

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Aims

Although diffusion weighted magnetic resonance imaging (DWI) has been used for the diagnosis of ovarian tumors, it is not known whether apparent diffusion coefficient (ADC) values provide specific information in differentiating malignant and low malignant potential (LMP) solid ovarian tumors.

Methods

Preoperative DWIs were retrospectively studied in malignant (n=13; clear cell adenocarcinoma 5, endometrioid adenocarcinoma 4, serous adenocarcinoma 2, mucinous adenocarcinoma 2) and LMP (n=13; mucinous 10, serous 3) solid ovarian tumors. Region of interests were manually drawn on the solid portion of the tumors, and mean and minimum ADC values were calculated. The cut off values of the mean ADC and the minimum ADC for differentiating malignant tumors form LMP solid ovarian tumors were determined according to the receiver operating characteristic curves.

Results

The mean ADC values of LMP solid ovarian tumors were significantly higher than those of malignant tumors (1.96±0.04 μm^2/ms vs. 1.19±0.02 μm^2/ms, p= 0.001). The minimum ADC values of LMP tumors were also significantly higher than those of malignant tumors (1.46±0.03 μm^2/ms vs. 0.85±0.02 μm^2/ms, p= 0.001). When a cut off value of mean ADC was set to 1.30 μm^2/ms, the sensitivity was 100% and the specificity was 92.3%. Whereas, a cut off value of minimum ADC was set to 1.05 μm^2/ms, the sensitivity was 92.3% and the specificity was 72.6%.

Conclusion

Quantitative evaluation of the mean ADC values in the solid portion would be helpful for differentiating malignant from LMP tumors in the solid ovarian neoplasms.

IGCSM-0858
Poster Shift III - Imaging/Staging

RELATIONSHIP BETWEEN HISTOLOGIC GRADING AND STANDARDIZED UPTAKE VALUES (SUV) OF PET/CT IN ENDOMETRIAL ENDOMETRIOID ADENOCARCINOMA

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Aims

Endometrial carcinoma, endometrioid type, is the most common endometrial cancer accounting for about >75% of all cases. Histologic grading is one of the most important prognostic factors in endometrial endometrioid adenocarcinoma..Well-differentiated carcinoma (Grade:G1) associated with more favorable prognosis. In this study, we have investigated whether histological grading can be predicted preoperatively using PET/CT, MRI imaging and tumor markers.

Methods

Endometrial carcinoma, endometrioid type, is the most common endometrial cancer accounting for about >75% of all cases. Histologic grading is one of the most important prognostic factors in endometrial endometrioid adenocarcinoma..Well-differentiated carcinoma (Grade:G1) associated with more favorable prognosis. In this study, we have investigated whether histological grading can be predicted preoperatively using PET/CT, MRI imaging and tumor markers.

Results

The following mean (±SD) values were obtained for G1 and G2 patients, respectively. Overall FDG-PET/CT standardized uptake values (SUV): 10.11±4.85 vs. 18.28±7.26 (P=0.003); apparent diffusion coefficient (ADC) mean of MRI: 0.675±0.129 vs. 0.646±0.060 (P=0.111); CA125: 27.97±26.89 U/ml vs. 46.60±50.02 U/ml (P=0.219).

Conclusion

We could not find any critical difference between G1 and G2 for CA125 and ADC mean of MRI. These results indicate that only SUV of FDG-PET/CT revealed significant differences between patients with G1 and G2 endometrioid adenocarcinoma, suggesting that FDG-PET/CT is only useful for preoperative speculation of histological grading.

IGCSM-0899
Poster Shift III - Imaging/Staging

EPICARDIAL FAT AS EARLY VASCULAR DAMAGE PREDICTOR IN WOMEN WITH METABOLIC SYNDROME

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Aims
To estimate 1)the correlation between epicardial fat thickness, MS and NAFLD in women. 2)The association of the epicardial fat thickness (EFT) with a) metabolic and clinical parameters b) early atherosclerotic vascular damage which is connected with carotid intima media thickness.
Methods
Epicardial fat thickness was measured by transthoracic echocardiograph in 50 women with MS and with clinical, laboratory, ultrasound , histology proven NAFLD (47±13 years, BMI 35± 3, waist circumference 110±10 cm) and in 20 healthy volunteers without MS and NAFLD (49±10 years, BMI 20 ±4, waist circumference 90 ±10 cm).
Results

Women with MS and NAFLD had significantly higher EFT than another healthy group (4.88±2.5 and 2.62±1.7mm, p=0.01). There was a strong correlation between patients' age, BMI, waist circumference, fasting glucose, IMT and the increased EFT (more than 2.7 mm). These parameters were much higher in patients with MS and NAFLD. The patients who had the increased EFT had more dangerous atherosclerotic plagues which ulcerated more often (because of proinflammatory cytokines). The increased EFT associates with HOMA-IR. The more EFT a woman has the higher insulinresistance (IR) is (p=0.041, OR1.7, 95% CII.036-3.60).

Conclusion

Patients with MS and NAFLD had higher figures of epicardial fat thickness than the group of women without. There is the connection between epicardial fat and the clinical parameters (is associated with IR, early vascular damage, atherosclerotic plagues, NAFLD). The increased epicardial fat is easily diagnosed with the help of echocardiography, which means that the better prognosis of cardiovascular risk and NAFLD among women will be provided.

IGCSM-0910
Poster Shift III - Imaging/Staging

TRIAGE OF UTERINE SARCOMA FROM LEIOMYOMA THROUGH A SCORING SYSTEM BASED ON SONOGRAPHIC CHARACTERISTICS

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Aims

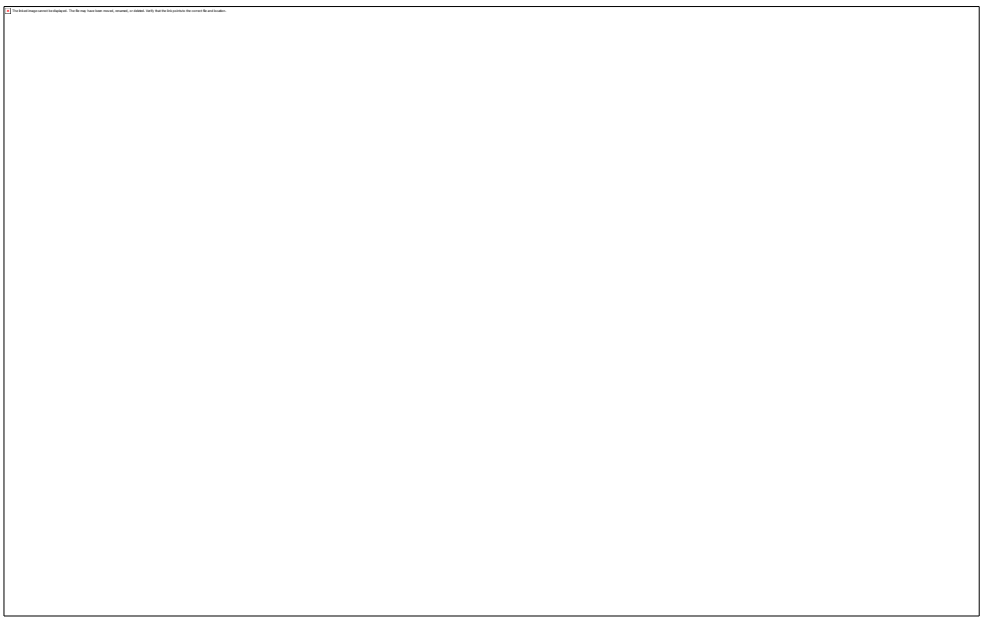
Most uterine leiomyosarcomas are diagnosed after surgery in clinical practice. En bloc surgery is the key issue in the management of early-staged uterine leiomyosarcoma. However, with the trend of mini-invasive approach, morcellation of the uterine corpus or its tumor has been extensively applied for years. Morcellation results in significantly increased in intraperitoneal recurrence rate and poor survival outcome despite aggressive adjuvant therapy. We attempted to identify the sonographic characteristics of uterine sarcoma for clinical application.

Methods

We performed a comprehensive review of pre-operative images of 87 cases with histologically confirmed uterine leiomyosarcomas and endometrial stromal sarcomas between 2000 and 2012 and compared the image to a cohort of randomized selected, 200 cases of benign uterine tumors treated in the same period.

Results

A scoring system was built as the following



Conclusion

The scoring system we built can be use as a primary diagnostic tool in triage of uterine leiomyosarcoma from benign uterine tumor. After validation, we suggest score of 6 or more indicates a second image diagnosis using MRI or power doppler study and also indicate an en bloc hysterectomy.

IGCSM-0924
Poster Shift III - Imaging/Staging

INTRAOPERATIVE IN-VITRO HIGH RESOLUTION SONOGRAPHY: A NOVEL TECHNIQUE IN THE ASSESSMENT OF MYOMETRIAL INVASION IN ENDOMETRIAL CANCER

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Aims
To evaluate the effectiveness of a novel technique in the assessment of myometrial invasion (MI) in endometrial cancer (EC).
Methods

This prospective study included patients with Type I EC who underwent a staging laparotomy at Hacettepe University Hospital from December 2011 to April 2014. After hysterectomy, uterus was examined *in-vitro* with a 7.5 to 10 MHz superficial linear probe by a radiologist with special training in gynecology. Then, the specimen was sent for intraoperative frozen section (FS). The results were compared with the permanent section reports.

Results

41 women were enrolled. In vitro high resolution sonography (IVHS) correctly assessed the depth of MI in 34 of 41 (82.9%) cases and overestimated in 6 (14.6%) cases. Only one case with deep MI was underestimated by IVHS as having less than 1/2 MI. FS correctly identified the depth of MI in 36 of 41 (87.8%) cases, overestimated in 2 (4.9 %) cases and underestimated in 3 (7.3%) cases. The sensitivity, specificity, positive and negative predictive values of IVHS and FS for the assessment of deep MI were 85.7%,

82.4%, 50%, 96.5% and 57.1%, 94.1%, 66.6%, 91.4%, respectively.

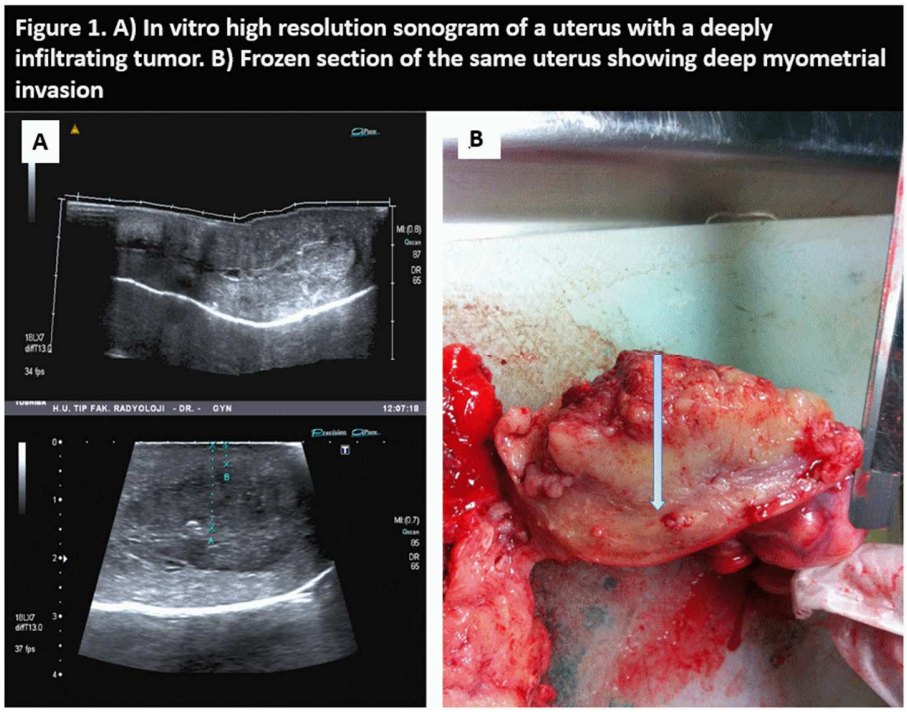

Figure 1. A) In vitro high resolution sonogram of a uterus with a deeply infiltrating tumor. B) Frozen section of the same uterus showing deep myometrial invasion

Conclusion

IVHS is a novel and promising technique for the assessment of MI in EC. IVHS's high sensitivity for deep myometrial invasion could be used as an adjunct to FS which could enable the pathologists to obtain targeted FS slices and could increase the accuracy of FS.

IGCSM-1010
Poster Shift III - Imaging/Staging

THE ROLE OF STAGING IN SQUAMOUS CELL CARCINOMA OF THE OVARY

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[3]Pathology, Antoni van Leeuwenhoek Hospital The Netherlands Cancer Institute, Amsterdam, Netherlands

Aims
A mature cystic teratoma is a common germ cell tumor of the ovary in the reproductive age. About 10-20% of all tumours of the ovaries are teratomas. A malignant transformation in a mature cystic teratoma is rare, but may occur. The most common malignancy in teratomas is a squamous cell carcinoma. The aim of this study was to investigate the importance of staging in these transformed teratomas.
Methods
Between 1985-2014 women treated for squamous cell carcinoma arising in a mature cystic teratoma of the ovary were identified from the databases of our center. All histology's were revised. We collected clinical data and reviewed the available literature.
Results
We identified 18 patients in our institute. The median age was 49 years (range 13-68 years). The majority presented with abdominal pain. Median tumour size was 13 cm (range 4-20 cm) and 57% of the patients had an increased CA-125 concentration pre-operatively. Ten patients (56%) underwent complete staging, including lymph node dissection. Six of these patients were found to have metastases. Only in one patient, imaging already showed advanced disease. Eleven patients (61%) received adjuvant chemotherapy. Two patients had recurrent disease. Four patients died of disease (including the two with recurrent disease), all underwent complete staging, had metastases and included the 2 patients with recurrent disease.
Conclusion

Complete staging with adjuvant chemotherapy if metastases are detected seem to be beneficial for patients with squamous cell carcinoma in a teratoma.

IGCSM-1016
Poster Shift III - Imaging/Staging

RETROPERITONEAL VASCULAR ANOMALIES IN GYNECOLOGIC ONCOLOGY, A CASE REPORT

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Aims

Vascular anomalies in the retroperitoneal area could be seen in gynecologic oncology practise. Variations in the embriological development lead some anomalies, especially in the venous system thus it is crucial to know retroperitoneal anatomic variations.

Methods

A 40 year old woman was operated for complex adnexal mass and elevated CA-125 level (600 U/mL). Her frozen section analysis revealed a malignant tumor. By the way we started a complete cytoreductive surgery; during paraaortic lymphadenectomy we detected a polar artery of right kidney originating at the level of aortic bifurcation and saw main renal artery approximately 5cm above this plan. We also detected an aberrant view for right renal vein. Afterwards we performed a computed tomographic angiography; a right polar artery originating from the right common iliac artery lying towards the inferior pole of right kidney and a right main renal artery originating from the thoracic aorta at the superior of diaphragma were detected. Additionally a double right renal vein was seen. Right kidney was also having a mild rotation anomaly.

Results

Retroperitoneal vascular variations without functional problems could be seen to some extent and early detection by routine screening is not cost-effective. Accessory renal arteries and renal vein anomalies could be seen independently nevertheless detecting both anomalies in the same patient is very rare.

Conclusion

So that the anatomical variations must be kept on mind to prevent complications. Moreover seeing one anomaly should direct the surgeon for additional variations.

IGCSM-1039
Poster Shift III - Imaging/Staging

PROGNOSTIC VALUE OF 18F-FDG PET/CT FOR DETERMINATION OF LYMPH NODE INVOLVEMENT AND STAGE OF THE DISEASE IN PATIENTS WITH ENDOMETRIAL CARCINOMA

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[2]Obstetrics and Gynecology, Ilgin State Hospital, Ankara, Turkey

Aims
To assess the usefulness of adding PET CT for pre-surgical tests for determining the extent of disease and probable lymph node involvement in endometrial cancer. Moreover to determine the prognostic value of preoperative MTV measured by 18F-FDG PET/CT in these groups of patients
Methods
We retrospectively reviewed 86 patients with pathologically proven endometrial cancer who had undergone preoperative 18F-FDG PET/CT. The prognostic relations between PET/CT parameters and pathologic examination reports were compared
Results

There are statistically significant difference in SUVmax values the primary tumor site of patients between lymph node positive and negative patients according to final pathological examinations. There is no statistical relationship between lymph node involvements and SUV max values of affected lymph nodes in PET scan. There is no correlation between tumor volume and SUVmax values of the primary tumor.

Conclusion
Tumor volume of the tumor in endometrial carcinoma is an independent prognostic factor for prognosis of the disease. Moreover SUVmax values can be a predictor of the extent of the disease . PET scan could have an important clinical impact on the staging, treatment, and prognosis of endometrial carcinoma.

IGCSM-1151
Poster Shift III - Imaging/Staging

EVALUATION OF MAGNETIC SILICA NANOPARTICLES TREATED WITH I-131 IN MCF-7 CELL LINE OF BREAST CANCER

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Aims

The nanoparticles using various surface coatings, which cause stable optimal and biomedical properties, can be synthesized. Also, the iodine-131 is one of the famous radio-medicine in the field of nuclear medicine.

Methods

the synthesis of iodine-131 radioisotope encapsulated and stabilized in the silicate magnetic nanoparticles is investigated. Silver aqueous solution, as a precipitation agent is used. The radioisotope precipitate adsorbed on magnetite (Fe_3O_4). This conjugated is used as the core for the synthesis of magnetic silicate nanoparticles. Nanoparticles synthesized according sol-gel method in the reverse micro emulsion using tetraetoxy silane (TEOS) and 3-amino propyl tre-autoxy silane (APTS) as the monomers and precursors. Also their ratio are used for the controlling of functional groups which cause zeta potential and finally for the controlling of the size of nanoparticles. Finally, the entry of the conjugated nanoparticles on MCF-7 breast cancer cell line is studied through the cell culture.

Results

TEM results are showed the average size of the nanoparticles about 40 nm. The radio-analysis revealed more than 80 percent of the primary iodine-131 encapsulated in the nanoparticles. The stability tests results are revealed the encapsulated iodine-131 cannot release and enter the nanoparticles carrier solution during of washing and scattering and then their stability is estimated more than 99 percent. The nanoparticles cell culture results are revealed the highest entrance efficiency about 53-54%- during the 2-4 hours from beginning the cultivation

Conclusion

Due to unique properties of iodine-131, Beta and Gamma emmiter, the mentioned nanoparticles are able to use for simultaneous diagnosis and treatment of the diseases.

IGCSM-0079
Poster Shift III - Nursing & Health Care

HEALTH EDUCATION IN PATIENTS WITH VULVAR NEOPLASIA AND SURGICAL TREATMENT. AN EVIDENCE BASED GUIDELINE.

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Aims

In vulvar neoplasia even minor surgical interventions cause multiple symptoms, which have an impact on a woman`s quality of life. To our knowledge, no evidence based guideline has been developed so far, which focuses on this specific patient group. Our newly developed guideline aims to support nurses in a systematic assessment and intervention planning for women with vulvar neoplasia and surgical treatment.

Methods

A multidisciplinary team developed a guideline based on internationally established recommendations for adapting guidelines, using the AGREE II instrument as a framework. The nursing counselling intervention was developed by experts of the Department of Obstetrics and Gynaecology, University Hospital Berne, University of Applied Sciences St. Gallen, and University of Vienna. The counselling intervention as well as a literature search provide the basis for the guideline's recommendations.

Results

First patient-relevant outcomes, clinical questions, and clinical pathways were determined. Through literature search guidelines were identified and a critical appraisal was carried out using the DELBI-instrument. Identified metaanalysis, systematic reviews and randomized controlled trials (RCT's) were evaluated using a criteria tool of FIT-Nursing Care. Prior to publication the guideline has been externally reviewed by experts. The guideline consists of 44 recommendations, which build the basis for the nurse-led counselling.

Conclusion

Complementary to medical consultations the guideline with the 44 recommendations provides an evidence base for systematic counselling for women with vulvar neoplasia to support their self-management strategies. The evaluation of the guideline's recommendations has already started in the ongoing RCT 'WOMAN PRO II' (Clinical

Trial ID: NCT01986725).

IGCSM-0080
Poster Shift III - Nursing & Health Care

PILOTING THE COMPUTERIZED GYNECOLOGIC ONCOLOGY COMMUNICATION (GOCOMM) SKILLS TRAINING PROGRAM : REFINING CONTENT AND PROCESS

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Aims

Despite CanMEDS guidelines on physician communication, studies indicate modest uptake of affect-related skills even with workshop training. Several misconceptions may inhibit such uptake. GOCOMM's curriculum is data-driven using a case-based approach and real-time feedback. Suggestions assume high-paced environments. Intended to bridge seminars and workshops, GOCOMM introduces the learner to empirically-based strategies, increases confidence through analog practice, and may increase motivation to use.

Methods

GOCOMM is based on adult learning principles (e.g., Pugh & Bergin, 2006) and Theory of Planned Behaviour (Ajzen, 1985) and includes pre-testing, learning and practice through modules on Individual Differences (ID), and Breaking Bad News (BBN) with SPIKES (Baile, 1999), and post-practice assessment of content and process. Modules are nested within TOH's CE e-learning platform.

Results

Three Fellows (Fs) completed the modules, including 2 Fellows completing training and one new hire. Results examine knowledge, perceived control/barriers, attitude, intent, and learning experience. Preliminary findings suggest GOCOMM is valued and user-friendly, with high face validity and positive impact on confidence and motivation to use. Suggestions were also received.

Conclusion

Despite demand characteristics, GOCOMM seems valued as an adjunct to seminars and could be used to prepare learners for workshops. Further, it is easily updated.

IGCSM-0312
Poster Shift III - Nursing & Health Care

PREDICTION MODEL FOR 30-DAY MORBIDITY AFTER GYNECOLOGICAL MALIGNANCY SURGERY

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Aims

Gynecological malignancy surgery undertaken in a specialized gynecologic oncology unit may be associated with significant perioperative morbidity. Validated risk prediction models are available for general surgical specialties but currently not for gynecological cancer surgery. The objective of this study is to construct a preoperative nomogram predicting 30-day morbidity after gynecological malignancy surgery.

Methods

The medical records of 460 patients with elective gynecological cancer surgery in our center during 2005 and 2013 were reviewed. All peri- and postoperative complications within 30 days after surgery were registered and classified according to the definitions of the National Surgical Quality Improvement Program(NSQIP). To investigate independent predictors of 30-day morbidity, a multivariate Cox regression model with backward stepwise elimination was utilized. A nomogram based on this Cox model was developed and internally validated by bootstrapping. Its performance was assessed by using the concordance index and a calibration curve.

Results

The median age was 49(range, 13-81) years. Eighty-three(18.0%) patients had at least one peri- or postoperative complication within 30 days after surgery. Multivariate regression analysis revealed that age(odds ratio 1.023, 95% CI 1.002-1.044 *P*=0.031), operation time(odds ratio 1.005, 95% CI 1.002-1.008; *P*=0.001), and serum albumin level(odds ratio 0.627, 95% CI 0.389-1.009; *P*=0.054) were independent predictors of postoperative morbidity. The nomogram incorporating these three predictors demonstrated good discrimination and calibration(concordance index=0.743; 95% CI, 0.665-0.820).

Conclusion

30-day morbidity after gynecologic cancer surgery could be predicted by age, operation time, and serum albumin level. If externally validated, the constructed nomogram could be valuable for predicting operative risk in the individual patient.

IGCSM-0315
Poster Shift III - Nursing & Health Care

PREOPERATIVE HYPOALBUMINEMIA IS A RISK FACTOR FOR 30-DAY MORBIDITY AFTER GYNECOLOGICAL MALIGNANCY SURGERY

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Aims

To determine the relationship between preoperative hypoalbuminemia and the development of complications after gynecological cancer surgery, as well as postoperative bowel function and hospital stay.

Methods

The medical records of 585 patients with elective gynecological cancer surgery at Konkuk University Hospital during 2005 and 2013 were reviewed. The patients had pre-operative serum albumin assessment. All peri- and postoperative complications within 30 days after surgery, including mortality, complications, time to resumption of normal diet and length of hospital stay, were analyzed.

Results

Thirty-four patients(17%) had hypoalbuminemia. Hypoalbuminemic patients had significantly higher consumption of alcohol>2 standard drinks per day and higher rate of preoperative systemic infection compared with non-hypoalbuminemic patients(14.8% vs 1.6%; P=0.001, 0% vs 11.1%; *P*<0.001, respectively). Overall complication rate within 30 days after surgery was 21.9%. Hypoalbuminemic patients were more likely to develop at least 1 postoperative complication compared to non-hypoalbuminemic patients(37% vs 24%; *P*=0.039). Time to resumption of normal diet in hypoalbuminemic patients was significantly longer than that in non-hypoalbuminemic patients(3.3 vs 2.6 days, *P*=0.020). In univariate analysis, hypoalbuminemia, laparotomy(vs laparoscopy) and intraoperative estimated blood loss were risk factors for postoperative complications. In multivariate analysis, hypoalbuminemia(OR 3.219, 95% CI 1.246-8.314; *P*=0.016) and estimated blood loss(OR 1.001, 95% CI 1.000-1.002; *P*=0.013) remained as significant risk factors.

Conclusion

Preoperative hypoalbuminemia in patients with elective surgery for gynecologic malignancy is an independent predictor of postoperative morbidity. Although the causes of hypoalbuminemia are multifactorial, identification of this subset of patients and preoperative optimization of nutritional status may improve surgical outcomes in this high

risk population.

IGCSM-0366
Poster Shift III - Nursing & Health Care

NURSE-LED REHABILITATION AFTER GYNECOLOGICAL CANCER SURGERY - RESULTS AND CLINICAL EXPERIENCES FROM CANCER REHABILITATION DURING A DECADE

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Aims

As cancer treatment improves and the number of survivors increase, rehabilitation has become an increasingly important multidisciplinary element of the total therapeutic option. On this background we have aimed to develop and test a cancer rehabilitation programme especially designed to match the needs of women surgically treated for a gynaecological malignancy, and their relatives.

Methods

During 2004-2006 a postoperative rehabilitation programme with a multidisciplinary approach was developed and piloted. The programme provided education, physical training and supportive group sessions . In order to prospectively monitor participants' general health and coping, the questionnaires Short Form 36 and Sense of Coherence were applied before and after the intervention.

Results

As pilot results were positive, the programme was implemented as optional part of the follow-up. A number of 21 courses have been held with 371 participants: 217 patients and 154 relatives.. All patients were treated by surgery alone: five percent had ovarian, 61 percent endometrial, 27 percent cervical, and three percent vulvar cancer. Additional four percent had other gynaecological malignant conditions. The patients were aged 22-85 years. A total of 199 questionnaires were fully completed: 107 before and 92 after the intervention.

Conclusion

Most of the participating patients had completed their full surgical treatment in few days, and were fully cured. The programme provides professionals with significant patient perspectives on survivorship issues. The resource consumption in driving it has been modest. Preliminary questionnaire results have indicated that coping skills, vitality, and physical functioning were improved.

IGCSM-0368
Poster Shift III - Nursing & Health Care

HOPE AND COURAGE TO FACE LIFE - INNER RESSOURCES DURING SERIOUS ILLNESS

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Aims

In order to provide patient perspectives on being newly diagnosed and starting treatment for a serious cancer disease, the lived experiences of women undergoing ovarian cancer surgery were explored.

Methods

The study took place in a Danish University Hospital at a regional centre for the surgical treatment of gynaecological cancer diseases. The study period ran from the first visit in the out-patient clinic till eight weeks later, when the participants had either begun chemotherapy or completed their recovery. A number of nineteen qualitative research interviews were conducted, before and after the surgery. By applying a phenomenological-hermeneutic text interpretation methodology, the findings were systematically identified, put into meaning-structures, interpreted, and critically discussed.

Results

The results offered insight into the complexity of challenges and personal development over time in being a woman with ovarian cancer during her perioperative period. Despite being in a most vulnerable situation, the women demonstrated presence of substantial inner resources in terms of hope, will, and courage to face their lives; resources that were created, not only in the interplay between body and mind, but also between the patients and their caregivers.

Conclusion

Being newly diagnosed and starting treatment for a serious cancer disease represents a period of time in which hope - and despair - is present at the same time. Experiencing physical comfort can reinforce the experience of hope. Existential meaning making can assist the women in creating new narratives, and through this new orientations in their lives.

IGCSM-0643
Poster Shift III - Nursing & Health Care

FERTILITY PRESERVATION TOOLKIT: IMPLEMENTING & EVALUATING A RESOURCE TO ASSIST CLINICAL DISCUSSION & DECISION MAKING REGARDING FERTILITY IN PAEDIATRIC ONCOLOGY

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Aims

As over 80% of paediatric patients are cured of cancer, survivorship issues including fertility preservation are of great importance. Oncology clinicians find discussions around fertility risk and preservation difficult due to a range of factors including urgency to commence treatment, and lack of specific training, knowledge, clinical pathway, policy and long term efficacy data. We are evaluating a tool-kit resource for clinicians involved in fertility preservation discussions with young oncology patients and parents. By providing a suite of reference information alongside a practical guide for fertility preservation discussion and referral, we hope to promote consistent, up-to-date knowledge among clinicians and clearer conversations about fertility risk and preservation.

Methods

Clinicians are surveyed at 3 timepoints:
1. Baseline : To determine perceived strengths and weaknesses prior to implementation.
2. After each toolkit use.
3. End of evaluation period, to assess feasibility, sustainability and overall impact of the toolkit on clinical practice.

Results

Baseline data shows 20% of responses are from oncologists (5/25), 16% from social workers (4/25) and 52% from nursing staff (13/25). Generally perceived strengths of the toolkit are 'consistency' and 'clarity', while potential weaknesses included 'compliance', 'access' issues and lack of use due to physicians' personal views.

Conclusion

This is the first study to evaluate a fertility preservation toolkit. Survey data will further explore predicted strengths and weaknesses from the baseline results, and assess

toolkit utility, feasibility and impact on clinical practice in fertility discussion for paediatric oncology patients and their families.

Acknowledgments:
Funding from the Victorian Cancer Agency

IGCSM-0692
Poster Shift III - Nursing & Health Care

IS THERE A ROLE FOR TELEHEALTH IN GYNAEONCOLOGY? THE EXPERIENCE'S AT JOHN HUNTER HOSPITAL NEWCASTLE

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Aims

Hunter New England Centre for Gynaecological Cancer (HNECGC) at John Hunter Hospital provides a service for around 450 women each year. It is the only gynaeoncology unit within the 130 000 square km of Hunter New England Health District. Approximately 20% of women travel further than 300km (return) to attend services at John Hunter Hospital. The need to travel increases stress and anxiety for patients and families and places an increased burden on accommodation and parking facilities within local facilities. Since October 2011 telehealth appointments have been offered for new patient consultations to women living in rural areas

Methods

The aim of the telehealth service has been to provide comprehensive specialist gynaecological oncology consultations including psychosocial screening, emotional support and information provision as standard treatment, while saving the patient travelling large distances to Newcastle.

Results

Telehealth links with 6 rural sites have been established and so far nearly 200 patients and families have been saved over 100 000km in travel. Consultations occur as usual via videoconference link. Thorough and more extensive referral documentation is required to allow for the lack of physical examination.

Conclusion

The telehealth service has been monitored for adverse outcomes to ensure that the standard of care for these patients is not compromised. The incidence of changes required to the patients planned treatment at time of surgery has been < 5%. Patient satisfaction with the service was examined following the first 100 consultations with 100% of returned surveys indicating patients would recommend the service

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Conflict of interest
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IGCSM-0694
Poster Shift III - Nursing & Health Care

SYMPTOM CLUSTER IN BREAST CANCER PATIENTS RECEIVING CHEMOTHERAPY: A LONGITUDINAL STUDY APPROACH

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Aims

Purpose of this part of the longitudinal study was to examine the change of symptom pattern in Thai women with breast cancer receiving chemotherapy.

Methods

This study was longitudinal descriptive research. Samples included 83 new cases of Thai women with breast cancer who visited at university hospital during January 2013 – April 2014. The instruments were (1) the personal disease and treatment data and (2) the Memorial Symptom Assessment Scale Short Form (MSAS-SF) developed by Chang et al. (2000). Cronbach's alpha coefficient of the MSAS-SF was .75. Data were analyzed by descriptive statistic.

Results

Results found that after chemotherapy cycle 3, the most symptom distress were hair loss, lack of energy, nausea, lack of appetite, and change in the way food taste. While symptom clusters were GI-side effect and neuropathy-side effect. After chemotherapy cycle 6, the most symptom distress were hair loss, change in the way food taste, lack of energy, changes in skin, and lack of appetite. While symptom clusters were GI-side effect, neuropathy-side effect, and body image side effect.

Conclusion

Result findings can be provided an evidenced data for appropriate side effects' management in each cycle of chemotherapy in Thai women with breast cancer. It can be reduce symptom distress during their chemotherapy receiving.

IGCSM-0713
Poster Shift III - Nursing & Health Care

SLEEP DISTURBANCE AND DISTRESS OF GYNECOLOGY CANCER PATIENTS WITH CHEMOTHERAPY

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Aims

Sleep disturbance is a common symptom of oncology patients and contributes to substantial morbidity. Disturbed sleep has functional consequences as it has been associated with lower quality of life. However association between sleep disturbance and distress in gynecologic cancer patients with chemotherpay remains unclear. This study was to assess sleep disturbance and distress and to identify the impact of distress on sleep disturbance in patients with gynecologic cancer under chemotherapy.

Methods

A total of 37 patients treated for gynecologic cancer recruited between Aprel and May 2014 at Asan Medical Center in Seoul. Each subject was assessed for sleep disturbance by Pittsburgh Sleep Quality Index (PSQI), distress by Hospital Anxiety and Depression Scale (HADS) and semi-structured interview.

Results

The patiens population has mean age 48.2(±5.5) years. Twenty-one (56.8%) of 37 patients were diagnosed ovarian cancer. The majority of patients (70.3%) reported disturbed global sleep (PSQI>5), 29.7% of patients reported anxiety (HAD-A≥8) and 59.5% of patients reported depression (HAD-D≥8). Patients with sleep disturbance were significantly high in anxiety (p=.026). However sleep disturbance was not related depression, cancer type, stage, grade medications for sleep among clinical factors, nor age, marital status, level of education, or annual income among demographic factors.

Conclusion

Sleep disturbance is common in gynecologic cancer patients with chemotherapy, and is linked to anxiety symptoms. Results suggest the need for screening and intervention for sleep disturbance in gynecologic cancer patients with chemotherapy.

IGCSM-0757
Poster Shift III - Nursing & Health Care

ADDRESSING FERTILITY IN PAEDIATRIC AND ADOLESCENT PATIENTS RECEIVING GONADOTOXIC THERAPY.

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Aims

Fertility preservation is a major survivorship consideration. Paediatric and adolescent fertility preservation (PA-FP) sits across all tumour streams, and across the lifespan. Most gynaecologists lack experience around the ethical challenges of female PA-FP, yet they may be the first port of call. Lack of governance over PA-FP, creates significant burdens for families and health providers. We aim to communicate the academic program of the Fertility Preservation Taskforce, Melbourne which may assist other academic gynaecological centres establishing PA-FP.

Methods

Advances in reproductive medicine, recommendations by peak bodies, and growing community awareness, demand that PA-FP be addressed collaboratively. The FP Taskforce, was formed in 2012 in the spirit of intellectual exchange and professional integration to i. develop clinical pathways (including clinical ethics and psycho-oncology support); ii. design academic programs assessing long-term safety, efficacy, and survivor-acceptance, and improve capacity in PA-FP research; and iii. educate providers and the community about PA-FP.

Results

The taskforce comprises clinicians, scientists and academics in over 10 disciplines from 3 centres. We have received funding from the Victorian Cancer Agency to 1. Audit clinical practice at The Royal Children's and Women's Hospitals Melbourne, with linkage to IVF and birth registers; 2. Establish a PA-FP database with linkage to a binational FP register to assess long-term efficacy; 3.Evaluate a FP toolkit delivering information to clinicians and families; 4. Establish PA-FP guidelines and policies in Victoria

Conclusion

PA-FP is too complex to be undertaken in professional silos and requires professional integration across the adult and paediatric sectors.

IGCSM-0778
Poster Shift III - Nursing & Health Care

CHALLENGES IN THE MANAGEMENT OF WOMEN AT HIGH RISK OF DEVELOPING GYNAECOLOGICAL CANCERS

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Aims

Women who have a germ line mutation in BRCA1 or BRCA2 genes have a high lifetime risk of developing cancer f the ovaries and fallopian tubes. Similarly women with a mutation in one of the mismatch repair genes have a high risk of developing endometrial cancer, as well as lesser risks of cancer of the ovaries and fallopian tubes.

Methods

Surveillance strategies aimed at early detection of ovarian and endometrial cancer have not proved to be effective, therefore preventive surgery is offered to women with known high risk mutations as this is the only effective means of reducing mortality from gynaecological cancers

Results

Current guidelines recommend that surgery take place at around 40 years of age but individual decisions need to take into account factors such as family history of age of onset, family planning and a woman's general health. Women who undergo surgery prior to natural menopause will enter menopause directly. They may experience a range of symptoms, varying from minimal to severe.

Conclusion

The most effective means of alleviating menopausal symptoms is HRT,but many women are fearful of it's us. Nurses play a critical and important role in assisting this group of patients in the decision making process, providing information on implications of surgery both in terms of cancer prevention and early menopause.

Conflict of interest
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IGCSM-0798
Poster Shift III - Nursing & Health Care

SYMPTOM CLUSTERS IN THAI GYNECOLOGICAL ONCOLOGY PATIENTS RECEIVING FIRST CYCLE OF CARBOPLATIN AND PACLITAXEL

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Aims

Purpose of this part of the longitudinal study was to examine the change of symptom cluster occurrences in Thai gynecologic oncology patients receiving first cycle of Carboplatin and Paclitaxel from 1st to 14th day.

Methods

This study was longitudinal descriptive research. Samples included 110 women who visited at university hospital during January – December 2012. The instruments were (1) the personal disease and treatment data and (2) the National Cancer Institute's Common Terminology for Adverse Events Version4 were used to collected data. The severity diary was recorded from the 1st day to 14th day after first cycle of chemotherapy. Data were analyzed by descriptive and factor analysis.

Results

Results found that it was a change of symptom cluster from day 1, 3, 7 and 14 after receiving chemotherapy. There was sleep disturbance cluster after day 1. Two clusters were found after day 3; sleep disturbance and gastro-intestinal side effects. After day 7, there were 2 clusters occurred; neuropathy disturbance and gastro-intestinal side effects. Lastly, there were also 2 symptom clusters found after day 14; neuropathy disturbance and body image loss.

Conclusion
Result findings can be provided an evidenced data for appropriate side effects' management in each day of first cycle of Carboplatin and Paclitaxel in Thai gynecological oncology patients. It can be reduce symptom distress and improve their quality of life.

IGCSM-0820
Poster Shift III - Nursing & Health Care

NURSE LED FOLLOW UP IN GYNAECOLOGICAL CANCER

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Aims

Traditionally, women treated for gynaecological cancer have undergone long term follow up with their treating specialist. This practice places a substantial time burden on the medical workforce, time that could otherwise be utilised seeing new referrals and assessing patients with symptoms of recurrence. To ease the burden, a nurse led follow up clinic was established at a regional Gynaecological Oncology tertiary referral centre.

Methods

Women with early stage endometrial cancer, whose primary treatment was surgery, were scheduled for regular follow up with the Clinical Nurse Consultant. The follow up schedule and examination adhered to the protocol of the unit and the clinic was run with the support of a registrar as required.

Results

The Clinical Nurse Consultant was able to identify and address the needs of the women in a holistic manner, assessing for signs of recurrence, managing side effects of treatment and providing psychological reassurance. Over 90% of women attending the nurse led follow up clinic have been satisfied with the service and no adverse outcomes have been identified from this form of follow up.

Conclusion

Nurse led follow up in gynaecological cancer utilises the advanced skills of the Clinical Nurse Consultant and has been found to be an effective and satisfactory form of surveillance for these women. Nurse led follow up may be expanded to include other low risk patient groups in the future.

IGCSM-0863
Poster Shift III - Nursing & Health Care

TESTING THE FEASIBILITY AND ACCEPTABILITY OF INTRODUCING ROUTING SCREENING, ASSESSMENT AND REFERRAL PATHWAYS FOR PSCYHOSOCIAL DISTRESS IN WESTERN AUSTRALIA

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Aims

To test the feasibility and acceptability of a program to introduce routine screening for distress in cancer patients in Western Australia.
We aim to establish the prevalence and level of distress identified by participants and areas in which they raised concerns.
This study involved education workshops for health professionals, which were evaluated; assessment of the impact on existing services and service providers by documenting referrals and interviews with health professionals and patients.

Methods

Settings included King Edward Memorial Hospital (KEMH) and South West WA Country Health Services (SW WACHS)
A one day psycho-oncology workshop was provided at each setting using clinical practice guidelines plus National Breast and Ovarian Cancer Centre (NBOCC) "distress thermometer and problem list" as a validated tool for education of health providers.
The program included identified referral pathways for unmet patient needs.
KEMH A cross sectional prospective study of N - 60 women with gynaecologic malignancy.
SW WACHS A cross sectional prospective study of N - 100 newly diagnosed cancer patients across the region.
Descriptive statistics were used to describe the sample and outcomes of interest.
Between group comparisons were undertaken using t tests and Chi squared.
Qualitative data was analysed using thematic analysis.
Categories were identified and grouped to common themes.

Results

Preliminary results identified that workshops met the education needs of attendees, and that identified referral pathways are essential.
Final results, conclusions and recommendations will be presented at IGCS 2014

Conclusion

Psychosocial screening was acceptable to patients and care providers, and did not have a significant impact on existing services.

IGCSM-0941
Poster Shift III - Nursing & Health Care

STARTING A JOINT BREAST AND OVARIAN CARRIER CLINIC AT A DISTRICT GENERAL HOSPITAL: THE GUILDFORD PERSPECTIVE

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Breast cancer is the commonest cancer in women in the developed world. Approximately 5% of these cancers are due to changes in either the BRCA1 or BRCA2 genes. Knowledge that there exists a hereditary factor for breast and ovarian cancer has led to the setup of screening clinics for women at high risk of developing these malignancies. To our knowledge this service has previously only been offered in the UK in large university hospitals only.

Aim

To establish a one stop Joint Breast and Ovarian Carrier clinic (JBOCC) as a one stop service

Methods

Following consultations with various stakeholders, a pilot service was setup. On confirmation of *BRCA1/2* mutation carrier status, women local to the hospital were invited for to the clinic. A questionnaire was sent along with the invitation to choose the healthcare professional they wished to see. The team comprised of a breast surgeon, gynaecological oncologist, Macmillan genetics counsellor, an advanced breast nurse practitioner, breast care nurse specialist and a psychologist.

Results

50/68 women attended the clinic and saw various team members. 65% were BRCA 1 and remaining BRCA 2 carriers with ages ranging from 30-55. Most (75%) saw the geneticist and the breast surgeon. 30% had previously had BSO and the remaining 70% underwent transvaginal scans and discussed BSO.

Conclusion

Attendance at this clinic resulted in a significant improvement of breast and ovarian cancer risk management in our BRCA1/2 carriers and this pilot service has been successfully implemented.

IGCSM-0957
Poster Shift III - Nursing & Health Care

PERIOPERATIVE MORBIDITY AND MORTALITY AUDIT STRATEGIES IN GYNAECOLOGICAL ONCOLOGY SURGERY: THE EAST KENT GYNAECOLOGICAL ONCOLOGY CENTRE EXPERIENCE

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Aims

Recording perioperative complications and morbidity data in major gynaecological oncology surgery enables quality benchmarking and improving standards. The United Kingdom Gynaecological Oncology Surgical Outcomes and Complications (UKGOSOC) Audit demonstrated robust process of contemporaneous data capture and provided surgical benchmarking standards, but proved to be labour-intensive and burdensome for clinical teams.

We devised a simplified process for comprehensive data capture to monitor surgical outcomes during 2013 in East Kent, enabling comparison with the gold-standard UKGOSOC data. Further comparison with routinely generated Hospital Episode Statistics (HES) via Dr Foster website enabled assessment of accuracy and validity of routine coding data capture.

Methods

Complications and morbidity data for 306 patients undergoing major surgery during 2013 was captured by retrospective review of patient summaries, electronic patient records, pathology/haematology investigations and blood transfusion records. Physical hospital notes were not required for capture of 42 data fields including blood loss, surgical complications, ITU admissions, return-to-theatre and perioperative mortality. Data capture took approximately 10 minutes per case.

Results

Our audit reveals comparable complication rates with UKGOSOC. However routine Dr Foster HES data provided minimal reliable data on surgical quality and outcomes.

Conclusion

Our audit methodology provides reliable, valid and robust surgical complications and morbidity data comparable to the UKGOSOC gold-standard, with much lower burden on clinical teams. This data is not available from routinely collected HES. We have implemented this methodology as a continuous ongoing audit.

IGCSM-0996
Poster Shift III - Nursing & Health Care

A MODEL FOR THE MANAGEMENT OF THE NACT PATHWAY AT A CANCER CENTRE

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Aims

IntroductionMost UK cancer centres receive referrals from regional hospitals hence clear pathways are mandatory. Two recent trials have shown that neoadjuvant chemotherapy (NACT) is associated with increased optimal debulking, less surgical morbidity and similar survival in this poor prognosis group. The practice of NACT for advanced ovarian cancer has since been widely adopted in specialist centres in the UK. In this study we aimed to assess the impact of implementing NACT from the patient perspective as well as service delivery. Objective· To evaluate the impact of NACT on promptness of service delivery for patients with ovarian cancer· To assess the effect of NACT on patients and co-ordinate the timing of surgery.

Method

A prospective database was developed and by the Specialist Nursing Team for prospective monitoring of the pathway of individual patients. Patients identified at the Multi-Disciplinary Team meeting were added to the database with a schedule for chemotherapy, imaging, MDT review and surgery dates. Prospective recording of actual dates allowed for comparison between an intended 'ideal' pathway timings and observed timings.

Results

132 patients have been managed via the NACT pathway to date. 43% had IDS at 3 cycles; 17% had surgery after 6 cycles; 40% did not have surgery. All patients had treatment according to plan and 79 patients had surgery.

Conclusions

Benefits

Network-wide agreement enhances patient pathway and streamlines workload;

Patient involvement in treatment plan improves patient understanding effectively.

Challenges

Requires commitment, communication and co-ordination to ensure timely preparation.

Effective MDT team working for pathway co-ordination.

IGCSM-1101
Poster Shift III - Nursing & Health Care

GENDER AND SEXUAL DYSFUNCTION IN THAI CANCER PATIENTS: A COMPARATIVE STUDY

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Aims

Purpose of this study was to compare sexual dysfunction between male and female in Thai cancer patients.

Methods

This study was comparative descriptive research. Participants included 55 females with breast cancer and 55 males with cancer at prostate, bladder, and colon. They were all complete treatment for 6 months - 2 years from a university hospital, 2 hospitals under National Cancer Institute. The instruments were (1) the personal, disease and treatment data and (2) the Sexual Dysfunction developed by Kumdaeng (2007). Data were collected during March – June 2013. Cronbach's alpha coefficient of the sexual dysfunction was .90. Data were analyzed by descriptive statistic and independent t- test or Mann-Whitney test.

Results

Results found that overall sexual dysfunction were not different between male and female. However, there were significant different in 6 subscales of sexual dysfunction; desire, arousal, orgasm, pain, mental support, and love at .05.

Conclusion

Result findings can provide evidence for appropriate management to improve sexual health and quality of life in both sexes of Thai cancer patients after treatment.

IGCSM-1134
Poster Shift III - Nursing & Health Care

ADDRESSING GLOBAL DISPARITIES IN GYNECOLOGIC ONCOLOGY ACCESSIBILITY: A CONTINUOUSLY CONNECTED TEAM SUPPORT (CCTS) MODEL TO FACILITATE HIGH-QUALITY, PATIENT-CENTERED CARE IN LOW-RESOURCE REGIONS

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Aims

Quality gynecologic cancer care (GCC) in global low-resource regions (LRRs) is limited by poor access to gynecologic oncology expertise (GOE). We propose a model to improve access and quality.

Methods

A PubMed search identified and characterized: 1) core quality components of GCC models; 2) LRRs lacking GOE; and 3) current models for delivering healthcare services in LRRs. A new model was developed addressing needs of LRRs.

Results

Characteristics observed in high-performing GCC models include**:** 1) gynecologic oncologists (GOs) guide all aspects of GCC, 2) care is performed by high-volume providers (HVPs), and 3) multidisciplinary provider teams (MDTs) address all patient needs. Without equal access to GOs, HVPs, or MDTs, patients in LRRs do not share the benefits of high-quality outcomes. Integrating components of traditional telementoring and telemedicine models with our identified core characteristics, our model is developed to address the comprehensive and ongoing unique GCC needs of LRR. This *Continuously Connected Team Support* (CCTS) model utilizes a semi-remote GO to facilitate quality GCC through mentorship/education of a local MDT. The GO's on-site activities include proctoring the MDT in surgeries, mentoring and educating in clinical conferences, and continuous quality improvement activities. Off-site activities

include 24/7 availability via phone or videoconferencing. Long-term, regular on-site and remote interactions with local MDT makes CCTS unique in its commitment and service beyond that of international surgical charity programs.

Conclusion

Global application of this model to enhance GCC in LRR is promising. Further outcomes research is warranted.

IGCSM-1153
Poster Shift III - Nursing & Health Care

CANCER SCREENING IN TURKEY

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Aims

Coverage of cancer screening tests in Turkey haven't reached adequate coverage rate as in many countries all over the world. In this study we aimed to search for new methods which can be implemented to cancer screening in order to raise these coverage rates.

Methods

We used the databasa of Ministry of Health by using the citizen numbers of the patients. As new methods; transportation of the people to the cancer screening centers which was free of charge and using HPV DNA tests for cervical cancer screening in order to deal with the inadequate number of pathologists and long process of pathology reports instead of pap smear tests were used.

Results

Coverage rates have been increased from 3.562.186 (2010) to 4.696.403 (2013). Coverage rates of screening tests (breast, colorectal and cervical) by years can be seen in table 1. Also with this increase high stage cancer rates has been decreased to %20 in 2013.

Table 1. Cancer Screening in Turkey

Screening tests	2010	2013
Mammography	1.456.347	1.715.413
Fecal Occult Blood	0	530.971
Pap-Smear/ HPV-DNA	2.105.839	2.450.019

Conclusion

Cancer screening and early diagnosis is a very crucial part of cancer control programmes. For countries with low coverage rates ; such HPV dependant screening tests and patient transportation systems can be a good way to increase the coverage rates.

IGCSM-1195
Poster Shift III - Nursing & Health Care

ESTABLISHMENT AND FUNCTION OF A HARMONIZATION COMMITTEE TO FACILITATE THE COLLABORATIVE CONDUCT OF INTERNATIONAL INTERGROUP CLINICAL TRIALS IN GYNECOLOGICAL CANCER: A GCIG INITIATIVE

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Aims

The Gynecological Cancer InterGroup (GCIG) promotes and facilitates high quality clinical trials in order to improve outcomes for women with gynecologic cancers. The Harmonization Committee (HC) was established with the specific aim of achieving greater harmonization in set-up and delivery of international intergroup clinical trials.

Methods

Operations representatives from 27 cooperative gynecologic oncology research groups in 20 countries meet twice yearly and collaborate year-round, wherein experience and knowledge of group practices are shared. HC prioritized the creation of documents and tools as instrumental in meeting the objectives of GCIG.

Results

The following documents and tools have been developed and used in multiple GCIG trials: (i) Group Contacts and Summaries collate key information about each of the member groups including group structure, funding, membership criteria, protocol development, ethical and regulatory requirements; (ii) GCIG Guidebook describes and summarizes criteria for the initiation and conduct of intergroup trials and includes a number of agreed definitions and templates; (iii) Clinical Trial Agreement provides a standard template for a working agreement between the lead group and one or more participating groups which makes it easier for groups to work together and clarifies national processes; and (iv) Group Specific Appendix template clearly outlines country-

specific variations in a consistent manner that both assists trial site staff and clarifies country specific processes for the lead group.

Conclusion

Harmonizing operational aspects of trial conduct is essential for successful international intergroup collaboration. This can be facilitated by the establishment of a HC and thus, shared development of essential tools and documents.

IGCSM-1322
Poster Shift III - Nursing & Health Care

EXPLORATION OF THE ROLE OF SPECIALIST NURSES IN THE CARE OF WOMEN WITH GYNAECOLOGICAL CANCER: A SYSTEMATIC REVIEW.

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Background and Aims: The benefits of specialist nurses caring for women with breast cancer are well established yet evidence evaluating the efficacy of specialist nurses in the gynaecological-oncology setting is limited and fragmented. A systematic review was conducted to evaluate the effect of interventions used by gynaecological-oncology specialist nurses on quality of life, satisfaction with care and psychological outcomes.

Methods: The systematic review included both randomised controlled trials and nonrandomised studies. Nine major databases were accessed and inclusion criteria were applied to select studies for review. Studies were critically appraised and a risk of bias assessment performed. Data were extracted and compiled, with a narrative analysis undertaken.

Results: Nine studies (six randomised controlled trials and three nonrandomised studies) testing interventions by specialist nurses were systematically reviewed. Results for the randomised controlled trials and nonrandomised studies were analysed and reported separately to enable distinction between evidence levels. Risk of bias assessment revealed that the quality of included studies was mixed. Studies varied greatly in the type of intervention provided and outcomes measured. The review indicated that outcomes were positively affected when specialist nurse interventions involved comprehensive, timely care although these results must be viewed in conjunction with the assessment of evidence quality.

Conclusions: This systematic review has synthesised fragmented evidence and improved our understanding of the patient-centred aspects of the specialist nurse role in the gynaecological-oncology setting. Further high quality research is needed to determine how specialist nurses can best meet the needs of women with gynaecological cancer.

IGCSM-0560
Poster Shift III - Phase I/II multi-site clinical trials

PHASE I DOSE ESCALATION STUDY OF WEEKLY PACLITAXEL AND CISPLATIN FOLLOWED BY RADICAL HYSTERECTOMY IN STAGES IB2 AND IIA2 CERVICAL CANCER

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Aims

To define the optimal dose of paclitaxel combining with cisplatin, as weekly neoadjuvant chemotherapy (NAC) for early-stage bulky squamous cell carcinoma (SCC) of the uterine cervix.

Methods
A prospective trial was conducted for International Federation of Gynecology and Obstetrics stages IB2 and IIA2 cervical SCC patients with magnetic resonance imaging or positron emission tomography-defined lymph node (LN) negative. Weekly fixed-dose cisplatin (40 mg/m^2) and 4-level dose escalation of paclitaxel (50, 60, 70, 80 mg/m^2) for 3 courses was given and followed by radical hysterectomy and pelvic LN dissection (RH-PLND) 14-28 days later. Postoperative adjuvant therapy was tailored according to pathological response.
Results
No dose limiting toxicity occurred. Twelve subjects were enrolled without reaching maximum tolerated dose, nor was any RH-PLND procedure delayed for >2 weeks. Pathological response rate was 50% (complete in 2, optimal partial in 1, modest partial in 3). Paclitaxel dose level seemed unrelated to pathological response. No subjects had grade 3 acute adverse events. Seven patients (58.3%) received postoperative radiotherapy or chemoradiation (RT/CRT). Patients with human papillomavirus (HPV) 16-negative tumor and age 55 years had higher risk (100%) of adjuvant RT/CRT after NAC. With a median follow-up of 45.5 months, all 12 patients remained alive without disease.
Conclusion
Weekly paclitaxel and cisplatin NAC for 3 courses can be tolerated without interfering the following surgical treatment with excellent short-term outcome. Selecting patient age <55 years or HPV16-positive and NAC of 4 to 5 cycles may reduce postoperative RT/CRT in future phase II or III trials.

IGCSM-0676
Poster Shift III - Phase I/II multi-site clinical trials

PHASE I/IB IMMUNOLOGIC AND CLINICAL ASSESSMENT OF THE IMMUNOTHERAPEUTIC VACCINE, DPX-SURVIVAC IN WOMEN WITH OVARIAN, FALLOPIAN TUBE OR PERITONEAL CANCER (OC).

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Aims

Survivin is over-expressed in 90% of epithelial OC and is important in apoptosis, proliferation and angiogenesis. Increased expression has been correlated with progression and drug resistance. DPX-Survivac vaccine contains a mix of survivin HLA class I peptides designed to evoke a cytotoxic T cell response against survivin. This study assesses the safety and immune potency of DPX-Survivac in combination with metronomic low dose oral cyclophosphamide in OC.

Methods

30 stage IIc-IV women with advanced or recurrent OC with no evidence of disease progression post-chemotherapy were enrolled. Adverse events (AEs) were defined by CTCAE v4.03. Vaccine induced T cell immunity (ELISpot; tetramer analysis) and other immune correlates (immune suppressor cells and B cells) were assessed in purified PBMC and blood.

Results

Local injection site reactions were the main dose limiting AEs with grade 3 skin ulceration. One hematological DLT was seen in group 3. Immune response increased with dose and with use of cyclophosphamide. Dose group 3 was de-escalated to 2 priming doses (q3weekly) followed by low-dose boosters (q8weekly) with cyclophosphamide. In dose group 3, 6/6 evaluable patients mounted significant immune

response (ELISpot) by d77 with only 1 grade 3 ulceration. A PR by RECIST1.1 and GCIG CA125 criteria was confirmed in 1 patient with residual disease post platinum based therapy and correlated with a robust immune response to the vaccine.

Conclusion

DPX-Survivac is well tolerated with proven immunogenicity. Early evidence of clinical activity is promising. A randomized phase II trial assessing vaccine efficacy in OC will commence in 2014.

Conflict of interest
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IGCSM-0784
Poster Shift III - Phase I/II multi-site clinical trials

PHASE II STUDY OF WEEKLY PACLITAXEL AND CARBOPLATIN IN GYNAECOLOGICAL CANCER. A STUDY OF THE BELGIAN GYNAECOLOGICAL ONCOLOGY GROUP (BGOG-OV5)

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Aims

Weekly paclitaxel (60mg/m²) and carboplatin (AUC2.7) (TCw) has been shown to be feasible in single center studies. The main toxicity has been neutropenia.

Methods

In this prospective study prophylactic filgastrim on day 5 of each weekly course was added. Main inclusion criteria: platin-resistant or -refractory ovarian carcinoma (PROC), or recurrent or advanced endometrial (EC) or cervical cancer (CC), measurable disease, no prior weekly TC.

Results

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Results: 108 patients (36 patients PROC, EC and CC each) were included between February 20, 2012 and March 14, 2013. The median number (Inter Quartile Range) of prior chemotherapy lines was 3(2-4) for PROC, 2(0-2) for EC and 1(0-1) for CC. Incidence of G3-4 neutropenia was 34% (95%CI:26%-44%; OC:29%; EC:36%; CC:38%) (G4:15%), sepsis 5% and G3-4 thrombocytopenia 41%(G4:13%). Dose was delayed in 71% of the patients (median 2 weeks) and reduced for C in 47% and T in

18% (mean dose/week including reductions and delays, respectively AUC2.3 and 52mg/m²). RECIST response (RR) was 51%. Median (95%CI) progression-free survival (PFS) and overall survival (OS) 7(5-8) and 13(10-16) months, respectively.

	N(evaluable)	RR	Median PFS* (95%CI)	Median OS* (95%CI)
PROC	35	48%	7(6-8)	13(8-19)
Prior lines:1-2	13	73%	7(3-8)	13(4-undef.)
3-9	22	35%	8(2-9)	11(8-19)
EC	32	45%	6(4-9)	19(8-undefined)
Prior lines:0	13	73%	8(2-undefined)	undefined
1-4	19	29%	5(3-9)	12(6-undefined)
CC	30	56%	6(4-10)	14(10-16)
Prior lines:0	13	77%	6(3-10)	16(8-undefined)
1-2	17	23%	6(3-12)	12(8-19)

*months

Conclusion

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Conclusion: TCw with G-CSF support is an effective treatment with an acceptable toxicity in patients with PROC, EC or CC.

IGCSM-0804
Poster Shift III - Phase I/II multi-site clinical trials

A PHASE II STUDY TO EVALUATE EFFICACY OF APREPITANT IN PREVENTING CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING

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Aims

Chemotherapy-induced nausea and vomiting (CINV) is one of the unpleasant side effects for patients receiving chemotherapy. CINV is occurred with stimulation of 5-HT3 receptor in acute period, and with NK-1 receptor in delayed period. We investigated an efficacy of the combination regimen consisting of NK-1 receptor antagonist (aprepitant), 5-HT3 receptor antagonist (palonosetron), and dexamethasone for prevention of CINV by moderately emetogenic chemotherapy.

Methods

75 patients were randomized in two groups. One group was medicated with palonosetron and dexamethasone and aprepitant (aprepitant group; AG), the other was administrated palonosetron and dexamethasone (control group; CG). The primary endpoint was complete response rate of restraining emesis (CR) over 5 days after chemotherapy. Secondary end points were time to treatment failure (TTF), complete controlled rate (CC) and other side effects.

Results

38 patients were included in CG and 37 in AG. The average age was 56.8 years old in CG and 58.3 years old in AG. Performance status was 0 in 73 patients and 2 patients were PS1. CR of the delayed period in AG was 97% and that in CG was 82%, it revealed significant difference (p=0.027). TTF in AG was significantly longer than CG (p=0.023). CC in AG was 58% and in CG was 50%. Other side effects were seen 74% of AG, 73% of CG. No significant differences were seen in CC (p=0.68) and in other side effects (p=0.94).

Conclusion

We want to suggest a possibility of aprepitant using combined with usual medication could control CINV by moderately emetogenic chemotherapy.

IGCSM-0983
Poster Shift III - Phase I/II multi-site clinical trials

SELINEXOR (KPT-330) - A NOVAL TREATMENT FOR GYNECOLOGIC MALIGNANCIES.

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Aims
Exportin 1 (XPO1) is the nuclear exporter of tumor suppressor proteins (TSPs), leading to their functional inactivation. Multiple TSPs are altered in ovarian (OC) and cervical (CC) cancers, including p53, CDKN2A, pRB. Selinexor (KPT-330) an orally bioavailable XPO1 inhibitor. Selinexor has shown potent single agent anti-cancer activity in numerous solid tumor models including those of cervical and platinum-resistant ovarian malignancies.
Methods
As part of first-in-man first-in-class on-going phase 1 study in advanced solid tumors, oral selinexor was given at 8-10 doses (2-3 times/week)/28-day cycle (KCP-330-002). Response evaluation was performed every 8 weeks (RECIST 1.1).
Results
Seven OC and five CC heavily pretreated pts were enrolled with progressive disease (PD) on study entry. Median age 53 yrs; ECOG PS 0/1: 4/8; median prior regimens 3.7 received selinexor at doses of 6 to 50 mg/m^2. Common Grade 1/2 toxicities: nausea (12pts), fatigue (10pts), vomiting (9pts) & anorexia (7pts). No treatment related grade 3/4 toxicities were reported. Appetite stimulants and anti-emetics improved constitutional symptoms. Tumor biopsies showed nuclear localization of TSPs and apoptosis induction. 9 pts were evaluable for efficacy. Responses included: 2 partial remissions (22%) 4 stable disease (45%) and 3 progressive disease (33%). 6 pts have remained on therapy for ≥4 cycles (≥115-350 days).
Conclusion
Oral selinexor is generally well tolerated and can be administered over prolonged periods. Durable single agent disease control was observed in heavily pre-treated OC and CC. The recommended dose is 65 mg/m^2 twice weekly and phase 2 studies in patients with gynaecologic malignancies are ongoing.

Conflict of interest
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IGCSM-1007
Poster Shift III - Phase I/II multi-site clinical trials

KCP-330-005/SIGN: A PHASE II, OPEN-LABEL STUDY OF EFFICACY AND SAFETY OF THE SELECTIVE INHIBITOR OF NUCLEAR EXPORT (SINE) KPT-330 (SELINEXOR) IN PATIENTS WITH ADVANCED GYNAECOLOGIC MALIGNANCIES

I. Vergote[1], B. Lund[2], Z. Ujmajuridze[3], H. Havsteen[4], T. Rashal[5], T. Marshall[5], J. McCartney[5], M. Kauffman[6], S. Shacham[7], M.R. Mirza[3]
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Aims

Exportin 1 (XPO1) is the nuclear exporter of tumor suppressor proteins (TSPs), leading to their functional inactivation. Multiple TSPs are altered in ovarian (OC), endometrial (EC) and cervical (CC) cancers, including p53, CDKN2A, pRB and others. Selinexor, an oral XPO1 inhibitor, has shown potent single agent anti-cancer activity in preclinical models of cervical and platinum-resistant ovarian malignancies. A disease control rate for > 4 months of 50% (5/10 patients) was observed in patients with OC+CC as part of an ongoing Phase-1 study (NCT01607905). Selinexor is generally well tolerated and can be administered over prolonged periods.

Methods

KCP-330-005/SIGN (NCT02025985) (n=63) is a multi-centre, open-label, single-arm, two-stage phase II study of oral selinexor. Primary endpoint is disease control (CR+PR+SD) of selinexor in patients with advanced/metastatic incurable gynaecological cancers (OC/EC/CC). The three cohorts shall be evaluated independently for response. Other endpoints are PROs (QLQ-C30), ORR, PFS, safety and tolerability. A translational study of predictive biomarkers of selinexor evaluating circulating tumor cells is planned. Pts with measurable disease are receiving oral selinexor 50 mg/m2 twice weekly in 28 days cycle until progression. Patients are evaluated after 6 and 12 weeks, then every 8 weeks. For each study cohort, 21 patients are required to detect an increase in the DCR from the historical benchmark of 25% to 50%, using Simon's two-stage design. The trial is being conducted in 4 sites (Belgium & Denmark). Patient

enrolment is proceeding according to plan. Positive results of this study will warranty further evaluation in randomized trials.

Results

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Conclusion

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IGCSM-1080
Poster Shift III - Phase I/II multi-site clinical trials

TEMSIROLIMUS IN PLATINUM-RESISTANT OVARIAN CANCER OR ADVANCED/RECURRENT ENDOMETRIAL CANCER: A MULTICENTER PHASE-II TRIAL OF THE AGO STUDY GROUP (AGO-GYN 8)

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Aims

Inhibition of mTOR with temsirolimus (T) might be an efficacious treatment of patients with epithelial ovarian cancer (OC) or endometrial cancer (EC).

Methods

Patients (pts) with platinum/taxane resistant OC (n= 22) or with advanced/recurrent EC, who had not received previous chemotherapy (n= 22), were treated with weekly IV infusions of T (25 mg). Primary endpoint was progression free survival after 4 months (OC) or 6 months (EC). A two stage design was used with second stage of accrual if < 10 of the first 22 pts (OC) or < 7 of the first 22 pts (EC) had progressive disease after the first 8 weeks of T-treatment.

Results

22 pts each were treated in the OC and the EC cohort respectively. Median age was 56 years (OC) or 63 years (EC). After 8 weeks of treatment with T, 10 pts in the OC cohort and 7 pts in the EC group had progressive disease. Toxicity of T was mild: grade 4: 1

ileus (OC), grade 3: anemia 1, abdominal pain 1, ALT elevation 1, ascites 3 (OC), diarrhea 1, vomiting 2.

Conclusion

T-treatment was well tolerated in our patients. It did, however, not meet the predefined efficacy criteria with 10 of 22 pts (OC) and 7 of 22 pts (EC) having progressive disease after 8 weeks of treatment.

IGCSM-0019
Poster Shift III - Surgical Techniques

ROBOTIC TOTAL PELVIC EXENTERATION WITH INTRACORPORAL ILEAL CONDUIT FORMATION, CLEVELAND CLINIC EXPERIENCE.

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Aims

This is a description of techniques and report of outcome of several cases of robotic pelvic exenteration, performed at single institute. Patient who were selected for this procedures were all elderly with age range of 79-87 years old.

Methods

This is descriptive report of surgical techniques and selection methods used for patients undergoing robotic total pelvic exenteration. Techniques of intracorporal ileal conduit formation were discussed.

Results

So far total of six cases of robotic pelvic exenteration were performed, 3 of them were total exenteration with intracorporal ileal conduit formation. No major complications occured. Only one patient developed cancer recurrence within 2 years follow up. Average duration of procedures were 390 minutes for total exenterations and 250 minutes for posterior pelvic exenterations. no major complication occured, one patient who underwenta an infralevator robotic total pelvic exenteration developed a 5 cm perineal abscess at 3 weeks after suregry that was drained successfully. average estimated blood loss was 75 ml.

Conclusion

Robotic total pelvic exenteration can be offered to elderly women with central recurrence of pelvic malignancies.

IGCSM-0020
Poster Shift III - Surgical Techniques

ROBOTIC RESECTION OF OBTURATOR NERVE TUMOR- OBTURATOR NERVE FUNCTION PRESERVED.

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[1]*Obstetrics and Gynecology- Gynecologic Oncology, Cleveland Clinic, Cleveland OH, USA*

Aims

This report describes minimally invasive surgical techniques used to remove an obturator nerve tumor in a young woman without disruption the nerve function.

Methods

This video report describes minimally invasive surgical techniques used to remove a 5 cm ganglioneuroma of obturator nerve in a young woman without disruption the nerve function.

Results

A 28 year old patient presented with a of symptomatic pelvic mass, discovered to be at the obturator space on CT scan, MRI of pelvis was suggestive of a mass attached and arising from the obturator nerve. Surgical techniques used to remove this mass with preservation of nerve function was described in this video.

Conclusion

Large obturator nerve Ganglioneuroma was removed in minimally invasive fashion. Nerve functions were preserved.

IGCSM-0035
Poster Shift III - Surgical Techniques

A RETROSPECTIVE ANALYSIS OF LAPAROTOMY AND LAPAROSCOPIC TREATMENT OF EARLY STAGE ENDOMETRIAL CANCERS IN KK HOSPITAL, SINGAPORE

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Aims

To determine the benefits of laparoscopic approach versus conventional laparotomy for the treatment of presumed early stage endometrial cancer

Methods

This is a retrospective study conducted in KK Women's & Children's Hospital. A total of 137 cases of presumed stage 1 endometriod endometrial cancer were collected from 2008 to 2010

Results

There was also no significant difference in the BMI between both groups. The mean operating time for open surgery was 174 minutes and laparoscopy 182 minutes which was not statistically significant. Patients who underwent laparoscopic surgery had a statistically significant shorter hospital stay. The mean hospital stay was 4.32 days in the laparoscopic arm compared with 5.54 days in the laparotomy arm. There was also significantly less blood loss in the laparoscopic route compared with open (277mls compared with 480mls). Pain scores on the day of operation was not significantly different but was significantly lower on the first post-operative day in the laparoscopic arm. The mean number of lymph nodes removed for open surgery was 26.69 and laparoscopic surgery 22.70 which was not statistically significant between the two groups. Overall there was less complications in the laparoscopic arm compared with the open approach however the results did not reach statistical significance. There were 8 cases of lymphedema in the open method compared with no cases in laparoscopic approach. There was also significantly more wound breakdown with open surgery

Conclusion

Compared to the conventional laparotomy route for the treatment of early endometrial cancer, laparoscopic surgery seems to offer a greater advantage to the patient.

IGCSM-0153
Poster Shift III - Surgical Techniques

IMPROVING STANDARD OF CARE THROUGH INTRODUCTION OF LAPAROSCOPY FOR THE SURGICAL MANAGEMENT OF GYNECOLOGICAL MALIGNANCIES.

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Aims

To evaluate the impact upon peri-operative and medium-term oncologic outcomes of the implementation of laparoscopy into a preexisting oncologic setting.

Methods

Data from consecutive 736 patients undergoing surgery for apparent early stage gynecological malignancies (endometrial, cervical and adnexal cancers) between 2000 and 2011 were reviewed. Complications were graded per the Accordion classification. Survival outcomes within the first three years were analyzed using Kaplan-Meier method.

Results

Overall, 493 (67%), 162 (22%), 81 (11%) had surgery for apparent early stage endometrial, cervical and adnexal cancer. We assisted at an increase of the number of patients undergoing surgery via laparoscopy thorough the years (from 12% in the years 2000-2003 to 82% in years 2008-2011; $p<0.001$ for trend); while the need to perform open surgery decreased dramatically (from 83% to 10%; $p<0.001$). Vaginal approach was nearly stable over the years (from 7% to 8%; $p=0.76$). A marked reduction in estimated blood loss, length of hospital stay, blood transfusions as well as grade >=3 postoperative complications over the years was observed ($p<0.001$). Surgical radicality assessed lymph nodes count was not influenced by the introduction of laparoscopic approach ($p>0.05$). The introduction of laparoscopy did not adversely affect medium-term (within 3 years) survival outcomes of patients undergoing surgery for apparent early stage cancers of the endometrium, uterine cervix and andexa ($p>0.05$ log-rank test).

Conclusion

The introduction of laparoscopy into a pre-existing oncologic service allows an improvement of standard of care due to a gain in perioperative results, without

detriments of medium-term oncologic outcomes.

IGCSM-0159
Poster Shift III - Surgical Techniques

PRIMARY ANTERIOR PELVIC EXENTERATION FOR STAGE IVA CERVICAL OR VAGINAL CANCER

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Aims
The main indication for pelvic exenteration is recurrent gynaecological malignancies. The indications for stage IVA cervical cancer and other advanced stages of gynaecological cancers are controversial.
Methods
We present five patients in which a primary pelvic exenterations was performed for a stage IVA cervical cancer (in 4 women, by a supralevatorian technique) and for a stage IVA vaginal cancer (in one patient - by an infralevatorian with vulvectomy technique). The reconstructive phase consisted in an urinary non-continent Bricker ileal conduit in all five cases. Four patients have chosen the surgical procedure instead of definitive chemoradiation after informed consent, and one developed a vesico-vaginal fistula. The oncological and medical contraindications were excluded in all five patients.
Results
There were no major intraoperative complications. The postoperative recovery was also uneventful. Two patients received adjuvant chemotherapy because of positive surgical margins. The follow-up period ranges between 7 and 36 months. At this moment, two patients are dead, one because a medical condition not related to the malignant disease and one because a brain metastases discovered one year after the surgery. The other 3 patients are alive and free of disease, with a good quality of life.
Conclusion

The anterior pelvic exenteration with non-continent Bricker ileal conduit represents a feasible surgical technique with a low rate a complications. It could be offered as an alternative for chemoradiation for stage IVA cervical or vaginal cancers.

IGCSM-0164
Poster Shift III - Surgical Techniques

ASSESSMENT OF THE SHORT-TERM OUTCOMES AND COMPLICATIONS AMONG DIFFERENT LOOP ELECTROSURGICAL EXCISION PROCEDURE (LEEP) TECHNIQUES

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Aims
We performed this study to evaluate the short-term results and complications in different loop electrosurgical excision procedure (LEEP) techniques.
Methods

We retrospectively collected the clinicopathological data of patients who underwent LEEP at our institute from 2005 to 2013. Three hundred eighty patients with postoperative pathological diagnoses of cervical intraepithelial neoplasia (CIN) grade 3 and ≤ CIN2 were analyzed. Type A and B surgeries used a ring-shaped loop and achieved ball electrode coagulation after the excision. Separate loop excisions for the intracervical portion were performed with different sized loops, if needed (type A) or routinely (type B). Monsel's solution was applied to the cervical wounds in type A procedures. In type B procedures, a fibrin sealant was used on the cervical wounds. Type C procedures used a right-angled triangular loop and a cold coagulator (120?) for 10 to 20 seconds after the excision without applying the fibrin sealant or Monsel's solution.

Results
Based on the multivariate analysis, type B and C surgeries were associated with less severe hemorrhaging (SH) (≤ postoperative 30 days) compared with type A surgeries (P = 0.036 and < 0.01, odds ratio (OR) = 0.496 (95% confidence interval (CI) 0.258-0.954) and 0.389 (0.204-0.743)). Type C surgeries showed the least positive resection margins (RMs) (P < 0.01, OR = 0.411 (0.226-0.747)). Right-angled triangular loops reduced positive RMs (P < 0.01, OR = 0.323 (0.187-0.557)) compared with the ring-shaped loops.
Conclusion
Our study suggests that different LEEP techniques could have different postoperative SH and RM status.

IGCSM-0170
Poster Shift III - Surgical Techniques

SURGICAL TECHNIQUES: ROBOTIC HYSTERECTOMY WITH EXTREMELY SEVERE PELVIC ADHESIONS

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Aims
Severe pelvic adhesions increase surgical difficulties and may lead to conversion to laparotomy. In the past, pelvic adhesions were considered as a contraindication for laparoscopic surgeries. With the advances in robotic surgery, severe pelvic adhesions have become a solvable problem during gynecological surgery. This study aims to demonstrate useful techniques to overcome severe pelvic adhesions during gynecological surgeries using robotic approach.
Methods
In this video, we presented a case of robotic hysterectomy and left salpingo-oophorectomy in a woman with seven previous pelvic surgeries and demonstrated techniques to effectively dissect the adhesions by robotic instruments.
Results
Robotic hysterectomy and left salpingo-oophorectomy was performed smoothly. The blood loss was 250 ml. Postoperative care and supportive treatment including intravenous fluid, antibiotics and analgesics administration with wound care were given postoperatively. The patient stood well after the operation and was discharged without complication 5 days after the surgery.
Conclusion
In conclusion, robotic surgery is a feasible approach to manage severe pelvic adhesions during gynecological surgery even in patients with prior pelvic surgeries.

IGCSM-0186
Poster Shift III - Surgical Techniques

THE ROLE OF CYTOREDUCTIVE SURGERY IN THE RELAPSE OF GYNECOLOGICAL CANCER

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Aims

The standard treatment of recurrent gynecological cancer remains unsettled. The purpose of this study was to investigate the significance of cytoreductive surgery for the relapsed gynecological cancers.

Methods

Retrospective study using medical record was conducted. Surgical treatment for relapsed diseases was performed for 35 patients at our hospital between 2005 January and 2013 May.

Results

Mean age was 56.3 years old (range: 29-81 years). Disease free interval was 41.7 months. The 35 patients included 24 mullerian carcinomas, 4 uterine cervical cancers, 1 vaginal cancer, 3 endometrial cancers, and 3 vulva cancers. Two histologic types consisted of approximately 70%, serous adenocarcinoma (46.0%) and squamous cell carcinoma (23.0%). Nineteen had local recurrence, 6 had intra-abdominal cavity recurrence, and 10 had distant recurrence. Surgical frequency was once in 71%, twice in 12%, and three times or more in 17%. After surgery, 15 achieved no evidence disease (NED), 3 were alive with disease, and 17 had died of disease. Complete resection of relapsed lesions was achieved in 76%. All of the cases with NED were completely resected. The duration between surgical treatment for relapse and the last contact or death in primary mullerian carcinoma, endometrial cancer, uterine cervical cancer and vulva cancer were 1096, 1580, 377, 479 days respectively.

Conclusion

This study was preliminary. Complete resection of relapsed lesions might improve the prognosis. Primary mullerian carcinoma and endometrial cancer were more beneficial in

the surgery for relapse than in uterine cervical cancer and vulva cancer. It is suggested that histological type such as SCC might be detrimental in surgical treatment for relapse.

IGCSM-0190
Poster Shift III - Surgical Techniques

A SUTURE-LESS METHOD FOR ROBOTIC TOTAL HYSTERECTOMY

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Aims

The aim of this study is to demonstrate a modified 'suture-less' robotic total hysterectomy method which consisted of robotic total hysterectomy and transvaginal colporrhaphy.

Methods

To assess the feasibility and safety of this method, we compare the peri-operative surgical parameters of this procedure with conventional laparoscopic total hysterectomy.

Results

Patients who received laparoscopic total hysterectomy or suture-less robotic total hysterectomy were compared for multiple peri-operative parameters including operation time, blood loss, conversion rate, postoperative pain score, time to full diet resumption, hospital stay, and complication rate. The blood loss and 24-hour pain score were significant lower in the suture-less robotic group. Moreover, the laparoscopic group showed a higher percentage of conversion than the suture-less robotic hysterectomy group. The post-operative complication rates showed no significant difference between the groups.

Conclusion

Suture-less robotic total hysterectomy is a feasible and safe procedure for managing benign gynecological disease with comparable peri-operative outcomes.

IGCSM-0194
Poster Shift III - Surgical Techniques

RADIO-ISOTOPE METHOD WITH HYSTEROSCOPIC SUBENDOMETRIAL INJECTION AND ICG FLUORESCENCE IMAGING METHOD WITH SUBSEROSAL INJECTION MIGHT BE SUITABLE TO DETECT SENTINEL LYMPH NODE IN ENDOMETRIAL CANCER

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Aims

A sentinel node (SN) navigation surgery is thought to be one of minimally invasive surgery for endometrial cancer. Regional lymph nodes of endometrial cancer are distributed in pelvic and para-aortic regions. The aim of this study is to clarify the suitable procedure for SN mapping.

Methods

Eighty-nine patients diagnosed with endometrial cancer were enrolled after written informed consent. We performed RI method (RI injection into endometrium (RI-EM) or into endocervix (RI-EC)) and indocyanine green (ICG)-guided method (ICG injection into uterine subserosa observed macroscopically (GD) or detected by fluorescence (FL)) for SN mapping. We investigated detection rate, sites of SNs, and number of SNs identified by each method. This study was approved by the ethical review committee at our institution.

Results

Metastatic rates of SNs were 6% and 8% in pelvic and para-aortic SNs. Twenty-two percent of patients with metastatic SNs had metastasis only in para-aortic lesion. The detection rates of pelvic SNs were 97%, 98%, 97%, 90% by GD, FL, RI-EM, RI-EC methods, respectively. However, the detection rates of para-aortic SNs were 65%, 80%, 80%, and 35%, respectively. The detection rate by RI-EM method was significantly higher than that by RI-EC method. The detection rate by FL method tended to be higher than that by GD method. There was no difference in adverse effects between 4 methods.

Conclusion

It was considered to be important to detect para-aortic SNs as well as pelvic SNs. RI-EM method or FL method might be suitable to detect SNs in para-aortic region.

IGCSM-0212
Poster Shift III - Surgical Techniques

USING ROBOTIC SURGERY TO TREAT FALLOPIAN TUBE CANCER

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Aims
The aim of this study is to demonstrate two cases of fallopian tube cancer managed with robotic staging surgery.
Methods
Case one is a 49 year-old women presented with vaginal discharge and a 3 cm left adnexal mass. Case two is a 44 year-old women presented with vaginal bleeding, 2 cm adnexal mass. Patients were managed by robotic surgical staging procedures, including total hysterectomy, bilateral salpingo-oophorectomy, bilateral pelvic lymph node dissection, para-aortic lymph node dissection, appendectomy, omentectomy, and ascites cytology, with subsequent serial chemotherapy.
Results
In case one, pathological report revealed left fallopian tube adenocarcinoma, stage IC. The patient received 6 times of chemotherapy (cisplatin / paclitaxel) after surgery, and CA-125 level decreased from preoperatively 55.9 U/ml to 9.5 U/ml in 6 month, without evidence of local recurrence 16 months after surgery. In case two, pathological report revealed left fallopian tube serous adenocarcinoma, stage IIIC. The patient received 11 times of chemotherapy (cisplatin / paclitaxel), and CA-125 level decreased from preoperatively 52.1 U/ml to 11.1 U/ml in 12 months, without evidence of local recurrence 20 months after surgery.
Conclusion
Robotic staging surgery is a feasible approach for treating incidentally found fallopian tube cancer..

IGCSM-0213
Poster Shift III - Surgical Techniques

A “HAND-ASSISTED” METHOD FOR ROBOTIC STAGING SURGERY TO MANAGE OVARIAN CANCER WITH LARGE TUMOR MASS AND SOLID COMPONENTS

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Aims
This study aims to demonstrate a hand-assisted robotic approach, consisting of mini-laparotomy and robotic surgical staging procedures, for managing ovarian cancer with large tumor mass and predominantly solid components.
Methods
Eleven women who had ovarian cancer, with large (> 7 cm) primary tumor mass and predominantly solid components were included in this study to evaluate the 'hand-assisted' robotic staging surgery procedures. Patient demographics and peri-operative parameters were reviewed retrospectively.
Results
The mean operation time was 193.8±63.4 mins; mean blood loss was 118.2±121.0 mL; average time to full diet resumption was 1.6±0.5 days, and the mean hospital stay was 3.2±0.8 days. The average lymph node yield was 33.8±17.2, and the post-operative pain was decreased from 2.9±0.4 to 1.9 ±0.9 24 hours after surgery. No patient underwent intra-operative conversion to laparotomy. Post-operative complications were not observed among all patients.
Conclusion
The hand-assisted robotic approach offers a safe and feasible way to perform ovarian cancer surgical staging for patients with large tumor mass and predominantly solid components.

IGCSM-0214
Poster Shift III - Surgical Techniques

ROBOTIC-ASSISTED MINI-MYOMECTOMY IN TREATING COMPLICATED LEIOMYOMATA

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Aims
This study aims to evaluate a robotic-assisted mini-myomectomy for managing multiple leiomyomas and large uterine mass, where a robotic-assisted bilateral uterine artery ligation (UAL) procedure is performed followed by a mini-myomectomy.
Methods
A total of 78 women who had complicated leiomyomata, which has a large tumor mass (>300 gm) and/or multiple tumors (tumor number >5), and received robotic-assisted mini-myomectomy or conventional mini-myomectomy + UAL procedures were retrospectively reviewed for patient demographics and peri-operative parameters.
Results
Compared to the conventional approach, robotic-assisted mini-myomectomy group were associated with a decreased blood loss and reduced post-operative pain. The post-operative complications were similar between the groups.
Conclusion
The robotic-assisted bilateral UAL followed by mini-myomectomy provides a feasible way for managing uterine leiomyoma, whenever large tumor mass and/or multiple leiomyoma are encountered.

IGCSM-0216
Poster Shift III - Surgical Techniques

A SIMPLE DOCKING METHOD FOR GYNECOLOGICAL ROBOTIC SURGERIES

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Aims
The aim of this study is to demonstrate a simple docking method that provides a generalized port setting which can be applied to various types of gynecologic surgeries.
Methods
For port setting of this simple docking method for benign conditions, the camera port was set at 6 cm above the umbilicus for the scope, and 8~10 cm caudal-lateral to the scope for the side arms. In complicated cases or cancer patients, a fourth trocar site was also set for the accessory port, which was 6 ~ 8 cm caudal-lateral to the left arm. When performing para-arotic lymph node dissection, or when large uterus or severe adhesion was suspected, the trocar sites can be set at a higher position to provide a better manipulating space within the pelvic and/or abdominal cavity.
Results
All cases were serially enrolled within 2 years and 4 months. Among the 482 benign cases, 334 patients received total hysterectomy; 87 patients received myomectomy, and 61 patients received adenexectomy. Among the 175 gynecologic cancer cases, 93 patients with endometrial cancer and 43 patients with ovarian cancer were managed by robotic surgical staging; 39 patients with IA to IIB cervical cancer were managed by robotic radical hysterectomy and lymphadenectomy. No laparotomy conversion or major intra-operative complications were reported for all enrolled cases.
Conclusion
As we performed 657 cases by this setting within 2 year and 4 months without record of laparotomy conversion or surgery-related major complication, it is suggested that this simple docking method is feasible and safe for all robotic gynecologic surgeries.

IGCSM-0217
Poster Shift III - Surgical Techniques

COMPARING ROBOTIC SURGERY WITH CONVENTIONAL LAPAROSCOPY AND LAPAROTOMY FOR CERVICAL CANCER MANAGEMENT

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Aims
This study aims to compare the outcomes of robotic surgery, laparoscopy and laparotomy for the surgical treatment of stage IA to IIB cervical cancer.
Methods
A total of 100 women with stage IA to IIB cervical cancer were retrospectively reviewed in this study. The perioperative parameters measured included operation time, blood loss, transfusion rate, lymph node yield, adhesion score, laparotomy conversion rate, postoperative pain scores, time to full diet resumption, and hospital stay. The peri-operative complications and survival were also evaluated.
Results
The robotic group showed a shorter operation time, less blood loss, lower transfusion rate, and lower laparotomy conversion rate than the laparoscopic or laparotomy group. As for the postoperative parameters, the robotic group showed reduced postoperative and 24-hour pain scores, shortened length of hospital stay, and decreased time to full diet resumption compared with the other two surgical groups. No significant differences were found between the groups in terms of peri-operative complication rate or disease-free survival.
Conclusion
The data suggested that robotic surgery is a feasible and potentially optimal option for the treatment of stage IA to IIB cervical cancer with favorable short-term outcomes.

IGCSM-0218
Poster Shift III - Surgical Techniques

ROBOTIC SURGERY FOR ENDOMETRIAL CANCER MANAGEMENT: COMPARISON WITH LAPAROSCOPY AND LAPAROTOMY

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Aims

This study aims to compare the short term surgical outcomes of robotic surgery, laparoscopy and laparotomy for the surgical treatment of endometrial cancer.

Methods

A total of 203 endometrial cancer cases were retrospectively reviewed in this study. From all 203 women who underwent surgical treatment for endometrial cancer, 78 received laparotomy surgery, 59 received laparoscopic surgery, and 66 received robotic surgery. All enrolled cases were examined for patient demographics, peri-operative parameters, and complications.

Results

Both the robotic group and laparoscopic group showed a shortened operation time compared to the laparotomy group, as well as they showed reduced blood loss, decreased time to full diet resumption and shortened hospitalization period compared to the laparotomy group. Both robotic group and laparoscopic groups were associated with a zero conversion rate. Moreover, No significant differences were found between the groups in terms of complication rates.

Conclusion

For managing endometrial cancer, both robotic and laparoscopic surgery showed a better surgical outcome compared with conventional open surgery with a similar complication rate. It is suggested that robotic surgery is a feasible tool for endometrial cancer management with favorable short-term outcomes.

IGCSM-0219
Poster Shift III - Surgical Techniques

A COMPARISON OF ROBOTIC, LAPAROSCOPIC, AND LAPAROTOMY STAGING SURGERY IN TREATING EPITHELIAL OVARIAN CANCER

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Aims
This study aims to compare the surgical outcome of robotic surgery with conventional laparoscopy or laparotomy in performing surgical staging for treating epithelial ovarian cancer.
Methods
The study retrospectively evaluated 126 women received primary tumor excision and surgical staging. All enrolled cases were reviewed for patient demographics, peri-operative parameters, and complications.
Results
The operation time and blood loss were significantly reduced in the robotic group and the laparoscopic compared with the laparotomy group. Of the patients in the laparoscopic group, 9.5% underwent conversion from laparoscopy to laparotomy. In contrast, none of the patients in the robotic group were converted. Furthermore, robotic approach showed significantly decreased time for patients to resume full diet after surgery comparing with the laparotomy and laparoscopic approach. The duration of hospital stay was also shortened in the robotic group and laparoscopic group than did the laparotomy group. No significance difference was found in the complication rate and disease-free survival among the groups.
Conclusion
Robotic surgery is a feasible and potentially optimal approach to perform surgical staging procedure for treating epithelial ovarian cancer.

IGCSM-0220
Poster Shift III - Surgical Techniques

COMPARING ROBOTIC SURGERY AND CONVENTIONAL LAPAROSCOPY IN PERFORMING TOTAL HYSTERECTOMY WITH PELVIC ADHESIONS

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Aims
This study aims to compare the surgical outcomes of robotic surgery and conventional laparoscopic surgery in performing hysterectomies with pelvic adhesions.
Methods
A total of 152 women diagnosed as leiomyoma or adenomyosis were retrospectively reviewed. Among them, 88 underwent robotic total hysterectomy (robotic group) and 64 underwent laparoscopic total hysterectomy (laparoscopic group). Both the colporrhaphy were performed transvaginally instead of intracorporeally. The peri-operative parameters evaluated include adhesion score, operation time, blood loss, conversion rate, 24-hour pain scores and hospital stay.
Results
The robotic group shows a shortened operation time and reduced blood loss for performing robotic than laparoscopic total hysterectomy in the severe adhesion group. The conversion to laparotomy rate was also lower for robotic approach than laparoscopy in the severe adhesion group.
Conclusion
Comparing to laparoscopic approach, robotic total hysterectomy is a comparable method for managing benign gynecological tumors. However, for cases with severe adhesions, robotic surgery is considered as a superior alternative.

IGCSM-0253
Poster Shift III - Surgical Techniques

ROBOTIC VERSUS LAPAROSCOPIC RADICAL HYSTERECTOMY IN CERVICAL CANCER PATIENTS: A MATCHED-CASE COMPARATIVE STUDY

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Aims

To compare initial surgical outcomes and complication rates of early stage cervical cancer patients who underwent robotic radical hysterectomy (RRH) and conventional laparoscopic radical hysterectomy (LRH).

Methods

Patients diagnosed with invasive cervical cancer (FIGO stage I-IIA) who underwent RRH (n = 23) at Samsung Medical Center from January 2008 to May 2013 were compared with matched patients who underwent LRH (n = 69) during the same time period. The two surgical groups were matched 3:1 for variables of age, body mass index, FIGO stage, histological subtype, tumor size and node positivity. All patient information and surgical and postoperative follow-up data were retrospectively collected.

Results

Operating time was significantly longer (317 versus 236 min; P < 0.001) in the RRH group compared with the LRH group but mean estimated blood loss was significantly reduced in the RRH group (200 versus 350 mL; P = 0.036). Intra-operative and post-operative complications were not significantly different between the two groups (4.3% for RRH versus 1.45% for LRH; P = 0.439). Recurrences were 2 (8.7%) in the RRH and 7 (10.1%) in the LRH group. The overall 3-year recurrence-free survival was 91.3% in RRH group and 89.9% in the LRH group (P = 0.778)

Conclusion

Surgical outcomes and complication rate of RRH were comparable to those of LRH. In addition, surgical skills for LRH easily and safely translated to RRH in case of experienced laparoscopic surgeon.

IGCSM-0353
Poster Shift III - Surgical Techniques

RAY'S 'RIVER FLOW' INCISION TECHNIQUE FOR ILIO-INGUINAL DISSECTION TO MINIMIZE MORBIDITY SPECIALLY FLAP NECROSIS.

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Aims

The purpose of the study is to establish the effectiveness of the modified incisional technique [**Two parallel Curvilinear Incisional (Ray's River Flow Incision)] for ilio Inguinal Block Dissection to reduce flap necrosis.**

To fix a standard Incisional Technique for ilio inguinal block dissection to reduce flap necrosis.

Methods

Two-parallel curvilinear incisions are made. The inguinal incision approx 5-7cm is made 4 cm below and parallel to the inguinal ligament. The skin flap is raised deep to fascia scarpa; the lateral limit of dissection is kept up to the medial border of Sartorius and the medial limit is kept up to the lateral border of adductor longus. The iliac incision (5-7 cm) is made 4 cm above and parallel to the inguinal ligament. Lymph nodes dissection in the inguinal and iliac territories are performed with standard technique.

Results

: A total of 27 patients under went 41 IIBDs. Fourteen patients had bilateral IIBD and 13 patients had unilateral. Eight patients had carcinoma penis, **five patients of carcinoma vulva**, three **patients had metastasis of unknown origin, three patients had melanoma, two patients of periurethral carcinoma,two had carcinoma cervix, two had soft tissue sarcoma and two had squamous cell carcinoma.**

There was no operative mortality. **There was no single flap necrosis**. Two patients had seroma; two had wound infection, three had superficial skin edge necroses which were all managed conservatively.

Conclusion

: Ray's 'River Flow' incision Technique for ilio-inguinal Block dissection is an effective method to minimize flap necrosis without compromising adequate dissection.

IGCSM-0400
Poster Shift III - Surgical Techniques

LAPAROSCOPIC TIPS AND TRICKS TO EVALUATE PERITONEAL CARCINOSIS INDEX IN OVARIAN CANCER

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Aims

A thorough laparoscopic assessment of the abdominopelvic cavity is a crucial step in the workup of an adnexal carcinomatosis to decide, between upfront cytoreductive surgery or neoadjuvant chemotherapy, which is the best option for an adequate management. The purpose of the video is to present our technique of this laparoscopic peritoneal staging procedure.

Methods

We use a single-port laparoscopic approach (Gelpoint- Applied System) which enables the surgeon to adequately explore the abdominal cavity and assess the Sugarbaker's PCI score, thanks to a 30° laparoscope, several ins truments and an endoscopic retractor. In addition, due to the protection of the incision by an Alexis wound protector, it is possible to perform and extract multiple biopsies with minimal risk of port site contamination.

From 2012, 18 women have been assessed with this technique and compared to classical laparoscopy and laparotomy. Results of this series will be presented with the video.

Results

For patients characteristics, no significative différences were found except for Performance status > 0 in single site group. No differences on operative data were found. There was no difference in the assessment of total Sugarbaker score by single port laparoscopy compared to traditional laparoscopy except for left upper region (p=0,03) and epigastrium region (p=0,05).

Conclusion

Single-access laparoscopy seems to be a good method to adequately assess the origin and operability of a peritoneal carcinomatosis thus aiding us to plan optimal management.

IGCSM-0415
Poster Shift III - Surgical Techniques

ROLE OF CHROMOHYSTEROSCOPY IN DETECTION OF ENDOMETRIAL PATHOLOGY IN PERIMENOPAUSAL & POST MENOPAUSAL WOMEN

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Aims

Toludine blue is an absorptive dye used for nucleic staining. Ozturk et al (2011) showed high diagnostic accuracy for endometrial carcinoma and hyperplasia by toluidine blue staining of hysterectomy specimens.
This study was planned to evaluate role of Chromohysteroscopy for diagnosis of endometrial hyperplasia and carcinoma.

Methods

This was a cross-sectional interventional study conducted in 28 perimenopausal and 7 postmenopausal women who presented with menorrhagia, polymenorrhagia or post menopausal bleeding. After excluding thyroid & coagulation disorders and cervicovaginal lesions, hysteroscopy was performed and findings recorded. Chromohysteroscopy was done by instillation of 1% toluidine blue dye and hysteroscopic biopsy was taken from stained area & unstained area separately. Endometrial aspiration biopsy was also taken. The histopathological results of these three samples were compared for each participant.

Results

On hysteroscopy, 20/35 women had abnormal findings like hyperplastic endometrium (13) endometrial polyp(3), submucus fibroid(3) and ulcerative lesion(1).The histopathological examination confirmed endometrial hyperplasia in 5/35 cases and endometrial carcinoma in 2/35 cases. All (100%) of these 7 cases of endometrial hyperplasia and carcinoma were diagnosed by hysteroscopic guided biopsy from stained tissue and unstained tissue. Endometrial aspiration biopsy could detect 5/7 cases.

Conclusion

Hysteroscopic guided biopsy of endometrium is a reliable technique and shows better diagnostic ability than endometrial aspiration. However, Toluidine Blue does not specifically stain hypertrophied or malignant areas.

IGCSM-0460
Poster Shift III - Surgical Techniques

ROBOTIC MANAGEMENT OF ADENXAL MASSES: PREDICTING SUCCESSFUL CANDIDATES

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Aims
To describe selection factors and operative outcomes of patients undergoing robotic surgery for an adnexal mass.

Methods
Women with adnexal masses scheduled to undergo robotic surgery at our institution were identified from 2009-2013. Demographic and clinical data were extracted. Re-staging operations, women with no evidence of an adnexal mass intra-operatively and patients were lost to follow up post-operatively were excluded. Charlson co-morbidity indices were calculated to estimate risk of death (0 = low risk to 4 = high risk).

Results
87 women were identified and 66 met inclusion and exclusion criteria. Median age was 48 (23-78) and average BMI was 28. 42 (63.6%) women had a mass greater than 5cm on imaging. 87.5% of women had a score of 0-1 on the Charlson co-morbidity index. Prior abdominal surgery was noted in 45 (68.2%) patients. 6 (25.8%) women had mass rupture noted on entry or secondary to surgical spill. Four patients had carcinoma on final pathology that resulted in robotic staging. 12 cases were converted to laparotomy; the majority of cases were converted at the time of diagnostic laparoscopy. Adhesions and mass rupture were the only factors that contributed to conversion. Converted cases were significantly associated with post-operative complications (p=0.03). Previous surgery, BMI, co-morbidities, blood loss and mass size were not significant.

Conclusion
The robotic approach to the management of an adnexal mass is feasible based upon our cohort of 82% of successfully managed cases. Further studies with higher BMI patients and advanced age as well as a cost comparison to laparoscopy are warranted.

IGCSM-0471
Poster Shift III - Surgical Techniques

INTEGRATION OF ROBOTIC ASSISTED SURGERY FOR COLORECTAL PROCEDURES IN A GYNECOLOGIC ONCOLOGY SETTING: HOW TO ASCEND THE LEARNING CURVE

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Aims

To review patient selection and technique modifications required to perform robotic assisted colorectal procedures in a gynecological oncological setting.

Methods

Retrospective review of all robotic assisted colorectal cases performed by a single gynecologic oncologist from June 2011-April 2014. After studying variations of technique from open to robotic colorectal procedures, patients were selected for robotic approach if expectation was for a noncomplex single quadrant operation.

Results

Seven patients had a robotic assisted colorectal procedure. Demographic data for mean age 54.3 years (range 41-75) and BMI 23.8 (range 19-32.2) were identified. 6/7 patients (86%) had previous hysterectomy. Surgery indication varied; 3/7 presented with rectovaginal fistula after previous therapies, 3/7 with primary disease (1 ovarian cancer, 1 colon cancer, 1 endometriosis) and 1/7 with recurrent endometrial cancer to the recto-sigmoid after initial primary surgery and then radiation therapy for her first recurrence. 4/7 patients (57%) had previous radiation therapy to the pelvis. Robotic procedures included colostomy 3/7 (43%), sigmoid/transverse colon resection with primary anastomosis 3/7 (43%), and low anterior resection with EEA anastomosis 1/7 (14%). Mean operative time was 143.7 minutes (range 109-181), estimated blood loss 96.4 ml (range 50-200), and length of stay 3 days (range 1-8). No intraoperative, 6 week post-operative complications or re-admissions were identified.

Conclusion

Our data indicates that robotic assisted colorectal procedures are feasible, safe, and offer good short-term outcomes. Appropriate patient selection and knowledge of the technical modifications required to perform colorectal procedures via a robotic approach

are essential to achieving successful outcomes.

IGCSM-0472
Poster Shift III - Surgical Techniques

DOES TUMOR SIZE HAVE AN EFFECT ON LAPAROSCOPIC MANAGEMENT OF LARGE OVARIAN TUMORS?

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Aims
Abdominal laparotomy is often performed for large ovarian tumors. We evaluated safety and feasibility of laparoscopic resection for large ovarian tumors.
Methods
We conducted a retrospective study of patients with ovarian tumors without radiologic features suggestive of malignancy who underwent laparoscopy between June 2005 and December 2013 at our hospital. Patients were divided into two groups Group A (≥10 cm) and Group B (<10 cm). We compared complication rates, operative time, bleeding volume, and pathological findings between 2 groups.
Results
Laparoscopy was performed for 1123 patients, of which 146 had Group A. Surgical procedures performed were salpingo-oophorectomy (SO) (n = 130), cystectomy (CT) (n = 987), and SO or CT + hysterectomy (n = 6). Laparoscopy was successful in 1120 patients but was converted to laparotomy in 3 patients due to organ injury. Twenty cases had operative complications, but complication rates did not differ significantly between groups. Mean operative time and bleeding volume were significantly higher in group A (90 min and 136 ml) than in the group B (76.4 min and 67.4 ml). Pathological findings included benign tumors [serous (n = 90), mucinous (n = 54), dermoid (n = 412), endometriosis (n = 536), others (n = 14)] and borderline or malignant tumors (n = 15). Malignancy rates were significantly higher in the group A (n=7) than in the group B (n=8).
Conclusion
Laparoscopy is safe and feasible in patients with large ovarian tumors with benign features. However, surgeons should carefully consider the potential risk of malignancy in large tumors.

IGCSM-0479
Poster Shift III - Surgical Techniques

IS ROUTINE RETROPERITONEAL DRAINAGE AFTER RETROPERITONEAL LYMPHADENECTOMY FOR GYNECOLOGIC ONCOLOGICAL TUMORS USEFUL?

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Aims

To study the usefulness of drains after retroperitoneal lymphadenectomy.
(background)
Retroperitoneal drainage after retroperitoneal lymphadenectomy for gynecologic oncological tumors is performed in many Japanese hospitals . The drainage is performed to provide early diagnosis of any bleeding or postoperative fistula and prevent lympocyst formation. Some recent studies did not find any differences in postoperative morbidity between the use or nonuse of drains. We have not performed retroperitoneal drainage after retroperitoneal lymphadenectomy in our center's history.

Methods

Review and examine all surgeries that were performed in our center.

Results

3,543 surgeries were performed in our center between September 2002 and December 2013. Retroperitoneal lymphadenectomy was performed in 939 cases. We studied the rate of reoperation, infection, and lymph drainage within a month after the surgeries.

The rate of reoperation is 0.3% (3/939). The reasons for the three cases were a perforation of the small intestine, a pelvic infection, and a symptomatic lymphocyst. The rate of infection is 5.1% (48/939). And the rate of lymph drainage is 2.4% (23/939).

Conclusion

We have no reoperation cases because of hemorrhage and few cases of lymph drainage within a month after surgery. So, routine retroperitoneal drainage after retroperitoneal lymphadenectomy is, in our opinion, not recommended.

IGCSM-0508
Poster Shift III - Surgical Techniques

DESCRIBING A TECHNIQUE OF INTRA PERITONEAL (IP) CHEMOTHERAPY PORT PLACEMENT DURING THE INTERVAL PERIOD USING A SINGLE INCISION.

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Aims

The NCI issued an alert in 2006 after the results of the GOG 172 study that reported better overall survival in patients that received IP Chemotherapy after having been adequately debulked in their primary surgery. The current techniques described in the literature regarding interval IP port placement involves the use of more than one laparoscopic port sites. Our aim is to introduce a new technique of interval IP chemotherapy port placement using only a single incision in order to reduce patient discomfort.

Methods

We reviewed the chemotherapy notes of four patients who underwent this technique of interval port placement from the beginning of January 2013 in our institution. This technique uses only a single incision site done on the anterior chest wall above the left costal margin in the mid clavicular line. Using this same incision a 5mm laparoscopic port is inserted and the IP chemotherapy catheter is introduced. We use the Bards Intraperitoneal chemotherapy port system.

Results

All four patients that had their port introduced using this technique have completed their IP chemotherapy successfully without any catheter related problems.

Conclusion

This new technique using only a single incision to place the intraperitoneal chemotherapy port during the interval period is feasible, safe and effective.

IGCSM-0553
Poster Shift III - Surgical Techniques

UTERINE SPARING RESECTION OF CERVICAL EMBRYONAL RHABDOMYOSARCOMA

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Aims

Standard protocols suggest that a hysterectomy would be appropriate standard care for a chemotherapy resistant cervical rhabdomyosarcoma. This case describes the use of fertility sparing surgery in the setting of a young girl with an embryonal rhabdomyosarcoma.

Methods

A case description of a girl with a cervical embryonal rhabdomyosarcom who underwent fertility sparing surgery after neoadjuvant chemotherapy.

Results

A 2 year old girl with a large pelvic mass was found to have a cervical embryonal rhabdomyosarcoma. After 2 cycles of chemotherapy (vincristine, dactinomycin and cyclophosphamide), a repeat MRI revealed an increase in the tumour size. The multidisciplinary team recommended surgery. At laparotomy, a well-defined encapsulated mass involving the cervix with the uterus visible separately at its anterosuperior border. Following tumour resection, a frozen section from the vagina revealed clear margins, allowing a primary utero-vaginal anastamosis to be undertaken. Postoperatively further cycles of chemo were given. Transient bladder dysfunction required catheterisation for 6 months postoperatively.

At 1year of followup, she remains well and disease free. A germline DICER1 mutation has been identified.

Conclusion

Although fertility sparing surgery for early cervical cancer is now an option, cases of fertility sparing surgery for embryonal rhabdomyosarcome have mostly involved malignant cervical polyps where polypectomy has been feasible.

Embryonal rhabdomyosarcoma of the cervix is a rare clinical entity where a multidiscplinary team approach is essential for the provision of optimal care. It is possible to treat these lesions and preserve the potential for fertility in adult life.

IGCSM-0589
Poster Shift III - Surgical Techniques

GYNAECOLOGICAL SURGEONS VIEWS OF THE OPTIMUM PERI-OPERATIVE MANAGEMENT OF AN INGUINOFEMORAL LYMPHADENECTOMY FOR VULVAL CANCER

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Aims
There are many factors that may contribute to the post-operative course following an inguiofemoral lymphadenectomy (IFL), including surgical technique, antibiotic, drainage and nursing regimens. Therefore trying to identify practice that may be beneficial and promote healing is difficult, and clinical trial design is challenging due to multiple potential biases and confounding factors.

Methods

A survey of gynaecological oncologists investigating current views on the optimum peri-operative management of an IFL performed for the treatment of vulval cancer.

Results

In total, 46 responses were received. A suction drain was reported as being the drain of choice by 38 (92.7%) respondents, a tube drain in two cases and one respondent reported not placing a drain. The preferred drainage management and the reason for the choice of regimen varied greatly amongst the respondents, with ‘removal if less than 100mls drained in 24 hours’ being the most commonly used regimen. Nineteen (48.7%) respondents reported that they would drain the lymphocyst if symptoms developed whereas 5 (12.8%) would not drain even if the patient was symptomatic. The most popular choice for the study arm of a potential drains study was ‘no drain’ with ‘removing the drain when less than 100mls in 24 hours’ being the most favoured option as the control arm.

Conclusion
There is a wide variation in clinical management following an IFL, in particular with antibiotic prophylaxis, duration of drainage and the management of lymphocysts.

Differences in management need to be addressed when designing a clinical trial where many variables may have an effect on outcome.

IGCSM-0646
Poster Shift III - Surgical Techniques

RETROGRADE ADNEXECTOMY IN OVARIAN TUMOURS – PREVENTION OF URETERAL INJURY

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Aims

Ureteral injury complicates oncogynecologic procedures with the potential litigation consequences. The risk factors include obesity, pelvic adhesions,
pelvic masses, endometriosis, intra-operative bleeding, inexperienced surgeon. The most common locations of ureteral injury are

ureterovesical junction, cardinal ligament, and infundibulopelvic ligament.

Our aims is to decrease the potential risk of ureteral injury during removal of ovarian tumours.

Methods

Presentation of removal of large ovarian masses with the technique which eliminates the ureteral injury.

Results

We present the removal of 4 large ovarian tumours (2 borderline and 2 malignant) during laparotomy. We start with the ligation of tube and ovarian ligament close to the uterus and dissection from the uterus, then we proceed with the mobilization of the tumour up to infundibulopelvic ligament. After visualization and mobilization of the ureter close to the infundibulopelvic ligament, we ligate the infundibulopelvic ligament and remove tumour.

Conclusion

To avoid injury to the urinary tract, the oncogynecologist must have an accurate understanding of pelvic anatomy, use a meticulous surgical technique, and mainstain a constant high degree of vigilance.

The technique of „retrograde adnexectomy“ is safe and easy to learn and is the prevention of ureteral injury during removal of ovarian masses.

IGCSM-0729
Poster Shift III - Surgical Techniques

A MODIFIED TECHNIQUE TO REDUCE SPILLAGE AND THE OPERATIVE TIME IN LAPAROSCOPIC DERMOID CYST EXCISION, WITH CONTROLLED DRILLING, CYST EXCISION, AND REMOVAL IN A BAG

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Aims

To determine whether controlled drilling, cyst excision, and removal in a bag can reduce the operative time and intraperitoneal spillage in dermoid cysts.

Methods

Laparoscopic dermoid cyst excision performed using different technique to twenty women with dermoid cyst. Controlled drilling of dermoid cysts in a bag, excised these cysts, and removed them in the same bag.

Results

The median age of the patients was 29.5 years (18–42), the median size of the cysts was 55 mm (30–100), the median operation time was 40 min (25–60), the median levels of Cancer Antigen 19-9 (CA19.9) was 28.5 U/ml (1.2–127), the median parity was 1 (0–3), and the median hospitalization time was 1 day (1–2). Eleven cysts were in the right ovary, and 9 were in the left ovary. In all cases, the dermoid cysts were ruptured with the controlled drilling. There was no intraperitoneal spillage of the cyst contents in the abdomen. No complication occurred intraoperatively or postoperatively. No signs or symptoms of peritonitis were observed. There was no recurrence three months after the operation.

Conclusion

Controlled drilling, excision, and removal of a dermoid cyst inside the same bag seems to be a feasible method to prevent intraperitoneal spillage and to reduce the operative time.

IGCSM-0897
Poster Shift III - Surgical Techniques

ABDOMINAL RADICAL TRACHELECTOMY DURING PREGNANCY FOR EARLY STAGE CERVICAL CANCER

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Aims
Treatment of cervical carcinoma for pregnant women who desire to keep the baby is challenging. Three options (postpone treatment until the fetus can survive outside the uterus, neo-adjuvant chemotherapy to reduce the tumor size and to allow for the fetal maturation, and radical trachelectomy during pregnancy) are proposed.

Methods
We performed abdominal radical trachelectomy during pregnancy in three cases. After pelvic lymphadenectomy, both uterine arteries were gently dissociated and preserved. The vaginal wall was cut from the 12 o'clock position circumferentially and then the cervix was transected 1 cm below the isthmus. Semi-permanent cerclage was performed with nylon suture. The vaginal wall and remaining uterine cervix were anastomosed.

Results
Patient characters

case	age	gravida	para	gestational week at diagnosis	gestational week at operation	histology	stage	complications
#1	27	2	0	10w0d	15w1d	SCC	pT2A1	SLE
#2	38	0	0	7w0d	15w0d	SCC	pT1b1	
#3	33	1	1	14w5d	17w0d	SCC	pT1b1	

Operation

case	anesthesia	operation time	blood loss (ml)	blood transfusion (ml)	use of blood vessel sealing device	pregnancy outcome
#1	sevoflurane	7h 37m	1200	960	no	cesarean section 37w0d
#2	propofol	9h 6m	1275	480	no	cesarean section 33w5d
#3	propofol	6h 24m	600	0	yes	cesarean section 37w3d

Conclusion
Abdominal radical tracheletomy during pregnancy is one of the good options for the

woman who strongly desire for the baby. Precise procedure for this operation will be shown by video.

IGCSM-0940
Poster Shift III - Surgical Techniques

LAPAROSCOPIC PARAAORTIC LYMPH NODE DISSECTION (PALND) : RESULTS OF A 22-YEAR SINGLE CENTER EXPERIENCE, WITH COMPARATIVE STUDY OF DIFFERENT APPROACHES AND PATTERNS OF DISSECTION

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Aims

PALND is now a common staging procedure in gynecologic oncology. Th use of laparoscopy enables to reduce scarring, adhesions (if radiation therapy) and global morbidity compared to laparotomy. We present our 22-year single-center comparative experience of laparoscopic PALND

Methods

Retrospective series of laparoscopic staging PALND for gynecologic cancers. Two laparoscopic routes have been used and are compared to a series of open PALND. Accuracy and morbidity of each approach are addressed and compared.

Results

From 1991-2013, 686 pts were submitted to a laparoscopic PALND . 535 extraperitoneal and 151 transperitoneal PALND were performed. Their results were compared to a series of 200 PALND by laparotomy. Patient's characteristics and the ilio-infrarenal pattern of dissection was similar across the 3 groups. Comparisons showed that the extraperitoneal aproach provided more nodes than the transperitoneal one (21.3 vs 17.11, p=.0002) and was comparable to laparotomy (22.7, p=.06). Perioperative distant morbidity rates were quite equivalent between the 2 laparoscopic approaches and significantly lesss than with laparotomy. Lymphatic complications were more frequent with the extraperitoneal approach. If a full infrarenal dissection is requested in selected endometrial or ovarian tumors, an inframesenteric pattern seems a valid alternative in cervical cancers.

Conclusion

Laparoscopic PA LND is feasible reproducible and safe. The extraperitoneal approach seems more reliable than the transperitoneal one and supports the comparison with the open procedure .

IGCSM-0947
Poster Shift III - Surgical Techniques

ROBOTICS IN GYNAECOLOGICAL ONCOLOGY- LARGEST SINGLE CENTRE EXPERIENCE FROM THE UK.

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Aims

Application of minimal invasive surgery in gynaecological oncology is reported since 1980's. Uptake of laparoscopic surgery among gynaecologists has been poor with only 14% reduction in open surgery. Rate-limiting step appears to be advanced laparoscopic skills required for complex surgery.We established a robotics surgery(RS) for women with gynaecological cancers from mid 2010 and report our experience.

Methods

Prospective, observational study in a tertiary gynaecological oncology centre with 2 surgeons over first 2 years. Patient demographics, intra and post-operative data recorded.

Results

250 cases performed. Procedures varied from simple hysterectomy to radical hysterectomy and systematic bilateral pelvic node dissection for cervical cancer. Other specialist procedures like trachelectomy and ovarian transposition have also been undertaken with ease. BMI ranged from 17-59 (Mean 38). Median estimated blood loss overall was 50mls (5-2500). Median hospital stay was 1 day. Lymph node yield was comparable (20-56).

Conclusion

Prior to introduction of robotics review of our records revealed that atleast 64% of women especially obese patients underwent open surgery. The biggest advantage to patients is reduced blood loss, shortened hospital stay, reduced pos-operative pain due to less torque on trocars and varied applications. Camera positioning by the surgeon, no camera shake, 3D image leading to greater appreciation of surgical anatomy along with better ergonomics and less fatigue beneficial to surgeons.

We are now seeking to improve our robotics program with a twofold approach. Besides advancing surgical capabilities, we are also collecting patient reported outcome

measures to enhance service provided as well collaborations with engineering teams to develop better systems

IGCSM-0979
Poster Shift III - Surgical Techniques

SPANISH BEST PRACTICE GUIDELINES IN GYNECOLOGIC CANCER. SEGO-ONCOGUIDES PROGRAMM 2008-2016. SPANISH SOCIETY OF GYNAECOLOGIC ONCOLOGY FROM SEGO.

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Aims
Oncoguides are designed by the SEGO as a tool to achieve comparable oncologic attention on its area of influence, scientific and territorial, with the aim of developing improvement measures based on the best scientific evidence affordable and its application

Methods
Essential values:
Fairness: Applicability has to be guaranteed to any patient without the influence of her territorial location.
Protection: The facilitation of good praxis guides to patients and sanitary processionals.
Realiability: Standardization through the integration of scientific evidence and the real possibilities of application in our health centers.
Consensus: Dynamic development by evolving a multidisciplinary team of experts.
Transparency: The agreement of all the participants for the implementation of the guidelines.
Edition process:
A group of experts from different fields (Gynecologists, Pathologists, Medical Oncologist and Radiation therapy Oncologists) with no competing interests and leadership on their fields in Spain are gathered.
Level of Evidence based on the GRADE system. Level of consensus among experts: Standard (100% agreement), Consensus Option (>90%) or Simple Option (< 90%).

Results
Seven oncoguides have been finished and implemented:
Vulvar Cancer 2010
In Situ Breast Cancer 2012
Cervical Cancer 2013 (2d edition)
Ovarian Cancer 2014 (2d edition)

Cervical Premalignant Disease and Prevention 2014
Uterine Sarcoma 2014

Conclusion
In comparison with other guidelines we have some added value and innovation:
1. Multidisciplinary approach and strict compliance with the international AGREE method for developing clinical guidelines
2. WEB data system to formal clinical register that works as quality control and witness of the need of review and update of the oncoguide (European Quality Model, EFQM)

IGCSM-0988
Poster Shift III - Surgical Techniques

VALIDATED SIMULATION TRAINING FOR ROBOTIC SURGERY

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Aims

With the exponential growth of robotic surgery the need for validated training tools for robot assisted laparoscopic surgery is increasing rapidly. There is a growing need for reliable assessment tools in robotic surgery. These tools need to be implemented in competence based training curricula.

Methods

A Pubmed-Medline search was performed from 2000 to April 2014 using the mesh terms robotic surgery AND training AND/OR learning AND/OR assessment.

Results

Simulation training tools for robotic surgery are dry lab training, animal training and virtual reality training. Virtual reality is the most promising simulation tool and has been implemented the last few years in different international competence based training curricula. Examples are the Robotic Training Network (RTN), the Fundamentals of Robotic Surgery (FRS) Program, the Fundamental Skills of Robotic Surgery (FSRS) Program and the Morristown Protocol. Initial validation of these programs has taken place, extensive validation is ongoing. For assessment several scoring systems are validated. Global Evaluative Assessment of Robotic Skills (GEARS), Robotic Skills Assessment Score (RSA-Score) and the Robotic Objective Structured Assessment of Technical Skills (R-OSATS).

Conclusion

Virtual reality training is a very promising tool for learning robotic surgery. Two simulator systems are available and can be implemented in competence based training curricula. Several international training curricula are currently validated. There are a variety of validated scoring systems for assessment of robotic skills. Virtual reality training will most likely play a role in future credentialing of robotic surgeons.

IGCSM-0998
Poster Shift III - Surgical Techniques

ROBOTIC TRANSPERITONEAL INFRARENAL PARA-AORTIC LYMPHADENECTOMY USING DOUBLE DOCKING. TECHNICAL DESCRIPTION, SURGICAL RESULTS AND LEARNING CURVE.

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Aims
Introduction
The da Vinci Surgical System has many advantages but also some problems, mainly the limited mobility of the docking system.
Objective
Study the feasibility of performing Robotic transperitoneal infrarenal Paraortic Lymphadenectomy (PAL) using double-docking and analyzing the learning curve.
Methods
From March 2010, 50 consecutive patients have been included. The standard procedure included an upper abdominal approach to perform Aorto-Cava limphadenectomy, Omentectomy and Apendectomy, and then a shift to the pelvic area to complete Hysterectomy and Pelvic limphadenectomy. Data was prospectively recorded regarding age, BMI, ASA status, operating times, complications, hospital stay, final diagnosis and stage of the disease, lymph node count and current status.
Results
The mean age was 59,6 years-old, mean BMI 26,8 (kg/cm2), the most frequent indication was endometrial cancer (62,7%), mean PAL surgery time was 74,5 min, mean hospital stay 2,26 days and mean number of lymph nodes retrieved was 12,07. Considered the PAL with double docking (n=50), comparing the first 20 cases to subsequent ones a statistically significant decrease in the times were noted, regarding the rotation and redocking (13 ± 3,6 vs. 17± 6,8 min; p=0,02), PAL (69,8 ± 24,6 vs. 85,4 ± 25,8 min; p=0,04); console (258,3 ± 60,2 vs. 317 ± 54,2 min; p=0,01) and skin-to skin time (314 ± 75,1 vs. 363,8 ± 53 min; p=0,01)
Conclusion
The feasibility of this approach has been demonstrated. Since the time taken for rotation and redocking is much reduced after the first 20 cases, this technique should be preferred when surgery is needed in more than two quadrants of the abdomen.

IGCSM-1002
Poster Shift III - Surgical Techniques

PRIMITIVE NEUROECTODERMAL TUMOR (PNET) IN FEMALE GENITAL TRACT: REPORT OF FOUR CASES AND REVIEW OF THE LITERATURE

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Aims
Primitive Neuroectodermal Tumors (PNET) of the genital tract are very rare that a gynecologist will hardly encounter.PNET Most PNETs of the genital tract occur in the ovary, more rarely in vulva, vagina, cervix, uterus respectively. Here, we report three rare cases of PNET with genital tract origin that arise from vulva, cervix, uterus and ovary and assess the clinical characteristics of these neoplasm's.
Methods

Case 1:A 42 years old woman (gravida 7 parity 4) admitted to outpatient clinic with the complaint of painful vulvar mass.A mass 4 cm. in diameter, palpable, painful cystic nodule on the left labia major which resembles bartholin cyst was excised.
Case 2: A 63 years old woman was referred to our oncology clinic with the diagnosis of cervical mass. Cervical biopsy revealed malignant epithelial tumor which reported as identification of origin cannot be defined.
Case 3:A 51 years old woman was admitted to our gynecologic oncology department with the complaint of pelvic pain, abdominal tenderness. From the history she was diagnosed for endometrial stromal sarcoma 5 years ago.After re-evaluation of pathology specimens of the first surgery, it is understood that the first mass was PNET as well
Case 4:A 33 years old woman was referred to our oncology department for evaluation of adnexial mass which is suspicious for malignancy.

Results
Neuroendocrin tumors of the cervix are highly agressive, have high potential to make distant metastasis
Conclusion
Early recognition and correct diagnosis of carcinoids in this location may provide an opportunity for clinicians to institute appropriate therapeutic management of such lesions and improve prognosis.

IGCSM-1013
Poster Shift III - Surgical Techniques

THE ROLE OF LAPAROSCOPIC SKILLS IN BASIC ROBOTICS SKILLS ACQUISITION

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Aims

Robotic assisted surgery is associated with a learning curve unique to each trainee. Being able to predict both a trainee's baseline robotic skill level and "learning capacity" can aid in the development of personalized, competency-based curricula. We wish to identify whether baseline laparoscopic/thoracosopic (Lap/T) skills predict aptitude and adaptability to surgical robotics.

Methods

Trainees from four surgical subspecialties, with varying degrees of minimally invasive surgical experience/ability, were included in this study. Using 2 validated skill tasks, Peg Transfer (PT - basic) & Intracorporeal Suturing & Knot Tying (ISKT - advanced), we assessed baseline Lap/T & robotic skills among trainees. Following a 4-week, hands-on robotic surgery basic skills training course, trainees were again assessed on their robotic skills using the same 2 skill tasks.

Results

32 trainees were included in the study; 14 Urology, 7 Gynecology, 8 Thoracic Surgery, 3 General Surgery. The mean self-assigned laparoscopic skill rating across the group was 2.91 out of 5. Fifteen (47%) trainees had no prior robotic experience. There were no statistically significant differences in baseline Lap/T skills between specialties. Trainee performance on Lap/T PT task correlated with baseline robotic ISKT task ($p=0.01$) but not PT task. Performance on Lap/T ISKT task correlated with baseline robotic ISKT ($p<0.01$) and both post-course robotic PT ($p=0.01$) and ISKT ($p<0.01$) tasks.

Conclusion

Baseline Lap/T skills may correlate with baseline robotic skills. In addition, better baseline performance on an advanced, but not basic, Lap/T skill task may correlate with a shorter learning curve for basic robotic skills. Further exploration of this finding impact on delivery and implementation of robotic training curricula.

IGCSM-1061
Poster Shift III - Surgical Techniques

A PROSPECTIVE PILOT STUDY OF NEAR INFRARED (PIONIR) IMAGING OF SENTINEL NODES IN GYNAECOLOGICAL CANCERS

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Aims
Sentinel Lymph Node (SLN) sampling may significantly reduce surgical morbidity. The current practice in the UK is testing the accuracy of SLN detection using radioactive isotopes within the context of clinical trials. However, radioactive tracers pose significant logistic problems. We, therefore, conducted a pilot study to assess the feasibility of a novel optical imaging device for SLN detection in gynaecological cancers using near infrared (NIR) fluorescence.
Methods
A custom-made optical imaging system was built to enable NIR fluorescence detection of multiple fluorescence dyes. The device operated as a wide-field imager during open surgery and also in conjunction with laparoscopy. We operated 31 women with early stage vulval, cervical and endometrial cancers who were scheduled to undergo complete lymphadenectomy. Clinically approved, NIR fluorescent dyes, indocyanine green and methylene blue, were used.
Results
At least one SLN was detected in 25 of 31 (80.6%) patients. The highest detection rate was observed in cervical cancers (100%) followed by vulval (87.5%) and endometrial (66.7%) cancers. A total of 41 hot spots were detected, of which 35 (85.4%) were confirmed as LNs by histology. The external iliac group of LNs was the commonest anatomical site for SLN detection for cervical and endometrial cancers. For those cancers (n = 24), SLNs were detected bilaterally in 5 cases (21%). No adverse reactions associated with either dyes.
Conclusion
This is the first prospective study reporting the use of an in-house optical device in SLN detection in the UK. Our initial results demonstrate the feasibility of using this approach for SLN detection in gynaecological cancers.

IGCSM-1119
Poster Shift III - Surgical Techniques

APPLICABLITY AND FEASIBILITY OF LAPAROSCOPIC SURGERY FOR UTERINE CANCER. IS THERE A PLACE FOR ROBOTIC SURGERY ?

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Aims

Laparoscopic surgery is not universally spread in spite of evidence in its favor in the management of uterine cancer. The goal of this study is to assess the applicability of laparoscopic surgery in the surgical management of uterine cancer.

Methods

The senior author started a new program in a cancer center, including learning curve for laparoscopic simple and radical hysterectomy. Team members had some experience in laparoscopic surgery and adhered to the program. One non-participating staff left the institution after having performed 3 open surgeries. Fellows and residents performed surgeries under supervision. Only upfront surgeries with no radiation therapy were included.

Results

Laparoscopic surgery was undertaken in 110 out of 112 patients with node negative less that 2 cm cervical cancer and BMI under 30. Failure rate was 0.9%. Laparoscopic surgery was undertaken in 128 of 148 patients with endometrial cancer and BMI under 30. Failure rate was 2.4%. The main indications for laparotomy were stage III or large uterus. Failure rate was 11.3% in 58 obese patients. Complications resulted in 4 laparotomies in 260 non obese patients.

Conclusion

Laparoscopic surgery was undertaken in 110 out of 112 patients with node negative less that 2 cm cervical cancer and BMI under 30. Failure rate was 0.9%. Laparoscopic surgery was undertaken in 128 of 148 patients with endometrial cancer and BMI under 30. Failure rate was 2.4%. The main indications for laparotomy were stage III or large uterus. Failure rate was 11.3% in 58 obese patients. Complications resulted in 4 laparotomies in 260 non obese patients.

IGCSM-1122
Poster Shift III - Surgical Techniques

PREVENTION OF CHYLOUS ASCITES DURING RETROPERITONEAL LYMPHADENECTOMY: : A MAJOR LYMPH DUCT SHOULD BE LIGATED OR CLIPPED.

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Aims
shown how to prevent chylous ascites through ligation or occlusion of cisterna chyli branches during retroperitoneal lymphadenectomy
Methods

Chylous ascites is an uncommon form of ascites characterized by milky-appearing fluid caused by blocked or disrupted lymph flow through chyle-transporting vessels.During lymphadenectomy we ligated the cisterna chylis major branches located above the left renal vein and left aortic nodes
We leave routinely a tubular drain

Results
with this tactic have not had chylous drainage from the drain
Conclusion
we can prevent chylous ascites with lymphatic vessels ligation during lymphadeenctomy

IGCSM-1140
Poster Shift III - Surgical Techniques

COMPARISON OF LYMPHEDEMA INCIDENCE BETWEEN TWO LYMPHADENECTOMY TECHNIQUES IN PATIENTS WITH UTERINE CANCER UNDERGOING ROBOTIC STAGING

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Aims

To compare the incidence of lower extremity lymphedema in patients with uterine cancer after robotic staging using 2 methods: standard versus selective pelvic lymphadenectomy.

Methods

All 344 consecutive patients who presented with endometrial cancer from March 2007 to October 2012 underwent robotic staging. Surgeon A performed selective pelvic lymphadenectomy and surgeon B standard lymphadenectomy. Selective pelvic lymphadenectomy spared the external iliac lymphatic chain. The incidence of lymphedema between the 2 groups was analyzed.

Results

Standard pelvic lymphadenectomy was performed in 238/344 (69.2%) patients and selective pelvic lymphadenectomy was performed in 106/344 (30.8%) patients. Conversion to laparotomy was in in 2/344 cases (0.6%). Mean age for 344 patients was 63.6+/-10 years and BMI was 34.8+/-10.1 kg/m2. The mean operative time was 162.3±54.6 minutes. Postoperative hospitalization was 1.62±1.93 days. Histology included 80.8% endometrioid adenocarcinomas and 19.2% clear cell, serous, and carcinosarcomas. Mean pelvic lymph node counts for the standard and selective pelvic lymphadenectomy groups were 16±8.6 and 15.5±7.1, respectively (p=0.31). Median follow-up was 29.3 months. The difference in the incidence of lower extremity lymphedema was statistically significant: 0.9% (1/106 patients) in the selective lymphadenectomy group versus 4.6% (11/238 patients) in the standard lymphadenectomy group (p=0.03). The non-inferiority of selective lymphadenectomy was demonstrated by the similar rate of retroperitoneal recurrence: 2.1% (5/238 patients) in the standard pelvic lymphadenectomy group versus 3.7% (4/106 patients) in the selective pelvic lymphadenectomy group (p=0.71).

Conclusion

When compared to the standard technique, selective pelvic lymphadenectomy with sparing of the external iliac lymphatic chain is adequate and results in a lower incidence of lower extremity lymphedema.

IGCSM-1251
Poster Shift III - Surgical Techniques

OMENTUM FLAP(EPIPLOPLASTY) TO FILL THE PELVIC HOLLOW AFTER TOTAL PELVIC EXENTERATION FOR GYNECOLOGICAL TUMORS

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Aims
to demonstrate a technique of omentum flap (epiploplasty) based on the left omental artery to fill the pelvic hollow, following total pelvic exenteration
Methods
We performed seven omental flaps , and we sutured the flap to close all pelvic hollow ,to prevent the entry of bowel loop
Results
with this tactic we not had any bowel obstruction requiring reoperation, in these cases
Conclusion
is important not to let the free flap in pelvic hollow but suture it, to prevent bowel obstruction

IGCSM-1262
Poster Shift III - Surgical Techniques

THE USE OF VALVED FULLY IMPLANTABLE CATHETERS(GROSHONG) INSERTED VIA ULTRASOUND-GUIDED PUNCTURE FOR CHEMOTHERAPY IN PATIENTS WITH GYNECOLOGICAL CANCER

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Aims
show our technique and tips to insert valved fully implantable catheters(Groshong), via ultrasound- guided puncture for chemotherapy

Methods
With sedation and local anesthesia ,we puncture the right jugular internal vein via ultrasound-guided and allocate the central catheter with the aid of radioscopy The reservoir is implanted at the time of the second rib in the anterior right chest wall

Results
We insert thirty catheters with this technique, without blood reflux dysfunction

Conclusion
Care with catheter placement to become well allocated and the use of valved catheter(Groshong), prevents spontaneous blood reflux into the catheter, reducing the incidence of complications

Conflict of interest
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IGCSM-1294
Poster Shift III - Surgical Techniques

THE PROCESS OF TRANSFORMING PELVIC EXENTERATION TO A "TRUE" MINIMALLY INVASIVE PROCEDURE UTILIZING THE ROBOTIC PLATFORM

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Aims

The Purpose of this case series is to describe our process and experience with converting all candidates for pelvic exenteration to a minimally invasive approach utilizing the daVinci Robotic Platform. The series is now mature enough to report on outcomes.

Methods

Between 31 May 2007 and 15 May 2014 in 2 institutions, we have taken 19 consecutive patients to the OR with the intention of performing a robotic assisted pelvic exenteration.

Results

We offered all patients a robotic assisted attempt at pelvic exenteration. The mean age - 64.3 years (range 48-82), the mean BMI - 30.5 (range 17.5 - 52.1) and 16/19 patients had received prior pelvic radiation. 12/19 patients had successful completion of the procedure with the robotic platform. The last 4 patients had a successful intracorporeal ileal conduit for urinary tract diversion. Urinary tract morbidity was the most common side effect including 3 upper tract infections, one ureteral leak due to devascularization, 3 patients experienced prolonged adynamic ileus and one patient had a mechanical SBO. No patients experienced VTE, no significant wound infections and no peri-operative deaths. In 3 patients we were able to successfully decrease the "radicality" of the procedure specifically because of the use of the robot.

Conclusion

We have shown the feasibility of pelvic exenteration utilizing robotic technology. Gynecologic Oncologists who perform the procedure open must learn how to "translate" the maneuvers to a closed space for an MIS approach. It is important for us to share our experience to help other surgeons learn how to decrease surgical morbidity of this procedure.

Conflict of interest
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IGCSM-1295
Poster Shift III - Surgical Techniques

INTRACORPOREAL URINARY DIVERSION USING THE ROBOTIC PLATFORM; TRIALS, SUCCESSES AND LESSONS LEARNED

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Aims

The focus of this review is to share our experience specifically with urinary tract diversion for advanced pelvic malignancy excision during attempted pelvic exenteration.

Methods

While analyzing our case series of 19 consecutive patients taken to the OR for robotic assisted pelvic exenteration, we have broken down the specific components of performing the procedure. We divide an exenteration into the "destructive" phase and the "reconstructive" phase. The cases were performed at either of 2 institutions - John Peter Smith Hospital in Fort Worth, Texas and OSF St. Francis Medical Center in Peoria, Illinois.

Results

12/19 patients in the series had successful robotic exenterative procedures. 7/12 completed robotically required urinary tract diversion. The first patient had an extracorporeal formation of an ileal conduit through a 5 cm extention of a robotic port. Four had successful urinary tract diversion with a standard ileal conduit intracorporally and two had to be converted to minilaparotomy to complete the procedure. Mean age 64.3 yrs(48-82); mean BMI 30.5(17.5-52.1); mean EBL was 327ml (150-600 ml);mean LOS 10.8 days (4-28dys). Surgical morbidity included 3 upper tract infection, severe unilateral stenosis in 2 ureters(radiation and devasularization necrosis). There were no VTE events and no peri-operative deaths.

Conclusion

As we continue to adapt our radical open procedures to MIS through robotic technology, we have been able to demonstrate feasibility and reproducibility of these advanced procedures. It is important to report on outcomes and share information with other surgeons by describing the robotic adaptation of this procedure and discuss the limitations of the currently available technology.

Conflict of interest
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IGCSM-1298
Poster Shift III - Surgical Techniques

OUTCOMES OF SINGLE PORT ACCESS SURGICAL STAGING FOR SIXTEEN ENDOMETRIAL CANCER PATIENTS

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Aims
Single port access (SPA) surgery could be utilized in staging for gynecologic oncology. We are to report outcomes of endometrial cancer patients with SPA surgical staging.
Methods
From Nov 2011 to Dec 2012, 16 cases of endometrial cancer with SPA surgical staging were reviewed retrospectively. All the operative procedures of hysterectomy +/- pelvic or peri-aortic lymphadenectomy (including 3 sentinel lymph node biopsy) were done by conventional laparoscopic instruments with Octoport® platform.
Results
Fifteen stage I and 1 stage IVB endometrial cancer were included in this study. There was no case of conversion to laparotomy or multi-port surgery. Mean age of the objects was 55 years old. Nine patients received pelvic lymphadenectomy and 8 had peri-aortic lymphadenectomy. Three had sentinel lymph node biopsy and 4 omitted lymphadenectomy. Two premenopausal patients preserved the ovaries. Mean operative time was 182 minutes (SD, 77) and mean 24 pelvic lymph nodes and 14 peri-aortic lymph nodes were retrieved. One patient who had bone metastasis showed positive peri-aortic lymph node metastasis. One showed post-operative ileus subside with conservative treatment and post-operative hospital stage was 3 days (range, 1-15). All the patients including 1 occult stage IV patient were free of disease after follow up.
Conclusion
SPA surgery can be applicable to surgical staging for endometrial cancer with safety and efficacy. Operative outcomes and complication are comparable to conventional laparoscopic staging.

IGCSM-1315
Poster Shift III - Surgical Techniques

IS IT WORTH PRESERVING THE UTERUS? RISK OF MISSING A MALIGNANCY IN PELVIC ORGAN PROLAPSE (POP)

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Background & aim: Concept of uterine conservation is increasing for POP management. As POP is the disease of older age, who are more at risk of malignant pathology, risk of leaving behind uterus/cervix which might be harboring a premailgnat or malignant lesion has to be addressed carefully before we standardize uterine-sparing POP procedures. This study was intended to assess risk of premalignant/malignant pathologies of uterus/cervix at the time of hysterectomy-based POP procedures.

Methods: Present study involved all patients who underwent vaginal hysterectomy for POP at a teaching hospital, in two year.

Results: A total of 156 women were included. With a mean age of 56.7±9.8 years, most (77.6%) were menopausal. On analyzing the histopathological diagnosis of the specimen obtained during surgery in 60.3% cases findings were consistent with the changes seen in POP. While in rest (ie 39.7% cases) associated pathologies were encountered. 90.3% were incidental findings without any symptoms or need of treatment/follow up. As far as significant endometrial pathology was concerned one had evidence of focal endometrial hyperplasia without atypia and one had tuberculous endometritis. Five had CIN 1 lesion. Three women however were detected to have CIS lesion (1.9%), which would require treatment.

Conclusion: The risk of missing a malignant and premalignant cervical or uterine pathology in women presenting with uterine prolapse is low if appropriate preoperative workup has been done. Women have to be educated that uterus sparing approached have to be coupled with screening for cervical cancer as per recommendations.

IGCSM-0037
Poster Shift III - Symptom management/palliation

PALONOSETRON IN COMBINATION WITH 1-DAY VERSUS 3-DAYS DEXAMETHASONE TO PREVENT NAUSEA AND VOMITING IN PATIENTS RECEIVING PACLITAXEL AND CARBOPLATIN.

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Aims

The aim of present study was to evaluate the efficacy palonosetron (PAL) and dexamethasone (DEX) on day 1 only in patients (pts) with gynecological cancer receiving paclitaxel and carboplatin (TC).

Methods

This study is a prospective study. Pts were stratified according to age (over 50 years or under 50 years) and habitual alcohol intake (yes or no). Chemotherapy-naïve pts >20 years old were randomly assigned to receive PAL (0.75mg iv) plus DEX (20mg iv) on day1 before receiving TC (D-1 group), or PAL (0.75mg iv) plus DEX (20mg iv) on day1 before receiving TC and DEX (8mg) on days 2 and 3 (Std group). Primary endpoint was complete response (CR; defined as no vomiting episodes and no rescue medication) for 24-120 h after the first chemotherapy cycle initiation. Nausea and vomiting were evaluated with the MASCC Antiemesis Tool (MAT).

Results

Between April 2012 and December 2013, a total of 88 pts were randomized: 82 pts (D-1 group=43, Std group=39; median age D-1 group=59 years, Std group=62 years; habitual alcohol intake D-1 group=4, Std group=3) were available for the efficacy and toxicity analysis. 69.8% (30/43) and 76.9% (30/39) of pts reported delayed CR in D-1 and Std, respectively (P = 0.465). Acute and overall CR in D-1 and Std were similar (95.4% vs. 94.9%, P =0.920; 67.4% vs. 76.9%, P=0.340).

Conclusion

The antiemetic treatment with DEX on day 1 only seemed as effective as the standard treatment for prevention of nausea and vomiting in pts receiving TC.

IGCSM-0051
Poster Shift III - Symptom management/palliation

OVARIAN TRANSPOSITION PRIOR TO PELVIC RADIATION THERAPY IN PATIENTS WITH NON-GYNECOLOGIC PELVIC MALIGNANCIES

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Aims

To assess the feasibility and outcomes of ovarian transposition (OT) in patients with non-gynecologic malignancies planned to undergo pelvic radiation therapy (RT).

Methods

Premenopausal women planned to undergo pelvic RT for non-gynecologic malignancies from 8/11/09-5/15/12 were offered bilateral OT were identified prospectively. Maintenance of ovarian function was defined as the presence or resumption of normal menstrual cycles in the absence of menopausal symptoms or demonstration of serum FSH and estradiol levels in the non-menopausal range if the patient was amenorrheic but without other menopausal symptoms. Follow-up time was calculated from the time of OT to the date of last assessment of menopausal state and date of last follow-up.

Results

14 patients underwent ovarian transposition. Median age was 41 (range 26-45). Twelve (86%) had rectal cancer, 1 (7%) anal cancer, and 1 (7%) ependymoma. Seven (50%) were nulliparous. Seven (50%) received chemotherapy prior to OT. The median time to initiation of RT from OT was 19.5 days (range 13-140). All but 1 patient initiated RT within 30 days. The RT dose to the primary tumor was 5000 cGy (n=8), 5040 cGy (n=3), 5600 cGy (n=2) and 6400 cGy (n=1). Median time to last assessment of ovarian function was 19.1 months (range 5.4-44.2). In 13 assessable cases, ovarian function was retained in 9 (69%). Normal menses after RT resumed in 8 (62%) of the 13.

Conclusion

Ovarian transposition using robotics in women with non-gynecologic pelvic malignancies in coordination with their primary therapy is feasible and associated with low morbidity. Ovarian function is preserved in ~70% of patients.

Conflict of interest
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IGCSM-0082
Poster Shift III - Symptom management/palliation

EFFECT OF HERBAL MEDICINE DAIKENCHUTO FOR THE PREVENTION OF POSTOPERATIVE ILEUS IN GYNECOLOGIC CANCERS

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Aims

Herbal medicine, Daikenchuto (Product Number: TJ-100), is a modern herbal product manufactured in the dosage form of granules and has been used for the patients suffered from constipation and ileus through activating gut smooth muscle contractility. We studied the efficacy of TJ-100 to prevent postoperative ileus after the surgery of gynecologic cancers.

Methods

Subjects were 32 patients undergoing a gynecologic cancer surgery in 2010 and analyzed the effect of TJ-100 using the clinical data, retrospectively. We divided these patients into two groups: early administration of TJ-100 group (Early TJ-100 group) (n=20) and the other group (Control group) (n=12). Early TJ-100 group started to use TJ-100 postoperative day 1. We excluded laparoscopic surgery from the subjects.

Results

In the Early TJ-100 group and the Control group, age, surgery time and surgical blood loss showed no statistical difference. Significant variances were observed in the incidence of ileus within a month (Early TJ-100 group: 5.0%, Control group: 41.7%) (p=0.02). Time of first defecation after surgery was 2.45±1.10 days in the Early TJ-100 group vs. 2.75±0.22 days in the Control group (p=0.41).

Conclusion

The early administration of herbal medicine TJ-100 after gynecologic cancer surgery is effective way to prevent postoperative ileus without altering the first defecation time.

IGCSM-0091
Poster Shift III - Symptom management/palliation

THE RELATIONSHIPS BETWEEN SUBJECTIVE WELL-BEING AND BODY IMAGE AMONG WOMEN AFTER MASTECTOMY AND THEIR DAUGHTERS

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Aims

Mastectomy is a surgical procedure that affects not only the body, but also the mind of the women who undergo it. Physical changes caused by mastectomy influence the women's cognitive and emotional processes leading to alterations in their subjective well-being and body image. Mastectomy also makes an impact on the women's daughters who partially evaluate their lives in relation to their mother's health

Methods

120 women were asked to fill in questionnaires measuring subjective well-being and body image. The research group consisted of women who underwent mastectomy and their adult daughters oncological undiagnosed (60 subjects).The control group comprised randomly selected undiagnosed women and their adult daughters (60 subjects). Three methods were used: the Image of the Body Questionnaire, the PANAS-X Scale, and the Satisfaction with Life Questionnaire.

Results

There were associations between body image and subjective well-being among the daughters of women after mastectomy. In contrast, no such relationships were observed in the control group. There were statistically significant differences between both groups in the level of emotions, but not cognitions and body image. Both mothers and daughters in the research group were characterized by more frequent negative emotional states and less frequent positive emotions than the control group.

Conclusion

The procedure of mastectomy tends to affect mainly the emotional processes of the women who underwent it and their daughters. The cognitive processes are far less influenced. The results revealed that the syndrome of "Sword of Damocles" appears not only in women with breast cancer, but also in their daughters.

IGCSM-0104
Poster Shift III - Symptom management/palliation

EFFICACY AND SAFETY OF FONDAPARINUX (FPX) FOR PREVENTION OF POSTOPERATIVE VENOUS THROMBOEMBOLISM (VTE) IN GYNECOLOGIC CANCER PATIENTS.

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Aims

It is essential to prevent VTE after surgery for the patients with gynecological disease. In this study, we examined efficacy and safety of FPX for VTE prophylaxis after surgery.

Methods

198 patients with malignant gynecologic disease administered FPX after surgery between June 2011 and December 2013 were included in this study. There were 40 cervical cancer, 86 endometrial cancer, 66 ovarian cancer and 8 with others. The average age and BMI were 57.1 years old, and 22.7 kg/m^2, respectively. FPX was administered for 5-7days after surgery. In all patients serum D-dimer was measured on 1^{st}, 4^{th}, 7^{th} postoperative day, and the cases whose D-dimer value was over 5.0ng/ml were checked the presence of thrombus by ultrasonography. We evaluated efficacy of FPX for occurrence of VTE, and safety of FPX for adverse events.

Results

Among the patients with postoperative DVT, in 3 patients DVT was found before administration of FPX, and in one case DVT was found on 15th postoperative day, but PTE did not occur. 11 cases were canceled administration of FPX because of adverse events. 9 cases had hemorrhagic adverse events, and one case needed laparotomy and transfusion.

Conclusion

In this study, postoperative VTE was not observed in the patients during administering of FPX. There was no case of fatal bleeding, some cases canceled administration of FPX due to bleeding. Therefore, it is necessary to discuss the selection criteria of the subjects, commencing time, dose, and duration of administration.

IGCSM-0177
Poster Shift III - Symptom management/palliation

QUALITY OF LIFE AFTER CERVICAL CANCER TREATMENT

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Aims

To compare sexual function in two groups of early stage cervical cancer patients, undergoing two different types of radical hysterectomy.

Methods

Patients with early stage cervical carcinoma (FIGO stage IA2-2A) treated by radical hysterectomy with systematic lymphadenectomy, have been enrolled and divided in two groups with regard to type of radical hysterectomy performed; S1: classic radical hysterectomy (Piver III), S2: class III nerve-sparing radical hysterectomy (NSRH) with or without adjuvant radiotherapy or adjuvant chemotherapy.

Results

70 patients enrolled in the S1 group and 76 in the S2 group. We observed significant differences between the two groups in terms of symptom experience, sexual/vaginal functioning, sexual activity, and sexual enjoyment. There was not any significant difference regarding lymphedema, peripheral neuropathy, and sexual worry.

Conclusion

Survivors of early stage cervical cancer treated by class III nerve-sparing radical hysterectomy (NSRH) have a better sexual function than those operated by classic radical hysterectomy (Piver III)

IGCSM-0187
Poster Shift III - Symptom management/palliation

COMPARISON OF TOPICAL LIDOCAINE SPRAY WITH PLACEBO FOR PAIN RELIEF IN COLPOSCOPIC PROCEDURES: A RANDOMIZED, PLACEBO CONTROLLED, DOUBLE BLIND STUDY

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Aims
Our purpose for this study was to evaluate the efficacy of topical lidocaine spray in pain relief during colposcopic cervical punch biopsies.
Methods
This randomized, placebo controlled, double blind study included patients with abnormal PAP smear results requiring colposcopy directed cervical punch biopsy with or without endocervical curettage (ECC). The patients were randomly assigned to either 10% lidocaine spray or placebo group. The patients were asked to rate the pain level immediately after the cervical biopsy and ECC and mean pain scores of the two groups were compared.
Results
A total of 214 patients were studied, 104 for lidocaine group and 110 for control. Comparison of age, parity, history of previous vaginal delivery and cesarean section between the two groups showed similar results. Mean age was 41.5 ± 10.6 and 43 ± 11.3 years in the lidocaine group and the control group respectively. Pain scores after cervical biopsy and ECC were also similar between the two groups. Mean pain scores associated with cervical biopsy were 2.18 ± 1.7 and 2.31 ± 1.6 in the lidocaine and control group respectively.
Conclusion
There is not enough data to recommend the use of routine anesthesia prior to cervical punch biopsy or ECC. Additional prospective randomized studies are needed to demonstrate a valid method for minimizing sensation or the perception of the pain associated with cervical biopsy and ECC

IGCSM-0200
Poster Shift III - Symptom management/palliation

CLINICAL RESEARCH OF OLANZAPINE FOR PREVENTION OF CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING RESISTANT TO STANDARD ANTIEMETIC THERAPY FOR HIGHLY EMETOGENIC CHEMOTHERAPY.

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Aims
Olanzapine is an antipsychotic which blocks multiple neurotransmitters and has antiemetic activity for chemotherapy-induced nausea and vomiting (CINV). The purpose of this retrospective study was to assess the effectiveness of olanzapine for the prevention of CINV in patients with severe emesis regardless of standard antiemetic therapy for highly emetogenic chemotherapy (HEC).
Methods
Olanzapine was administered in forty-five gynecological cancer patients who had experienced grade 2 (n=14) or 3 (n=31) nausea for the overall period (0-120 hours post-chemotherapy) in prior cycle of cisplatin-based chemotherapy with the combined use of palonosetron, aprepitant and dexamethasone. Oral olanzapine (5mg/day) was added to the standard antiemetic therapy on day -1 prior to chemotherapy and continued for 7 days in the next cycle of chemotherapy. Complete response rate (no vomiting, no rescue) and nausea control rate (grade 0 or 1) of both cycles were assessed.
Results
The complete response rate improved from 48% to 95% for the acute period (24 hours post-chemotherapy), 1% to 82% for the delayed period (days 2-5 post-chemotherapy) and 1% to 82% for the overall period. The nausea control rate improved from 55% to 97%, 2% to 93% and 0% to 91% for the acute, the delayed and the overall period respectively. There were no grade 3 or 4 toxicities.
Conclusion
Olanzapine could improve the degree of CINV in most of patients with grade 2 or 3 emesis regardless of the standard antiemetic therapy. In this study, the use of olanzapine for severe CINV demonstrated additional improvement in both acute and delayed period.

IGCSM-0248
Poster Shift III - Symptom management/palliation

EVALUATION OF PALONOSETRON AND DEXAMETHASONE FOR CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING IN PATIENTS RECEIVING MULTIPLE CYCLES OF PACLITAXEL AND CARBOPLATIN

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Aims

This retrospective study was designed to compare palonosetron plus dexamethasone on day 1 only (D-1 group) with palonosetron plus dexamethasone on days 1-3 (Std group) with respect to complete response (CR: no emesis, no rescue) rate for delayed chemotherapy-induced nausea and vomiting (CINV) in patients receiving multiple cycles of paclitaxel and carboplatin (TC).

Methods

There were 89 patients receiving TC in our institution between 2011 to 2013. Of these 89, 61 receiving four cycles of TC were included and evaluated using the Multinational Association of Supportive Care in Cancer Antiemesis Tool. A chi-square test was used to compare the CR rate for delayed CINV between the D-1 and Std groups. Logistic regression analysis was used to evaluate univariate and independent multivariate associations with clinical parameters of the CR rate for delayed CINV.

Results

The score was 29 for the Std group and 32 for the D-1 group. There was no significant difference in the CR rates for delayed CINV in cycles 1-4 between groups. There was also no significant difference in the CR rate in each cycle between groups. Multivariate analysis performed with CR rate as an endpoint revealed that the only independent predictor was age under 60 years ($p<0.001$). The CR rate in each cycle was significantly lower in patients under age 60 than in those 60 and over ($p=0.132$, $p=0.034$, $p=0.024$, $p=0.001$, respectively).

Conclusion

Combined treatment with palonosetron and dexamethasone was effective for preventing delayed CINV in patients receiving TC, but the effect was smaller in patients under 60 years of age.

IGCSM-0264
Poster Shift III - Symptom management/palliation

PREDICTING PERIOPERATIVE VENOUS THROMBOEMBOLISM IN JAPANESE GYNECOLOGICAL PATIENTS

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Aims

To develop a convenient screening method that can predict perioperative venous thromboembolism (VTE) and identify patients at risk of fatal perioperative pulmonary embolism (PE).

Methods

Patients hospitalized for gynecological abdominal surgery (n=183) underwent hematology tests and multidetector computed tomography (MDCT) to detect VTE.

Results

The following risk factors for VTE were identified by univariate analysis: plasmin-alpha2-plasmin inhibitor complex (PIC), thrombin-antithrombin III complex (TAT), and prolonged immobility (all $p<0.001$); age, neoadjuvant chemotherapy (NAC), malignancy, hypertension, past history of VTE, and hormone therapy (all $p<0.01$); and hemoglobin, transverse tumor diameter, ovarian disease, and menopause (all $p<0.05$). Multivariate analysis using these factors revealed that PIC, age, and transverse tumor diameter were significant independent determinants of the risk of VTE. We then calculated the incidence rate of perioperative VTE using PIC and transverse tumor diameter in patient groups stratified by age. In patients aged <40 years, PIC >1.3 mg/mL and a transverse tumor diameter >10 cm identified the high-risk group for VTE with an accuracy of 93.6%. For patients in their 50s, PIC >1.3 mg/mL identified a high risk of VTE with an accuracy of 78.2%. In patients aged >60 years, a transverse tumor diameter >15 cm (irrespective of PIC) or PIC >1.3 mg/mL identified the high-risk group with an accuracy of 82.4%.

Conclusion

We propose new screening criteria for VTE risk that are based on PIC, transverse tumor diameter, and age. Our findings suggest the usefulness of these criteria for predicting the risk of perioperative VTE and for identifying patients with a high risk of fatal perioperative PE.

IGCSM-0338
Poster Shift III - Symptom management/palliation

CLINICAL EFFICACY OF ARTERIAL INJECTION CHEMOTHERAPY FOR RECURRENT GYNECOLOGICAL MALIGNANCIES

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Aims

The treatment of recurrent gynecological malignancies depends on the condition of each patient, because there are no established treatment protocols. In most patients, the prognosis of recurrent gynecological malignancies is unfavorable due to the development of tolerance by the tumor. Arterial injection chemotherapy (AIC) enhances antitumor activity by increasing tumor tissue drug concentrations and simultaneously reduces adverse reactions by lowering drug concentrations in the systemic circulation. This study was conducted to assess the efficacy of AIC for recurrent gynecological malignancies.

Methods

The efficacy of AIC was assessed in a total of 38 patients aged 31-82 years (median age: 57 years) who received this therapy between January 2005 and December 2012. They included 11, 8, and 20 patients with recurrent cervical, endometrial, ovarian cancer. The OS, response rate, and the tumor control rate were investigated for each type of malignancies.

Results

The median OS from the start of AIC was 14.8, 9.0, and 12.0months in the patients with cervical, endometrial, and ovarian cancer. The response rate and the tumor control rate were respectively 81.8% and 100% for cervical cancer, 25.0% and 50.0% for endometrial cancer, and 42.1% and 78.9% for ovarian cancer. This retrospective study was performed after receiving approval from the Institutional Ethics Committee of our university.

Conclusion

AIC therapy was comparable in efficacy to systemic chemotherapy and radiotherapy, suggesting that it could be a promising treatment modality for recurrent gynecological malignancies.

IGCSM-0401
Poster Shift III - Symptom management/palliation

THE LEVEL OF SPIRITUALITY AND COPING WITH STRESS AMONG TERMINALLY ILL CANCER PATIENTS

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Aims

The concept of spirituality represents the extent to which a person recognizes his/her spiritual nature, and allows this nature to express itself through a particular set of thoughts, emotions and behaviors. Spirituality is important for terminally ill people. To date, a considerable body of research has demonstrated relationships between people's spiritual beliefs and their abilities to cope with stress. People with cancer draw on their spiritual resources in order to ease psychological distress and handle stressful situations.

Methods

The research group consisted of 182 terminally ill patients (95 women and 87 men aged 33–62 years) suffering from three main types of cancer: bowel, lung and female genital cancer. They were asked to fill in three questionnaires: Self-description Questionnaire measuring spirituality, Coping Inventory for Stressful Situations, and Mental Adjustment to Cancer Scale measuring styles and strategies coping with stress.

Results

The results showed that spirituality is interconnected with both the coping styles and strategies. Two spirituality dimensions have a major impact on the following styles: harmony and ethical sensitivity. The first affects task-oriented style, and the latter influences social diversion coping. Spirituality and its dimensions are characterized by stronger relations with active coping strategies in comparison with passive coping strategies.

Conclusion

Spirituality plays an significant role in the way in which terminally ill cancer patients cope with stress caused by their illness. It can result from the concept of meaning which is deeply embedded in spirituality. Meaning enables patients to find overarching purpose for their lives, which in turn strengthens coping abilities.

IGCSM-0529
Poster Shift III - Symptom management/palliation

INTRAPERITONEAL AND INTRAPLEURAL ADMINISTRATIONS OF TRIAMCINOLONE ACETONIDE EFFECTIVE FOR CONTROL OF MALIGNANT ASCITES AND PLEURAL EFFUSION. (KCOG-G-1102)

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Aims
Patients with advanced gynecologic cancer often suffer from massive ascites or pleural effusion, requiring frequent drainage. Triamcinolone acetonide (TA) is a slowly metabolized corticosteroid, and is used for the treatment of rheumatoid arthritis by intraarticular administration. We conducted a retrospective multicenter study to evaluate the efficacy and toxicities of intraperitoneal or intrapleural TA administration.

Methods
Patients with gynecologic cancer who were treated with paracentesis (PC) or thoracocentesis (TC) followed by administration of 400 mg of TA between 2005 and 2014 were reviewed.

Results
Among 74 eligible patients, median age was 59 years old, 53 (73%) had ECOG PS of 3–4, 52 (70%) had ovarian cancer. PC followed by TA administration was performed in 64 (87%). 39 (53%) were treated in the palliative setting. 35 (47%) underwent chemotherapy or surgery after TA administration, among which 8 (11%) had progressive disease during the prior chemotherapy and 9 (12%) had recurrent disease within 6 months after the last chemotherapy. The time interval of serial drainage was prolonged after TA therapy in 23 of 27 assessable patients, thus the response rate was 85% (95%CI: 72-99%). Median overall survival (OS) after TA therapy in the palliative setting was 39 days (95%CI: 20-61 days). After TA therapy in a palliative setting, one patient complained mild abdominal pain, 2 with severe carcinomatous had bowel perforation, and 3 died within 7 days considerably due to disease progression.

Conclusion

Intraperitoneal and intrapleural TA therappy were feasible and effective in symptomatic control of ascites and pleural effusion.

IGCSM-0661
Poster Shift III - Symptom management/palliation

INTRAPERITONEAL THERAPY WITH THE TRIFUNCTIONAL ANTIBODY CATUMAXOMAB IS FEASIBLE AND EFFICACIOUS IN OUTPATIENTS SUFFERING FROM MALIGNANT ASCITES RELATED TO VARIOUS GYNECOLOGIC TUMORS

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Aims
Catumaxomab is a trifunctional antibody approved for the treatment of malignant ascites (MA) related to carcinomas expressing the epithelial cell-adhesion molecule (EpCAM). Catumaxomab is mostly given to hospitalized patients (pts). We hereby report on our single-institution experience with catumaxomab in outpatients with various gynecologic tumors.
Methods
30 pts were included: ovarian cancer, 16; breast cancer, 7; endometrial cancer, 3; miscellaneous, 4. Pts had failed a median of 4 (1-12) prior systemic therapies. Catumaxomab was administered via an intraperitoneal (IP) catheter with 4 increasing doses (10, 20, 50, 150 µg) given at 4-day intervals over two weeks. Standard premedication comprised both 5-HT3 antagonists and non-steroidals. Toxicities were scored according to CTCAE 4.0. Puncture-free survival (PuFS) was calculated from start of therapy until the next MA-related puncture, death, or loss to follow-up. Overall survival (OS) was calculated from start of catumaxomab to death or loss to follow-up.
Results
Catumaxomab was exclusively given in an outpatient setting, 19 pts (63.3%) received 4 instillations. Secondary hospitalization was necessary in 7 pts (23.3%): generally deteriorated condition, 5; fever/infection, 1; subileus, 1. Subsequent punctures following catumaxomab were necessary in 5 pts (16.7%). Median PuFS was 79.5 d and median OS was 92.5 d. 11 pts 11 pts (36.7%) underwent subsequent systemic therapies (1-3 protocols) following IP catumaxomab. 4 pts are still alive and free from subsequent punctures after a maximum of 812 days from start of IP catumaxomab.
Conclusion
Outpatient catumaxomab treatment of MA related to various gynecologic tumors is feasible and efficacious allowing for subsequent antineoplastic therapy in a substantial proportion of pts.

IGCSM-0670
Poster Shift III - Symptom management/palliation

OUTPATIENT TREATMENT OF MALIGNANT PLEURAL EFFUSIONS RELATED TO BREAST AND OVARIAN CANCER WITH INTRAPLEURAL INSTILLATION OF THE TRIFUNCTIONAL ANTIBODY CATUMAXOMAB

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Aims
Pleural effusion (PE) is a frequent complication of advanced gynecologic tumors. The trifunctional antibody catumaxomab is effective in the treatment of malignant ascites related to various neoplasms expressing the epithelial cell-adhesion molecule (EpCAM). We hereby report on our single-institution experiences with intrapleural (IPL) instillations of catumaxomab in outpatients suffering from PE due to metastatic breast (MBC) or recurrent ovarian cancer (ROC).
Methods
12 patients (pts) were treated (MBC, 7; ROC, 5).. In 11 pts, IPL catumaxomab was given as a 50 µg single-shot. In 1 MBC pt, catumaxomab was administered via an IPL catheter according to the intraperitoneal regimen (10, 20, 50, 150 µg) over 2 wks. Pts received a premedication comprising 5-HT_3 antagonists and non-steroidal anti-pyretics according to the intraperitoneal protocol. Toxicities were scored according to CTCAE 4.0. Puncture-free survival (PuFS) was calculated from the start of IPL catumaxomab until the next puncture due to PE, death, or loss to follow-up, whatever occurred first.Overall survival (OS) was calculated from start of IPl and death from any reason or loss to follow-up.
Results
IPL catumaxomab was well tolerated. Side-effects (fever, dyspnea, hypotension, fatigue) never exceeded G2. In 2 pts re-puncture was necessary, one of them requiring a second catumaxomab-instillation. In the remainder, PE was completely controlled.by IPL catumaxomab for a maximum of 603 d. Median PuFS is 112 d and median OS is 134 d; 3 pts are still alive..
Conclusion
IPL catumaxomab is a low-toxic alternative to established PE treatments allowing for outpatient therapy in pts with MBC and ROC in a routine clinical setting

IGCSM-0754
Poster Shift III - Symptom management/palliation

MENTAL MOOD OF GYNECOLOGIC CANCER PATIENTS ASSESSED BY DIT (DISTRESS AND IMPACT THERMOMETER) AND HADS (HOSPITAL ANXIETY AND DEPRESSION SCALE) DURING THE TREATMENT: KCOG-G1103 STUDY

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Aims

HADS (HADS; a 14-item, self-report questionnaire) is one of validated scales for screening emotional distress in cancer patients but is not used widely because of cumbersomeness to score. DIT (DIT; a 2-item consist of the distress and the impact self-report questionnaires) is easier to use but is not well verified. We conducted a multicenter prospective study to assess DIT with HADS as gold standard in gynecologic cancer patients and surveyed most relevant scores to detect psychiatric distress clinically.

Methods

After written informed consent, participants with newly diagnosed gynecologic cancer were requested to write and send the questionnaires at pretreatment, 3 months, and 6 months. HADS ≥11 was apprehended as positive for mental distress, and sensitivity, specificity, PPV, NPV were calculated.

Results

117 patients were enrolled and 95 were eligible. Area under the curve of receiver operating characteristic curve with respect to HADS positivity revealed 0.872 and 0.870, at the Distress score ≥4 and the Impact score ≥2, respectively. The sensitivity, specificity, PPV, NPV of DIT were 0.919, 0.522, 0.878, and 0.632 respectively. Significant emotional distress were revealed at 3 and 6 months compared at pretreatment in both HADS and DIT.

Conclusion

DIT is a reliable tool in ruling out clinical psychiatric distress. For the first 6 months of the treatment, mental mood would have a tendency to be restored but not resolved. So gynecologic oncologists should screen psychiatric distressed patients by DIT and introduced them to psychiatric treatment early in the initial treatment.

IGCSM-0836
Poster Shift III - Symptom management/palliation

EFFICACY AND THE SAFETY OF ANTICOAGULANT THERAPY USING THE XA INHIBITOR IN VENOUS THROMBOEMBOLISM ASSOCIATED WITH GYNECOLOGICAL MALIGNANCIES

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Aims

The current standard initial anticoagulant therapies for venous thromboembolism (VTE) are low-molecular-weight heparin (LMWH) and unfractionated heparin (UH). In a dose-ranging study of patients with symptomatic VTE, Xa inhibitor (fondaparinux: FPN) had efficacy and a safety profile similar to that of LMWH. We investigated the effectiveness and the safety of the FPN in the VTE treatment in the gynecological malignancies.

Methods

The subject cases were 53 patients (cervical cancer: 10; endometrial cancer: 18; ovarian cancer: 24 ; and vulvar cancer: 1;) with VTE who underwent the treatment with FPN. For the diagnosis of VTE, serum D-dimer level, helical CT, and ultrasound diagnosis of lower limbs were used. In addition to the 7.5mg of FPN (subcutaneous administration), which was started at the onset of VTE, warfarin was simultaneously administered from the 3rd day of onset, and the FPN was discontinued when the warfarin reached the effective therapeutic range.

Results

The mean value of D-dimer at the onset of VTE was 13.1±10.2μ/ml, while that on the 3rd day of treatment was 5.8±4.6μ/ml, thus it was significantly decreased by the administration of FPN(p<0.01). It took 4.9±4.8 days on average for the warfarin to reach the effective therapeutic range. No adverse events; such as major bleeding, were observed.

Conclusion

The Xa inhibitor (FPN) for VTE treatment in gynecological malignancies is effective and safe.

IGCSM-0933
Poster Shift III - Symptom management/palliation

PALLIATIVE CARE IN PATIENTS WITH OVARIAN CANCER AND BOWEL OBSTRUCTION

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Aims

Bowel obstruction is a pre-terminal event in patients with ovarian cancer. Decisions around surgical or medical treatment remains a challenge. The survival benefit from different strategies is difficult to validate and studies have not considered QOL. Aim of the study is to compare the success in survival and QOL of medical and surgical palliation.

Methods

Patients with recurrent ovarian cancer and intestinal occlusion between 2008 and 2014 were retrospectively identified. Patients underwent medical treatment or palliative surgery. Medical management included morphine sulphate, haloperidol and octreotide. Surgical management contemplated the less invasive procedure to palliate symptoms and to restore intestinal function.

Results

Eighteen patients underwent medical treatment and 22 patients were submitted to surgery. In the group of surgical treatment, patients had better performance (p:0.02) and nutritional status (p:0.00001), less incidence of ascites (p:0.004) and higher albumin (p:0.01). We registered 1 case of morbidity (4.5%) and 1 case of mortality (4.5%). Pain reduction was more effective (p:0.03) and accesses to the emergency department for re-obstruction were less frequent in the group of surgery. After palliation, among the two groups there were not any differences in vomit (p:0.83), diet (p:0.34), ability to return home (0.72) and number of chemotherapy lines (p:0.6). Hospitalization was shorter for the medical treatment (p:0.02). Median survival after bowel obstruction was longer in the group of surgery (14 months Vs 6 months; p:0.025).

Conclusion

Patients with ovarian cancer and bowel obstruction carefully selected on the basis of performance and nutritional status, ascites and serum albumin may benefit of palliative surgery.

IGCSM-1018
Poster Shift III - Symptom management/palliation

DOES SHAM FEEDING WITH CHEWING GUM AMELIORATE INTESTINAL MOTILITY AFTER GYNECOLOGIC SURGERIES? A RANDOMISED CONTROL TRIAL: PRELIMINARY REPORT

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Aims
The aim of our study is to investigate the effect of gum chewing on post-operative intestinal motility in patients who underwent major surgery for gynecologic malignancies and also in patients who underwent hysterectomy for benign reasons
Methods
Post- operative patients were divided into two groups. First group is described as patients that are operated for benign reasons. Second group is described as patients that undervent staging surgery for gynecologic malignancies. In this preliminary report each group consist of 60 patients.Each group was divided into two subgroups. Randomization process was performed just after surgery.Control group received no treatment besides routine post-operative management protocol, gum chewing group is defined as study group and received sugar free chewing gum three times daily for 30 minutes in each session starting on postoperative first day besides routine post-operative management protocol

Results
The mean time to flatus, mean time to defecation were significantly reduced in patients that chewed gum compared with controls in both benign and malignant surgery group ($p< 0,05$, $p<0,005$ respectively). In malignant surgery group the possible beneficial effect of sham feeding is detected as more significant.
Conclusion
Sham feeding as gum chewing early in the postoperative period hastens time to bowel motility and ability to tolerate feedings.This is an inexpensive and well-tolerated treatment modality with almost no side effects. This treatment modality should be kept in mind especially in postoperative care of gynecologic oncology.

IGCSM-1019
Poster Shift III - Symptom management/palliation

COPING WITH CANCER: EXAMINING THE SUPPORTS AVAILABLE TO WOMEN WITH GYNECOLOGICAL CANCER AT THE SASKATOON CANCER CENTER

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Aims

Women diagnosed and treated for gynecological cancer must find ways to cope. Cancer is both physically and emotionally challenging disease. This study aims to identify existing coping strategies women diagnosed with gynecological cancer throughout their cancer journey and to discover ways to improve and add to these supports to help women .

Methods

Women with gynecological cancer were interviewed individually according to focus group principles during clinic visits at the Saskatoon Cancer Centre to identify coping strategies. Interviews were used to inform researchers before preparing a survey about coping with cancer. During 8 weeks, women receiving care were surveyed. Questions explored diagnosis, therapy phase, feelings, attitudes, and supports.

Results

16 women were interviewed; Questionnaires were distributed to 75 women with cervical (20.7%), uterine (22.2%), ovarian (60.3%), and vulvar cancer (1.6%). After diagnosis, the major support was family in 96.8%, and talking helped in 71.4%. All women found their gynecological oncologist and nurse were supportive. Only 12.7% attended counseling, 17.5% attended workshops/ patient education sessions and 9.5% attended support groups. Reasons for not receiving supportive counseling were voiced. A small number of alternative therapies tried by 60.3% were deemed helpful in 97.4%. Parking at the Cancer Center was a stressor in 81%. Participants felt that the cancer care team fulfilled their needs emotionally. Patients want information about workshops, support meetings, and other modalities to improve their quality of life.

Conclusion

Small changes in the quality and type of available supports may enhance the experience of these women to cope with cancer more effectively.

IGCSM-1059
Poster Shift III - Symptom management/palliation

IS GENOTYPING OF UGT1A1 REALLY NEEDED FOR GYNECOLOGIC CANCER PATIENTS TREATED WITH IRINOTECAN-BASED CHEMOTHERAPY?

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Aims

Genotyping of UGT1A1*28 and *6 was supported by national insurances since 2008 in Japan, however, there still exists argument over the need of the UGT1A1 test.

Methods

Medical records of gynecologic patients treated with irinotecan-based therapy between 2003 and 2010 in our hospital were reviewed. Before 2007, dose reduction of irinotecan was based on physical status or previous myelosuppression (Non-UGT group). Since 2007, doses of irinotecan were modified by choice of physicians according to UGT1A1*28/*6 genotype (UGT-group). Adverse effects at the 1st cycle were compared.

Results

178 cases were treated with irinotecan-based therapy: 52 with cervix, 16 with uterine corpus, and 110 with mullerian cancers. 70 patients underwent UGT1A1 genotyping: 41 (59%) with wild-type, 27 (39%) with hetero-type, and 2 (3%) with homo-type/double hetero-type. Irinotecan dose was modified in 24% in UGT group, and 11% in non-UGT group. In UGT group, Grade3/4 non-hematologic (14% vs. 26%, p=0.06) and Grade4 hematologic toxicities (7% vs. 19%, p=0.01) were reduced. Grade4 non-hematologic toxicities were not observed in UGT-group (0% vs. 6%, p=0.04).

Conclusion

Tailor-made chemotherapy according to UGT1A1 genotyping enabled us to reduce severe toxicities in gynecologic patients treated with irinotecan. Further investigations including response rates at reduced doses are needed to facilitate UGT1A1 genotyping.

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IGCSM-1064
Poster Shift III - Symptom management/palliation

PSYCHOSOCIAL SCREENING IN GYNAECOLOGICAL CANCER - A REVIEW OF GOLD STANDARD PRACTICE IN NEWCASTLE AUSTRALIA.

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Aims

National and international guidelines state that screening for psychosocial distress, "the 6th vital sign", is a necessary part of comprehensive cancer care. This paper will outline the international development of distress screening models and then consider the development of simple routine screening and more importantly follow up, in an area including metropolitan, regional and remote NSW Australia.

Methods

Many screening models involve using technology such as touchscreen computers and assistants to help complete the screening questionnaires. However, these methods are expensive, and so not available to all services. This service has implemented simple pencil and paper screening methods with routine telehealth follow up.

Results

Screening using the Distress Thermometer and Problem Checklist commenced in February 2007. Results spanning the past 7 years will be reviewed along with changes in the system of follow up. Relationships between scores, stage of illness and identified problems are considered for a smaller portion of the data.

Conclusion

Screening for psychosocial distress is internationally recognised as a crucial component of patient centred care. Gold standard screening and follow up in gynaecological cancer services is possible using simple pencil and paper methods with routine telehealth follow up. This is especially useful in smaller services, and services covering a large geographic area. Identification of distress relating to physical concerns allows medical

staff to provide timely and appropriate care as well as psychosocial staff to provide care relating to psychological distress. There is no reason patients experiencing distress cannot be quickly identified and referred to appropriate services.

IGCSM-1066
Poster Shift III - Symptom management/palliation

DO DIFFERENT GYNAECOLOGICAL CANCERS PRESENT WITH DIFFERENT LEVELS OR TYPES OF PSYCHOSOCIAL AND PHYSICAL PROBLEMS?

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Aims
Routine screening for psychosocial distress and associated problem domains including practical, family, emotional, spiritual and physical problems is the gold standard as the "6th vital sign" in patient centred cancer care. This paper aims to consider relationships between initial distress/problems, and, diagnosis, stage, age, relationship status and fertility, for results collected from the Distress Thermometer and Problem Checklist.

Methods
Data from a 2 year period collected at the HNECGC will be analysed. Variables include diagnosis, age, stage of disease, relationship status and fertility status.

Results

In previous work we have shown that women presenting to our service appreciate being asked to complete the Distress Thermometer as it makes them feel that "someone cares" about how they are managing. Initial results from this data suggest that women with endometrial cancers present with more idenified problems, while younger women with any cancer are more distressed on presentation. Data analysis is onging and further results will be presented.

Conclusion
While routine screening is considered the "6th vital sign" of comprehensive patient centred care, few people have considered how the information contained in the Distress Thermometer and Problem Checklist may better inform us about women presenting with different cancers and at different stages of illness and life. We will demonstrate the usefulness of these measures to identify issues for patients and consider routine support that might be presented in a more proactive than reactive style based on this information.

IGCSM-0028
Poster Shift III - Uterine Cancer including Sarcoma

GROWTH FACTORS MODULATE ENDOMETRIUM CANCER CELLS' PROLIFERATION AND VEGF SECRETION.

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Aims

Obesity is a significant risk factor in the development of endometrial cancers and poses one of the greatest health threats. Furthermore morbid obesity is associated with increased risk of death from endometrial cancers. The mass of adipose tissue is different in obese and lean individuals. Leptin and adiponectin are derived from adipose tissue, and high levels of leptin and low levels of adiponectin are associated with endometrial cancer growth.

Methods

In this study we investigated the effects of leptin and adiponectin, on cultured cells of an endometrial adenocarcinoma cell line (Ishikawa with PTEN mutation) in 24-well tissue culture dishes. after 48 hours cell proliferation and VEGF secretion were determined.

Results

Therefore, leptin does not act in parallel with adiponectin. In obese patients there are low adiponectin levels, and low levels actually increase cancer cell number. This suggests that both high leptin concentrations and low adiponectin concentration stimulate tumour growth.

Conclusion

In conclusion, each of the peptides (leptin and adiponectin), has effects on proliferation and VEGF secretion that are both favourable and deleterious to cancer cell survival. Leptin increases cell number and decreases VEGF secretion. Adiponectin decreases proliferation and increases VEGF secretion in high concentrations, but stimulates it at low concentrations.
Obesity, via altered control on leptin and adiponectin, may have a large impact on cancer cell growth.

IGCSM-0038
Poster Shift III - Uterine Cancer including Sarcoma

THE IMMUNOHISTOCHEMICAL EXPRESSION OF CD171 IN ENDOMETRIAL CARCINOMA

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Aims
The L1 cell adhesion molecule (L1CAM, CD171) is associated with poor prognosis in several cancers, including endometrial carcinoma. L1CAM promotes cell invasion, tumor growth and metastasis formation. The aim of the present study was to compare the immunohistochemical expression of L1CAM with the histopathological features of endometrial carcinoma.

Methods
Tissue sections from 111 surgically staged endometrial carcinoma specimens were immunohistochemically stained for L1CAM. The result of the immunohistochemical analysis was correlated to the presence of metastases, depth of myometrial invasion and histological grading of the tumors.

Results

The mean age of the patients was 67.5 ± 8.7 years (range, 33–87 years). 23 patients had a metastasized disease, and 28 tissue specimens presented a positive staining for L1CAM. Positive staining for L1CAM was associated with the presence of deep (≥50%) myometrial invasion and histological grade of the tumors ($p=0.001$ and $p<0.001$, respectively). However, no association between L1CAM staining and advanced stage (≥FIGO stage IIIA) disease was observed.

Conclusion
This study suggests that L1CAM expression correlates with increasing grade and the presence of deep myometrial invasion in endometrial carcinoma, both of which are regarded as surrogates for an increased risk for a metastasized disease.

IGCSM-0042
Poster Shift III - Uterine Cancer including Sarcoma

UTILITY OF FROZEN SECTION PATHOLOGY IN ENDOMETRIAL PRE-MALIGNANT LESIONS

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Aims

It is important for the patient to know howlikely is she to have concurrent endometrial carcinoma. And if she is considered to not to have concurrent carcinoma, what is her risk of progression from endometrial hyperplasia to carcinoma? We investigated the utility of frozen section (FS) pathology in endometrial hyperplasia (EH).

Methods

We retrospectively analyzed patients whounderwent abdominal hysterectomy with preoperative diagnosis of complex atypical (CAEH) and simple endometrial hyperplasia (SEH) between May 2007 and December 2013. Frozen and paraffin section (PS) results were compared. Sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) and accuracy in predicting EC on FS were evaluated with 95% confidence intervals (CIs) for each parameter. The correlation between FS and PS was calculated as κ coefficient

Results

Among 143 preoperatively diagnosed CAEH patients, 60 patients (42%) were malignant and 83 patients (58%) were benign in PS; and among 60 malignant patients diagnosed in PS, 43 patients (71%) were “malignant” in FS. Sensitivity, specificity, PPV and NPV for FS were 76%, 100%, 100% and 87.5% respectively

Conclusion

The importance of FS should not be underestimated. Patients with the diagnosis of EH especially postmenopausal patients should have undergone surgery where FS investigation is available.

IGCSM-0050
Poster Shift III - Uterine Cancer including Sarcoma

GROWTH AND ENHANCEMENT OF MINIMALLY INVASIVE SURGERY FOR UTERINE CANCER AT A COMPREHENSIVE CANCER CENTER

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Aims
To assess the change in surgical practice for patients with newly diagnosed endometrial cancer with the incorporation of minimally invasive approaches and tools.
Methods
All cases that underwent primary surgery for newly diagnosed uterine cancer from 1993 to 2012 were identified. Surgical approaches were categorized as laparotomy (LAP); laparoscopic (LSC); robotic (RBT); and vaginal (VAG). Minimally invasive surgeries (MIS) included LSC and RBT cases. We identified 3 time periods based on the evolution of MIS at our institution: early LSC (1993-1999) when LSC was first introduced, late LSC (2000-2008) when a greater emphasis was placed on advancing LSC, and RBT (2008-2012) when a robotics program was developed.
Results
3,163 cases were identified and performed among 17 gynecologic oncology surgeons. The rate of VAG approaches ranged from 0-1.5% per year. The rate of MIS approaches ranged from 9.7% in 1993 to 81.9% in 2012. The rate of MIS for the early LSC, late LSC, and RBT time periods was 22.2%, 41.9%, and 70.4%, respectively (P<0.001 for 3-way comparison as well as for late LSC vs RBT). The rate of MIS for the highest volume surgeon among these time periods was 31%, 53.9%, and 78.2% (P<0.001). The median BMI for the MIS cases only among the 3 time periods was 25.8 mg/kg2, 27.2 mg/kg2, and 29.2 mg/kg2 (P<0.001).
Conclusion
Dedicated efforts to optimize MIS rates can lead to the majority of patients with uterine cancer being able to benefit from MIS. Incorporation of novel tools, such as the robotic platform, will further enhance MIS programs.

Conflict of interest
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IGCSM-0055
Poster Shift III - Uterine Cancer including Sarcoma

THE OUTCOME AND EFFICACY OF ADJUVANT CHEMOTHERAPY ALONE IN PATIENTS WITH STAGE IIIA ENDOMETRIAL CARCINOMA WITH SOLITARY ADNEXAL INVOLVEMENT: A RETROSPECTIVE SINGLE-INSTITUTION STUDY

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Aims
The appropriate adjuvant therapy for patients with endometrial carcinoma with solitary adnexal involvement is unclear. We conducted a retrospective single-institution study to evaluate the outcomes and efficacy of chemotherapy alone as an adjuvant therapy in this population.

Methods
All patients with endometrial carcinoma who received primary surgical treatment between January 1999 and May 2010 were reviewed. The patients who were diagnosed with stage IIIA disease based only on isolated adnexal involvement and treated with surgical procedures followed by adjuvant chemotherapy alone were included. Demographic, clinicopathologic, treatment and outcome data were collected. Recurrence and survival were analyzed.

Results
Among 1453 reviewed patients, 67 patients were identified. The median age was 48 years. All patients were treated with platinum-based adjuvant chemotherapy, with the majority (36/67, 53.7%) receiving paclitaxel plus carboplatin. The total number of cycles of chemotherapy administered was 305 (median four cycles/person). Most of the chemotherapy related toxicities were mild or moderate. The median follow-up time was 76 months. Eight patients experienced recurrence. The majority of initial relapses were distant (7/8, 87.5%), characterized by liver metastases (3/8, 37.5%). The 5-year disease-free survival (DFS) and overall survival (OS) rates were 89.6% and 91.9%, respectively. Multivariate analysis confirmed that grade 3 tumor was an independent predictor of worse DFS and OS (HR = 5.001, P = 0.048; HR = 6.29, P = 0.032, respectively).

Conclusion
Patients with stage IIIA endometrial carcinoma with solitary adnexal involvement have favorable outcomes. Chemotherapy alone as an adjuvant therapy may be effective and feasible for these patients.

IGCSM-0068
Poster Shift III - Uterine Cancer including Sarcoma

CONSERVATIVE THERAPY USING METFORMIN PLUS MEGESTROL ACETATE FOR ENDOMETRIAL ATYPICAL HYPERPLASIA: PRELIMINARY RESULTS OF A PILOT STUDY

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Aims

To compare the efficacy of metformin plus megestrol acetate (MA) with MA alone in treating endometrial atypical hyperplasia (EAH) patients.

Methods

Sixteen EAH patients with at least one metabolic syndrome (MS) criteria were enrolled for adjunctive metformin plus MA (MET group) or MA monotherapy (MA group) in this single-blinded pilot study. Each case in MA group received MA 160mg/day while cases in MET group received the same dose of MA plus 0.5g of metformin three times a day. Histological response was assessed based on pathology of dilation and curettage done after 12 weeks' therapy.

Results

Each group had 8 cases and half in each group were diagnosed as MS. Complete response (CR) rate was 75% (6/8) in MET group and 25% in MA group (p=0.105). The complication of MS did not affect response rate in both groups. The MET group achieved 75% (3/4) CR rate in patients with or without MS. In patients with MS, 50% (2/4) of MA group had CR. In patients without MS, no case had CR in MA group. No irreversible toxicities were observed.

Conclusion

Metformin plus MA might be an alternative therapy in treating EAH patients and MS situation may have no effect on efficacy of metformin plus MA.

IGCSM-0074
Poster Shift III - Uterine Cancer including Sarcoma

THE ROLE OF G PROTEIN-COUPLED ESTROGEN RECEPTOR IN THE SIGNALING PATHWAYS OF TYPE ? ENDOMETRIAL CARCINOMA

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Aims

To explore the role of G protein-coupled estrogen receptor (GPER) in the signaling pathways of type ? endometrial carcinoma.

Methods

The study selected the Ishikawa (ER+), HEC-1A (ER low expressed), and KLE (ER-) cell lines were selected in the study. The MTT method was used to detect the effect of Estradiol?estrogen receptor antagonist ICI182780 and GPER antagonists G15 on the growth of cells. Western-Blot was used to detect the influence of Estradiol?ICI182780 and G15 on the expression of Akt, GPER and Bcl-2 protein in Ishikawa cells, HEC-1A cells and KLE cells.

Results

The effect of Estradiol on the proliferation of HEC-1A and KLE cells was weaker than that on Ishikawa cells. ICI180782 obviously inhibited the proliferation of Ishikawa cells stimulated by Estradiol, while no effect on HEC-1A and KLE cells. G15 obviously inhibited the proliferation of HEC-1A and KLE cells stimulated by Estradio, While no effect on Ishikawa cells. The expression of three proteins Akt, GPER, Bcl - 2 were increased after the simulation of Estradiol. ICI182780 down regulated the expression of Akt, Bcl- 2 and GPER in Ishikawa cells, while no effect on the HEC-1A and KLE cells. But in Ishikawa cells, G15 down regulated the expression of GPER, while no effect on the expression of Akt, Bcl-2.

Conclusion

Estradiol induce the proliferation of HEC-1A and KLE cells mainly by binding with GPER, then up- regulating the expression of Akt and bcl-2. While in Ishikawa cells, the induction of proliferation by Estradiol is mediated by ER.

IGCSM-0076
Poster Shift III - Uterine Cancer including Sarcoma

SCORE PROGNOSTIC FACTORS AND CAUSES OF TREATMENT FAILURE IN PATIENTS WITH GYNECOLOGICAL SARCOMAS

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Aims

The aim of study is identify causes of failure, the analysis of prognostic factors in patients with uterine sarcoma treated with radiation and evaluation after surgery overall survival and asymptomatic, depending on the degree of clinical advancement of the histological forms of cancer.

Methods

Clinical material includes 77 patients.The radical surgery was performed in 22 patients, non radicalcal in 52, 3 were not operated. Postoperative radiotherapy used in 20, adjuvant chemotherapy in 30, combination therapy in17, 3 received BT , in 1 used progestins, 4 remained in observation after surgery, and 2 remained without treatment.To assess the impact of various factors on the tumor and the patient used Weibull and Cox model.

Results

In 24 patients were relapse. In 20 patients had been spread tumor. Multivariate analysis showed that independent prognostic factors were the degree of clinical stage, histological type of tumor, radical surgery. In low stage use radiotherapy reduced the risk of relapse by 50%, where the use of combination therapy reduced the risk of recurrence and death by 40%.

Conclusion

In second degrees use postoperative RT reduces by half the risk of disease recurrence but is not sufficient to cure patients with locally advanced,
For patients in the third degree most optimal method of treatment seems to be sequential chemotherapy and radiotherapy,
The most relevant prognostic factors for survival are the primary advanced disease,

tumor histological type and radical surgery.
The most frequent cause of treatment failure for LSM is the spread of cancer or no local or regional recurrence for ESS.

IGCSM-0085
Poster Shift III - Uterine Cancer including Sarcoma

STAGE IIIC ENDOMETRIAL CANCER: THE NEED FOR NOVEL SUBGROUPING ACCORDING TO THE RATIO OF METASTATIC LYMPH NODES

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Aims

The survival rates in endometrial cancer (EC) patients with lymph node (LN) metastasis vary greatly. Many other factors may have impact on the prognosis within this special group. The purpose of this study was to determine factors predicting the progression or death in patients with stage IIIC EC.

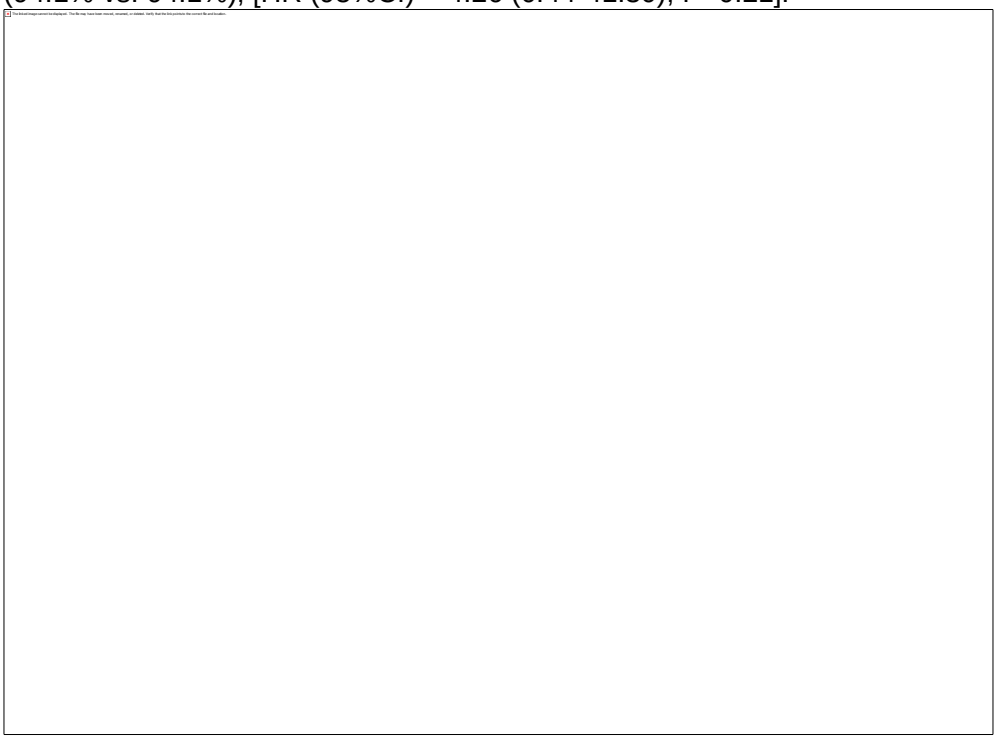
Methods

A single tertiary-center, retrospective analysis was conducted in a total of 38 consecutive stage IIIC EC patients who surgically treated between January 2005 and January 2013. The primary endpoint was the determination of factors predicting the progression, recurrence, or death of any cause. The secondary endpoints were progression-free survival (PFS) and overall survival (OS).

Results

The median age was 64 years, and the median follow-up time was 32.50 months (95%CI: 28.75-40.56). The median number of metastatic positive LNs (pelvic and/or paraaortic) was 2, and the LN ratio, expressed as the percentage of positive nodes to total LNs identified, was 6.3%. The LN ratio (≥6.5%) was the only independent parameter for progression or death in multiple logistic regression analysis. Patients were stratified according to the LN ratio (<6.5% vs. ≥6.5%) for survival comparisons. The estimated 32-months PFS rates were 90% and 64.8%, respectively [HR (95%CI) = 5.07 (1.05-24.56), P=0.025]. However, the estimated 32-months OS rates were comparable

(94.1% vs. 94.1%), [HR (95%CI) = 4.26 (0.44-41.30), P=0.21].



Conclusion

The stratification of patients with stage IIIC disease according to the LN ratio may allow better identification of prognostic information and selection of individualized patient-tailored adjuvant treatment modalities.

IGCSM-0086
Poster Shift III - Uterine Cancer including Sarcoma

ANALYSIS OF FACTORS PREDICTING PARAAORTIC LYMPH NODE METASTASIS AND LYMPHATIC SPREAD LOCATIONS IN PATIENTS WITH ENDOMETRIAL CANCER

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Aims

To determine factors predicting paraaortic lymph node (LN) metastasis in patients with endometrial cancer (EC), and to provide detailed knowledge of metastatic LN locations.

Methods

A total of 173 patients with EC who underwent hysterectomy/combined pelvic-paraaortic lymphadenectomy were included into this retrospective study. First, simple logistic regression analyses were performed. Variables with a p value <0.05 were included into multiple logistic regression analysis. The influence of each factor on LN metastasis was examined using the chi-square test.

Results

The univariate analysis revealed a relationship between paraaortic LN metastasis and non-endometrioid histology (P=0.032), grade 3 tumor (P=0.034), myometrial invasion ≥½ (P=0.049), LVSI (P=0.006), adnexial invasion (P=0.001), pelvic LN involvement (P=0.001), and the number of metastatic pelvic LNs ≥ 2 (P=0.001). However, the number of metastatic pelvic LNs ≥ 2 (P=0.030) was the only independent parameter predicting paraaortic LN metastasis in multivariate analysis. The most common lymphatic sites involved were external iliac (50.0%), obturator (50.0%), and low-precaval areas (36.8%). The least common location of LN metastasis was the high-precaval area (5.3%). Upper margin of the lymphatic dissemination was iliac bifurcation in 28.9%, aortic bifurcation in 5.3%, IMA in 39.5%, and renal vein in 26.3%. In patients with paraaortic LN metastasis, 57.7% of patients had metastasis below IMA whereas 42.3% had above IMA.

Conclusion

The number of metastatic pelvic LNs ≥ 2 is the sole parameter predicting paraaortic LN

metastasis. If pelvic LNs are involved, lymphadenectomy should be extended up to renal vessels, since half of the paraaortic LN metastasis are located above the IMA

IGCSM-0102
Poster Shift III - Uterine Cancer including Sarcoma

ISOLATED TUMOR CELLS AND MICROMETASTASES IN REGIONAL LYMPH NODES IN ENDOMETRIAL CANCER WITH DEEP MYOMETRIAL INVASION: A PRELIMINARY REPORT

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Aims

The aim of this study was to clarify the clinical significance of isolated tumor cells (ITCs) or micrometastases in regional lymph nodes in patients with intermediate-risk endometrial cancer.

Methods

A series of 54 patients who had undergone systematic lymphadenectomy and been diagnosed as having deep myometrial invasion between 1997 and 2004 were studied retrospectively. In 32 cases in which no lymph node metastases had been found on routine hematoxylin and eosin (H&E) staining, ultra-staging by multiple slicing, staining with H&E and cytokeratin, and microscopic examination was performed on a total of 1,363 regional lymph nodes. Nodal status after ultra-staging was classified as follows: (1) pN0, no tumor deposits detected; and (2) pN0[i+]/pN1mi, ITCs or micrometastases detected.

Results

Eight patients (25%) had occult lymph node metastases (six ITCs and two micrometastases). Positive peritoneal cytology was significantly associated with the pN0[i+]/pN1mi group (p=0.039). The rate of para-aortic node relapse was close to significantly higher in the pN0[i+]/pN1mi group than in the pN0 group (25% vs 0%, p=0.057). The 8-year overall survival rate appeared lower in the pN0[i+]/pN1mi group than in the pN0 group (66.7% vs 86.8%); however, this difference was not significant (log-rank test, p=0.21).

Conclusion

Peritoneal cytology may predict ITCs or micrometastases in regional lymph nodes in endometrial cancer patients with deep myoinvasion and no lymph node metastasis detected on routine H&E sections. Treatment of potential para-aortic disease should perhaps be considered in patients with ITCs or micrometastases in their pelvic lymph nodes.

IGCSM-0103
Poster Shift III - Uterine Cancer including Sarcoma

EXPRESSION OF ESTROGEN RECEPTOR-ALPHA AS A PROGNOSTIC FACTOR IN PATIENTS WITH UTERINE SEROUS CARCINOMA

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Aims
Although the expression of estrogen receptor (ER) is usually found in uterine endometrioid adenocarcinomas, it has recently been reported to be found in some uterine serous carcinomas (USCs). This report describes the clinicopathological features of USC with an expression of ER-alpha with special reference to the prognostic significance of ER-alpha.

Methods
The immunohistochemical expression of ER-alpha was examined in 33 USCs. Greater than 10% staining was defined as an overexpression of ER-alpha. Cox's univariate and multivariate analyses for UCSs were performed.

Results
A total of seven USCs (21.2%) exhibited an expression of ER-alpha. All tumors were the pure type of USC and strongly demonstrated an overexpression of p53. The cancer-specific survival rates of the patients with USC without an expression of ER-alpha and USC with an expression of ER-alpha were 54.5% and 0.0%, respectively (P=0.04). The univariate analyses showed an expression of ER-alpha to be a significant prognostic indicator in patients with USC (P<0.05). However, multivariate analyses for USCs showed that the surgical stage was an independent prognostic factor, while the significance of ER immunoreactivity disappeared.

Conclusion

USC with an expression of ER-alpha was associated with advanced-staged tumors and a significantly worse prognosis than that without an expression of ER-alpha. When an endometrial biopsy specimen reveals USC with an expression of ER-alpha and an overexpression of p53, the presence of an extrauterine lesion is strongly suggested.

IGCSM-0127
Poster Shift III - Uterine Cancer including Sarcoma

CORRELATIONS BETWEEN THE NUMBER AND DISTRIBUTION OF METASTATIC LYMPH-NODES OF ENDOMETRIAL CANCER PATIENTS IN SYSTEMATIC PELVIC AND PARA-AORTIC LYMPHADENECTOMY

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Aims

The aim of this study was to identify correlations between the number and distribution metastatic lymph nodes in endometrial cancer.

Methods

We retrospectively enrolled a total of 675 patients who underwent surgery including systematic pelvic and para-aortic lymphadenectomy for endometrial cancer from 1994 to 2012 at our institution, and then analyzed the frequency, number, and distribution patterns of metastatic lymph nodes.

Results

Of the 675 patients, 119 (17.6 %) were positive for lymph node metastasis. Among these, 36 (30.3 %) had one positive node, 17 (14.3 %) had two positive nodes, and 10 (8.4 %) had three positive nodes. The frequency of lymph node metastasis for both pelvic and para-aortic sites was low (5.9%) in patients with two positive lymph nodes, but markedly higher (80%) in those with three positive nodes. The distribution of metastasis of one positive site was scattered among lymph nodes throughout the entire pelvic and para-aortic lymph nodes. The distribution sites of two positive nodes indicated that they originated from the same or a close region, whereas the origin of the three positive nodes was scattered several regions.

Conclusion

There was a great disparity in the frequency of lymph node metastasis for both pelvic and para-aortic sites among patients with two or three positive nodes, and if even one positive node was distributed sparsely, it was difficult to accurately identify the metastatic sites before surgery.

IGCSM-0128
Poster Shift III - Uterine Cancer including Sarcoma

PROGNOSTIC SIGNIFICANCE OF CERVICAL STROMAL INVOLVEMENT IN EARLY STAGE ENDOMETRIAL CANCER

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Aims

The aim of this study was to evaluate the Prognostic significance of cervical stromal involvement in early stage endometrial cancer

Methods

We have identified 394 patients with stage I and II endometrial cancer (FIGO 2009) who were treated at Seoul National University Hospital between 2000 and 2011 from the electronic medical record. We retrospectively examined their clinical profiles and pathologic findings The prognostic validity of cervical stromal invasion as well as other factors were analyzed by Kaplan-Meier and cox proportional hazards model.

Results

Among the 394 patients, 19 patients were stage II. The recurrent patients were about 4 percents(16/394) and following characteristics : overall, 1.9% of stage Ia, 14% of stage Ib, 0%; stage II. On univariate analysis, histologic grade 3, deep MI were poor prognostic factors for recurrence in early stage endometrial cancer and MI was the only independent risk factor for recurrence (HR = 0.105 ; 95% CI,0.032-0.339) on multivariate cox-proportional analysis.

Conclusion

Cervical stromal invasion was not an independent prognostic factor for recurrence whereas MI seems to be a significant and consistent poor prognostic factor for recurrence.

IGCSM-0129
Poster Shift III - Uterine Cancer including Sarcoma

PROGNOSTIC FACTORS AND TREATMENT OUTCOMES FOR PATIENTS WITH SURGICALLY STAGED UTERINE CLEAR CELL CARCINOMA: A TAIWANESE GYNECOLOGIC ONCOLOGY GROUP STUDY

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Aims
The aim of this study was to investigate the clinical and pathological characteristics of uterine clear cell carcinoma (UCCC) and the treatment of this disease in relation to patient outcomes.
Methods
The clinicopathological data for and the management of all patients with UCCC who presented between 1991 and 2010 at 11 member hospitals of the Taiwanese Gynecologic Oncology Group (TGOG) were retrospectively reviewed.
Results
The 5-year overall survival (OS) rates showed no significant difference between patients with pure UCCC (n=100) and patients with non-pure UCCC (n=53) at the same surgical stage: with OSs, respectively, of 92.6%, and 87.7% for stage I; 83.3% and 83.3% for stage II; 64.0% and 67.8% for stage III; and 16.7% and 0% for stage IV (n=1). Tumour stage and age independently influenced the overall survival rate of UCCC. When confined to patients with early stage UCCC, the adjuvant therapy modality was the only significant prognostic factor in the recurrence-free survival (RFS). In patients with early stage UCCC who received adjuvant therapy, patients demonstrated an excellent 5-year RFS and overall survival (OS) compared to those who received radiotherapy (100% vs 74%, p=0. 01; 100% vs 72%, p= 0.03).
Conclusion

The 5-year survival rates of patients with pure UCCC and non-pure UCCC were similar in our study. The prognosis for complete surgical staging of patients with stages I/II UCCC is more encouraging than in previous reports. Postoperative adjuvant platinum-

based chemotherapy is recommended for patients with early stage UCCC who are at a high risk of recurrence.

IGCSM-0131
Poster Shift III - Uterine Cancer including Sarcoma

PREDICTING MODEL FOR LYMPH NODE METASTASIS USING PREOPERATIVE TUMOR GRADE, TRANSVAGINAL ULTRASOUND, AND SERUM CA-125 LEVEL IN PATIENTS WITH ENDOMETRIAL CANCER

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Aims
The purpose of this study was to evaluate the predicting model for lymph node metastasis using preoperative tumor grade, transvaginal ultrasound (TVS), and serum CA-125 level in patients with endometrial cancer.
Methods
Between January 2000 and February 2013, we identified 172 consecutive endometrial cancer patients. TVS was performed by an expert gynecologic radiologist in all patients. All patients had complete staging surgery including pelvic/para-aortic lymphadenectomy.
Results
Of 172 patients, 138 patients presented with stage I (118 IA, 20 IB), 12 had stage II, 18 had stage III (2 IIIA, 1 IIIB, 8 IIIC1, 7 IIIC2), and 2 had stage IV diseases. The majority of patients had endometrioid adenocarcinoma (88.4%). Eighteen patients (10.5%) were found to have lymph node metastasis. Deep (≥50%) myometrial invasion on preoperative TVS, high serum CA-125 level (≥ 35 IU/mL), preoperative grade 3 tumors were significant preoperative factors predicting lymph node metastasis. We calculated the simple model predicting lymph node metastasis based on preoperative tumor grade, TVS findings, and CA-125 level using logistic regression analysis. With the cut-off point of 1.5, the sensitivity and specificity of this model were 94% and 57%, respectively (AUC = 0.84, [95% CI, 0.74-0.93], $P < 0.01$).
Conclusion

Preoperative tumor grade, myometrial invasion on preoperative TVS, and CA-125 can accurately predict lymph node metastasis in endometrial cancer patients. The current study suggests the possibility that TVS could be positively used for preoperative evaluation strategy in the low-resource countries instead of expensive imaging modalities such as MRI or PET-CT.

IGCSM-0132
Poster Shift III - Uterine Cancer including Sarcoma

PREDICTION OF LYMPH NODE METASTASIS IN PATIENTS WITH APPARENT EARLY ENDOMETRIAL CANCER

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Aims
The purpose of this study was to investigate the incidence of lymph node metastasis in patients who were presumed to have endometrial cancer confined to the uterine corpus without extrauterine involvement and to evaluate preoperative clinicopathological factors predicting lymph node metastasis.
Methods
We identified 142 consecutive patients with endometrial cancer between January 2000 and February 2013. All patents demonstrated endometrioid adenocarcinoma with grade 1 or 2 on preoperative endometrial biopsy. Preoperative magnetic resonance imaging (MRI) showed that tumors were confined to the uterine corpus with superficial myometrial invasion (< 50%) and there was no any evidence of extrauterine metastasis. All patients had complete staging procedures.
Results
Of 142 patients, 127 patients (89.4%) presented with stage IA, 8 (5.6%) had stage IB, 3 (2.1%) had stage II, and 4 (2.8%) had stage III diseases. Three patients (2.1%) had lymph node metastasis – 2 IIIC1 and 1 IIIC2 diseases. Preoperative tumor grade was upgraded in 8 patients (5.6%) and 27 patients (19.0%) presumed to have no or superficial myometrial invasion on preoperative MRI postoperatively showed deep myometrial invasion. High preoperative serum CA-125 level (>35 IU/mL) was a statistically significant factor predicting lymph node metastasis on univariate and multivariate analyses. Lymph node metastasis was only found in patients with preoperative grade 2 tumors or high serum CA-125 level.
Conclusion
Preoperative tumor grade and serum CA-135 level can predict lymph node metastasis in apparent early endometrial cancer patients who had endometrioid histology, grade 1-2 tumor, and superficial myometrial invasion on preoperative MRI.

IGCSM-0134
Poster Shift III - Uterine Cancer including Sarcoma

RISK GROUP CRITERIA FOR TAILORING ADJUVANT TREATMENT IN PATIENTS WITH ENDOMETRIAL CANCER: A VALIDATION STUDY OF THE GOG CRITERIA

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Aims

The purpose of this study is to validate the previous risk criteria for adjuvant treatment and to evaluate the novel risk criteria predicting the prognosis and tailoring adjuvant treatment.

Methods

We performed a retrospective analysis of 261 consecutive patients with surgically staged endometrial cancer between January 2000 and February 2013. Patients were classified into three groups based on the Gynecologic Oncology Group (GOG) criteria: (1) Low and low-intermediate risk group; (2) High-intermediate risk group; and (3) High risk group. A new risk criteria for adjuvant treatment based on FIGO stage, tumor grade, LVSI, and age were calculated.

Results

According to GOG criteria, we identified 191 low and low-intermediate risk patients, 27 high-intermediate risk patients, and 43 high risk patients. Using new risk criteria, we identified 169 low risk patients, 47 intermediate risk patients, and 45 high risk patients. The performance of the new criteria (AUC = 0.855 and 0.911 for disease recurrences and deaths, respectively) was as good as the GOG's (AUC = 0.853 and 0.921 for disease recurrences and deaths, respectively). There were no statistical differences between ROC curves of both criteria on DFS (P = 0.946) and OS (P = 0.734).

Conclusion

The current study suggests the possibility that the simplified new criteria could be established, which predict prognosis and select proper candidates for adjuvant treatment in surgically staged endometrial cancer patients. Our new criteria may be easily

applicable and offer useful information for planning strategy of adjuvant treatment in endometrial cancer patients as the GOG criteria.

IGCSM-0139
Poster Shift III - Uterine Cancer including Sarcoma

PROGNOSIS AND SURVIVAL OF WOMEN WITH ENDOMETRIAL CANCER AFTER ADJUVANT RADIOTHERAPY

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Aims
Endometrial cancer is the most common gynecologic malignancy. While therapy guidelines are widely established, optimal treatment of subgroups remains unclear. We retrospectively investigated the patients (pts) treated at our department regarding the meaning of adjuvant radiotherapy (RT) and known prognostic factors for clinical outcome.
Methods
380 pts underwent adjuvant RT for EC at the University Hospital Heidelberg, Germany, 2004-2012. Median age: 66 years. FIGO I 68.7%, FIGO II 13.6%, FIGO III 16.3%, FIGO IV 1.4%. Lymphadenectomy (LNE) 96.9%. Adjuvant chemotherapy (ChT) 3.6%. Intravaginal brachytherapy (IVB) 52.6%, IVB + external beam radiotherapy (EBRT) 47.4%. Statistical analysis: chi-square, LogRank test, Cox regression.
Results

Five year local recurrence free survival (LRFS) 90%, distant metastases free survival (DMFS) 88.2%, overall survival (OS) 77.8%. 22.2% died, 8.9% local recurrence, 8.9% distant metastases.

Univariate analysis:
LRFS: FIGO (p=.002), pT (p<.001), pN (p<.001), L (p<.001), V (p=.003), R (p<.001), LNE (p<.016).
DMFS: age (p=.005), FIGO (p=.006), pT (p<.001), pN (p=.001), grading (p=.039), histology (p=.043), L (p<.001), V (p<.001), LNE (p=.006).
OS: age (p=.014), FIGO (p<.001), pT (p<.001), pN (p<.001), grading (p<.001), histology (p<.001), L (p<.001), V (p<.001), R (p<.001), LNE (p=.004).

Multivariate analysis: OS: age (p=.019), grading (p=.014), histology (p=.001), V (p<.001). DMFS: V (p<.001). LRFS: L (n.s.).

Conclusion
RT ensures good local control rates. However, non-endometrioid histology or advanced

stages with high grading are associated with a substantially worse prognosis and these pts are in need of combined local and systemic therapy. Vessel infiltration might be the best predictive factors for a benefit from maximized therapy.

IGCSM-0140
Poster Shift III - Uterine Cancer including Sarcoma

UTERINE MANIPULATORS IN LAPAROSCOPIC OR ROBOTIC PROCEDURES AND THEIR ROLE IN ENDOMETRIAL CANCER RECURRENCE.

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Aims

The aim of this study is to discuss the possible role of uterine manipulators in endometrial cancer recurrence. During laparoendoscopic procedures, the upward traction to the uterus is considered fundamental. The application of uterine manipulators in hysterectomy can facilitate diverse tasks to lead to a safe and successful surgical outcome. Some authors have raised their concern that the use of uterine manipulators might increase the incidence of tumor cell dissemination among patients with endometrial cancers.

Methods

This is a literature search with terms related to the role of uterine manipulators in endometrial cancer recurrence in PubMed and Scopus.

Results

Six articles were identified dealing with this issue. Even though, the available clinical evidence suggests that the application of uterine manipulators has no clear correlation with the recurrence of the endometrial carcinoma, the existing trials are of low methodological quality.

Conclusion

Further investigation is necessary for the clarification of the influence of the different types of uterine manipulators in cancer recurrence.

IGCSM-0146
Poster Shift III - Uterine Cancer including Sarcoma

POSSIBLE ETIOLOGIC PATHWAYS OF THE EARLY RECURRENCE OF EARLY STAGE ENDOMETRIOID ENDOMETRIAL CANCER

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Aims

The majority of endometrioid endometrial cancers is of early stage as early diagnosis is usually achieved based on symptoms. The rate of recurrence is relatively low. The aim is to present the possible etiologic pathways of the early recurrence of early stage endometrioid endometrial cancer.

Methods

A systematic electronic search in the PubMed, Scopus and Cochrane databases.

Results

The incidence or recurrence of disease in such patients could be up to

2.6%, with the main sites of recurrence being the vaginal vault or metastases in distant parts of the body. Genetic factors such as p53 overexpression, inactivation of 14-3-3-sigma, KRAS amplification and KRAS mRNA expression, microsatellite instability and Lynch syndrome genes could be associated with such a recurrence. Black race is also correlated, as well as lymphovascular space involvement, lower uterine

segment involvement and DNA aneuploidy. Longer hysteroscopy duration was not found to be associated. Close follow-up is suggested for early detection of recurrences, while surgical excision of isolated disease or exenteration of local disease as well as radiotherapy and chemotherapy are the main treatment options.

Conclusion

This narrative review investigated the possible mechanisms of early recurrence in patients with endometrioid endometrial cancer as well as the further management of them.

IGCSM-0152
Poster Shift III - Uterine Cancer including Sarcoma

CHEMOTHERAPY REDUCES PARA-AORTIC NODE RECURRENCES IN ENDOMETRIAL CANCER WITH POSITIVE PELVIC AND UNKNOWN PARA-AORTIC NODES

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Aims
To evaluate how the administration of different adjuvant therapies influences the risk of developing recurrences in the para-aortic area in endometrial cancer (EC) with positive pelvic and unknown para-aortic nodes.
Methods
We retrospectively evaluated data of 58 EC patients affected by stage IIIC1 who had undergone pelvic but not para-aortic lymphadenectomy from 01/01/1990 to 12/31/2011. Synchronous malignancies, execution of para-aortic lymphadenectomy or sampling, stage IV and the administration of neoadjuvant therapy were exclusion criteria.
Results

Chemotherapy plus radiotherapy, chemotherapy only and external radiotherapy only were administered in 12 (23%), 18 (34%) and 23 (43%) patients, respectively. Five (9%) patients, who were selected to forego adjuvant therapy due to poor performance status, were excluded from the analysis. Disease-free and overall survivals assessed at 5 years were 54%, and 61%, respectively. All para-aortic recurrences were observed among patients with endometrioid EC, while no cases of para-aortic recurrences were found in patients with nonendometrioid histology (5/36 (14%) vs. 0/17 (0%); p=0.16), these latter were more likely to develop distant (hematogenous, peritoneal and distant lymphatic) recurrences (p=0.09). Type of adjuvant therapy was the only factor influencing para-aortic failure: chemotherapy (± radiotherapy) reduced the rate of para-aortic node recurrence in comparison with pelvic radiotherapy as a sole modality (p=0.01). However, adjuvant therapy did not influence 5-years survival outcomes (p>0.05).

Conclusion
In the absence of local treatment (i.e. para-aortic lymphadenectomy and radiotherapy), the administration of chemotherapy reduces recurrences in the para-aortic area in patients with stage IIIC1 endometrioid EC.

IGCSM-0176
Poster Shift III - Uterine Cancer including Sarcoma

THE ROLE OF TRANSVAGINAL ULTRASOUND IN POSTMENOPAUSAL ENDOMETRIAL CANCER DETECTION

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Aims
To determine the preoperative pelvic ultrasonographic characteristics of postmenopausal women diagnosed with endometrial cancer (EC) at our institution.
Methods

We retrospectively evaluated the clinical history, treatment and follow-up of patients with histologically confirmed endometrial cancer treated in Faculty Hospital Nitra, Slovakia from 1995 to 2010. The diagnosis of endometrial carcinoma was established by dilatation and curretage in all patients. Before surgical treatmentin all patients vaginal ultrasound was performed to asses endometrial echo complex (EEC) thickness. In all instances, ultrasound preceded the biopsy by a maximum of 1 months. Standard deviations were calculated for all categorical data. Differences between type 1 and type 2 ECs were determined using Mann–Whitney U tests and Chi squared/Fisher's exact tests, as appropriate. A p-value of 0.05 was considered statistically significant.

Results

326 patients with postmenopausal EC were enrolled, 263 had type 1 EC while 63 had type 2 EC. Thirty-two percent of the cohort had an EEC ≤4 mm, including 29% of patients with type 1 EC and 38% of patients with type 2 EC ($p = 0.67$). There were no significant differences between type 1 and type 2 ECs in any demographic characteristic.

Conclusion
Our results indicate that a significant proportion of women with endometrial cancer EECs ≤4 mm during their initial evaluation. An EEC ≤4 mm does not completely rule out endometrial cancer thus histologic evaluation is necessary.

IGCSM-0196
Poster Shift III - Uterine Cancer including Sarcoma

UTERINE TUMORS RESEMBLING OVARIAN SEX-CORD TUMORS (UTROSCT); A CASE REPORT

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Aims

UTROSCT are extremely rare and are thought to be originated from endometrial stroma. We report a case of histologically misdiagnosed UTROSCT as adenosarcoma following hysteroscopic resection.

Methods

Fifty-two years old, G2P2 lady was admitted to hospital with the new onset of postmenopausal bleeding. The endometrial thickness was 11 mm and there was 25x14 mm hypo-echoic mass suspected as myoma on the ultrasonography. Endometrial biopsy revealed proliferative endometrium and the patient underwent operative hysteroscopy. Submucosal lesion was resected and the permanent pathology revealed adenosarcoma with the components of hyperplastic glandular proliferation without atypia and sarcomatous differentiation in the form of low-grade endometrial stromal sarcoma. The patient underwent hysterectomy and there was no clear definition of the residual tumor in the previously resected area due to alterations of the tissue architecture. The paraffin blocks were consulted by another gyneco-pathologist.

Results

The tumor mass originating beneath the endometrial mucosa with the cords and nests of epitheloid cells and well-differentiated tubular structure with sex-cord differentiation and myometrial invasion was diagnosed. Immunohistochemical evaluation revealed positivity with calretinin, CD99, CK7, SMA, desmin, vimentin, estrogen, progesterone and CD56. CK20 and EMA were negative. However, inhibin and p53 were sparse positive with Ki-67 proliferation index <5% and the diagnosis of UTROSCT was made.

Conclusion

There are limited data in the literature related with the behavior of UTROSCT. To date hysterectomy is the preferred method of surgical treatment with preference of

hysteroscopic resection in selected cases. Close follow-up is recommended due to reported recurrences.

IGCSM-0230
Poster Shift III - Uterine Cancer including Sarcoma

PREDICTING THE RISK OF ENDOMETRIAL CARCINOMA IN WOMEN WITH POSTMENOPAUSAL BLEEDING

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Aims

The primary objective was to evaluate the FAD 31 risk scoring (multiple bleeding episodes, age > 55 years, diabetes and BMI >31) for endometrial cancer among postmenopausal women with bleeding. A secondary objective was to determine the risk for endometrial cancer

Methods

This was a retrospective cross sectional study. Women with postmenopausal bleeding who underwent procedures like endometrial sampling, cervical punch biopsy, hysteroscopy and fractional curettage during the year 2010, were included in the study.

Results

Of a total 212 women studied only 24 (11.3%) women had endometrial cancer. There were 4 women with atypical endometrial hyperplasia, 40 with cervical neoplasia and 3 with ovarian cancer. Women older than 55 were 12.6 (95% CI 1.6 to 97.1) times more at risk of endometrial cancer than women below 50 years (p value = 0.012). Women with BMI more than 31 had an odds ratio of 4.0 (95% CI 1.2 to 13.9) as compared to women with BMI <24 (p value = 0.014). The area under the ROC curve for FAD31 was 0.76 (95% CI 0.68 to 0.86)

Conclusion

FAD 31 score has a reasonable discriminatory ability to predict the risk of endometrial cancer in postmenopausal women with vaginal bleeding. Age and BMI are independent risk factors for endometrial cancer. A third of patients with postmenopausal bleeding have a gynaecological neoplasm.

IGCSM-0231
Poster Shift III - Uterine Cancer including Sarcoma

COEXISTENCE OF ENDOMETRIAL CARCINOMA IN 68 WOMEN WITH ATYPICAL COMPLEX HYPERPLASIA

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Aims

Endometrial adenocarcinoma is one of the most common gynecologic malignancies and type 1 endometrial adenocarcinoma is the most frequent histological subtype. Atypical complex hyperplasia which is the least common type of endometrial hyperplasia has the highest probability of progression to endometrial cancer (29%) and accompanying a concurrent endometrial hyperplasia. Our aim was to evaluate the prevalance of concurrent endometrial adenocarcinoma and high risk early stage disease in women diagnosed to have atypical complex hyperplasia.

Methods

We retrospectively analyzed the medical records of 68 patients who diagnosed to have ACH with endometrial biopsy and had undergone hysterectomy operation without any further treatment from 1998-2013.

Results

A concurrent endometrial adenocarcinoma is found to be present in hysterectomy specimens 26 (38.2%) of the patients with atypical complex hyperplasia and all of them were endometrioid type. Stage 1A and grade 1 disease were found in 24 (92.4%) of these 26 patients. The remaining two patients had stage 1A grade 2 (3.8%) and stage 1B grade 2 disease (3.8%).

Conclusion

Coexistence of endometrial carcinoma in patients with atypical hyperplasia is a common finding. The treatment strategies of this group of patients should be planned according to this fact by clinicians. But also fertility sparing treatment modalities seems as a safe option in patients who desires that since most of the concurrent carcinomas were endometrioid in type and early stage with grade 1 disease.

IGCSM-0234
Poster Shift III - Uterine Cancer including Sarcoma

EXTRAPULMONARY LYMPHANGIOLEIOMYOMATOSIS MIMICKING LYMPHOMA METASTATIC TO UTERUS

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Aims

Lymphangioleiomyomatosis (LAM) is a disease that primarily affects lungs and lymphatics of young females of reproductive age. The LAM is a rare disease with a prevalance of 1 to 2 per 1,000,000 individuals**.** Even though the disease is primarily of pulmonary origin, LAM may also arise in extrapulmonary organs such as lymph nodes, retroperitoneum and mediastinum. Extrapulmonary LAM is often related to pulmonary LAM and extrapulmonary LAM without involvement of the lungs is extremely rare . Here, we report a case of extrapulmonary lymphangioleiomyomatosis without involvement of the lungs, in a patient pre-diagnosed as lymphoma metastasized to the uterus or uterine sarcoma.

Methods

Patient was operated at December 3, 2013 and followed by our institution since.

Results

A 36-year-old female presented with a history of lower abdominal pain and a palpable abdominal mass. Patient had no respiratory symptoms. Pelvic magnetic resonance imaging (MRI) (Figure 1) confirmed multiple uterine masses suggestive of leiomyomas and multiple pelvic lymph nodes. An exploratory laparotomy was performed with total abdominal hysterectomy and dissection of enlarged lymph nodes. In pathologic analyses the tumor was diagnosed to be lymphangioleiomyomatosis of the pelvic lymph nodes.

Conclusion

In summary we report a case of sporadic extrapulmonary LAM in pelvic lymph nodes without pulmonary involvement. The extrapulmonary LAM is a very rare diagnosis especially in gynecological literature. As in our case, it can easily mimic a variety of

malignancies such as uterine sarcomas and lymphoma, and without classical features of similar rare cases, the diagnosis can be challenging.

IGCSM-0239
Poster Shift III - Uterine Cancer including Sarcoma

OTHER CANCERS IN ENDOMETRIAL CANCER PATIENTS

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Aims
To evaluate the prevalence and features of non-endometrial cancers in Thai endometrial cancer (EMC) patients.
Methods

EMC patients who were treated in the institution from 1995 to 2012 were identified. Data collected were: age; EMC stage, histopathology, adjuvant therapy; other cancers; living status; and cause of death.

Results

Mean age of 344 patients was 56.8 ± 10.8 years. Fifty (14.5%) were found to have non-EMC cancers-- either synchronous, prior to or after EMC. The prevalence of other cancers was higher in EMC patients aged < 50 years or < 40 years compared to the other older age groups: 17.2% vs 13.6% or 18.2% vs 14.3%, respectively. Ovarian, breast or colon were the three most sites of non-EMC cancers. Of 50 patients, six had ≥ 2 other cancers. Six patients had family members who had one of more of the following cancers: endometrial, colon, breast, thyroid, and prostate. After a median follow-up of 57 months, 61 patients (17.7%) were dead: 38 patients (11.0%) were from EMC while 23 (6.7%) were from other causes. Specifically, eight (2.3%) were dead from non-EMC cancers. The 5-year overall survival was 85.4% (95% CI, 81.4%-89.4%): being significantly lower among patients who had other cancers was than that of those without, 77.7% (95% CI, 65.3%-90.0%) compared to 86.8% (95% CI, 82.6%-90.9%) (p=0.0105) respectively.

Conclusion

Thai patients with EMC had clinical significant incidence of other cancers. These cancers could be found either synchronous or metachronous to EMC. Prognosis of EMC patients who had other cancers was worse than those without.

IGCSM-0242
Poster Shift III - Uterine Cancer including Sarcoma

EFFICACY OF DIFFERENT THERAPIES IN TREATMENT OF SIMPLE ENDOMETRIAL HYPERPLASIA.

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Aims
To evaluate the efficacy and safety of hormonal therapy?oral contraceptives(OCs) and levonorgestrel-releasing intrauterine system(LNG-IUS) on simple hyperplasia in women.
Methods
243 patients, aged 50 years or younger, who were diagnosed with simple hyperplasia by pathologic results were recruited in Qilu Hospital of Shandong University from August 2010 to June 2013. They were divided into three groups randomly and treated by progestins (group A), OCs (group B) or LNG-IUS (group C) for 6 months. All patients underwent endometrial curettage for pathologic examination every 3 months since the beginning of treatment.
Results
Pathologic complete response rate of three groups in 6 months were 97.5%(group A), 96.3%(group B), 100%(group C), there was no statistic significant (P>0.05). On the contrary, there was statistic significant in uterine breakthrough bleeding(16.0%, group A; 6.1%, group B; 22.2%, group C)(P<0.025)and weight gain (51.9%, group A; 6.1%, group B; 4.9%, group C)(P<0.005), but not in gastrointestinal symptom. None of these patients had adverse effects of vein thrombosis and liver dysfunctions.
Conclusion
All three therapies can be first choice for simple hyperplasia in women with 50 years old or younger. Treatment based on individual should be made in consideration of patients' willingness, compliance and reaction to those therapies.

IGCSM-0244
Poster Shift III - Uterine Cancer including Sarcoma

EFFICACY OF DIFFERENT THERAPIES IN TREATMENT OF ENDOMETRIAL HYPERPLASIA.

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[1]Obstetrics and Gynecology, Qilu Hospital, Jinan, China
[2]Obstetrics and Gynecology, Binzhou Medical University Hospital, Jinan, China

Aims
To evaluate the efficacy and safety of different conservative treatments in women with endometrial hyperplasia.
Methods
116 women younger than 50 years old, diagnosed with complex hyperplasia in Qilu Hospital of Shandong University from January 2009 to December 2012 by pathologic result were divided into three groups randomly and treated by progestins (group A), COCs (group B) or LNG-IUS (group C). 90 women with atypical hyperplasia were treated by progestins or GnRH-a separately. All patients underwent endometrial curettage for pathologic examination and adverse effects of drugs were recorded every 3 months since the beginning of treatment.
Results
Patients with complex hyperplasia: pathologic complete remission rate in the 6th month of each group were 77.5%(group A)?73.7%(group B)?94.7%(group C) (P=0.039)?There were statistically significant differences among these three groups in uterine breakthrough bleeding(P=0.023)and weight gain(P=0.001), but not in gastrointestinal symptoms(P=0.624). Patients with atypical hyperplasia: the pathologic complete remission rate after 6 months' treatment were 70.5% and 60.9% (P=0.197). Adverse effects of progestins included weight gain(59.1%) ,uterine breakthrough bleeding(22.7%), nausea(13.6%)and fatigue(6.8%). The most common side-effect of GnRH-a was hot flush(67.4%), vaginal atrophy(34.8%), psychological changes(32.6%) and headaches(10.9%). None of these patients had adverse effects of vein thrombosis and liver dysfunctions.
Conclusion
LNG-IUS could be the best choice for patients with complex hyperplasia under 50 years old. While on the other hand, hysterectomy should be recommended to patients with atypical hyperplasia. Both progestins and GnRH-a are considerable options to those who chose conservative treatments, which should be taken under severe surveillance.

IGCSM-0256
Poster Shift III - Uterine Cancer including Sarcoma

THE REASONS FOR LAPAROTOMY STAGING IN EARLY ENDOMETRIAL CANCER

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Aims

Laparoscopic operation in stage Ia endometrial cancer has been a standard method in our insititude. Despite this operative standard, this study investigates the reasons behind occasional laparotomy approach of stage Ia endometrial cancer.

Methods

Retrospective analysis was performed in patients who had undergone staging surgery, as management of stage Ia endometrial cancer. Patients were identified from our institution's database.

Results

From January 2001 through March 2011, 156 stage Ia endometrial cancer patients were identified. Among these, 136 patients (87.2 %) had staging via laparoscopy and 20 patients (12.8 %) had staging via laparotomy. From the latter case, three patients (1.9 %) were converted to laparotomy from laparoscopy. The reasons for laparotomy were non-endometrioid pathology in seven (41.0 %) out of seventeen patients: four papillary serous carcinoma and three clear cell carcinoma; co-operation of double primary cancer in six cases: three cervical cancer, two ovarian cancer and one colon cancer; advanced stage was shown in preoperative MRI in FIGO stage II and higher in two patients; other combined huge myoma in uterus in one patient; and atrophic vagina and cervix in one patient. The reasons for the conversion to laparotomy from laparoscopy were intraperitoneal adhesions in two cases and extreme obesity (BMI>34.0 kg/m^2) in one case.

Conclusion

The reasons for using laparotomy staging, rather than laparoscopy, in stage Ia endometrial cancer were mainly due to non-endometrial pathology and presence of

other combined tumor. In addition, age, body mass index and uterine volume did not account for much of decision making regarding operation method

IGCSM-0261
Poster Shift III - Uterine Cancer including Sarcoma

EFFICACY OF ADJUVANT CHEMOTHERAPY IN PATIENTS WITH EARLY STAGE UTERINE LEIOMYOSARCOMAS

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Aims
The purpose of this study is to evaluate the addition of adjuvant chemotherapy in patients with early-stage uterine leiomyosarcomas.
Methods

Thirty two patients with mean age 52.0years (SD=11.4 years), stage I-II from 1988 to 2012 participated in the study. All patients underwent primary surgery. Variables such as the administration of chemotherapy, the type of chemotherapy, the survival status and the site of recurrence were evaluated.

Results

Follow-up period was 52.1 months (SD=41.7 months). During this period, 18 patients (56.3%) died, recurrence occurred in 16 patients(50.0%) and 21 patients(65.6%) had a recurrence and/or died. Patterns of recurrence included 7(21.9%) pelvic, 12(37.5%) lung, 6(18.8%) abdominal, 1 (3.1%) brain, and 7(21.9%) in multiple sites. Mean uterine tumor size was 10.4cm. Twenty four patients (24/32,75%) received chemotherapy. Totally the cumulative survival rate for the first, five and ten years was 80.6%, 49.1% and 45.0% respectively. Also, the cumulative recurrence and/or death-free rates for one, five and ten years were 58.1%,36.9% and 28.4% respectively. Multiple Cox regression analysis showed that patients who had only anthracycline as chemotherapy scheme had less hazard for 1)death and 2)recurrence and/or death compared to patients who received anthracycline combined with ifosfamide.

Conclusion

Although aggressive surgical cytoreduction at the time of initial diagnosis offers the possibility of prolonged survival, our data indicate that the type of chemotherapy plays

an important role on the progression of the disease and the survival of patients in early stage uterine leiomyosarcomas. However adjuvant chemotherapy in early stage uterine leiomyosarcomas is still conflicting.

IGCSM-0265
Poster Shift III - Uterine Cancer including Sarcoma

SENTINEL NODE BIOPSY IN PATIENTS WITH ENDOMETRIAL CANCER IMPROVES IDENTIFICATION OF METASTATIC LYMPH NODES.

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Aims
The sentinel lymph node (SLN) procedure is proposed as an alternative to systemic lymphadenectomy to diminish the morbidity. The objective of this study is to evaluate the performance of SLN mapping using a simple cervical and fundal injection of methylen blue.

Methods
We developed a method of SLN biopsy in 25 patients with endometrial cancer. Prior to surgery methylen blue was injected to the cervix. During surgery we first detected the SLN by inspection and removed them. Then we had a second injection of dye to the uterine fundus and removed more SLN if present. Surgery was then completed by total hysterectomy, bilateral salpingo-oophorectomy, and pelvic and para-aortic lymphadenectomy. Lymph nodes were examined by routine haematoxylin and eosin (H&E).

Results
A total of 25 patients with endometrial cancer underwent lymphatic mapping. SLN was identified in 16(64%) of cases after the first injection. After the second injection, SLN was detected in two more case with a total detection rate of (74%).We removed 51 sentinel and 204 non sentinel nodes. Positive nodes were diagnosed in 3/25(12%) of patients. 2/51(3.9%) SLN and 1/204(0.49%) non- SLN were positive for metastatic disease. ($p<0.001$)

Conclusion
Metastatic nodes are more prevalent among sentinel than non sentinel nodes. This simple method may improve the detection of metastatic nodes with a selective lymphadenectomy at least in patients who are candidate for systemic lymphadenectomy but are not allowed because of poor medical conditions.

IGCSM-0281
Poster Shift III - Uterine Cancer including Sarcoma

EFFICACY OF ADJUVANT CHEMOTHERAPY IN PATIENTS WITH EARLY STAGE UTERINE LEIOMYOSARCOMAS

N. Thomakos[1], S.P. Trachana[1], I. Koutroumpa[1], C.H. Papadimitriou[2], M. Sotiropoulou[3], D. Haidopoulos[1], M. Liodos[2], F. Zagouri[2], G. Vlachos[1], A. Rodolakis[1]
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[3]Department of Histopathology, University General Hospital "Alexandra", Athens, Greece

Aims
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Follow-up period was 52.1 months (SD=41.7 months). During this period, 18 patients (56.3%) died, recurrence occurred in 16 patients(50.0%) and 21 patients(65.6%) had a recurrence and/or died. Patterns of recurrence included 7(21.9%) pelvic, 12(37.5%) lung, 6(18.8%) abdominal, 1 (3.1%) brain, and 7(21.9%) in multiple sites. Mean uterine tumor size was 10.4cm. Twenty four patients (24/32,75%) received chemotherapy. Totally the cumulative survival rate for the first, five and ten years was 80.6%, 49.1% and 45.0% respectively. Also, the cumulative recurrence and/or death-free rates for one, five and ten years were 58.1%,36.9% and 28.4% respectively. Multiple Cox regression analysis showed that patients who had only anthracycline as chemotherapy scheme had less hazard for 1)death and 2)recurrence and/or death compared to patients who received anthracycline combined with ifosfamide.

Conclusion
Although aggressive surgical cytoreduction at the time of initial diagnosis offers the possibility of prolonged survival, our data indicate that the type of chemotherapy plays an important role on the progression of the disease and the survival of patients in early

stage uterine leiomyosarcomas. However adjuvant chemotherapy in early stage uterine leiomyosarcomas is still conflicting.

IGCSM-0282
Poster Shift III - Uterine Cancer including Sarcoma

A TOTAL LAPAROSCOPIC APPROACH IS APPLICABLE TO MOST PATIENTS WITH EARLY STAGE ENDOMETRIAL CARCINOMA: THE CHU OF LIEGE EXPERIENCE

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Aims

Laparoscopic hysterectomy and node dissection may be performed for early stage endometrial carcinoma with benefits in terms of perioperative outcome when compared to laparotomy. The laparoscopic approach seems to reach its limits with high BMI patients (> 30) and, for those, is challenged by robotic surgery.

Methods

Between 2011 and 2013, 80 consecutive patients with endometrial cancer were treated in our institution. 7 patients (9%) had either evident distant metastatic disease (6 pts) or poor medical status (1 pt). All remaining patients underwent surgery. Mean BMI was 28,85 (range 15 to 50). Surgery consisted in TH (38 pts), TH/PelvLND (21 pts) or TH/Pelv/ PAND (14 pts).

Results

Eighty-one percent of patients underwent upfront laparoscopy while 11% were elected for laparotomy due to bulky nodal disease (5 pts) or complex past surgical/radiation history (4 pts). Conversion to laparotomy occurred in 7 cases due to metastatic peritoneal disease (2 pts), adhesions (1 pt) or uterine volume not permitting a vaginal extraction (4 pts). The rate of conversion was stable amongst patients with BMI < or > to 35 (12%). For the 64 laparoscopic patients mean operating time was 146,18 min and mean number of nodes harvested was 26 pelvic (range 2-52) and 9 paraaortic (range 1 – 27). Mean postoperative hospital stay was 3 days. No severe surgical complications were noted.

Conclusion

Laparoscopy is applicable to most patients with apparent stage 1 endometrial carcinoma with appropriate radicality and favorable perioperative outcome. In experienced endoscopic oncology centers, conversion to laparotomy appears independent of the patient's BMI.

IGCSM-0284
Poster Shift III - Uterine Cancer including Sarcoma

VAGINAL VAULT BRACHYTHERAPY AS EXCLUSIVE ADJUVANT TREATMENT FOR ENDOMETRIAL CANCER FIGO STAGE 1 AND 2: A SINGLE INSTITUTION EXPERIENCE

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Aims
Following the PORTEC 2 trial, adjuvant high dose rate vaginal vault brachytherapy (VVBT) is prescribed with the aim to prevent upper vaginal recurrence in intermediate risk (IR) endometrial cancer. This study relates our experience with this approach.
Methods
Between 2009 and 2013, 66 patients referred to the CHU of Liège received VVBT with a dose of 27,5Gy in 5 fractions prescribed to a 5mm vaginal depth. 61 patients had IR type 1 EC and 5 had type-2 carcinoma (high risk-HR). Lympo-vascular space invasion (LVSI) was present in 32 cases. Late morbidity was measured according to RTOG/EORTC morbidity-scoring scale.
Results
Median follow-up was 18 months (range: 58-1). Overall 2-year disease free-survival rate was 80%. No grade-IV/V toxicity was noted. One patient (1%) had bladder grade III toxicity. Grade I-II rectum, bladder and vaginal events were reported respectively in 3(5%), 4(6%) and 10(15%) patients. Among the IR population we reported one (2%) isolated vaginal recurrence, 4(7%) pelvic relapses and 4(7%) distant metastases. In the HR group we observed 3(60%) exclusive distant relapse. In our population LVSI did not impact on the global recurrence risk (OR:1,93/CI95:0,43-8,48).
Conclusion
The VVBT dose and fraction scheme described above has a favorable toxicity profile. Our vaginal and loco regional control rates match the PORTEC2 results. Type 2 tumors are at higher risk of distant relapse and adjuvant systemic therapy should be considered. We did not identify LVSI as a feature of bad prognosis. Further studies and longer follow-up are warranted.

IGCSM-0285
Poster Shift III - Uterine Cancer including Sarcoma

PROGNOSIS FOR ENDOMETRIAL CANCER PATIENTS TREATED WITH SYSTEMATIC PELVIC AND PARA-AORTIC LYMPHADENECTOMY FOLLOWED BY PLATINUM-BASED CHEMOTHERAPY.

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Aims
To analyze the prognosis for endometrial cancer patients treated with systematic pelvic and para-aortic lymphadenectomy (PLA and PALA) followed by platinum-based chemotherapy.
Methods
From 1994 to 2004, at Cancer Institute Hospital, 502 patients surgically treated containing systematic PLA and PALA were enrolled in this study. Their prognosis and clinicopathological features were retrospectively reviewed.
Results
A median number of resected lymph nodes (LNs) were 48 (range: 14-129). 191 patients (38.0%) received adjuvant platinum-based chemotherapy. LN metastasis was observed in 80 patients (15.9%). 5-year overall survival (OS) for LN negative patients was 96.7% and for LN positive patients was 76.0% ($P < 0.001$). 5-year OS for patients with only para-aortic LN metastasis, with only pelvic LN metastasis and with both para-aortic and pelvic LN metastasis were 88.9%, 80.8% and 53.3%, respectively. There were significant differences between only para-aortic group and both para-aortic and pelvic group ($P = 0.0150$), and between only pelvic group and both para-aortic and pelvic group ($P = 0.0308$). Moreover in patients with LN metastasis, 5-year OS of endometrioid adenocarcinoma cell type was 90.2% and of non-endometrioid adenocarcinoma was 56.7% ($P = 0.0016$).
Conclusion
Under the setting of thorough PLA and PALA followed by intensive platinum-based chemotherapy for endometrial cancer, only pelvic or only para-aortic LN involvement was less important for survival. But this therapeutic strategy could not improve the prognosis for patients with both pelvic and para-aortic LN involvement or those of non-endometrioid cell type with LN involvement.

IGCSM-0288
Poster Shift III - Uterine Cancer including Sarcoma

PRE-OPERATIVE NEUTROPHIL LYMPHOCYTE RATIO AS A PROGNOSTIC FACTOR IN ENDOMETRIOID ENDOMETRIAL ADENOCARCINOMA

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Aims

This study was designed to investigate the prognostic significance of the neutrophil lymphocyte ratio (NLR) in endometrioid endometrial adenocarcinoma.

Methods

212 patients that undergone operations for endometrioid endometrial adenocarcinoma at Department of Obstetrics and Gynecology, Qilu Hospital, Shandong University, from January 2005 to December 2009 were retrospectively enrolled. Data collection included age, height, weight, body mass index (BMI), diabetes history, results of blood routine test (including leukocyte, neutrophil and lymphocyte counts), postoperative pathology reports, FIGO stage and so on.

Results

The median NLR of these 212 patients with endometrioid endometrial adenocarcinoma in this retrospective study is 2.05, with a range of 0.68-10.21. When we divided the cohort according to the median NLR for statistical analysis, we found that the group with higher NLR (≥2.05) were younger in age, had more advanced staged disease in FIGO stage, owed a higher level of tumor grade and represented a poorer survival outcomes than the lower NLR(<2.05) group. In univariable analysis, age, NLR, FIGO stage and tumor grade had effects on the survival of patients with endometrioid endometrial adenocarcinoma, in multivariable analysis, age, FIGO stage and NLR were identified as being independent prognostic factors for survival.

Conclusion

The level of pre-operative NLR may be a potential cost-effective biomarker and an independent predictor of survival in endometrioid endometrial adenocarcinoma.

IGCSM-0291
Poster Shift III - Uterine Cancer including Sarcoma

PELVIC LYMPHADENECTOMY FOR STAGE 1 ENDOMETRIAL CANCER- SINGAPORE GENERAL HOSPITAL EXPERIENCE

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Aims

Systemic lymphadenectomy has not been show to provide a survival benefit for early endometrial cancers. However, many centers still offer this procedure for prognostic information to aid adjuvant therapy planning.The use of pre-operative radiological staging can help risk-stratify patients and is increasingly being used to decide on the extent of surgical staging.

To review our institute's management of early endometrial cancer with analysis of:
· The rate at which systematic lymphadenectomy upstaged endometrial cancer
· Outcome in patients who did not have lymphadenectomy

Methods

Women with endometrial cancer treated in 2010-2013 inclusive, were identified from our Tumour Board Database and classified into
(1) Pre-operative radiological stage 1 cancer
(2) Histopathological stage 1 cancer.

We collated data on radiology, operation and histology.

Results

There were 186 cases of endometrial cancer. There were 109 pre-operative radiological stage 1 cancer. Four women (3.7%) were upstaged to stage 3C because of positive lymph nodes.

Radiological Stage	Lymphadenectomy	Lymph Node Sampling	No Lymph node biopsy	Lymph node positive
1 (CT) n=28	**25 +¥**	0	3	**2 +¥**
1A (MRI) n=54	**33+**	9	12	**1 +**
1B (MRI) n=27	**23**	**3***	1	**1***

Final grade of the endometrial cancer was ¥well *moderately +poorly differentiated

Two women of 106 with low risk disease had vault recurrences despite lymph node staging. One woman died from other causes.

Conclusion

With pre-operative radiological staging, we can avoid systematic lymphadenectomy in our low risk endometrial cancer patients. Lymph node surgery did not confer protective benefit in our cohort of patients.

IGCSM-0292
Poster Shift III - Uterine Cancer including Sarcoma

PROGNOSTIC FACTORS OF ONCOLOGIC AND REPRODUCTIVE OUTCOMES IN FERTILITY-SPARING TREATMENT OF COMPLEX ATYPICAL HYPERPLASIA AND LOW GRADE ENDOMETRIAL CANCER USING ORAL PROGESTIN IN CHINESE PEOPLE

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Aims

We evaluated treatment efficacy and fertility outcomes in the women with complex atypical hyperplasia (CAH) or grade one endometrial cancer (G1EC).

Methods

Women ≤40 y treated with oral progestin for CAH or G1EC were identified from our hospital. Data were obtained from medical records and telephone questionnaires. Time until complete response (CR), and from CR until recurrence was censored for patients without events and analyzed for associations with patient and treatment characteristics; cumulative incidence functions were used to estimate event probability over time.

Results

Thirty-two patients were included. Thirteen were diagnosed with CAH and 19 with G1EC. Median age was 30.4 y. The median body mass index (BMI) was 26.6kg/m^2. Oral progestin was used. Median treatment length was 24.6weeks; After a median follow-up of 32.5 months, 84.4% experienced a CR, and 29.6% followed by recurrence. PCOS and the period of AUB were variables approached significance to CR, $p<0.05$. Twenty-four patients then took fertility treatment. Nine were pregnant at least once. Five mothers had their own live infantsHigher BMI associated with less likelihood of pregnancy ($p<0.05$).

Conclusion

Oral progestin is an effective fertility-sparing treatment for women with CAH/G1EC. Patients complicated with PCOS and longer period of AUB associated with less likelihood of CR. Fertility specialist involvement is recommended due to the low live birth

rate without intervention. Successful pregnancy is prefered to those with lower BMI after CR.

IGCSM-0303
Poster Shift III - Uterine Cancer including Sarcoma

A PREDICTIVE MODEL FOR LYMPH NODE METASTASIS IN ENDOMETRIAL CANCER USING CA125, PR AND KI-67

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Aims
The aim of this study was to build a model to predict the risk of lymph node metastases (LNM) in women with endometrial cancer (EC), just after the operation of curettage or hysteroscopy.
Methods
The medical records of 369 patients with endometrial cancer who underwent surgical staging were collected and were retrospectively reviewed. By using serum CA-125 levels and immunohistochemical factors data like Ki-67, progesterone receptors (PR), a prognostic scoring model for lymph node metastasis was created.
Results
In total, 39 patients had LNM (10.6%). Serum CA-125 level, PR and Ki-67 expression were found to be independent risk factors for nodal metastasis. The algorithm showed good discrimination with an area under the receiver operating characteristic curve (AUC) of 0.82 (95% confidence interval (IC95) = 0.75– 0.87). In the predictive model, the total score for a patient was obtained by adding the individual scores for each prognostic factor: high CA-125 level, low PR expression and high ki-67 expression, which would be respectively scored as 1. With scores ≥ 2, the patient was categorized as high risk and this group showed a nodal metastasis rate of 25.8%. Otherwise, the case was classified as low risk. There were eight patients with nodal metastasis in this low-risk group, and the false-negative rate was 3.2% (8 of 249).
Conclusion
We found models that independently predicted LNM even with the use of preoperative tumor characteristics provided by endometrial sampling in endometrioid endometrial cancer, which can help physicians to better adapt surgical options.

IGCSM-0308
Poster Shift III - Uterine Cancer including Sarcoma

SIGNIFICANCE OF LYMPHADENECTOMY IN SEROUS AND CLEAR CELL CARCINOMA OF THE ENDOMETRIUM, CONTROVERSY OF AGES

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Aims

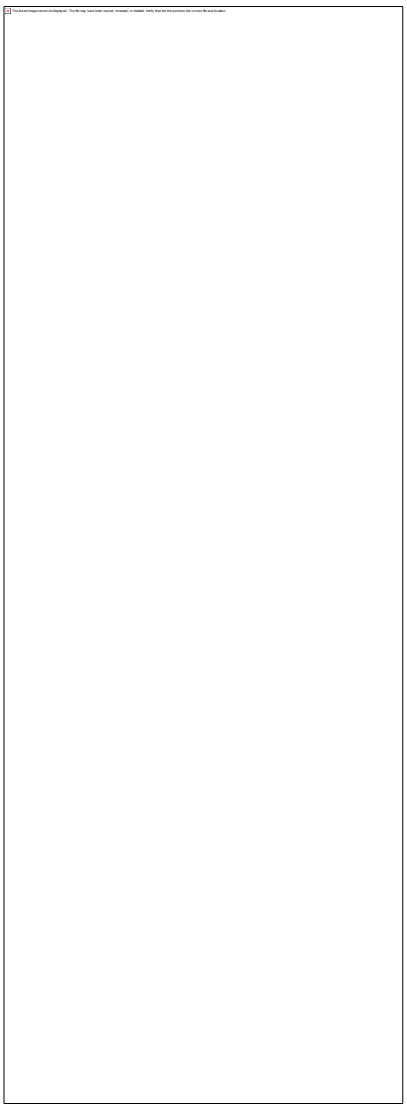
We analyzed the role of lymph node (LN) dissection in uterine serous and clear cell carcinoma using Metropolitan Detroit Cancer Surveillance System (MDCSS) data.

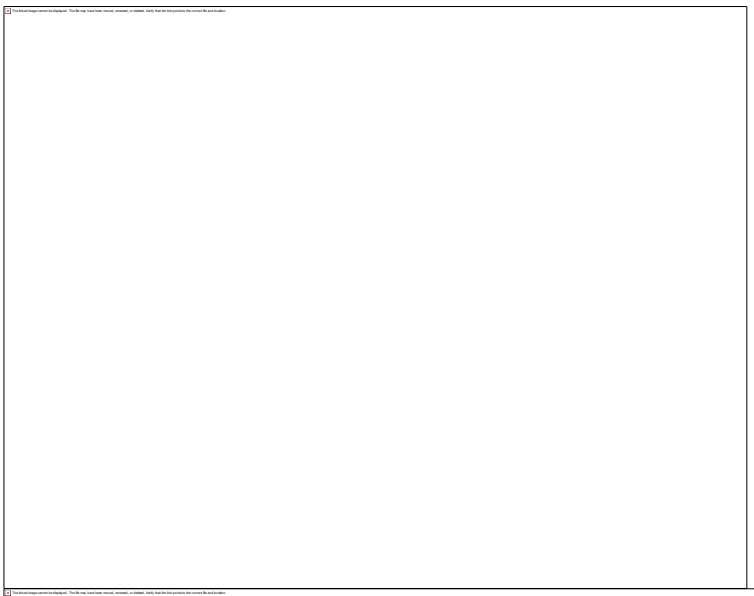
Methods

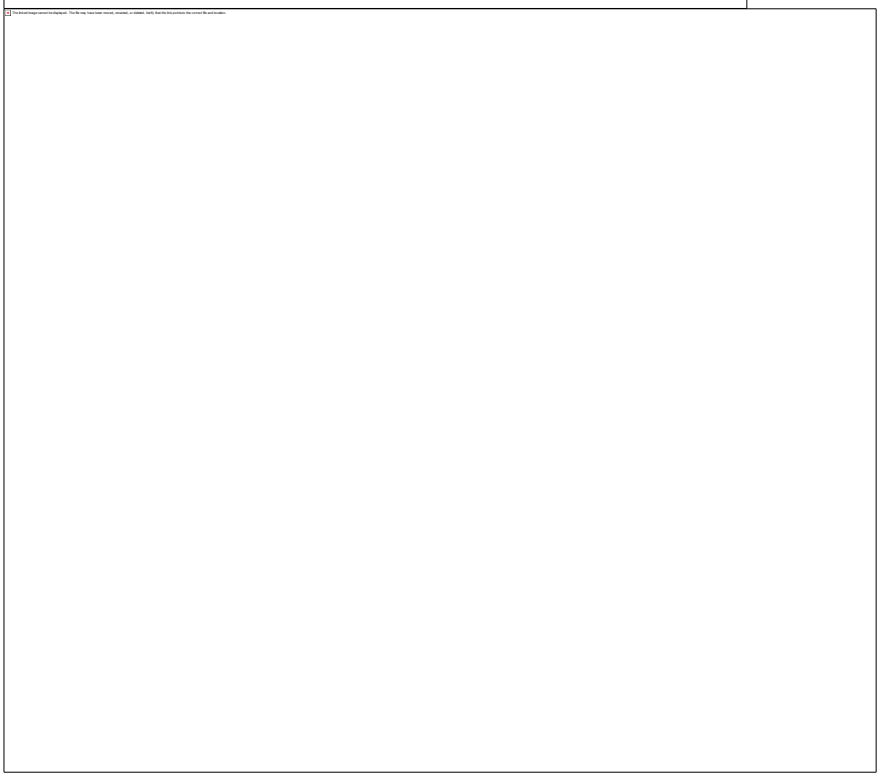
Women with a diagnosis of USC or UCC were identified using MDCSS data from 1990 to 2008. Women with known lymphadenectomy status, surgical treatment with hysterectomy and with or without lymphadenectomy, serous and clear cell histology with known age were included. SEER stage was used for staging. Survival analysis was performed using Kaplan-Meier estimates of survival probability, and the log rank test was used to compare survival between the groups. Multivariate Cox modeling was used to identify independent predictors of overall survival.

Results

A total of 293 cases were included in the study (147 UCC, 146 USC). 190 patients had lymphadenectomy (65%). Overall survival analysis, adjusted for age (HR=2.54, CI:1.86-3.49), race (HR=1.43,CI:1.05-1.94), SEER Stage, and lymphadenectomy (HR=1.57, CI:1.18-2.10) were found to be significant in entire group. Year of diagnosis, grade and histology were not significant. When serous and clear cell carcinoma group was analyzed separately; age, SEER stage, lymphadenectomy, race and grade were significantly associated with overall survival in serous endometrial cancer. However, only age and SEER stage were significantly associated with overall survival in clear cell carcinoma.







Conclusion

Our results showed that LN dissection has a survival advantage only in serous endometrial cancer but not in clear cell carcinoma of the endometrium. Black patients with serous endometrial carcinoma have poor survival but this difference does not persist for clear cell carcinoma.

IGCSM-0310
Poster Shift III - Uterine Cancer including Sarcoma

MICRORNA 31 FUNCTIONS AS AN ENDOMETRIAL CANCER ONCOGENE BY SUPPRESSING HIPPO TUMOR SUPPRESSOR PATHWAY

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Aims

Micro RNA (MIR) has been shown to play critical roles in the carcinogenic process of various tumor types. We aimed to investigate whether MIR31 is an oncogene in human endometrial cancer and identify the target molecules associated with the malignant phenotype.

Methods

We investigated the growth potentials of MIR31-overexpressing HEC-50B cells *in vitro* and *in vivo*. In order to identify the target molecule of MIR31, a luciferase reporter assay was performed, and the corresponding downstream signaling pathway was examined using immunohistochemistry of human endometrial cancer tissues. We also investigated the MIR31 expression in 34 patients according to the postoperative risk of recurrence.

Results

The overexpression of MIR31 significantly promoted anchorage-independent growth *in vitro* and significantly increased the tumor forming potential *in vivo*. MIR31 significantly suppressed the luciferase activity of mRNA combined with the LATS2 3'-UTR and consequently promoted the translocation of YAP1, a key molecule in the Hippo pathway, into the nucleus. Meanwhile, the nuclear localization of YAP1 increased the transcription of CCND1. Furthermore, the expression levels of MIR31 were significantly increased (10.7-fold) in the patients (n = 27) with a high risk of recurrence compared to that observed in the low-risk patients (n = 7), and this higher expression correlated with a poor survival.

Conclusion

MIR31 functions as an oncogene in endometrial cancer by repressing the Hippo pathway. MIR31 is a potential new molecular marker for predicting the risk of recurrence and prognosis of endometrial cancer.

IGCSM-0313
Poster Shift III - Uterine Cancer including Sarcoma

THE PROGNOSTIC FACTOR OF MODERATE AND HIGH RISK ENDOMETRIAL CANCER RECEIVING ADJUVANT TAXANE-PLATINUM CHEMOTHERAPY

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Aims

A taxane and platinum is widely used in Japan against moderate and high risk endometrial cancer. We examined the prognosis of endometrial cancer after adjuvant taxane-platinum chemotherapy based on the presence of Topoisomerase2α (TOP2A) and HER2.

Methods

56 patients underwent adjuvant taxane-platinum chemotherapy in our institution from 2005 to 2010. Paraffin-embedded sections were to create a tissue array, and immunohistochemistry was performed with TOP2A·HER2. The log rank test was used to assess the associations between positivity and negativity with overall survival (OS) and disease-free survival (DFS). Prognostic factors were extracted using Cox proportional hazards.

Results

The median observation period was 49.4 months. The histologic type was endometrioid adenocarcinoma G1·G2 in 29, and other in 27. The FIGO stage was stage IA in 12, stage IB in 23, and others in 21. The 3-year OS and DFS was 94.1% and 72.4%, respectively. HER2 was positive in 11 (19.6%), and TOP2A in 7 (12.5%). TOP2A was significantly positive in patients with myometrial invasion >= 50% (p=0.036). OS was significantly shorter in patients positive for TOP2A than in those negative for TOP2A (p=0.049). DFS was significantly shorter in those positive for HER2 than in those negative for HER2 (p= 0.020). Multivariate analysis performed with DFS as an endpoint revealed that HER2 positivity, lymph node metastasis, and BMI?20 were significant factors.

Conclusion

An anthracycline-based regimen might be effective for endometrial cancer with deep myometrial invasion. TOP2A-positive patients might have a poor prognosis, and combination therapy with molecular target drugs should be considered in HER2-positive cases.

IGCSM-0333
Poster Shift III - Uterine Cancer including Sarcoma

BRAIN METASTASIS IN PATIENT WITH ENDOMETRIAL CANCER

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Aims

Endometrial cancer is one of the most common gynecologic cancer and its brain metastases are very rare. The risk factors that are associated with brain metastasis in endometrial cancer are poorly differentiated tumors and advanced surgical stage.

Methods

Sixty year-old woman who has been in menopause for six years, was admitted hospital with complaints of vaginal bleeding for five months. Endometrial thickness was measured six mm, endometrial sampling was performed. Pathology was reported as 'endometrioid type adenocarcinoma grade 2/3- focal 3/3, were stained with P-63 immunohistochemically. With this diagnosis, total abdominal hysterectomy, bilateral salpingo-oophorectomy, pelvic-para-aortic lymph node dissection, omentectomy were performed. Frozen material was reported uterine malignant epithelial tumor, myometrial invasion was less than 50%. Final report revealed no LN involvement. Post-operatively, patient received brachytherapy. Two years after treatment patient submitted with complaints of seizures. In cranial MR, there was two cm mass in frontal lobe and intense contrast enhancement (metastasis?).

The patient underwent total tumor excision. Pathology resulted as metastatic adenocarcinoma, immunohistochemical studies of tumor cells for vimentin, was diffusely positive with keratine19. It was reported that tumor was originated primarily from endometrium.

Results

In this patient, brain metastasis detected two years after endometrial cancer operation.

Conclusion

Brain metastasis in patients with endometrial cancer is very rare and prognosis is poor. Surgical resection or stereotactic radiosurgery may be appropriate in solitary metastasis. During follow-up; possible brain metastases risk should be undertaken.

IGCSM-0335
Poster Shift III - Uterine Cancer including Sarcoma

A ROLE OF NEOADJUVANT CHEMOTHERAPY (NAC) FOR ADVANCED ENDOMETRIAL CANCER (EC) IN COMPARISON WITH ADVANCED OVARIAN CANCER (OC)

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Aims

Although the pattern of dissemination and metastasis for advanced EC is similar to OC, adequate treatment for extremely advanced EC without expectation of successful primary cytoreduction is unknown. The objective is to investigate the value of NAC in advanced EC, comparing with OC.

Methods

Patients with stage IIIC-IV EC or OC treated by NAC with curative intent between the years of 2006-2013 were identified and data were abstracted regarding outcomes of NAC, interval debulking surgery (IDS), and follow-up. Study protocol was approved by institutional review board.

Results

We identified 18 EC and 62 OC, of whom, IDSs were performed in 7 (39%) EC and 28 (45%) OC (N.S.). Response rates for NAC evaluated were 7/14 (50%) in EC and 29/52 (56%) in OC (N.S.). For patients with IDS, the median cycle of NAC and time from start of NAC to IDS were not significantly different between EC and OC. Patients without IDS continued or stopped chemotherapy and their total number of regimens and cycles performed were not significantly different between EC and OC. Grade 3-4 adverse effect (AE) of NAC observed was 2/18 in EC and 10/62 in OC (N.S.), however, life-threatening AEs, such as embolism, were frequently observed in OC compared to EC. Overall survivals of EC in each subgroup with or without IDS were comparable to OC.

Conclusion

A significant role of NAC in advanced EC equivalent to that in OC could be expected. Further analyses with larger number of cases are needed to improve the treatment strategy for advanced EC.

IGCSM-0351
Poster Shift III - Uterine Cancer including Sarcoma

ACCURACY OF INTRAOPERATIVE GROSS EXAMINATION OF MYOMETRIAL INVASION IN STAGE I-II ENDOMETRIAL CANCER

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Aims

To assess the sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and accuracy of intraoperative gross examination (IGE) of uterine specimens in determining deep myometrial invasion and cervical invasion compared to final histology.

Methods

The clinical, surgical and histological data of all FIGO stage I-II endometrial cancer patients who had primary surgery were reviewed. Results of the IGE for myometrial invasion and cervical invasion were compared to the final histology. The sensitivity, specificity, PPV, NPV, and accuracy of the IGE in determining deep myometrial invasion and cervical invasion were calculated. Association between clinico-pathological factors and discrepancy between IGE and final histology in the determination of myometrial invasion was also assessed. The *p*-value of < 0.05 was considered significant.

Results

From January 2007 to December 2012, 179 patients diagnosed with clinical stage I-II endometrial cancer underwent surgical staging. The sensitivity and specificity of IGE in detecting deep myometrial invasion were 42.4% and 90.0%, respectively. The PPV and NPV were 67.6% and 76.1%, respectively. The overall accuracy of IGE was 74.3%. The sensitivity and specificity of IGE in identifying cervical invasion were 28.6% and 97.5%, respectively. The PPV and NPV were 60.0% and 91.1%, respectively. The overall accuracy of IGE was 89.4%.

Conclusion

The sensitivity of IGE for detecting deep myometrial invasion and cervical invasion in early-stage EC is too low to be used alone. Alternative methods including intraoperative

frozen section analysis, preoperative three dimensional ultrasound, and preoperative MR imaging should be strongly considered.

IGCSM-0361
Poster Shift III - Uterine Cancer including Sarcoma

A PHASE III TRIAL OF POSTOPERATIVE CHEMOTHERAPY OR NO FURTHER TREATMENT FOR PATIENTS WITH NODE-NEGATIVE STAGE I-II INTERMEDIATE- OR HIGH-RISK ENDOMETRIAL CANCER. ENGOT-EN2-DGCG/EORTC 55102.

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[2]Gynecologic Oncology, NSGO & Karolinska University Hospital, Stckholm, Sweden
[3]Gynecologic Oncology, BGOG & Centre Hospitalier Universitaire de Liège, Liège, Belgium
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MITO & Istituto Nazionale per lo Studio e la Cura dei Tumori Fondazione "G. Pascale", Napoli, Italy
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Aims

Patients with medium and high-risk stage I and II endometrial cancers have high risk for local and distant progression. Adjuvant-radiotherapy was unable to improve survival. Three phase III studies of chemotherapy failed to improve survival, though these studies had either suboptimal chemotherapy regimens or included good prognosis patients. Phase 3 studies in stage III & IV have demonstrated significant improvement in survival by chemotherapy. It is of utmost importance to demonstrate efficacy of adjuvant combination chemotherapy comparing to no further treatment in this patient population. Paclitaxel-Carboplatin combination chemotherapy is effective and well tolerated.

Methods

This multicenter, open-label, 1:1 randomized, phase 3 study is evaluating postoperative chemotherapy compared with no further treatment in patients with medium- or high-risk, node-negative stage I, or stage II endometrial cancer (stage 1: grade 3 endometrioid or any type 2 histology; stage 2: all patients). Patients have undergone hysterectomy, bilateral salpingo-oopherectomy and pelvic lymphadenectomy (minimum 12 pelvic-nodes. Para-aortic LNE is optional). Adjuvant brachytherapy is permitted in both arms, though external-beam radiotherapy is not allowed. Primary endpoint is overall survival; secondary endpoints include disease-specific survival, progression-free survival, rates of isolated pelvic, distant and mix relapses, QOL, compliance and toxicity. Carboplatin (AUC5) and paclitaxel (175mg/m2) iv every 3 weeks, total 6 courses. This trial will enroll 678 patients in 71 sites from European Network of Gynaecological Oncological Trials Groups (DGCG Denmark; EORTC Austria, Belgium, Czech Rep., Germany, Italy, Nederland, Spain, UK; NSGO Finland, Sweden; BGOG Belgium; MaNGO Italy; MITO Italy) and from MD Anderson Cancer Center.

ClinicalTrials.gov Identifier: NCT01244789

Results

-

Conclusion

IGCSM-0367
Poster Shift III - Uterine Cancer including Sarcoma

FOOD HABITS AND RISK OF ENDOMETRIAL CANCER: DEVELOPMENT OF AN ASSESSMENT QUESTIONNAIRE.

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Aims
The importance of food habits in the pathogenesis of endometrial cancer has been progressively highlighted. Most of the studies investigating this relationship was conducted through the use of Food Frequency Qustionnaires, but they can be burdened by some biases and aren't always easily appicable. Aim of this study is to develop an experimental instrument to evaluate the personal food habits of endometrial cancer patients.
Methods
This case - control study (61 cases and 81 controls) is based on an experimental instrument elaborated by the Academic Department of Gynecology in collaboration with the Department of Dietetics at Mauriziano Hospital, Turin. It consists on a guided administration of a three-day food diary with a photographic atlas integrated with the use of Winfood software for data analysis. We obtained an evaluation of the usual diet of each patient for a total of 100 nutrients.
Results

The ease of diary's administration, the comprehensibility for the patients and the detailed food's analysis obtained by Winfood confirm that the experimental methodology is agile, innovative and efficient. The univariate analysis of macro – and micronutrients confirmed a statistically significant association between risk of developing endometrial cancer and intake of several nutrients, in particular lipids, saturated and monoinsaturated fatty acids, animal proteins, calcium. A reduction of risk was associated with the intake of alpha – tocopherol.

Conclusion
This instrument could be applied to the daily clinical reality, in view of the realization of primary prevention and to highlight the possible impact on the development of recurrences.

IGCSM-0373
Poster Shift III - Uterine Cancer including Sarcoma

DEFINING A PRE- AND INTRAOPERATIVE STRATEGY TO PREDICT NODAL INVOLVEMENT RISK IN ENDOMETRIAL CANCER

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Aims

Pre-operative assessment of nodal involvement risk in endometrial cancer is crucial to determine adequate indication of lymphadenectomy. The objective of this study was to evaluate the best pre- and per-operative strategy, including endometrial biopsy, pelvic ultrasound, pelvic MRI and intraoperative examination for the determination of ESMO risk group.

Methods

Our study focuses on patients supported for endometrial cancer between 2006 and 2011. We sought to determine which pre- and/or per-operative strategy was the best to predict the real ESMO risk group determined on hysterectomy specimen, building 12 algorithms incorporating endometrial biopsy for histological type and tumor grade, and ultrasound and/or MRI or intraoperative examination for the determination of myometrial invasion depth.

Results

For the prediction of high risk, the 2 best algorithms were endometrial biopsy associated with ultrasound, combined with MRI in case of invasion depth ≤ 50%, and endometrial biopsy associated with ultrasound, with MRI in case of invasion depth ≤ 50% and intraoperative examination if myometrial infiltration was less than 50% on MRI. For the prediction of low risk, the 2 best algorithms were endometrial biopsy associated with ultrasound (or MRI), combined with MRI (or ultrasound) in case of myometrial infiltration ≤ 50% and intraoperative examination in case of discrepancy between both exams.

Conclusion

The best strategy to predict the real ESMO risk group appears to be endometrial biopsy associated with pelvic ultrasound. Performing a pelvic MRI and intraoperative examination seems indicated in a second step, in case of myometrial infiltration ≤ 50% on ultrasound.

IGCSM-0376
Poster Shift III - Uterine Cancer including Sarcoma

RADIOTHERAPY INCLUDING BRACHYTHERAPY AS CURATIVE TREATMENT FOR INOPERABLE ENDOMETRIAL CARCINOMA. DUTCH EXPERIENCE.

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Aims

To report the results of curative radiotherapy in inoperable endometrial cancer patients.

Methods

From 1995 to 2013 20 patients with primary endometrial cancer (mean age 77, elderly/obese and unfit for surgery or anesthesia) were treated with combination of external beam radiotherapy (EXT, 23 fractions of 2 Gy) and brachytherapy (low dose rate 22-25 Gy or high dose rate (HDR) 3 fractions of 7 Gy), or brachytherapy alone (N=4, HDR, 6 fractions of 6 Gy).

For brachytherapy we chose to use the Y-shaped Rotte applicator which is easy to insert without anesthesia. The optimal coverage of the uterus was obtained by choosing the most appropriate applicator size. This was confirmed during the preplanning stage, based on MRI or CT imaging.

Post-implant CT-scan was obtained immediately, followed by contouring of uterus, tumor, bladder, rectum and sigmoid. Treatment plans were individualized for each patient and dosimetric optimization was based on dose-points.

Results

Two patients developed locoregional recurrence and concomitant distant metastases, one patient died of endometrial cancer. Disease free survival was 88%. Acute grade 1-2 bowel and bladder toxicities developed in ten and four patients respectively due to EXT. Two patients developed late toxicities, one grade 2 bowel and one grade 3 bladder.

Conclusion

Brachytherapy based radiation is an effective, well tolerated treatment with results comparable to surgery. It should be regarded as an alternative treatment option to surgery in patients at risk of serious per- and postoperative adverse events.

IGCSM-0379
Poster Shift III - Uterine Cancer including Sarcoma

COMBINED OPERATIVE HYSTEROSCOPY (OHSC) AND PROGESTIN THERAPY (PT) AS FERTILITY-PRESERVING TREATMENT IN EARLY ENDOMETRIAL CARCINOMA (EC)

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Aims

The feasibility and efficacy of combined oHSC and PT have been evaluated as fertility-preserving treatment in selected young women with early EC.

Methods

Sixteen patients (median age 38 years, range 25-40) with intramucous EC wishing to preserve fertility have been enrolled (inclusion criteria: age ≤ 40 years; endometrioid, well-differentiated, estrogen/progesterone-receptor+ EC; no multifocal tumor, node metastasis, ovarian mass, Lynch-II syndrome; normal serum CA125), and have reached at least 36 months of follow-up. Treatment consisted of hysteroscopic ablation of the lesion and the myometrial tissue below, followed by oral megestrol acetate (MA) 160mg/day for 6 months (n=6) or 52mg levonorgestrel-medicated intrauterine device (LNG-IUD) for 12 months (n=10). A median follow-up of 85 months has been achieved (range 36-136).

Results

One patient (LNG-IUD group), with BMI 53, recurred after 5 months and underwent definitive surgery showing IA-G1 (intramucous) EC. One patient (MA group) showed an endometrial hyperplasia without atypia at 3-6 months, with negative controls thereafter. One patient (LNG-IUD group), with tumor volume > 2cm, after 36 months showed an endometrial hyperplasia without atypia treated with MA, then underwent definitive surgery for ovarian cancer IA-G1 with occult synchronous IA-G1 (intramucous) EC. By now, 3 patients have attempted to conceive and one of them conceived and term delivered a healthy baby.

Conclusion

Combined oHSC and PT may have a role for safe and effective conservative management of early EC in selected patients wishing to preserve fertility. An international registry study, endorsed by the Gynecological Cancer InterGroup (GCIG), is to be undertaken.

IGCSM-0387
Poster Shift III - Uterine Cancer including Sarcoma

UTERINE SARCOMA: CLINICO-PATHOLOGICAL CHARACTERISTICS AND TREATMENT MODALITIES OUTCOME. A SINGLE INSTITUTION RETROSPECTIVE ANALYSIS FROM SAUDI ARABIA

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Aims

This is a retrospective study to investigate the clinical and histopathological characteristics ,together with the prognostic factors , treatment outcome , pattern of relapse and survival analysis of the uterine sarcoma patients .

Methods
A total of 36 patients with high grade uterine sarcoma were treated between January 2000 and December 2012.
Results

The mean age of the group was 57.72±13.17 years .The malignant mixed mullerin tumor (MMMT) was reported in 21 patients (58%) , leiomysarcoma in 7 patients (19%) , endometrial stromal sarcoma in 6 patients (17%), and Rhabodomyosacroma in 2 patients (6%) . About half of the patient were stage III and IV 28% , and 25% , respectively, while 42% (15 patients) were stage I and 5% (2 patients) only were stage II. Surgical treatment was total abdominal hysterectomy and bilateral salpingoophorectomy(TAH+BSO) plus staging in 18 patients (50%) while in 4 patients (19%),TAH+BSO plus debunking was done . Adjuvant chemotherapy and adjuvant radiotherapy were given in 24(69%) and 5 (14 %) respectively. At a mean follow up period of 24±31 months, 8 patients (22%) relapsed. The 2 and 5 years disease free survival (DFS) were 22 % and 14 % respectively .In the multivariate analysis , the advanced stages and lymphovascular invasion were associated with significantly poor DFS (P <0.015 and P< 0.0001 respectively ,while the use of chemotherapy significantly improved the DFS (P<**0.027)**.

Conclusion

In this small series of the patients, the poor outcome of high grade uterine sarcoma patients was identified, with only one third of patients(30%) survived for 2 years , necessities the need for more aggressive tools to compete with this disease.

IGCSM-0394
Poster Shift III - Uterine Cancer including Sarcoma

ENDOMETRIAL POLYPS IN POST MENOPAUSAL, ASYMPTOMATIC WOMEN: ARE THEY A CAUSE FOR CONCERN?

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Aims

Post-menopausal women presenting with vaginal bleeding and thickened endometrium > 5mm or polyps mandates investigation as the risk of endometrial cancer is up to 10%. Asymptomatic women with incidental finding of polyps frequently raise concern and offered invasive and diagnostic intervention. Commonly, these polyps are histologically benign, nevertheless, the significance of these abnormalities and malignant potential warrants further investigation.

Methods

This is a retrospective study of notes of women referred to the gynaecological services for incidental finding on ultrasound scan of polyps. Immunohistochemistry for ki67, cyclin A, and p16, p21 and PTEN, were performed on archived atrophic (benign) endometrial tissue (n=10), benign polyps (n=25) or endometrioid endometrial cancer (n=10). Staining was analysed using Image-Pro analysis software for proliferative index and a semi-quantitative scale for intensity. Kruskal-Wallis and Dunn's comparison were used to test for statistical significance.

Results

Ki67 expression was significantly higher in endometrial polyps than atrophic controls but significantly lower compared to endometrioid cancers (18.1±6.5% vs. 0.64±0.5% vs. 66.7±12.2%, $p<0.0001$). Staining for p21 was negative in atrophic endometrium, however, significant positive nuclear staining was seen in endometrial polyps and cancers (0 vs. 26.5±11.6% vs. 50.2±16.3%, $p<0.0001$). p16 expression was localised to the stroma in polyps compared to tumour epithelium in endometrial cancers.

Conclusion

Post-menopausal endometrial polyps from asymptomatic, women showed proliferative features similar to endometrioid endometrial cancers. Interestingly, p16 may be useful as a surrogate marker of malignant potential. Additional studies are underway to investigate

an association between histological and molecular markers and their implications on clinical practice.

IGCSM-0399
Poster Shift III - Uterine Cancer including Sarcoma

ENDOMETRIAL CANCER: IMPACT OF OBESITY ON FEASABILITY AND MORBIDITY OF THE SURGERY

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Aims

Obesity increases the risk of endometrial cancer. We studied the impact of obesity on surgical approach, completion and morbidity of the surgery and on survival.

Methods

Two groups of obese and non obese women with endometrial cancer have been done according to the body mass index (BMI= weight/lengh^2). Non obeses had a BMI <30 kg/m^2, obeses a BMI ≥30 kg/m^2. We defined although three groups according to the complexity of the surgical procedures.

Results

145 non-obeses and 147 obeses in which 42 morbidly obeses were enrolled since 1997 to 2013. Morbidly obeses were younger than non obeses respectively 58 and 64 years old (p=0,001). Surgery was realised by laparoscopy in 66 to 78 % of all cases. Conversion rate to laparotomy increased with BMI, 5 % to 19 % (p=0,006). Surgical procedure was more often incomplete in obeses, 32 vs 21% (p=0.04). There was no significant difference in lengh of stay, operating time and per operative and late complications. In the first 30 days, obese women had more complications after complexe surgery, 54% vs 9% (p=0.001) especially for wound infection (8% vs 14% p=0,06). No difference was found for overall survival (OS) and disease free survival (DFS) between the two groups even in incomplete procedures.

Conclusion

Laparoscopic surgery seemed to be feasable in obese women in endometrial cancer, without increasing the morbidity. Even if surgery is more often incomplete in obeses, no consequences on OS and DFS have been found

IGCSM-0414
Poster Shift III - Uterine Cancer including Sarcoma

ADJUVANT TREATMENT FOR STAGE IA TYPE II ENDOMETRIAL CANCERS: IS OBSERVATION A VALID STRATEGY?

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Aims
Uterine serous and clear cell carcinoma is associated with poor prognosis even in early stage disease. Randomized data is lacking, and the optimal adjuvant therapy strategy is unknown. Our objective was to evaluate our experience for treatment and outcomes in Stage IA Type II uterine cancer.
Methods
Retrospective study of patients treated in London, Canada (2003-2013). Patient demographics, surgical staging, pathology reports, adjuvant treatment, and recurrence details were extracted.
Results
Chart review yielded 69 Stage IA (FIGO 2009) with >1 year follow-up (median 35 months (12-108 months)). Histology was serous 70%, clear cell 23%, both 7%. Surgical staging completed in 52% of patients. Twenty-five patients were treated (16 vault brachytherapy (VBT) alone, 5 EBRT+VBT, 3 EBRT+CT+/-VBT, 1 EBRT only), and 44 patients were observed. Recurrence rate was 17% (12/69, 1 local, 5 systemic, 6 both), 5-yr RFS 78%, with no statistically significant difference in between the adjuvant (20%(5/25)) and observed groups, (16% (7/44)). Recurrence was significantly higher in patients with myometrial invasion (MI+) 25% (10/40), versus without (MI-) 7% (2/29), with the primary difference in patients managed with no adjuvant treatment, MI- (4% (1/23)) versus MI+ (29% (6/21)), p=0.04. Of the 3 patients who received chemotherapy, none recurred.
Conclusion
Observation in Stage IA Type II uterine cancer is associated with low recurrence rates in the absence of myometrial invasion. Higher recurrence rates in patients with myometrial invasion warrant alternate strategies including consideration of adjuvant systemic treatment.

IGCSM-0416
Poster Shift III - Uterine Cancer including Sarcoma

DISTRIBUTION OF LYMPH NODE METASTASIS SITES IN ENDOMETRIAL CANCER UNDERGOING SYSTEMATIC PELVIC AND PARA-AORTIC LYMPHADENECTOMY

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Aims

Therapeutic relevance of systematic pelvic and para-aortic lymphadenectomy remains controversial in surgical treatment of endometrial cancer, and should be clarified by a well-designed prospective study. The aim of this study was to demonstrate the precise mapping of lymph node metastasis (LNM) sites in endometrial cancer to propose optimal lymphadenectomy for future clinical trials.

Methods

A total of 266 patients undergoing primary radical surgery including systematic pelvic and para-aortic lymphadenectomy for endometrial cancer were enrolled. We analyzed the distribution of positive-node sites according to their anatomical location.

Results

Overall, 42 of 266 patients(15.8%)showed LNM. The median number of nodes harvested was 62.5 (range 40-119) in pelvic nodes (PLN) and 20 (range 3-47) in para-aortic nodes (PAN). Among 42 cases with positive-nodes, 16 cases (38.1%) showed positive PLN alone, 7 cases (16.7%) in PAN alone, and 19 cases (45.2%) in both PLN and PAN. The most prevalent site of positive-nodes was PAN (9.8%) , six of 19 cases (31.6%) of positive PAN above the inferior mesenteric artery (IMA) up to the level of renal veins, showed negative PAN below IMA. Metastasis to the deep inguinal nodes was found to be extremely rare (0.38%) .

Conclusion

Routine resection of deep inguinal nodes is not recommended, whereas para-aortic lymphadenectomy should be extended up to the level of renal veins for endometrial cancer.

IGCSM-0417
Poster Shift III - Uterine Cancer including Sarcoma

LYMPHADENECTOMY CAN BE OMITTED FOR LOW-RISK ENDOMETRIAL CANCER BASED ON PREOPERATIVE ASSESSMENTS

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Aims
According to the FIGO staging, some surgeons perform lymphadenectomy in all patients to enable the accurate staging. However, there are some risks to lymphadenectomy such as lower limb lymphedema. The aim of this study was to investigate whether preoperative assessment is useful to select the patients in whom lymphadenectomy can be safely omitted.

Methods
We evaluated the risk of lymph node metastasis (LNM) using LNM score (histological grade, tumor volume measured in MRI and serum CA125) and myometrial invasion and extraurerine spread assessed by MRI. Several patients with definitive myometrial invasion by macroscopic examination and/or intraoperative frozen section were subjected to systematic lymphadenectomy. We analyzed several histological findings and also investigated the recurrence rate and overall survival.

Results
56 patients in whom LNM score was 0 and myometrial invasion was less than 50% were consecutively treated surgically without lymphadenectomy. Five patients who were diagnosed as obvious myometrial invasion intraoperatively underwent systematic lymphadenectomy and one patient in whom endometrial cancer was considered to arise from the widespread adenomyosis had para-aortic node metastasis. Negative predictive value of deep myometrial invasion had an accuracy of 96.4% (54/56). During the follow-up period (mean 55 months), one patient with deep myometrial invasion who refused an adjuvant therapy had tumor recurrence. The overall survival rate was 100% during the study period.

Conclusion
This preoperative assessment is useful to select the patients without risk of LNM and to safely omit lymphadenectomy and also useful to predict the prognosis of patients surgically treated without lymphadenectomy.

IGCSM-0428
Poster Shift III - Uterine Cancer including Sarcoma

MANAGEMENT OF ENDOMETRIAL HYPERPLASIA : A SURVEY OF MEMBERS OF KOREAN GYNECOLOGIC ONCOLOGY GROUP (KGOG)

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Aims

Endometrial hyperplasia (EH) has been considered a precursor of endometrial cancer. Currently, there are no definite standard treatment guidelines for the management of EH. The aim of this study was to investigate the current management of EH among members of the Korean Gynecologic Oncology Group (KGOG).

Methods
This was a survey (via electronic mail) of members of KGOG, in 2014. A total of 40 questions were divided into four domains that included simple hyperplasia (SH) without atypia, SH with atypia, complex hyperplasia (CH) without atypia, CH with atypia.

Results
In total, 50 KGOG members responded (69% response rate). The oral progestogens were most popular choices for managing EH without atypia. (SH: 62%, CH: 52%). The most preferred regimen is cyclic using of medroxyprogesterone 10~20mg/day. In case of EH with atypia, if the patients want no more pregnancy, the majority of the gynecologists would perform hysterectomy, especially for CH with atypia (92%). For fertility preservation, the oral progestogens were most popular choices (SH with atypia: 70%, CH with atypia: 54%), followed by levonogestrel releasing intrauterine system (LNG-IUS). The most preferred regimen is continuous using of megestrol acetate 160~320mg/day.

Conclusion

Our survey shows that the majority of KGOG members still preferred oral progestogens for conservative management of EH, in spite of many reported studies about successful

treatment with LNG-IUS for EH without incurring the disadvantages of oral progestogens.

IGCSM-0432
Poster Shift III - Uterine Cancer including Sarcoma

CLINICAL IMPLICATION OF PROLACTIN IN ENDOMETRIAL CARCINOMA

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Aims

Obesity and diabetes have been reported to increase the risk for endometrial carcinoma (EC). These evidences suggest that endocrine disorders are involved in the development of EC. On the analysis of the endocrine profiles in these patients, we focused our attention on the existence of patients with high serum prolactin (PRL) levels. In this study, we analysed the clinical implication of PRL in EC.

Methods

We examined 135 patients with EC who had been treated in Kumamoto University Hospital between 2010 and 2013. A multivariate analysis was performed to elucidate which variables, known as the risk factors for EC, contribute to the endometrial carcinogenesis. Furthermore, a clinicopathological study was performed between the patients with hyperprolactinemia and with extracted risk factors for EC.

Results

Hyperprolactinemia was observed in 21 patients (15.6%). A multivariate analysis demonstrated that obesity and familial history were the significant independent risk factors for EC. The patients consisted of 21 with hyperprolactinemia, 30 with obesity, and 35 with familial history. Age distribution showed that the patients with hyperprolactinemia presented a lower age compared to other 2 groups. Meanwhile, there were no differences in the distribution of FIGO stage and histological type among 3 groups.

Conclusion

The patients with EC were associated with the high prevalence of hyperprolactinemia. Furthermore, such cases had similar clinical characteristics to type 1 EC excluding the age distribution. The present study indicates that PRL might be involved in endometrial carcinogenesis.

IGCSM-0445
Poster Shift III - Uterine Cancer including Sarcoma

OBESITY AS A PROGNOSTIC INDICATOR IN ENDOMETRIAL CANCER

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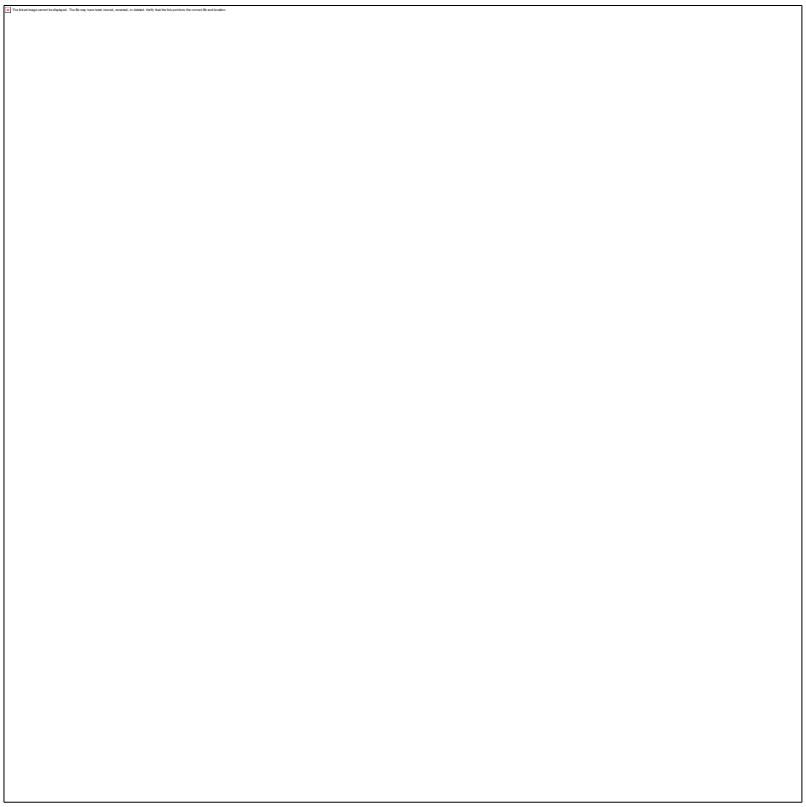
Aims
Endometrial cancer has been divided into two groups according to clinical and pathological characters. Type I endometrial cancer occurs in premenopausal and perimenopausal women and follow a favorable course. Type II endometrial cancer occurs in postmenopausal women and its behavior is aggressive.
Methods
160 patients with endometrial cancer who underwent operation in our hospital during 2003 to 2012 were enrolled in this study. All patients gave informed consent. We investigated the involvement of body mass index (BMI), complications with diabetes mellitus, hypertension, and hyperlipidemia and other clinical features in overall and progression free survival (OS and PFS) by using Cox-Hazard model. BMI was divided into three groups (light BMI<22, medium 22?BMI?25, heavy BMI>25) and we analyzed relationships between BMI and the clinical features including p53 and PTEN abnormalities and microsatellite instability by using Cochran-Armitage trend test. The gene abnormalities were evaluated by immunohistochemical staining.

Results



We experience 17 cases of death due to disease and 28 cases of recurrence. Our analysis revealed that light group significantly showed poor prognostic factor (p-value 0.0189). Hazard ratios showed inverse correlation between BMI and OS (Fig.). Poor differentiation, distant metastasis, vessel involvement, deep myometrial invasion, complications and negative estrogen progesterone receptor status were significantly related to light group. In heavy group, more loss of expression of mismatch repair genes was observed.

Conclusion

Our data suggests the possibility that endometrial cancers of patients with light weight might be classified as type II tumor. Our data showed that weight of patient is prognostic factor in endometrial cancer.

Conflict of interest

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IGCSM-0455
Poster Shift III - Uterine Cancer including Sarcoma

AN ANALYSIS OF RESPONSE TO MEDROXYPROGESTERONE ACETATE IN CHEMO-NAÏVE RECURRENT/METASTATIC ENDOMETRIAL CANCER

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Aims
Progesterones have been extensively used in advanced endometrial cancer. We report our single centre experience of medroxyprogesterone acetate (MPA) use in chemo-naïve patients.

Methods
Twenty two receptor positive patients received MPA (dose of 200-300mg/day) as first line treatment between January 2006 and December 2013.

Results
Seventeen of the twenty two patients had endometrioid adenocarcinoma of which seven were grade 1; eight grade 2; and two grade 3. Other histology included serous papillary and adeno-squamous. Five patients had local recurrence at diagnosis; rest were abdomino-pelvic recurrence and distant metastases (two liver and five lung). Thirteen patients were ER & PR positive, while six were PR positive and three ER positive, only. 68% of patients had a WHO performance status of 0, rest ≥ 1. Response rates were: Complete 13.6%; Partial 54.5% and Stable disease in 18.2%; disease progression 13.7%. 6/7 patients with high grade (including serous-papillary) had partial responses of >1 year. Overall mean disease free interval before MPA started was 45 months. Overall Mean Progression free survival (PFS) was 15.5 months. Mean PFS for node only disease was 16 months, while for distant metastases 21 months. Six patients are still responding. Three developed thromboembolism.

Conclusion
A favourable response to MPA was seen with low-grade tumours expressing ER/PR receptors. Patients with high grade histology and visceral metastases can still get durable partial responses despite receptor status. Control of distant disease was as good as nodal disease. MPA should be considered in chemo-naïve patients. Further research is required in this patient group.

IGCSM-0458
Poster Shift III - Uterine Cancer including Sarcoma

PREDICTORS OF RECURRENCE AND PROGNOSIS IN SURGICAL STAGE 1-2 ENDOMETRIAL CARCINOMA

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Aims
To explore the high-risk clinicopathological features for the recurrence and prognosis of endometrial carcinoma which diagnosed as FIGO stages 1 and 2.
Methods
Three hundred ninety-eight consecutive patients with clinical stage 1-2 endometrial adenocarcinoma who underwent primary surgical therapy between Oct. 1990 to Oct. 2010 were analyzed retrospectively to discover the correlation between clinicopathological risk factors and the disease recurrence and prognosis.
Results
Thirty-six patients (9.05%) developed recurrence, 58.33% relapsed cases happened within the first five years after the completion of the treatment. Clinicopathological factors significantly associated with disease recurrence were as follows: age (>50 years versus ≤50 years, 1.98% versus 11.65%;*P*=0.004);histology (adenocarcinoma 7.99%, adenosquamous 6.47%, papillary 42.86%, clear-cell and others 0%;*P*<0.01);tumor grade (grade 1~2, 7.40%, grade 3, 17.86%;*P*=0.022); depth of myometrial invasion (none 3.39%, <1/2 7.50%, ≥1/2 16.16%;*P*=0.011);tumor size (≤2 cm or less 5.94%, >2 cm 17.27%;*P*<0.01). peritoneal cytology (negative 6.94%, positive 23.81%;*P*=0.019);ER status (negative20.75%, positive 5.46%;*P*<0.01);PR status (negative 30.00%, positive 4.07%;*P*=0.031).
Conclusion
For 1-2 stage endometrial carcinoma, age, histologic type of carcinoma, myometrial invasion, tumor grade, peritoneal cytology, tumor size, ER and PR status are significant for recurrence and prognosis. Regular follow-up after treatment is essential for patients within five years.

IGCSM-0463
Poster Shift III - Uterine Cancer including Sarcoma

THE STAGING I CLINICAL SIGNIFICANCE OF FIGO 2009 AND ITS RLATED FACTORS OF THE ENDOMETRIAL CARCINOMA

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Aims
To discuss the staging 1 clinical significance of FIGO 2009 and its prognosis factors of the endometrial carcinoma.
Methods
A retrospective analysis was carried out on 233cases of FIGO 2009 staging I who admitted to our department from Dec 1998 to Dec 2009 and were carried with complete staging operation,compared with FIGO 1988 staging and their follow-up data were complete.
Results
FIGO 1988 staging IA 41 cases, IB 146 cases, IC 29 cases and IIA 17 cases.The univariate model of IA and IB revealed that histological grade, pathological type, vessel cancer embolus, ER, PR expression and postoperative chemotherapy and postoperative chemoradiotherapy have no obvious statistical difference (P > 0.05); The univariate model of I and IIA revealed that histological grade, pathological type, vessel cancer embolus, myometrial invasion, ER, PR expression and postoperative chemotherapy and postoperative chemoradiotherapy have no obvious statistical difference (P > 0.05).The high risk factors for FIGO 2009 stage I were pathological grading and pathological types.
Conclusion

FIGO 2009 Endometrial carcinoma stage is more consistent with the patient's clinical status than the FIGO 1988 stage. Postoperative adjuvant therapy should be taken for high risk patients.

IGCSM-0467
Poster Shift III - Uterine Cancer including Sarcoma

UTERINE CARCINOSARCOMA AFTER ADJUVANT TAMOXIFEN TREATMENT FOR BREAST CANCER

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Aims

Uterine carcinosarcomas are highly aggressive tumours with poor prognosis. An association of this tumour with long term use of Tamoxifen has been described.

Methods

A retrospective (2001-2014) case note review was done for patients who were on Tamoxifen for treatment of breast cancer and subsequently developed uterine Carcinosarcoma at our hospital. The aim was to describe clinico-pathologic features and outcomes for these women.

Results

Hundred and five patients with carcinosarcoma were identified. Twenty of these had a history of Tamoxifen use. The mean age at diagnosis was 68 years. All patients were postmenopausal and had received 20 mg Tamoxifen daily; the duration of treatment ranged from 5 to 12 years.Following diagnosis, most had undergone surgery. Eight tumours were stage Ia, two stage II, five stage III and five stage IVb. The epithelial component was serous carcinoma in 15 patients. Thirteen patients received adjuvant external beam radiotherapy(EBRT), five had EBRT and chemotherapy, one patient had chemotherapy alone and one patient was not fit for chemotherapy. Fifteen patients died within 38 months of diagnosis.Seven out of 15 patients had recurrence and eight had progressive disease. Three patients with stage Ia and two patients with stage III disease were alive at 15, 26, 80, 3 and 5 months.

Conclusion

50% of these patients had early stage (stage Ia and II) and in 50%%, the disease had spread outside the uterus (III-IVb). Only early stage at diagnosis improved the prognosis. This small study supports the association between Tamoxifen therapy and the development of uterine Carcinosarcoma.

IGCSM-0480
Poster Shift III - Uterine Cancer including Sarcoma

FUNCTIONAL ANALYSIS OF UBIQUITIN-PROTEIN LIGASE CHIP(CARBOXYL TERMINUS OF HSC70-INTERRACTING PROTEIN), WHICH TARGETS SRC-3 AND ERBB2 (HER-2/NEU) FOR UBIQUITIN-MEDIATED DEGRADATION IN ENDOMETRIAL CANCER

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Aims

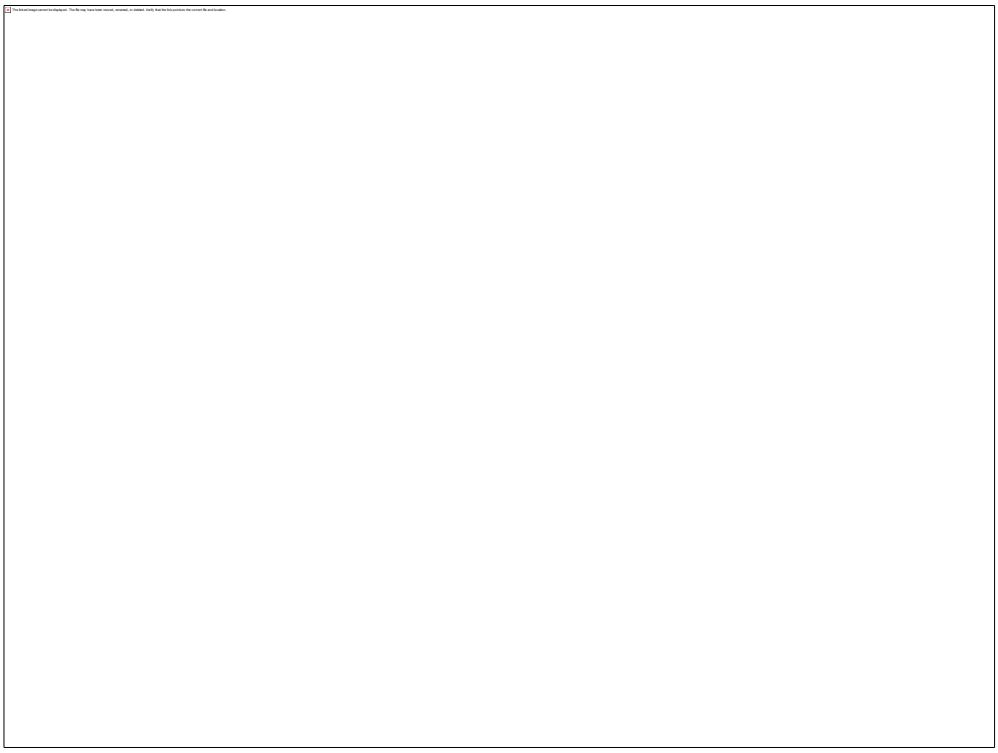
CHIP is ubiquitin-protein ligase, which targets Steroid Receptor coactivator 3 (SRC3). SRC3 is an oncogene and a member of the SRC family of nuclear receptor coactivator proteins that mediate the transcriptional effects of nuclear hormone receptors as well as other transcription factors. ErbB2 (HER2/neu) is overexpressed in about 25-30% of breast malignancies, and up-regulation of ErbB2 in breast cancer patients is associated with poor prognosis. CHIP down-regulates ErbB2 and loss of CHIP has been reported in breast cancer with lymph node metastasis and in advanced stage. Here we investigated expression of CHIP, SRC3 and ErbB2 by immunohistochemistry and their relationship with clinical factors in 140 cases of endometrial cancer. We explored role of CHIP in regulation of SRC3 and ErbB2 expression in vitro.

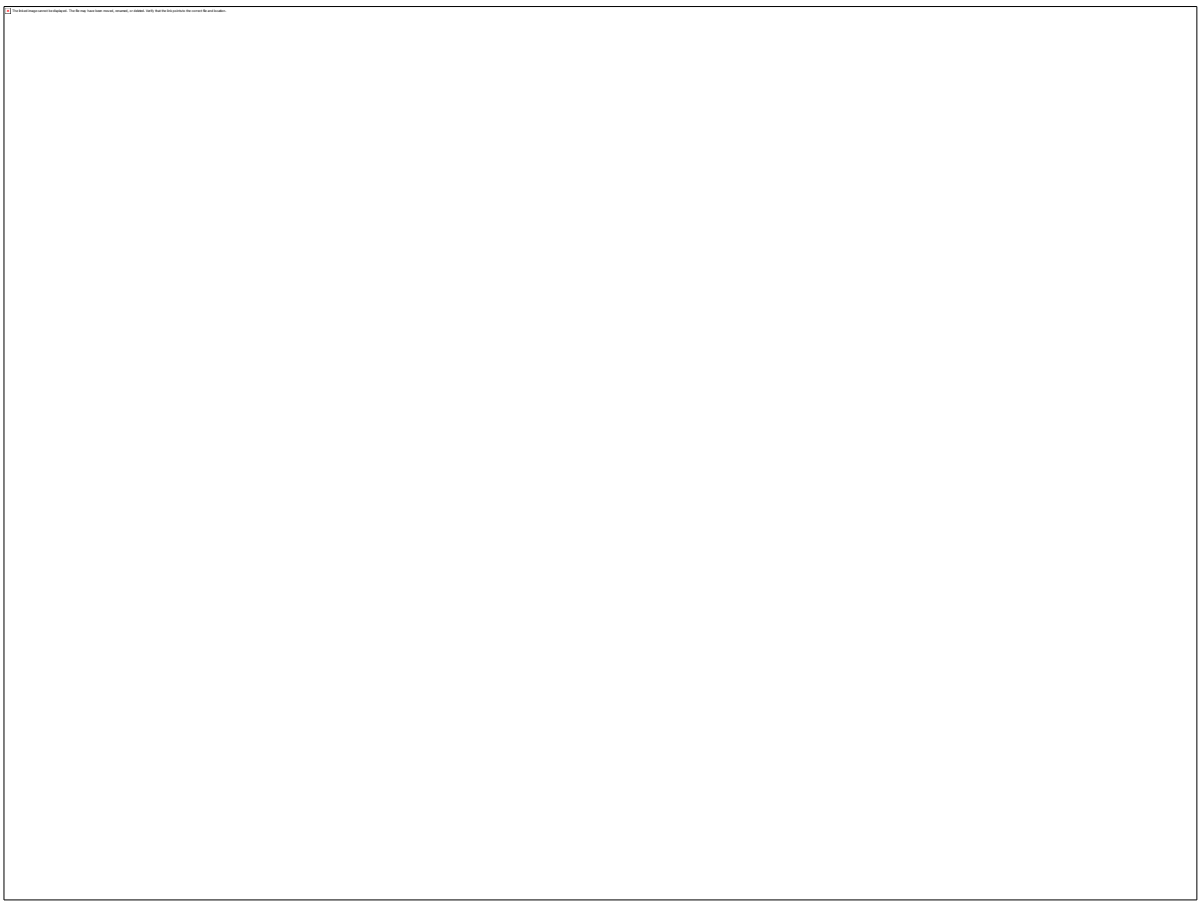
Methods

140 cases of endometrial cancer that underwent operation in our University hospital and gave informed consent to participate were enrolled in this study. Immunohistochemical staining was done with endometrial cancer tissues. Expression of these proteins was classified into two groups. Clinical data were obtained from chart review.

Results

Up-regulation of CHIP and SRC3 was observed in high-grade endometrioid carcinoma. Loss of CHIP expression was observed in endometrial cancer case with low BMI. CHIP expression showed positive and negative relationship with SRC3 expression and BMI, respectively. Knockdown experiment with siRNA against CHIP leads to up-regulation of SRC3 and ErbB2.





Conclusion

Up-regulation of CHIP, SCR3 and ErbB2 is involved in progression of endometrial cancer.

Conflict of interest
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IGCSM-0482
Poster Shift III - Uterine Cancer including Sarcoma

RECURRENCE RATE IN PATIENTS WITH SURGICALLY MANAGED STAGE I ENDOMETRIAL CARCINOMA.

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Aims
To study the recurrence rate and patterns in a group of patients with stage I endometrial carcinoma after surgical staging without adjuvant therapy.
Methods
Medical records were reviewed in 229 patients with stage I endometrial carcinoma, treated with surgery alone between 2002 and 2010 at Siriraj Hospital or referred to Siriraj Hospital after the surgery. All patients were followed without adjuvant radiation or chemotherapy.
Results
At a median follow-up time of 53.3 months, 11 recurrences (4.85%) occurred with a median time to recurrence of 21.2 months (range 7.7-77.8 months). Among these recurrences; 8 experienced failure at the vagina, 1 within the pelvis, 1 within the abdomen, and 1 multiple metastases. Factors demonstrated the potential value in predicting recurrence included; age >70 years), BMI >30 kg/m2, harvested pelvic lymph node <12 nodes, and having GOG-99 high-intermediate risk (HIR). Multivariate analysis revealed that none of these was independent predicting factor for a significant recurrence. The recurrence rate was higher in the group of patients with HIR (22.2% vs 4.1%, p = 0.013) and stage IB, grade 2 (9.4% vs 4.3%, p = 0.159). 5-year disease-free survival and 5-year overall survival were 96.5% and 99.6%, respectively.
Conclusion
The patients with low and intermediate risk stage I endometrial carcinoma had excellent outcomes without postoperative adjuvant treatment. Patterns of failure were not uniformly associated with either sub-stage or tumor grade.

IGCSM-0493
Poster Shift III - Uterine Cancer including Sarcoma

LAPAROSCOPIC LYMPHADENECTOMY OF EARLY-STAGE ENDOMETRIAL CANCER: UP TO THE LEVEL OF RENAL VEINS VS. THE INFERIOR MESENTERIC ARTERY

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Aims

Systematic lymphadenectomy for endometrial cancer (EC) is necessary procedure for International Federation of Gynecology and Obstetrics (FIGO) staging. It takes an operating time for a long time laparoscopically.

The aim of this study was to compare the surgical and survival outcomes between systematic pelvic and para-aortic lymphadenectomy (up to the level of renal veins= A group) and pelvic and para-aortic lymphadenectomy (up to the level of the inferior mesenteric artery= B group) of patients with early-stage endometrial cancer (EC) by laparoscopic surgery.

Methods

It was retrospective study, we performed laparoscopic lymphadenectomy for a total of 49 patients with early-stage EC preoperatively: A group (n=15) underwent from 2004 to 2007 and B group (n=24) underwent from 2008 to 2013.We analyzed the surgical and survival outcomes between two groups.

Results

Median operating time was A 465(IQR 438-505.5) / B 336(301.5-367.8) minutes ($p<0.0001$),

median blood loss was 269(186.5-667) / 112(83-255) ml ($p=0.005$).

Median Lymph nodes removed was pelvic 40(32.5-53) /41(34.5-48.2) ($P=0.89$), para-aortic nodes 17(12.5-22) / 8.5(5.75-11.5). Lymph node metastasis was 1/2 ($P=0.93$).

Post operating FIGO2008 stage was ?A: 12/15,?B: 1/5, ?: 0/1, ?A: 1/1, ?C1: 0/2, ?C2: 1/0 (p=0.88).

Adjuvant therapy was 4/14 (P=0.15).Median Follow-up period was 98(79.5-106.2) / 32.5(11-53.3) months.One patient had recurrence (B group). All patients are alive without evidence of the disease.

Conclusion

Our results suggest that laparoscopic pelvic and para-aortic lymphadenectomy (up to the level of the inferior mesenteric artery) for early-stage endometrial cancer is feasible.

IGCSM-0495
Poster Shift III - Uterine Cancer including Sarcoma

RECONSIDERATION OF FIGO IIIA, "POSITIVE PERITONEAL CYTOLOGY ALONE", IN ENDOMETRIAL CARCINOMA: SIGNIFICANCE OF IMMUNOCYTOCHEMISTRY

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Aims
According to the revision of FIGO1988 classification of endometrial carcinoma (EMC), 'positive peritoneal cytology (PPC)' has been deleted from the IIIA definitions in the FIGO2008 classification. The present study was designed to immunocytochemically explore unfavorable cases with EMC, which were staged at IIIA due to PPC alone by the FIGO1988 and to verify the significance of PPC.
Methods
Sixty surgically resected cases of EMC, which were defined as IIIA by PPC alone due to the FIGO1988, were used as follows: endometrioid adenocarcinoma (EMA) G1, 32 cases; EMA G2, 11 cases; EMA G3, 9 cases; serous adenocarcinoma, 3 cases; clear cell adenocarcinoma, 4 cases; carcinosarcoma, 5 cases. Using peritoneal cytological preparations, expressions of Ki-67 (proliferation marker) and cleaved caspase 3 (apoptosis marker) were immunocytochemically examined.
Results
The multivariate analysis statistically demonstrated that cleaved caspase 3 expression would become an independent prognostic indicator in addition to the histological type. Specifically, the EMCs with the low expression of cleaved caspase 3 are expected to show a poor prognosis compared to those with the high expression, and the type 2 EMCs are also more unfavorable than the type 1 EMCs.
Conclusion
In the prediction of unfavorable EMC which had been defined as IIIA with PPC alone by the FIGO1988, the expression of cleaved caspase 3 is supposed to be routinely helpful.

IGCSM-0501
Poster Shift III - Uterine Cancer including Sarcoma

ENDOMETRIOID ENDOMETRIAL CARCINOMA WITH TROPHOBLASTIC DIFFERENTIATION

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Aims
Endometrial carcinoma with trofoblastic differentiation is a a rare and unusual occurrence with very few previously reported cases. Herein, we report a case of 75 years old woman who underwent total laparoscopic hysterectomy with combined pelvic and paraaortic lymphadenectomy.

Methods
A case report with review of the literature

Results
Histopathologic examination revealed a deeply infiltrated, grade 3 endometrioid tumor that merged with a focus of multinucleated giant cells, large pleomorphic tumor cells, suggesting choriocarcinomatous differentiation. On immunohistochemical staining, the tumor showed strong immunoreactivity for human chorionic gonadotropin (hCG). The patient was surgically staged as FIGO IB disease. She further treated with adjuvant pelvic irradiation. She is still alive with no evidence of disease at the 36th month of diagnosis.

Conclusion

Endometrial adenocarcinomas with throphoblastic differentiation are thought to be undifferentiated tumors with dismal prognosis. However, as in this report, patients may have a good prognosis with comprehensive staging surgery and appropriate adjuvant treatment.

IGCSM-0503
Poster Shift III - Uterine Cancer including Sarcoma

ASSESSMENT OF TISSUE TRAUMA DURING SURGICAL STAGING OF ENDOMETRIAL CARCINOMA: COMPARISON OF ROBOTIC, LAPAROSCOPIC AND OPEN APPROACH.

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Aims

It has been claimed that videoendoscopic procedures have the advantage of being less traumatic compared to conventional open techniques. The aim of this prospective pilot study was to determine whether endoscopic endometrial cancer staging is associated with less tissue trauma and inflammatory response than conventional open technique using a panel of laboratory parameters.

Methods

In total 47 endometrial cancer patients scheduled for robot assisted (n=24), laparoscopic (n=9) or open (14) surgical staging with hysterectomy, bilateral salpingoophorectomy, pelvic and paraaortic lymphadenectomy were so far enrolled in the study. Blood samples for assessement of tissue trauma and postoperative immune response markers (C-reactive protein, interleukin-6, retinol, tocopherol, citrulline, tryptophan) were taken preoperatively, and consecutively during the five postoperative days.

Results

There was no diference in age and body mass index between groups. The highest node yield was found in robotic group (30 versus 20 and 18). The CRP and IL-6 reached the highest levels in the laparotomy group ($p<0.03$, and $p<0.005$ respectively). Tryptophan, tocopherol, citrulline and retinol ($p<0.006$, $p<0.004$, $p<0.0003$, and $p<0.006$ respectively) showed the lowest levels on the third postoperative day. These parameters correlated with postoperative complications (abdominal wall hematoma and persistent lymphorrhea). The parameters associated with tissue trauma showed the highest variability in patients undergoing open surgery.

Conclusion

Results of this pilot study illustrate the possibility of monitoring the extent of postoperative tissue trauma and presence of complications in patients undergoing major ono-gynecologic surgery. The recruitment of additional patients is ongoing.

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IGCSM-0504
Poster Shift III - Uterine Cancer including Sarcoma

NEW LABORATORY MARKERS IN THE ENDOMETRIAL CANCER PATIENTS

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Aims
Calgizzarin (S 100A-11), AIF-1, and TFF are proteins which, in addition to their physiological functions in the body interfere significantly in carcinogenesis. Their abnormal values in serum could therefore indicate pathological changes in the endometrium. The objective of this study was to verify the effectiveness of diagnostic determination of AIF-1 TFF, TFF-2, TFF-3 and S100A-11 in the diagnosis of endometrial carcinoma.
Methods

In total, 187 women undergoing diagnostic hysterectomy were included in the study. Blood samples of 71 patients with endometrial cancer and 116 women with benign endometrial findings (polyps, atrophy) were taken preoperatively. Sera specimens were tested for levels of S100A-11 (BioVendor, DSX) TFF-1 (BioVendor, DSX), TFF-2 (BioVendor, DSX), TFF-3 (BioVendor, DSX), AIF-1 (BioVendor, DSX) and Ca-125 (Siemenes, Centaur XP). Endometrial cancer patients were surgically staged.

Results

There was no diference in age and body mass index between groups. Patients with carcinoma had significantly higher values of S100 A-11 and AIF-1 in sera ($p < 0.0001$, and $p < 0.0001$ respectively). Moreover, values of S100 A-11 and AIF-1 in sera gradually increased with the stage of disease. TFF-3 showed a trend for higher values in endometrial cancer patients ($p = 0.06$). There was no difference in values of Ca 125, TFF-1, TFF-2 between both groups. Linear regression model with stepwise regression included only as a diagnostic marker of choice S-100 A11.

Conclusion

Results of this pilot study reveal a possibility to use S100 A-11, AIF-1 and TFF-3 as a potential markers in patients with endometrial cancer. The recruitment of additional patients is ongoing.

IGCSM-0505
Poster Shift III - Uterine Cancer including Sarcoma

TISSUE FACTOR / TISSUE FACTOR PATHWAY INHIBITOR RATIO IN WOMEN WITH ENDOMETRIAL CANCER

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Aims

Tissue factor (TF) plays a key role during blood clotting, inflammation, angiogenesis, apoptosis, cell migration, but also in the growth and metastasis of tumors. TF also called factor III, is a transmembrane glycoprotein weighing 46 kDa and is an integral part of the cell wall in various tissues. Tissue factor initiates blood clotting by gradual activation of inactive zymogens of F VII , X and II to active serine proteases VIIa, Xa and IIa which leads to the cleavage of fibrinogen and the formation of fibrin deposits with subsequent activation of other components of the coagulation cascade. TF is inhibited by specific inhibitor – TFPI (tissue factor pathway inhibitor), synthesized and expressed by endothelial cells in the microcirculation.

Methods

We focused on the role of tissue factor and its inhibitor in haemostasis of endometrial cancer cases. The aim was to determine the levels of TF and TFPI in women with endometrial cancer (n=30) and to compare the results with healthy age matched controls. Both measurments were done by ELISA method.

Results

We confirmed the overexpression of TF and significant difference ($p < 0.01$) in the ratio of TF / TFPI in plasma of women with endometrial carcinoma compared with to the control group.

Conclusion

The presence of malignant disease significantly skew the balance of the hemostatic system toward a pro-coagulation. Changes in hemostasis induced by tumors also may lead to local progression and spreading of the cancer.

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IGCSM-0506
Poster Shift III - Uterine Cancer including Sarcoma

EXPRESSION OF THYROID TRANSCRIPTION FACTOR-1 (TTF-1) IN ENDOMETRIAL CARCINOMA.

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Aims

The aim of this study is to evaluate the immunoexpression of (Thyroid transcription Factor-1)TTF-1 in primary endometrial adenocarcinoma.

Methods

Tissue microarrays were prepared from archival of endometrial carcinoma obtained from the Department of Pathology at King Abdulaziz University Jeddah, Saudi Arabia. Tissue sections were immunostained using monoclonal antibodies to TTF-1. The immunohistochemical stains were scored semiquantitativly from 0 to 5+ .

Results

The categories of endometrial adenocarcinoma include 78 grade I endometrioid, 17 grade II endometrioid, 12 grade III endometrioid, 7 serous, 2 clear cell. TTF-1 immunoexpression was detected only in 2 carcinoma (1 serous and one endometrioid type) and in both cases the staining score was 1+.

Conclusion

TTF-1 is a reliable marker for lung carcinomas; however, in patient with focal TTF-1

immunoexpression, endometrial carcinomas should be considered when evaluating patients with adenocarcinoma of

unknown origin and in patients with a history of endometrial adenocarcinoma

IGCSM-0507
Poster Shift III - Uterine Cancer including Sarcoma

INCREASED INCIDENCE AND IMPROVED SURVIVAL IN ENDOMETRIOID ENDOMETRIAL CANCER DIAGNOSED SINCE 1989 IN THE NETHERLANDS: A POPULATION BASED STUDY

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Aims

Measuring progress against endometrioid endometrial carcinoma (EEC) in The Netherlands by analysing trends in incidence, survival and mortality simultaneously.

Methods

Descriptive study of incidence, survival and mortality rates of women with EEC in The Netherlands. Rates were age-standardised to the European standard population. Population-based data were extracted from the nationwide Dutch Cancer Registry (NCR) between 1989 and 2009. Mortality data since 1989 came from Statistics The Netherlands. European age standardised incidence rates were calculated according to age, histology and stage. Five year relative survival estimates were calculated in four periods. Optimal progress against cancer is defined as decreasing incidence and/or improving survival accompanied by declining mortality.

Results

80% of the 32,332 patients newly diagnosed with a corpus uteri malignancy had an EEC. Incidence of EEC rose significantly from 11/100,000 to 15/100,000, being most pronounced in women with FIGO stage IB and in the group with grade 1&2 tumours ($P < 0.05$). Coinciding with the increased incidence, five year relative survival increased, especially for patients aged 60-74 years, in women with FIGO stage I, and in histology group grade 1&2, being 87%, 94% and 93%, respectively, during 2005-09.

Conclusion

The incidence of EEC (being 80% of corpus uteri cancer) increased markedly between 1989 and 2009, especially in women of 60-74 years. Five-year survival for patients with EEC increased from 83 to 85%. Progress against EEC has been less than was assumed previously, because mortality proportionally decreased only slightly, because of the increasing incidence although survival improved.

IGCSM-0514
Poster Shift III - Uterine Cancer including Sarcoma

UTERINE SMOOTH MUSCLE TUMOR OF UNCERTAIN MALIGNANT POTENTIAL RECURRING AS LEIOMYOSARCOMA

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Aims

The histologic distinction between benign and malignant uterine smooth muscle tumors is usually based on an assessment of a combination of features including atypia, mitotic rate, and presence or absence of tumor cell necrosis. We report a case of a uterine smooth muscle tumor of uncertain malignant potential (STUMP) recurring within 12 months as leiomyosarcoma (LMS).

Methods

A case report with review of the literature.

Results

A 65 year old patient suffering from a STUMP with 4 mitotic figures per 10 HPFs, focal mild-to-moderate atypia without tumor cell necrosis was presented. She initially received hysterectomy and salphingo-oophorectomy. Twelve months after the hysterectomy, the tumor recurred as an intraabdominal infiltrating neoplasm with histologic features characteristic of LMS. Histopathologic examination of the specimen revealed 7 mitotic figures per 10 HPFs, focal mild-to-moderate atypia with extensive tumor cell necrosis. She further treated with chemotherapy regimen including Docetaxel-Gemcitabine. She is alive with disease at the 18th month of diagnosis.

Conclusion

STUMPs that are followed by a recurrence are biologically low-grade LMS; using current methods of analysis, this diagnosis cannot be made with certainty until a recurrence has developed.

IGCSM-0522
Poster Shift III - Uterine Cancer including Sarcoma

INTRATUMORAL T- CELL INFILTRATION IMPROVES SELECTION OF PATIENTS AT RISK FOR RECURRENCE OF DISEASE IN TYPE II ENDOMETRIAL CANCER.

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Aims
In endometrial cancer, there is a quest to improve selection of patients requiring adjuvant treatment in order to avoid side effects for those with low risk of recurrence as well as improving outcome for those with high risk of recurrence of disease. Immunologic variables could contribute to selection. We evaluated this hypothesis using data from a large, well described cohort of type 1-2 endometrial cancer. The findings of the experimental cohort were validated in an independent cohort.
Methods
A dataset containing classical clinicopathological parameters and immunological parameters of 355 patients with type 1-2 endometrial cancer was used. This dataset was imputed for missing values. Relevant predictors were selected by backward selection. Discriminatory power for prediction of distant recurrence was calculated using a concordance index and stratified for type of cancer. To validate our prediction model, data from an independent cohort of 74 patients with type 2 cancer was used.
Results
In type 2 cancer, predictive value of immunologic variables equals clinicopathological variables (C-index 0.71 vs 0.70 respectively) and combining these variables has superior predictive value (C-index 0.79). Findings were confirmed in the validation cohort with a combined C-index of 0.85.
Conclusion
Intratumoral T-cell infiltration predicts recurrent disease as well as classical variables in type II endometrial cancer. Combination has an even higher predictive value and might therefore by used to select patients whom require adjuvant treatment. An immune profile in type 2 endometrial cancer may assist in determining the optimal treatment schedule for each individual patient.

IGCSM-0524
Poster Shift III - Uterine Cancer including Sarcoma

ADENOSARCOMA OF THE UTERUS WITH SARCOMATOUS OVERGROWTH

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Aims

Adenosarcomas with sarcomatous overgrowth (ASO) are rare tumors composed of malignant stromal and benign epithelial components. It is characterized by a sarcomatous component constituting >25% of the tumor. There is no consensus about its optimal treatment options. We aimed to describe the clinical and histopathological findings of ASO patients with a brief review of the literature.

Methods

We retrospectively analyzed patients who treated for uterine sarcoma between 2006 and 2014 at our institution. We identified 3 patients with ASO and described the clinicopathological characteristics.

Results

Of the 39 patients with uterine sarcoma, only 3 (7.7%) had ASO. On histological examination, all tumors showed a typical "phyllodes-like" architecture with leaf-like projections lined by a variety of benign Mullerian type epithelia, intraglandular stromal protrusions and increased cellularity around the epithelial elements. Median age was 54 (range, 37-64). Two of 3 had stage I, and one had stage IIIB disease. All patients underwent hysterectomy with pelvic-paraaortic lymphadenectomy and received 6-cycles of cisplatin-iphosphamide. Main clinicopathologic features were as follows: median tumor size, 8.5 cm (5-12); mitotic activity, 16 HPF(1-32); number of lymph nodes removed, 33 (29-37); follow-up time, 28 months (6-41), time to recurrence, 18 months (4-30). All patients experienced relaps. One of them developed brain metastasis, the other one developed lung metastasis and patient with stage IIIB disease developed intraabdominal metastasis. Two of three are dead of disease, and one is alive with disease.

Conclusion

ASO is an aggressive disease with a high recurrence rate. In our series, no optimal adjuvant or systemic treatment strategy was identifiable.

IGCSM-0526
Poster Shift III - Uterine Cancer including Sarcoma

CLINICAL AND PATHOLOGICAL CHARACTERIZATION OF ENDOMETRIAL CANCER IN YOUNG WOMEN: IDENTIFICATION OF A COHORT WITHOUT CLASSICAL RISK FACTORS

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Aims
Endometrial cancer (EC) is the most common gynecologic malignancy. Known risk factors for developing EC include excess estrogen or hereditary syndromes. However, many young patients are encountered without either of these influencing features. Standard of care is surgical staging with repercussions on fertility and menopause. Physicians lack clinical or biologic data to guide these young women in clinical decision making.

Methods
A retrospective chart review was performed in women age 15-49 diagnosed with EC or complex atypical hyperplasia collecting clinicopathologic, treatment, fertility, and outcome parameters.

Results
Of the 719 women identified, 327 were fully evaluable. 188 women (57.5%) fit the 'High Estrogen' risk criteria. 27 (8.25%) met criteria for suspected Lynch syndrome. 112 (34.25%) classified as 'Neither' had no classical risk factors identified. There were no statistical differences between these three groups for age, gravidity, tumor grade, or treatment selection and responses. Age of menarche, stage, histology, and synchronous ovarian cancer differed significantly amongst categories. For women who attempted to become pregnant, 2/27 of 'High Estrogen', 0/3 of 'Lynch', and 2/16 of the 'Neither' groupings achieved a live birth.

Conclusion
This study confirmed that a third population of young women with EC exist that lack classical risk factors and have distinct clinicopathologic parameters . No difference in success of conservative (hormonal) treatment or live births was noted in the small cohort that attempted. Molecular profiles of hysterectomy/endometrial biopsy specimens from these cohorts are now being compared in order to ascertain distinguishing features that may help guide management.

IGCSM-0527
Poster Shift III - Uterine Cancer including Sarcoma

FERTILITY SPARING TREATMENT OF ATYPICAL COMPLEX HYPERPLASIA: A SINGLE-INSTITUTION EXPERIENCE OF 16 CASES

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Aims

Hysterectomy is the suggested treatment for atypical complex hyperplasia since there is a high risk of concurrent endometrial adenocarcinoma in this subset of patients. However fertility sparing treatment modalities can also be an option for patients with atypical complex hyperplasia who desire to preserve their fertility. In this study our aim was to evaluate treatment efficacy and fertility outcomes in this group of patients treated with oral progestins at our institution.

Methods

We have identified 16 patients treated with oral progestins for atypical complex hyperplasia in our institution from 2001 to 2013. Data were obtained from medical records and telephone questionnaires.

Results

The median age was 34 (24-39), and the median follow up time was 30 (7-86) months. 11 (68.8%) of the patients were infertile. 5 patients who have at least one live birth did chose to be managed conservatively. 4 of the patients underwent a hysterectomy in their first year of follow up; 3 from the fertile group for endometrial adenocarcinoma and 1 from the infertile group for persistence of the disease and patients desire for operation. 4 (40%) of the patients from the remaining 10 patients in the infertile group had a successful live birth, 2 spontaneously and 2 with in vitro fertilization. All of the patients are being followed up free of the disease until present day.

Conclusion

Fertility sparing management is a feasible option for patients with atypical hyperplasia. However this group of patients should be followed up carefully for endometrial adenocarcinoma with regular endometrial samplings.

IGCSM-0532
Poster Shift III - Uterine Cancer including Sarcoma

MEDICAL MORBIDITIES IN ENDOMETRIAL CANCER PATIENTS

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Aims

To evaluate the prevalence of medical morbidities in Thai endometrial cancer (EMC) patients and their impact on treatment outcomes.

Methods

EMC patients who were treated from 1995 to 2012 and with available medical history were identified. Data collected were: age, medical morbidities; tumor stage, histopathology, grade; adjuvant therapy; living status; and cause of death.

Results

Mean age of 335 patients was 57.1 ± 10.81 years. Majority (77.3%) had early stage. Less than half (46.6%) received adjuvant therapy. Total of 220 (65.7%) had medical morbidities. Median age of patients with medical morbidities was significantly higher than those without: 59 years (range, 30-84 years) vs 52 years (range, 30-86 years) ($p<0.001$). One or more components of metabolic syndrome were the most common: 10.9% had all four components, 30.0% had three and 31.4% had two. Thyroid dysfunction, as the second most common, was found in 8.2%. From a median follow-up of 56.5 months, 18.5% were dead. 11.6% were from EMC, 4.8% from medical conditions, and 2.1% from other causes. There were no survival differences among those who had or had no medical morbidities: 5-year overall survival and 5-year cancer specific survival were 84.7% (95% CI, 79.6%-89.8%) vs 84.0% (95% CI, 76.9%-91.0%) ($p=0.918$) and 87.3% (95% CI, 82.6%-92.0%) vs 89.3% (95% CI, 83.2%-95.3%) ($p=0.986$), respectively.

Conclusion

Medical morbidities were commonly found in EMC patients. One or more components of metabolic syndrome were the most common. Some medical morbidities were the causes of death. Holistic and continual care for EMC patients is important.

IGCSM-0533
Poster Shift III - Uterine Cancer including Sarcoma

CLINICOPATHOLOGICAL CHARACTERISTICS OF PATIENTS WITH SYNCHRONOUS PRIMARY ENDOMETRIAL AND OVARIAN CANCERS

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Aims

Synchronous primary endometrial and ovarian cancers are relatively uncommon in general population. The aim of this investigation was to evaluate the clinicopathological characteristics and prognosis of synchronous primary endometrial and ovarian cancers.

Methods

The medical records of 881 patients with endometrial cancer who had undergone primary surgery between 1990 and 2011 were retrospectively reviewed. And, we compare the differences in the prognosis of synchronous cancers with primary endometrial cancer metastatic to ovary. The progression-free survival (PFS) and overall survival (OS) curves and rates were calculated using the Kaplan-Meier method.

Results

The incidence of synchronous endometrial and ovarian cancers was 1.9% (17/881 women). Our results revealed that the median age at the time of diagnosis was 53.5 years (range, 38-73). A total of 7 patients were nulliparous (41.2%), the median BMI was 23.1 kg/m^2 (range, 17.2–31.2). An elevated CA125 level was observed in the majority of patients (n=13, 76.5%). Endometrioid type (n=16, 94.1%) was the main pathological type in endometrial cancer. Endometrioid type accounted for 70.6% and different pathological types, including serous , clear cell , and mucinous adenocarcinoma, were also identified in synchronous primary endometrial and ovarian cancers. The 5-year PFS and 5-year OS were 56.5% and 69.5%.

Conclusion

The incidence of synchronous ovarian malignancies with endometrial cancer was quiet low, unlike previous studies have revealed. Synchronous primary endometrial and ovarian cancers are different from either primary endometrial carcinoma or ovarian cancer and are usually identified at early stages with a good prognosis.

IGCSM-0546
Poster Shift III - Uterine Cancer including Sarcoma

PATTERNS OF FAILURE AND OUTCOMES IN UTERINE SARCOMA

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Aims

The use of adjuvant radiotherapy in the management of uterine sarcomas is controversial. This study aims to assess patterns of failure and survival outcomes in patients treated with surgery and adjuvant radiotherapy.

Methods

Patients diagnosed with uterine sarcoma treated with adjuvant radiotherapy following primary surgery were identified from a single institution's prospective database. Patterns of failure, overall survival (OS), disease-specific survival (DSS), relapse-free survival (RFS) and prognostic factors for these were assessed using multivariate Cox proportional hazards models.

Results

Of the 100 patients included, 65 had carcinosarcoma, 21 had leiomyosarcoma, 6 had endometrial stromal sarcoma and 9 had other histological subtypes. Stage I, II, III and IV disease was seen in 60%, 17%, 22% and 1% of patients, respectively. Median follow-up was 52 months. OS, DSS and RFS at five years were 50% (39.6-59.6%), 57.3% (46.4-66.8%) and 56.1% (45.5-65.4%), respectively. Carcinosarcomas were associated with better RFS compared with non-carcinosarcoma subtypes (p=0.046), however, DSS and OS were not significantly different between these groups. Of the 46 patients that relapsed, 37 had distant disease and 8 had para-aortic disease. Only one patient failed exclusively in the pelvis.

Conclusion

Management of uterine sarcomas with surgery and post-operative radiotherapy results in excellent pelvic control, with most relapses occurring outside of the pelvis. These survival rates compare favourably with published findings.

IGCSM-0547
Poster Shift III - Uterine Cancer including Sarcoma

THE EFFECT OF MEDROXYPROGESTERONE ACETATE (MPA) THERAPY FOR ENDOMETRIAL STROMAL SARCOMA

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Aims
Endometrial stromal sarcoma (ESS) is a rare disease, and the diagnosis is almost post operative which were done for myoma uteri of pre operayive diagnosis. And there is no standerd therapy. It was known hormonal therapy (MPA) was effective. We examined effect of hormone therrapy for ESS.

Methods
It was seven patients with ESS on our center from 1997 to 2012. 5 patients were recurrence, and we treated hormone therapy with MPA. We examined progress of the patients retrospectively.

Results
1, The median periods from initial therapy to recurrence was 54 months (range 25-68 months). 2, MPA therapy was done for 33 months(range 6-93 months), with 200-600mg/day, the median follow-up period was 125 months (range 51-229 months). 2 patients are NED, 2 are AWD, and 1 is DOD status. Disease control rate was 4/5(80%) of all pathents. For low grade ESS, it was 4/4(100%). 3, MPA therapy was effective to case 5 pathent for 6 months, but she couldn't take it for deep vein thrombosis. But her metastatic tumor disappeared 1 year after. Case 2 patient was PR status with chemotherapy for lung metastasis, but couldn't continue the therapy for bone marrow suppression. After that it was no follow therapy, but lung metastasis is controlled.

Conclusion
Anti-tumor effect of MPA for ESS is not enough, but recurrent ESS were controlled for long period by MPA therapy. MPA therapy is small side effect as compared with chemotherapy, and continued for long period. But we must take care of pulmonary thrombosis to continue MPA therapy.

IGCSM-0548
Poster Shift III - Uterine Cancer including Sarcoma

LIPOCALIN2 INCREASES CISPLATIN RESISTANCE VIA ELEVATED EXPRESSION OF CD44V8-10 AND CD133

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Aims
Lipocalin2 (LCN2) is a secretory protein with multiple functions including iron-transport. We identified LCN2 as an up-regulated gene in endometrial carcinoma (EMC) using laser-captured microdissection and microarray analysis, and reported that the overexpression of LCN2 was associated with enhanced migration and invasion potentials, and poor outcome of the patients. In this study, we further investigated the effect of LCN2 on the survival of EMC cells *in vitro*.
Methods
HHUA is an EMC cell line overexpressing both LCN2 and its receptor, SLC22A17. LCN2-silenced HHUA (HHUAsh) cells were established using a shRNA method. The effect of LCN2 on cell viability under various stresses was measured using the WST-1 assay. The expression of related proteins and mRNAs was examined by Western blotting and real-time RT-PCR, respectively.
Results
The viability of HHUAsh cells was decreased under cisplatin, H2O2 treatment and ultraviolet (UV) exposure compared with control by 49%, 33% and 47%, respectively. The PI3K inhibitor and MEK inhibitor canceled the effect of LCN2 on cell survival against UV but not against cisplatin treatment. An iron chelator, deferoxamine, canceled the effect of LCN2 against both cisplatin and UV. The addition of recombinant LCN2 (rLCN2) and cisplatin increased the expressions of cancer stem-like cell markers, CD44 variant isoform (CD44v8-10) and CD133, which were reported to involved in the chemo-resistance.
Conclusion
LCN2 in association with iron may promote cisplatin resistance of endometrial carcinoma cells via increased expression of CD44v8-10 and CD133, but not PI3K pathway.

IGCSM-0549
Poster Shift III - Uterine Cancer including Sarcoma

MICRORNA PROFILING AND DNA METHYLATION ANALYSIS FOR ATYPICAL LEIOMYOMA AND LEIOMYOSARCOMA

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Aims

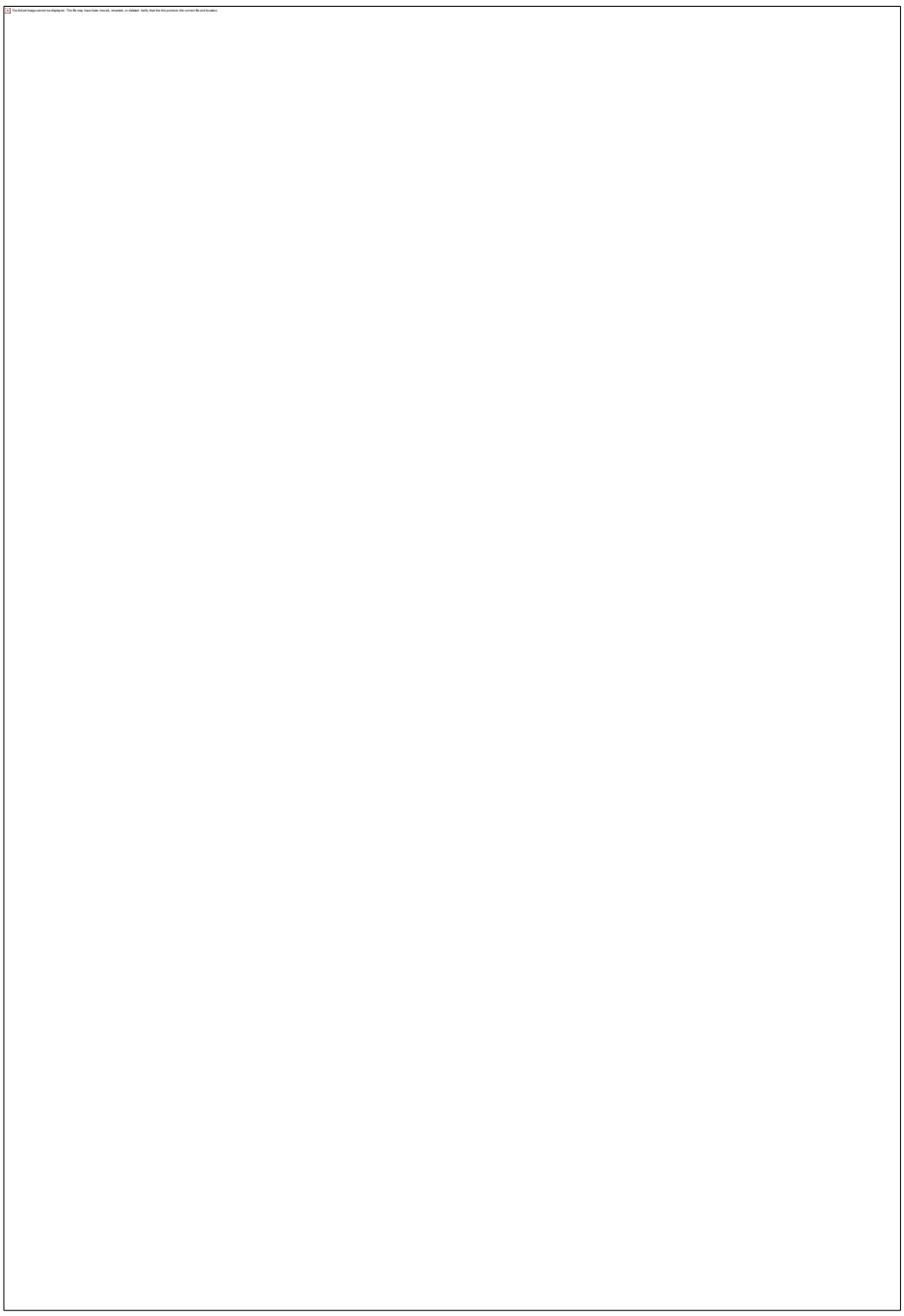
Uterine smooth muscle tumors (USMTs) range from conventional leiomyoma (ULM) to malignant leiomyosarcoma (LMS). There are several intermediate variants of USMTs between ULM and LMS including uncertain malignant potential (STUMP), atypical leiomyoma (ALM), cellular leiomyoma (CLM) and so on. Conventional views indicated that LMS was arised *de novo* and ALM was a benign variant of ULM. But we have found ALM and LMS shared similar gene mutation (such as *TP53* and *MED12*), genomic deletion and protein expression. Based on our findings and related literatures, we suggested that ALM may be a precursor lesion of LMS or have similar genetic changes in its early stage. The aim of this study was to find more epigenetic evidence to support this hypothesis.

Methods

Based on WHO and Stanford scheme, we retrieved 160 patients with diagnosis of LMS (38), ALM (42), STUMP (18), CLM (22), ULM (40) from 1993 to 2003 in two institutions (Northwestern Memorial Hospital, USA and Qilu Hospital, China). 46 miRNAs and 3 genes (*KLF11*, *DLEC1* and *RUNX3*) were selected based on our previous studies, and performed by *FirePlex*™ miRNA chip and Sequenom Methylation MassArray.

Results

Unsupervised cluster and Mahalanobis distance analysis showed that ALM and LMS had similar microRNA expression (Figure 1). The methylation pattern in ALM was also close to LMS (P>0.05) (Figure 2).



Conclusion

ALM has similar epigenetic changes with LMS, providing another evidence for that ALM may be the precursor lesion of LMS.

IGCSM-0562
Poster Shift III - Uterine Cancer including Sarcoma

GENOME-WIDE DNA METHYLATION ANALYSIS IN UTERINE LEIOMYOSARCOMA

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Aims

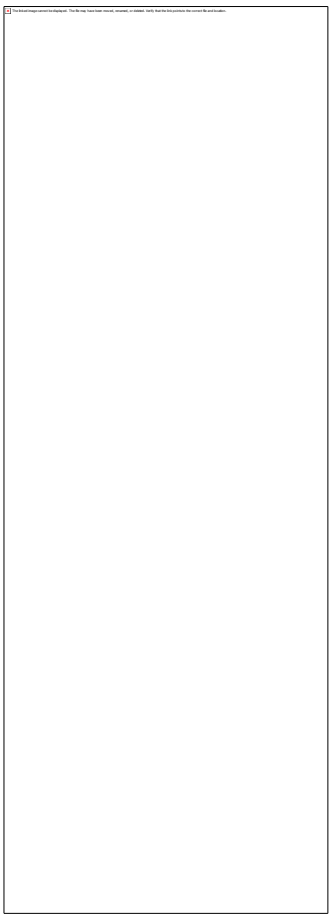
Uterine leiomyosarcomas (LMS) represent the most malignant tumor of uterine smooth muscle tumors (USMTs). Unlike uterine leiomyomas (ULM) which have been well studied, the mechanism of LMS tumorigenesis was limitedly known. DNA methylation is an important epigenetic phenomenon which plays significant role in tumorigenesis, but genome-wide distribution of DNA methylation abnormalities remains unknown in LMS. So we aim to conduct genome-wide DNA methylation analysis in LMS.

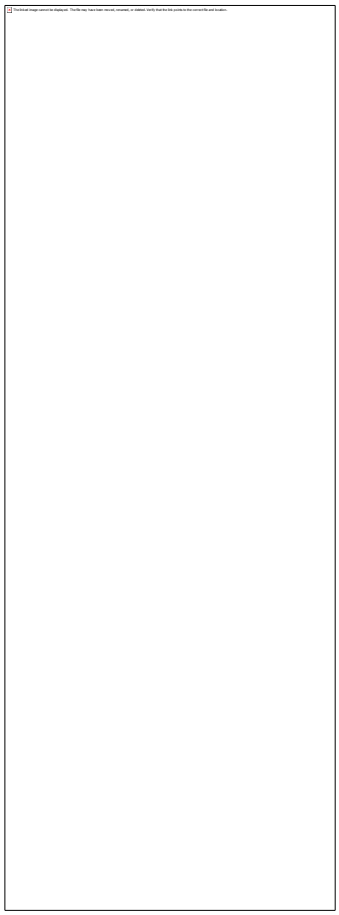
Methods

24 fresh tumor tissues, including 12 LMSs, 6 ULMs, and 6 normal myometriums (MM)) were collected from two institutions (Northwestern Memorial Hospital, Northwestern University, USA and Qilu Hospital, Shandong Universtiy, China). Among them, 4 sets of LMS, ULM and myometrium were matched and from same patient. Genomic methylation analysis was performed by Infinium Human Methylation 450 K BeadChip.

Results

13825 and 30312 CpG sites were with differential methylation when LMS compared with ULM (Figure 1) and myometrium (Figure 2) (P<0.001), respectively. Among them, 3895 of 13825 and 9053 of 30312 CpG sites were located in promoter and 3'UTR regions. After comparing with ULM and myometrium together, 113 LMS specific methylation genes (31 hypermethylated and 82 hypomethylated) were identified (P<10E-5) (partly shown in Table1).





Conclusion

LMS had a significant different methylation profile with ULM and myometrium. The selected LMS specific methylation genes may play a functional role in the pathogenesis of LMS.

IGCSM-0570
Poster Shift III - Uterine Cancer including Sarcoma

ENDOMETRIAL HYPERPLASIA WITHOUT VAGINAL BLEEDING DIAGNOSED ONLY WITH ULTRASOUND AS AN INDICATION FOR INVASIVE DIAGNOSTICS

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Aims

Clinical approach to postmenopausal bleeding requires efficient and reliable evaluation aimed to rule out malignancy. Initial evaluation includes endometrial biopsy and ultrasound. Prolonged and recurrent bleeding require endometrial biopsy regardless of ultrasound finding. Sensitivity and specificity of the ultrasound as a screening tool for endometrial cancer in the absence of bleeding is a subject of debate.
The aim of this study was to evaluate histopathology finding in 32 postmenopausal patients who underwent dilation and curettage based on the ultrasonographic finding of endometrial hyperplasia in the absence of bleeding.

Methods

Retrospective case-control study on the Clinics for Gynecology and Obstetrics (Clinical Center of Serbia) was conducted in 2013 and 32 patients were selected. All patients underwent dilation and curettage due to endometrial hyperplasia diagnosed with ultrasound only.

Results

None of the patient had any form of vaginal bleeding. Mean age was 56.7 years, mean endometrial thickness was 15.7 mm (with range 8-33), mean age on menopause was 47.9. Ten patients had prior invasive diagnostics with normal finding. Endometrial cancer was found in one patient (3 %). In 9 patients (28 %) histology revealed endometrial hyperplasia, in 7 (22 %) polyp while 14 (44 %) had normal endometrium for the age or atrophy. These results are in accordance with the literature.

Conclusion

Invasive diagnostics of endometrial lesions in postmenopausal women based only on ultrasound should not be routinely conducted in the absence of vaginal bleeding.

IGCSM-0575
Poster Shift III - Uterine Cancer including Sarcoma

LYMPHADENECTOMY IN EARLY STAGE HIGH-RISK ENDOMETRIOID ENDOMETRIAL CANCER: CLINICAL CHARACTERISTICS AND OUTCOMES IN AN AUSTRALIAN COHORT.

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Aims
The role of lymphadenectomy (LND) in early-stage endometrial cancer (EC) remains controversial. Previous studies include low-risk patients and non-endometrioid histologies, whilst long-term morbidity following LND is unclear. In this study we analyse the association of LND with clinical characteristics, survival, morbidity, adjuvant treatment, and patterns of recurrent disease in a cohort of women with clinical early-stage high-risk endometrioid EC.
Methods
From a larger prospective study (Australian National Endometrial Cancer Study) we analysed 328 women with stage IA grade 3, and stage IB, II, IIIC1/2 all grades endometrioid EC. Overall survival (OS) was estimated using Kaplan-Meier methods. Differences between LND and No LND groups were analysed using Cox regression analysis adjusted for age, stage, grade, and adjuvant treatment. Morbidity data was analysed using Chi-squared tests.
Results
328 women with stage IA (63), IB (160), II (71), IIIC1 (31) and IIIC2 (3) were included. Median follow-up was 45.0 months. OS at 3-yrs was 92.6%. LND was performed in 217 (66.2%) women, 15.7% having positive nodes. There were no significant differences in OS between LND and No LND groups, by number of nodes removed, or by addition of adjuvant treatment. After excluding stage IB G1/2 tumours, LND did not improve survival. However, a similar cohort of serous EC had improved survival following LND. Morbidity was higher following LND for critical events (5.1% v 0%, p=0.02) and lymphoedema (23.2% v 3.5%, p<0.0001).
Conclusion

In this cohort with early-stage high-risk endometrioid EC, lymphadenectomy did not improve survival but was associated with increased morbidity.

IGCSM-0588
Poster Shift III - Uterine Cancer including Sarcoma

CLINICOPATHOLOGIC FEATURES AND DNA MISMATCH REPAIR PROTEIN EXPRESSION IN 32 CASES OF SYNCHRONOUS PRIMARY ENDOMETRIAL AND OVARIAN CANCERS

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Aims

The clinicopathologic features and carcinogenesis of synchronous primary endometrial and ovarian cancers are poorly understood. Currently, immunohistochemistry for MMR proteins became one of the screening tools for Lynch syndrome, because the absence of MMR protein expression indicates germline mutations in affected MMR gene. This study aimed to characterize the clinicopathologic features and identify, by means of MMR protein immunohistochemistry, whether MMR germline mutations are the primary cause of synchronous primary endometrial and ovarian cancers.

Methods

After institutional review board approval, 32 patients pathologically diagnosed as having synchronous primary endometrial and ovarian cancers according to Scully's criteria between 2003 and 2011 were identified. Clinicopathologic data were obtained from medical records, and the expression patterns of MMR proteins (MLH1, MSH2, and MSH6) were assessed by immunohistochemistry.

Results

Mean age and body mass index were 49.4±9.6 years and 22.8±4.2 kg/m^2, respectively. Six patients had a family history of Lynch-associated cancers. The synchronous cancers were mainly endometrioid (n=24, 75%), grade 1 (n=19, 59.4%), and stage I (n=15, 46.9%). Approximately 75% of the patients (n=24) had endometriosis and 40% (n=13) had adenomyosis. Loss of expression of at least one MMR protein was observed in 17 (53.1%) of the endometrial tumors and in 10 (31.3%) of the ovarian tumors. Only 4 patients (12.5%) had concordant loss of the same MMR protein in both the endometrial and ovarian cancers.

Conclusion

The results indicate that most synchronous primary endometrial and ovarian cancers are not hereditary cancers caused by germline mutations, but rather are sporadic cancers influenced by hormones and endometriosis.

IGCSM-0593
Poster Shift III - Uterine Cancer including Sarcoma

ADHERENCE TO CLINICAL PRACTICE GUIDELINES AND QUALITY OF CARE ANALYSIS IN ENDOMETRIAL CANCER: A RETROSPECTIVE EVALUATION IN THE SYDNEY POPULATION

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Aims

While emerging research evidence assists clinical decision-making toward better patient outcomes, translation into practice remains unclear. This study investigates adherence to evidence based clinical practice guidelines and quality of care indicators in endometrial cancer patients in a region of Sydney.

Methods

A retrospective analysis was conducted using patient information from a population-based Area Clinical Cancer Registry. Compliance to 10 widely accepted guidelines and 4 previously published quality indicators was assessed. Chi squared test was used to evaluate the association of country of birth and age.

Results

A total of 462 patients were included from 2006 to 2011. The stage distribution was 49.4% (n=228) with Stage I disease, 9.5% (n=44) Stage II, 13.4% (n=62) Stage III, 6.9% (n=32) Stage IV and 20.8% (n=96) unknown. The rate of adherence to individual guidelines ranged from 94.3% (n=181) for patients receiving a TAH/BSO for Stage I cancer to 42.9% (n=18) for receipt of adjuvant vaginal brachytherapy for Stage 1B(Grade 1/ 2). Quality of care indicators varied from 59.7% (n=276) for multidisciplinary team (MDT) discussion to 93.3% (n=225) for surgical wait times of <12 weeks. Wait times for adjuvant treatment were <60 days in 66.5% (n=127). These quality indicators did not differ by patient age or country of birth.

Conclusion

Adherence to clinical practice guidelines was variable. Although quality of care indicators for surgical treatment was acceptable, rates of MDT discussion and wait times for adjuvant treatment were lower with at least one third not meeting standards.

IGCSM-0597
Poster Shift III - Uterine Cancer including Sarcoma

THE ROLE OF VAGINAL CYTOLOGY IN POST-TREATMENT SURVEILLANCE OF EARLY STAGE ENDOMETRIAL CANCER

J.H. Kim[1], J.Y. Lee[1], J.W. Seo[1], J.W. Kim[1], H.H. Chung[1], N.H. Park[1], Y.S. Song[1]
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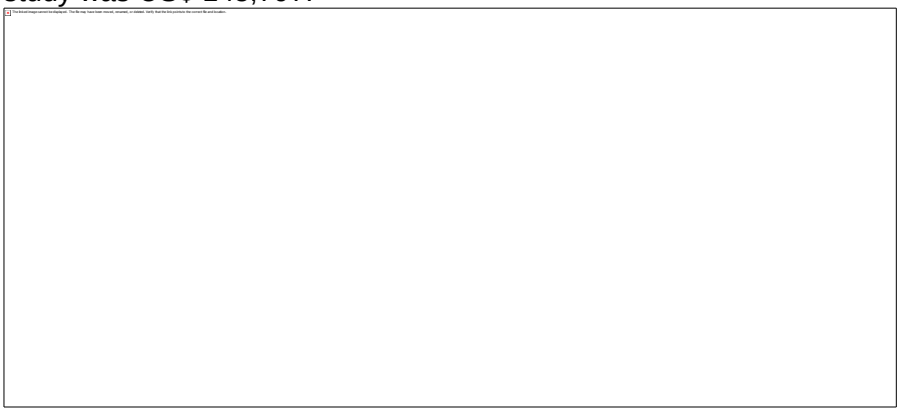
Aims
To evaluate the value and cost of vaginal cytology (pap smear) in detecting asymptomatic recurrence during post-treatment surveillance of early stage endometrial cancer.

Methods
We performed a retrospective analysis of 390 patients who received primary surgical treatment for stage I-II endometrial cancer between 2000 and 2011. Clinico-pathologic characteristics and surveillance test data were obtained from medical records. The total number of pap smears performed during surveillance or until the recurrence and the cost associated with detecting asymptomatic recurrence were evaluated. All of the pap smears were reviewed by professional gynecologic pathologists.

Results
A total of 3323 tests (mean 8.54 samples/patient) were collected during the study period (median follow-up duration: 61 months). No asymptomatic vaginal recurrence was detected through cytology alone. 25 patients had abnormal cytology and 6 of them were diagnosed as vaginal intraepithelial neoplasia (VAIN). Of those, 4 patients were diagnosed VAIN II or III requiring laser vaporization (16%). All patients with VAIN had grossly visible lesion through speculum examination. Total charge accounted by this study was US$ 145,797.



Conclusion

As a surveillance test for early-stage endometrial cancer, serial vaginal cytology has low utility and routine pelvic exam may be sufficient to diagnose VAIN that require further treatment.

IGCSM-0599
Poster Shift III - Uterine Cancer including Sarcoma

IS IT NECESSARY TO PERFORM IMAGING STUDIES (CHEST X-RAY, CT, MRI, PET OR ULTRASOUND) AFTER THE TREATMENT OF EARLY STAGE ENDOMETRIAL CANCER?

J.H. Kim[1], J.Y. Lee[1], J.W. Seo[1], J.W. Kim[1], H.H. Chung[1], N.H. Park[1], Y.S. Song[1]
[1]Obstetrics and Gynecology, Seoul National University, Seoul, Korea

Aims

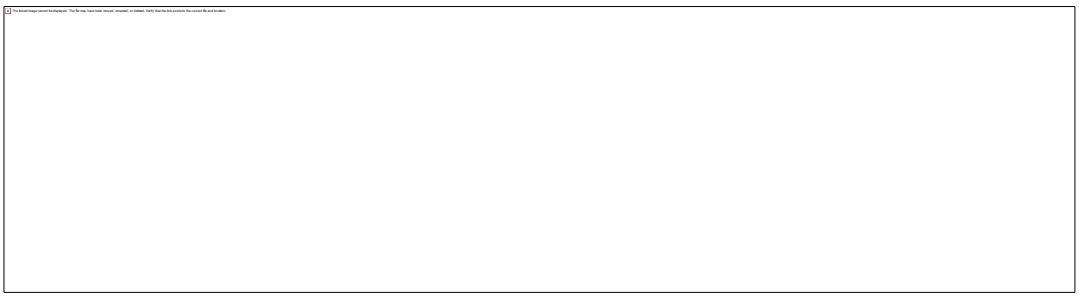
Few studies have addressed the role of imaging modalities in post-treatment surveillance in early stage of endometrial cancer. Our objective was to determine the utility of imaging modalities performed in our institution and evaluate the efficacy for detecting asymptomatic recurrence.

Methods

A retrospective analysis was done on stage I-II endometrial cancer patients who received primary surgical treatment at Seoul National University Hospital between 2000 and 2011. Clinico-pathologic characteristics and surveillance test data were obtained from medical records. The total number of chest x-rays, abdomen and pelvis CTs, PET/CT scans, and sonographic studies performed during surveillance or until the recurrence and the cost associated with detecting asymptomatic recurrence was evaluated.

Results

A total of 1025 chest x-rays, 1177 CT scans, 98 MRI scans, 163 PET scans and 298 ultrasonograms were performed on 390 patients during the study period (median follow-up duration: 61 months). Fourteen patients (3.6%) had recurrence. Ten out of fourteen patients were asymptomatic recur, and 6 of them were detected through CT scan. Other imaging modalities, such as chest x-ray, MRI, PET/CT, and ultrasonography did not find any asymptomatic recurrence in our cohort. Detection of one asymptomatic recur needed 196 CT scans, generating US$ 42495.55 in cumulative charges. Total healthcare costs associated with the imaging modalities were US$10,967 for chest x-rays, US$104,356 for MRI scan, US$163,363 for PET/CT and US$42,981 for ultrasonography.



Conclusion

Imaging studies, such as chest x-rays, CT, MRI, PET/CT and ultrasonograms have low utility but interval CT scan may be useful to detect asymptomatic recurrence and reduce the total healthcare cost.

IGCSM-0602
Poster Shift III - Uterine Cancer including Sarcoma

SERIAL SERUM CA-125 MEASUREMENTS DURING POSTTREATMENT SURVEILLANCE IN EARLY-STAGE ENDOMETRIAL CANCER

J.Y. Lee[1], J.H. Kim[1], J.W. Seo[1], J.W. Kim[1], H.H. Chung[1], N.H. Park[1], Y.S. Song[1]
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Aims

To evaluate the value and cost of serum CA-125 in detecting asymptomatic recurrence during post-treatment surveillance of early stage endometrial cancer.

Methods

We performed a retrospective analysis of 390 patients who received primary surgical treatment for stage I-II endometrial cancer between 2000 and 2011 at Seoul National University Hospital. Clinico-pathologic characteristics and surveillance test data were obtained from medical records. The total number of CA-125 tests performed during surveillance or until the recurrence and the cost associated with detecting asymptomatic recurrence was evaluated. A cut-off value of 35 U/ml was used as the criteria for predicting tumor recurrence.

Results

A total of 3335 tests (mean 8.57 samples/patient) were collected during the study period (median follow-up duration: 61 months) and six patients had elevated CA-125 during surveillance. Recurrent disease was found in 14 patients and four of them were asymptomatic recurrences detected by elevated CA-125 levels alone. All four of them had pelvic recurrences, two of them (50%) being ovarian recur. Identification of one asymptomatic recur required 839 CA-125 tests, generating US$15,152.64 in cumulative charges.

Conclusion

As a surveillance test for early-stage endometrial cancer, serial serum CA-125 follow-up has a low utility but high positive predictive value, in particularly ovarian recurrence.

IGCSM-0614
Poster Shift III - Uterine Cancer including Sarcoma

LONG-TERM DISEASE-FREE SURVIVAL IN ENDOMETRIAL CANCER PATIENTS WITH MULTIPLE RELAPSES

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[1]Obstetrics and Gynecology, Chang Gung Memorial Hospital, Taoyuan, Taiwan

Aims
Long-term survival in endometrial cancer with multiple metastasis or multiple recurrences is uncommon and often associated with poor prognosis.
Methods

We report three cases of patients with advanced endometrial cancer who have achieved long-term disease-free survival following prior multiple relapses.

Results

Case 1 had initial FIGO stage of IA, grade 3 adenosquamous carcinoma with three relapses including pelvic (5 months from initial surgery, treated with pelvic radiation and chemotherapy), left iliac fossa in-field failure (5.5 years from first relapse, received retroperitoneal tumor debulking and combined operative radiotherapy treatment [CORT]) and left paraaortic lymph node (PALN) (2 years from 2nd relapse, treated by retroperitoneal tumor debulking and chemotherapy). Case 2 had initial FIGO stage of IIIC endometrioid carcinoma relapsed after surgery and pelvic radiation at out-side hospital. Multiple peritoneal metastases, PALN and multiple right lung lesions (27 months from initial surgery) were noted. She received a complete surgical resection of intra-abdominal disease, extended field radiation, chemotherapy and maintenance megace for 5 years. Case 3 had first recurrence at PALN (30 months from initial staging surgery and chemoradiation) and subsequently recurrence at ascending colon (36 months from first recurrence). She achieved excellent control with right hemicolectomy, chemotherapy, and radiation to the right cecal region. These three patients have remained disease-free for 15, 14, 5 and 4 years, respectively, since their last relapse.

Conclusion
Long-term disease-free survival is achievable in patients after multiple metastasis or multiple relapses by close post-therapy surveillance, accurate restaging and aggressive multimodality treatment.

IGCSM-0615
Poster Shift III - Uterine Cancer including Sarcoma

PREVENTIVE EXTENDED-FIELD RADIATION THERAPY (EFRT) IN ADVANCED ENDOMETRIAL CANCER GRADE II-IV MULTIMODAL TREATMENT

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Aims

The role of EFRT in advanced endometrial cancer treatment remains unclear. We supposed that multimodal treatment with preventive EFRT can improve outcomes for high risk patients.

Methods

30 patients with high risk EC Grade II-IV were included after total hysterectomy, pelvic lymphadenectomy proceeded in 14(46,7%), pelvic-paraaortic - in 7(23,3%) of them. 7(23,4%) pts. received adjuvant EFRT only, in 23(76,6%) pts. adjuvant chemoradiation with taxan-platinum based regimes, was performed in all cases with positive pelvic LN+ or because of at least 2 risk factors, such as lymphovascular invasion, myometrium subserous invasion, deep invasion of cervical stroma. Paraaortic area was irradiated simultaneously with pelvic fields, 36-46Gy (mean 41,8Gy), PTV determined as level of lymph node dissection plus 2 upper levels of lymph drainage additionally.

Results

The median follow-up was 18,2 months (range, 1-75,6 months), disease-free survival reached 66,7%. Regional progression occurred in 5(16,6%) pts. with further LN involvement in 2 of them, distant metastasis - in 5(16,6%) pts. No incidence of early GU, GI and hematological complications Grade III-IV were noted during observation.

Conclusion

Adjuvant chemoradiation with preventive EFRT can improve treatment results for EC Grade II-IV high risk patients with acceptable level of early complications.

IGCSM-0625
Poster Shift III - Uterine Cancer including Sarcoma

PRIMARY NON-HODGKIN'S LYMPHOMA OF THE REPRODUCTIVE TRACT: A CASE REPORT

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Aims
To present a rare case of Non-Hodgkin's Lymphoma of the Reproductive Tract.
Methods
An 85 year old multipara was seen due to abdominal discomfort. Pelvic examination revealed a smooth atrophic cervix and a 15 cm palpable pelvic mass. CT imaging showed an enlarged uterus with heterogeneously enhancing masses in both ovaries. Papanicolau Smear yielded normal result. The patient underwent exploratory laparotomy for a uterine or ovarian malignancy.
Results
At laparotomy, the uterus measured 15 x 15 cm, doughy in consistency, uniformly enlarged, and very friable. Both ovaries were converted into hemorrhagic and necrotic masses measuring 4 cm. Both fallopian tubes were also dilated to 6 cm. Post-operative diagnosis was a uterine malignancy, probably Sarcoma. Histopathology showed diffuse proliferation of atypical round cells which had round, dark nuclei and scanty cytoplasm. Diagnosis was Non-Hodgkin's Lymphoma of the Reproductive Tract. This was confirmed by a positive reaction to CD 45/LCA and CD 20 on Immunohistochemistry. The patient was advised chemotherapy with the R-CHOP regimen.
Conclusion
Non-Hodgkin's Lymphoma of the Reproductive Tract is a very rare disease entity, occurring in only 0.5-0.6% of all extranodal lymphomas. Clinical symptoms and imaging techniques are non-specific and the diagnosis is usually established only after post-surgical histologic examinations. This is the second documented case of a primary reproductive tract lymphoma in the Philippines.

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IGCSM-0631
Poster Shift III - Uterine Cancer including Sarcoma

HISTOPATHOLOGIC FEATURES AND SURGICAL STAGING OF THE CANCER OF THE CORPUS UTERI IN ALZAHRA HOSPITAL,TABRIZ,IRAN.

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[1]depatment of gynecologic oncology, womens reproduvtive health research center, Tabriz, Iran

Aims

Worldwide,endometrial cancer is the seventh most common malignant disorder,but incidence varies among regions.In less developed countries,risk factors are less common and endometrial cancer is rare,although specific mortality is higher.About 80% of all endometrial carcinomas are of the endometrioid type and 10% are high-grade lesions like serous carcinoma.We reported the evaluation of histopathologic features and surgical staging of uterine cancer in 85 patients from March 2009 to January 2014.

Methods

In this retrospective study,we evaluated all of the risk factors in patients with uterine cancer who referred to the Gynecological Oncology clinic in Alzahra hospital in Tabriz,Iran.We also investigated the histopathologic features,imaging findings and FIGO grade and staging.

Results

In our patients,endometrioid type accounted for about 66.5% of endometrial carcinomas,serous type for 23% and other types like mocinous and clear cell were less than 10%.74% of endometroid types were FIGO stage,11% stage?? and 15% stage???.25% of serous types were FIGO stage? ,25% stage?? ,25% stage??? and 25% stage?V.In all cases of the uterine cancer there were 3 patients(3.5%) with low grade endometrial estromal sarcoma(ESS),2 patients(2.3%) with high grade ESS and 10 patients(11.6%)with leiomyosarcoma.The most common symptom is abnormal uterine bleeding and the less one is abnormal vaginal discharge and anemia.9.3% of the patients had history of infertility and in 4.3% had synchronicity with another cancer.

Conclusion

In our gynecologic oncology center,Alzahra hospital,Tabriz,Iran,endometrial cancer is less common than ovarian cancer but the high-grade lesions are more common.In our society incidence of serous type is more from the global statistics.

IGCSM-0645
Poster Shift III - Uterine Cancer including Sarcoma

TREATMENT OF RECURRENT CENTRAL PELVIC ENDOMETRIAL CANCER WITH RADIOTHERAPY OR SURGERY: A RETROSPECTIVE COHORT STUDY.

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Background. The treatment of locally recurrent endometrial cancer is based on very limited evidence. The mainstay treatment with radiotherapy (RT) is effective at local control and the effect has been documented in prospective studies. The literature on surgical treatment (ST) of recurrent endometrial cancer is limited to previously irradiated patients or advanced patients, while the evidence of surgical treatment of isolated vaginal vault recurrence is practically nonexistent. This study aims to investigate the efficacy of RT and ST in a non-irradiated group with recurrent endometrial cancer limited to the vaginal vault.

Methods. In a retrospective study patients treated for recurrent endometrial cancer between 2003 and 2012 at the University Hospital of Odense were identified. 33 patients were included that had an isolated vagina vault recurrence and were treated with either RT and/or ST.

Re-recurrence rates and survival rates were calculated at 2 years follow up using Fishers exact test.

Results. Of 33 patients, 26 were treated with RT, 5 with. The mean (SD) time of follow up was 4,42 years (2,99) (RT) and 3,88 years (0,90) (ST). 2 year re-recurrence rate was 40 % (95 CI 2,1 %-77,9 %) (RT) and 0 % (95 CI -9,01 % -9,01 %) (ST), P-value=2,2981. Survival rates were 83 % (RT) and 100 % (RT) P-value=1,00.

Conclusion. This study indicates that ST is a viable treatment of locally recurrent endometrial cancer. It is however limited by size and by being a retrospective study, and a randomized trial evaluating both survival and complications is warranted.

IGCSM-0652
Poster Shift III - Uterine Cancer including Sarcoma

CLINICO-PATHOLOGICAL CHARACTERISTICS OF ENDOMETRIAL CANCER IN LYNCH SYNDROME

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Aims
Poor data exist on clinico-pathological description of endometrial cancer (EC) in Lynch syndrome (LS) compared with sporadic ones. To evaluate the clinico-pathological findings of Lynch-related EC to establish histological criteria to discriminate familial and sporadic ECs and to decide the optimal management of patients.
Methods

Retrospective study describing the characteristics of a cohort of patients with EC and LS in four hospitals from 1977 to 2013.

Results

Fifty-six patients were included in the study. Mean age at diagnosis was 49.5 years (+/- 10.3). Forty-nine patients had an identified mutation (17 MLH1, 19 MSH2, 12 MSH6, 1 PMS2). In 79.6 % of cases, EC was the first Lynch-related tumor to occur. One single patient developed synchronous ovarian cancer. Mean BMI was 23.0 (+/- 4.3). Eighty-one per cent had endometrioid adenocarcinoma. Tumor grade was grade 1 in 50 % of patients, grade 2 in 32.3% and grade 3 in 17.6% of cases. Thirty-three per cent of patients had lymphovascular space involvement (LVSI). The FIGO stages were as follows: stage IA: 48.8 %, stage IB: 21.9 %, stage II: 7.3 %, stage IIIC: 14.6 % and stage IVB: 4.9%. With a median follow-up of 7.6 years, recurrence occurred in 2 patients and 4 patients died of other related cancer.

Conclusion

Endometrial cancer in LS is characterized by early age at onset. Apart from high LVSI rate, other data on histology and survival do not differ from sporadic cancers. Conservative treatments could be considered in patient with good prognosis tumour.

IGCSM-0657
Poster Shift III - Uterine Cancer including Sarcoma

S-PHASE FRACTION HAS INDEPENDENT PROGNOSTIC VALUE IN FIGO STAGE I ENDOMETRIAL CARCINOMA: RESULTS FROM A POPULATION-BASED STUDY

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Aims

No international consensus exists regarding prognostic factors in early stage endometrial carcinoma (EC). In Sweden; flow cytometric DNA ploidy status has long been a recognized variable and the S-phase fraction (SPF) can readily be estimated at the same time. Thus, we retrospectively investigated the prognostic properties of SPF and DNA ploidy status with classical histopathologic factors in relation to endometrial carcinoma specific survival (ECSS), overall survival (OS), time-to-progression (TTP) and location of recurrence in the, as far as we are aware, largest population-based material published so far.

Methods

1140 consecutive FIGO stage I endometroid endometrial carcinoma patients diagnosed between 2001-2007, out of which 905 had complete data on all included variables (FIGO stage, degree of differentiation, DNA ploidy status, SPF and adjuvant treatment), were included in multivariate Cox proportional hazards regression analysis.

Results

A SPF value >5.5% was associated with a worse clinical outcome (for ECSS: HR=2.25; 95% CI 1.38-3.67; *p*=0.001), DNA ploidy status was not, for all tested endpoints. Neither variable could predict recurrence site.

Conclusion

SPF adds independent prognostic information to classical histopathologic factors in FIGO stage I endometroid EC.

IGCSM-0673
Poster Shift III - Uterine Cancer including Sarcoma

A COMPARISON OF METHODS FOR THE DETERMINATION OF MICROSATELLITE INSTABILITY PHENOTYPE IN ENDOMETRIAL CANCERS

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Aims
A proportion of endometrial carcinomas (EC), ovarian and colorectal cancers (CRC) are associated with deficient DNA mismatch repair (MMR). These tumors are characterized by high levels of microsatellite instability (MSI). MSI-high(H) tumors may develop secondary to germline, somatic, or epigenetic changes. Identification of MSI-H cases has prognostic implications and can direct testing for Lynch II syndrome enabling screening or interventions for other Lynch-associated cancers. Methodologies for MSI assessment vary significantly in technical difficulty and cost. Although methods have been compared in the CRC literature validation is needed in EC.

Methods
Pentaplex mononucleotide PCR for MSI testing was compared to MMR IHC (presence/absence of MLH1, MSH2, MSH6, PMS2) in a cohort of 89 patients with EC. The sensitivity, specificity, positive and negative predictive values were obtained on the crosstabulation of the results. The overall accuracy rate is computed and tested against the no information rate (one-sided test).

Results
The overall accuracy is 93% (95% CI[86%-97%]). A one-sided test to see if the accuracy is better than the 'no information rate,' which is taken to be the largest class percentage in the data, is significant ($p<0.001$). Unweighted Kappa is also computed 0.84, along with the sensitivity(88%), specificity(95%), PPV (88.5%), NPV(95.2%). The balanced Accuracy is the average between sensitivity and specificity (92% in this case).

Conclusion
High concordance supports abandonment of higher cost MSI testing in EC research as it has been in the clinical setting. Re-evaluation of MMR IHC as a component of molecular classification *in lieu* of MSI testing (as utilized for TCGA) can be undertaken.

IGCSM-0705
Poster Shift III - Uterine Cancer including Sarcoma

LEIOMYOSARCOMA ARISE FROM ATYPICAL POLYPOID ADENOMYOMA OF THE UTERUS

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Aims

Atypical polypoid adenomyoma (APAM) is rare benign tumor that occurs in polypoid toward the uterine cavity. Epithelial, stromal in mixed tumor, atypical strong organization to build the epithelial component, differentiation from atypical endometrial hyperplasia, complex and endometrial carcinoma is difficult to APAM. There is also a report endometrial carcinoma could occur from APAM.

Methods

case report

Results

We present a case of a 78 year old Japanese female who had atypical uterine bleeding . There was no obvious atypical epithelial cell in endometrial cytology, but atypical small and large disparity of nuclear, and small nucleoli was observed in the spindle-shaped stromal cells. It was no atypical cells in endometrial biopsy. It showed a well-circumscribed mass of 6cm in diameter in the uterine cavity in MRI. Tumor markers showed a high and somewhat 69 U/mL is CA125. Abdominal total hysterectomy and bilateral salpingo-oophorectomy was performed. Tumors of polypoid generated from the endometrium, is accompanied by hyperplasia of smooth muscle with inner membrane stroma in pathology, it is an image of APAM typical at the base, but the outgrowth of tangled atypical spindle-shaped cells at the tip it consists, Actin was also diagnosed with leiomyosarcoma in positive 20/10HPF schism image.

Conclusion

We report a case of leiomyosarcoma generated from APAM a very rare**.**

IGCSM-0714
Poster Shift III - Uterine Cancer including Sarcoma

PREPARATION OF PRIMARY CULTURE CELLS FROM A LCNEC OF UTERINE CORPUS USING CTOS (CANCER TISSUE-ORIGINATED SPHEROID) METHOD

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Aims

LCNEC (large cell neuroendocrine carcinoma) of uterine corpus is a rare and highly aggressive tumor. Using CTOS method, we aimed to establish primary culture cells of a LCNEC and investigate the characters.

Methods

Primary culture cells, CTOSs, were prepared from surgically resected specimen as previously described (Kondo 2011 PNAS). CTOSs were prepared from specimen of pre- as well as post-chemotherapy (cisplatin and etoposide); pre-CTOS and post-CTOS. CTOSs were transplanted subcutaneously to NOD/SCID mice. Expression of chromotraninA and synaptophysin were evaluated by immunohistochemistry (IHC). For drug sensitivity, CTOSs were cultured in StemPro medium with or without cisplatin and etoposide (0-30μM) for a week. Cell viability was assessed by ATP content at day7 and standardized by the area of projection images at day0.

Results

Both pre- and post-CTOSs were well prepared from the specimens and formed xenograft tumors in immune-deficient mice. In IHC, CTOSs and xenografted tumors expressed chromograninA and synaptophysin at the same levels as original tumors. IC50s (half maximal inhibitory concentrations) in pre- and post-CTOS of CDDP were 3.3μM and 4.2μM, and of etoposide were 0.11μM and 0.18μM, respectively. There was no significant difference in IC50, however, the growth rate of post-CTOS was 3 to 4 times more than pre-CTOS.

Conclusion

Using CTOS method, we could prepare and culture primary cells from a LCNEC of uterine corpus. Establishment of CTOS lines of LCNEC would contribute to the understanding of this disease, and developing therapeutic strategy.

IGCSM-0716
Poster Shift III - Uterine Cancer including Sarcoma

CLINICOPATHOLOGICAL STUDY OF PROGNOSTIC FACTORS IN UTERINE CARCINOSARCOMA: A COMPARISON WITH GRADE 3 ENDOMETRIOID ADENOCARCINOMA OF THE UTERUS

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Aims

Uterine carcinosarcoma (CS) is considered to be clinically similar to grade 3 endometrioid adenocarcinoma of the uterus (EAG3). The therapeutic strategy for CS is based on that for EAG3, but this remains controversial. Herein we clinicopathologically studied oncological outcome and prognostic factors of CS patients treated with the therapeutic methods for EAG3.

Methods

Of the 571 women diagnosed as endometrial cancer and treated at Kumamoto University Hospital between 1986 and 2009, 18 patients were diagnosed as CS and 56 patients were diagnosed as EAG3. We retrospectively evaluated prognostic factors in these 74 women with CS or EAG3.

Results

The 5-year survival rate tended to poorer in CS group than EAG3 group (CS: 24% *vs.* EAG3: 56%; p=0.17). In the comparison of stages I/II to stages III/IV, the stage I/II EAG3 patients had significantly better 5-year survival rate than stage III/IV (stages I/II: 84% *vs.* stages III/IV: 31%; p=0.006), but the CS group had a poor 5-year survival rate even in the stages I/II (stages I/II: 31% *vs.* stages III/IV: 0%; p=0.17). In the histological review of the sarcoma components in CS cases, patients with heterologous CS had a poorer prognosis than homologous CS (5-year survival rate: heterologous: 0% *vs.* homologous: 53%, p=0.007).

Conclusion

CS tends to have a poorer prognosis in comparison with EAG3. Additionally, heterologous CS has a poorer prognosis than homologous CS. These results should be considered valuable tools for designing therapeutic methods for patients with CS according to individual clinical stage and pathological condition.

IGCSM-0718
Poster Shift III - Uterine Cancer including Sarcoma

SMALL CELL CARCINOMA OF THE ENDOMETRIUM (SCCE): A RETROSPECTIVE STUDY OF SIX CASES

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Aims

Small cell carcinoma of the endometrium (SCCE) is a rare but aggressive disease. Because of its rarity, neither its clinical behavior nor optimal management are well-defined. Therefore we reported six cases of this rare disease.

Methods

We retrospectively analyzed the clinical data of the cases treated between 1998 and 2013.

Results

We treated 963 uterine endometrial cancer patients between 1998 and 2013. Six patients were diagnosed as SCCE. One patient was diagnosed as stage IA (International Federation of Gynecology and Obstetrics (FIGO) 2008), three were stage IIIC1, and two were stage IVB. The mean age was 56.8 (45.0 to 69.0). Five patients were treated with a combination of surgery and chemotherapy. One stage IA patient was treated with surgery alone. One stage IVB patient was treated with chemotherapy. Two stage IVB patients died in two months. Three patients (two stage IIIC1, and one IA) were recurrent in three to 14 months and treated with chemotherapy. One of those three died of the disease 13 months later, and the other two have been free of disease for 34 to 185 months. One stage IIIC1 patient treated with six courses of neoajuvant chemotherapy with paclitaxel and carboplatin (TC) followed by surgery and two courses of adjuvant chemotherapy was alive with no evidence of recurrence for 61 months.

Conclusion

Although the prognosis of SCCE is poor, the combination of surgery and chemotherapy may contribute to an improved prognosis. TC therapy may have a role in controlling local and regional disease.

IGCSM-0736
Poster Shift III - Uterine Cancer including Sarcoma

IN UTERINE CANCERS, HIGH EXPRESSION RATIO OF AROMATASE TO ERYTHROPOIETIN MRNA LEVELS MAY BE PATHOGNOMONIC.

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Aims

To explore a diagnostic marker of uterine cancers, we examined the transcriptional mRNA levels of several substances that may be involved in both normal uterine physiology and uterine cancer promotion.

Methods

In malignant and normal samples, we measured the mRNA levels of erythropoietin (Epo), erythropoietin receptor (EpoR), aromatase and vascular endothelial growth factor (VEGF) by real-time quantitative RT-PCR analysis. We demonstrated these proteins and Epo-EpoR signaling in the AKT/P-AKT pathway by Western blot analysis, and also co-localization of these proteins immunohistochemically.

Results

Expression levels of the four mRNAs were determined in malignant (n=19) and normal (n=12) samples. No significant differences were detected between the malignant and normal samples of the average expression levels of these transcripts. But the ratios of mRNA levels of aromatase to Epo, VEGF to EpoR, aromatase to VEGF and VEGF to Epo were 5.0, 3.1, 2.5 and 2.3- times higher in malignant than in normal samples. Aromatase and VEGF proteins were detectable in malignant and control samples, but EpoR was not always discernible. All samples showed P-AKT constitutively, but its activation was more frequently seen in malignant than in normal samples. Aromatase was co-expressed with EpoR and VEGF in malignant cells, but it was not always seen in normal glandular epithelial cells in the secreting phase.

Conclusion

Disruption of the expression balances among Epo, aromatase and VEGF mRNA may be a cause of endometrial cancers. A high ratio of aromatase to Epo mRNA may be a hallmark of uterine cancer.

IGCSM-0739
Poster Shift III - Uterine Cancer including Sarcoma

PREFERENCES FOR ADJUVANT CHEMOTHERAPY IN AN ANZGOG SUBSTUDY OF THE PORTEC-3 INTERGROUP RANDOMIZED CONTROLLED TRIAL OF ADJUVANT CHEMOTHERAPY IN HIGH RISK ENDOMETRIAL CANCER.

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Aims

To determine the minimum survival benefits that patients, and their doctors, judged sufficient to make ACT worthwhile, in addition to pelvic radiotherapy, in high risk endometrial cancer.

Methods

83 of 122 ANZ patients in PORTEC-3, and 44 of their doctors, completed a time trade-off questionnaire to determine the minimum survival benefits they judged sufficient to make ACT worthwhile. The questionnaire used 4 hypothetical scenarios based on survival times without ACT of 5 years and 8 years, and survival rates at 5 years without ACT of 50% and 65%. Patients completed the questionnaire after randomisation but before any adjuvant treatment.

Results

Over 50% of patients judged an extra 1 year of survival time (beyond 5 years or 8 years without ACT) or an extra 5% in survival rate (beyond 50% or 65% without ACT) sufficient to make ACT worthwhile. Over 50% of doctors judged an extra 1 year of survival time or an extra 10% in survival rates sufficient to make ACT worthwhile. Doctors' preferences, compared with patients' preferences, had the same median survival time benefit (1 year, p=0.4) but larger median survival rate benefit (8.5% v 5%, p=0.03), and varied over a

smaller range (IQR's, 0.5-1.5 years v 0.4-2 years, P=0.0007; 5%-10% v 1-13%, P=0.004). There were no strong predictors of preferences.

Conclusion

Patients and doctors judged moderate survival benefits sufficient to make ACT worthwhile after pelvic radiotherapy for high risk endometrial cancer. These benefits are larger than those judged sufficient by patients for breast or colon cancers, but similar to those for lung or ovarian cancers.

IGCSM-0742
Poster Shift III - Uterine Cancer including Sarcoma

PROGNOSTIC SIGNIFICANCE OF PRETREATMENT LEUKOCYTOSIS AND NEUTROPHILIA IN ENDOMETRIAL CARCINOMA

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Aims
The aim of this study was to investigate the prognostic significance of pretreatment leukocytosis and neutrophilia in patients with endometrial cancer in relation to well-established conventional risk factors.
Methods
The baseline characteristics and outcome data of 510 patients treated for endometrial cancer between 2000 January to 2010 December were collected and retrospectively analyzed. We performed univariate analysis by comparing Kaplan-Meier curves of subgroups with the log rank test. The cox proportional hazards regression analysis with stepwise variable selection was performed to identify significant independent prognostic factor for survival.
Results
Patients with leukocytosis showed significantly shorter survival than those without leukocytosis in term of overall survival (log rank; P<0.0001). Patients with neutrophilia also exhibited significantly shorter survival than those without neutrophilia in term of overall survival (log rank; P<0.0001). Multivariate analysis revealed that cliniacal stage, histologic subtype, lymphovascular invasion (LVSI), leukocytosis (?9000/μl), and neutrophilia (?7200/μl) were the significant prognostic factors for overall survival.
Conclusion
The pretreatment leukocytosis and neutrophilia are the independent prognostic factors in patients with endometrial cancer.

IGCSM-0750
Poster Shift III - Uterine Cancer including Sarcoma

SENTINEL LYMPH NODE BIOPSY IN APPARENTLY LOW STAGE ENDOMETRIAL CANCER: A FEASIBILITY STUDY FROM TWO GYNAECOLOGICAL ONCOLOGY CENTRES.

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Aims

To explore the acceptability of SLN assessment in women with endometrial cancer.

To assess the feasibility of currently available techniques.

Methods

Women with endometrial cancer and complex hyperplasia with atypia who met were offered entry into a feasibility study of SLN detection. Blue dye and radioactive tracer techniques were employed to identify sentinel nodes. Where radioactive tracer was used a pre-operative lymphoscintogram and/or spectroscopy CT was also performed

Results

Sixty-nine patients were recruited. Discomfort and pain scores for cervical injection were mean of 3 (n=33) for speculum insertion (range 0-10) and mean of 4 (n=33) for the cervical injection (range 0-10). The mean BMI was 33. At least SLN was identified in 61 patients, 89% (N=69). In 26 (N=69) patients bilateral pelvic nodes were identified. Pre-operative imaging identified at least one SLN in 36 patients (N=51). At least one blue node was identified in 53 patients (N=69) of which 35 nodes were hot. At least one hot node was identified in 54 patients (N=69) of which 35 nodes were blue. Considering the patient the detection rate was 89%. Considering the hemi-pelvis the detection rate was 64% (N=138).

Conclusion

SLN detection in endometrial cancer is acceptable and feasible even in the obese patient. It should continue to be evaluated in low stage cancer as there are challenges in perfecting the technique before becoming a substitute for pelvic and/or para-aortic lymphadenectomy.

IGCSM-0755
Poster Shift III - Uterine Cancer including Sarcoma

ABNORMAL CERVICAL CYTOLOGY FREQUENTLY APPEARS AND HELPS EARLIER DIAGNOSIS OF UTERINE PAPILLARY SEROUS CARCINOMA

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Aims

Our objective is to determine the utility of pre-operative cervical cytology to help earlier diagnosis of uterine papillary serous carcinoma (UPSC).

Methods

A retrospective analysis of patients diagnosed with UPSC in terms of diagnosis and clinical features was performed. For control, patients with endometrial endometrioid adenocarcinoma were also analyzed.

Results

One hundred and twenty-nine patients were evaluated; thirty-two patients had USPC and ninety-seven patients had endometrioid adenocarcinoma (EC). Four patients with UPSC had not done preoperative cervical cytology. UPSC (24 of 32 patients) were more frequently seen than EC (21 of 97 patients) in 65 more of age ($p<0.01$). A proportion of abnormal preoperative cytology in USPC patients were 23 of 28 patients (82.1%) and EC patients were 38 of 98 patients (38.8%; $p<0.01$). Compared with UPSC and EC, abnormal cervical cytology was significantly observed in UPSC group ($p<0.01$).

Conclusion

Abnormal cervical cytology, with high atypicality in older age in endometrial cancer predicts UPSC. This information helps earlier diagnosis for UPSC.

IGCSM-0759
Poster Shift III - Uterine Cancer including Sarcoma

PULMONARY METASTASECTOMY IN UTERINE MALIGNANCY: OUTCOMES AND PROGNOSTIC FACTORS

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Aims

The aim of this study was to report the outcomes of uterine cancer patients with pulmonary metastasectomy, and to invstigate the prognostic factors associated survival after pulmonary metastasectomy.

Methods

A retrospective study was performed with 29 uterine cancer patients who underwent surgical resections for pulmonary metastatic lesions at Samsung Medical Center between June 1995 and December 2011.

Results

Histopathology was carcinoma in 17 (58.6%) patients and sarcoma in 12 (41.4%) (6.5%). Of 29 patients, seven patients received a repeated pulmonary metastasectomy. A total of 41 pulmonary resections were performed on 29 patients via thoracomomies (n = 4) and video-assisted thoracic surgery (n = 37). Eight patients (27.6%) had symptoms related to lung metastasis. The 5-year overall survival rate and survival rate after pulmonary metastasectomy for the entire cohort was 68.3% and 59.4%, respectively. In univariate analysis, presence of pulmonary symptom (P = 0.003), short pulmonary metastasis-free interval (≤12 months, P = 0.03) and large number of metastases (>3, P = 0.023) were associated with poor survival after pulmonary metastasectomy. Three or fewer number of metastases (HR 0.083, 95% CI 0.007-0.973, P = 0.047) and post-metasectomy chemotherapy (HR 0.031, 95% CI 0.002-0.623, P = 0.023) revealed the significant prognostic factors for survival after pulmonary metastasectomy.

Conclusion

Pulmonary metastasectomy for uterine cancer is acceptable treatment in selected patients. Patients with a three or fewer metastatic pulmonary lesions could expect to achieve long-term survival by pulmonary metastasectomy.

IGCSM-0772
Poster Shift III - Uterine Cancer including Sarcoma

CLINICAL OUTCOMES IN PATIENTS WITH HIGH GRADE ENDOMETRIAL CANCER AND HISTOLOGICAL PRESENCE OF INTRALUMINAL TUMOUR CELLS

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Aims

Intraluminal tumour cells (ILTC) occur with greater frequency in high grade compared to low grade tumous (p=0.014) and this is strongly correlated with positive peritoneal cytology (p=<0.001). While the role of positive peritoneal cytology in the absence of any other disease outside the uterine corpus in prognosis is unclear in endometrial cancer, this paper looks specifically at the clinical outcomes in those high-grade cases who have positive cytology and ILTC In addition to the histological and patient factors, are there any clinical factors that may contribute iatrogenically to tumour spread in the presence of ILTC?

Methods

We assess a prospective cohort series of 283 high grade endometrial cancers and correlate the presence of intraluminal tumour cells with clinical outcome. Data is analysed using SPSS version 22 to examine a series of patient and clinical factors and their potential impact on outcomes in patients with high-grade endometrial cancer and ILTC on histology.

Results

The presence of ILTC was not significant for death within 3 years (p=0.1296). It is associated with a risk of recurrence within three years (p=0.056). The route of surgery did not appear to be significant in the detection of positive peritoneal washings in ILTC positive disease. (p=0.4).

Conclusion

Although not statistically significant (p=0.056), there is an association between ILTC and recurrence. While ILTC is significantly associated with positive peritoneal washings in previous studies, it is not clear that is associated with a change in patient outcomes.

IGCSM-0794
Poster Shift III - Uterine Cancer including Sarcoma

MAY DIAGNOSIS OF ENDOMETRIAL CANCER BE A SENTINEL EVENT IN JAPAN?

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Aims

The prognosis of endometrial cancer is good if diagnosed at early stage. Obesity, diabetes, hypertension and hyperlipidemia is risk factor for both endometrial cancer and cardiovascular disease. Retrospective study of SEER database revealed that most cause of death among endometrial cancer patients are cardiovascular disease to reflect high probability of curative cancer treatment and the prevalence of cardiac disease and risk factors in U.S. The prevalence of cardiovascular disease and risk factor among endometrial cancer patients in Japan might be different from that in US.

Methods

We retrospectively reviewed the clinical records of endometrial cancer patients who were treated in our hospital between 1998 and 2007.

Results

Median follow up time was 70 (range 61 ~225) months. Of 152 patients with endometrial cancer, 55 patients (33%) had diagnosed hypertension, hyperlipidemia or diabetes before diagnosis of endometrial cancer, and 25 patients (16%) diagnosed after diagnosis of endometrial cancer. Among them, 7(12%) and 6(24%) cardiovascular events had occurred respectively. All patients had received medical examination from primary care practitioner. All the causes of death were malignancies, most of patients died from endometrial cancer. Of 37 patients with double primary cancer, 22 patients diagnosed other cancer before diagnosis of endometrial cancer , and 15 patients diagnosed after diagnosis of endometrial cancer.

Conclusion

About half of endometrial cancer patients had risk factors for cardiovascular disease, but there were no patients who died from it. It will be important for endometrial cancer patients to receive general healthcare and preventative care for cardiovascular disease and other malignancies.

IGCSM-0812
Poster Shift III - Uterine Cancer including Sarcoma

A RETROSPECTIVE REVIEW OF ALL CASES OF LEIOMYOSARCOMA REFERRED TO THE ROYAL WOMEN'S HOSPITAL OVER A FIVE-YEAR PERIOD

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Aims
To present the characteristics of the patients referred to The Royal Women's Hospital over a five-year period, and discuss the diagnostic dilemmas and implications of inadvertent morcellation.
Methods
Hospital databases were searched for leiomyosarcoma (LMS) and STUMP diagnoses between 01/08/2008 and 01/08/2013. Hospital records were reviewed for demographic and clinical information.
Results
Fifteen patients were identified, with 5 patients aged less than 40y. There were no distinguishing features to clinical presentation however in the older age groups postmenopausal bleeding was the most common presenting complaint. Fibroids ranged from <5cm to >30cm and were submucosal, intramural and pedunculated.
Conclusion
We highlight the difficulty clinicians face in diagnosing LMS preoperatively. There is international data suggesting that the incidence of LMS may be increasing, and our large proportion of younger women reinforces the need for research into preoperative diagnostic tests and surgical technologies.

IGCSM-0815
Poster Shift III - Uterine Cancer including Sarcoma

MRI FEATURES TO IDENTIFY UTERINE LEIOMYOSARCOMA- HOW OFTEN ARE THESE SEEN IN BENIGN FIBROIDS?

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Aims

To determine the prevalence of characteristics of uterine leiomyosarcoma (LMS) in benign fibroids (LM) on MRI imaging.

Methods

All patients referred to The Royal Women's Hospital for treatment of LMS between 2002-2011 were identified. All women who had benign fibroids imaged on MRI in the same time period were identified. Any patients in whom the benign diagnosis could not be confirmed (either by histology, subsequent imaging or clinical course) were excluded. The study group was age matched to the LMS population, giving a total of 71 patients with 275 benign fibroids.

All fibroids were assessed by a single radiologist for previously reported characteristics of LMS; heterogenous enhancement, DWI restriction, T2 high signal (>50%), ill defined margin and haemorrhage.

Results

Benign fibroids can exhibit features that could be consistent with LMS. More common findings are heterogenous enhancement (seen in 22.5% of benign fibroids), DWI restriction (6.9%) and T2 high signal (5.8%). Ill-defined margin (3.6%), and haemorrhage (0%) were rarely or not seen.

Conclusion

Preoperative identification of LMS is a clinical challenge, with recent controversies regarding laparoscopic morcellation highlighting this. We conclude that the use of

previously reported characteristics of LMS in MRI imaging could result in false positive diagnoses. It is important to interpret MRI findings in the context of age, menopausal status and clinical picture. The introduction of major and minor criteria for diagnosis of LMS is suggested.

IGCSM-0833
Poster Shift III - Uterine Cancer including Sarcoma

PREOPERATIVE DNA PLOIDY ASSESSMENT IN CURETTAGE SPECIMENS IDENTIFIES LYMPH NODE METASTASIS IN ENDOMETRIAL CANCER

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Aims

Preoperative risk stratification for endometrial cancer patients by biomarker testing in curettage specimens to aid the prediction of lymph node metastasis and tailoring treatment is aspired in clinical practice. DNA ploidy from hysterectomy specimens has been shown to be of prognostic importance. We wanted to investigate if DNA ploidy in curettage specimens could identify patients with lymph node metastasis, aggressive disease and poor outcome.

Methods

785 endometrial carcinoma patients prospectively included in a multicenter trial (Molecular Markers in Treatment of Endometrial Cancer) were investigated for curettage specimen DNA ploidy in relation to established clinicopathological variables and outcome. 76.5% of patients were subjected to staging lymphadenectomy.

Results

72.0% of curettage specimens were diploid, while 28.0% were non-diploid (20.6% aneuploid, 6.6% tetraploid and 0.8% polyploid). Non-diploid curettage significantly correlated with aggressive clinicopathological features; high FIGO stage, non-endometrioid histology, high grade, deep myometrial infiltration (all $p<0.008$) and lymph node metastasis (OR 2.45, $p<0.001$ by univariate logistic regression). Furthermore, non-diploidity was associated with shorter 5-year disease-specific survival (74.4%, compared to 88.8% for diploid curettage, $p<0.001$).

Conclusion

Non-diploid status detected in curettage specimen is significantly associated with aggressive clinicopatholocial phenotype, lymph-node metastasis and poor prognosis. The clinical value of preoperative ploidy assessment to improve risk stratification for individualized surgery needs to be further studied.

IGCSM-0855
Poster Shift III - Uterine Cancer including Sarcoma

SUCCESSFUL PREGNANCIES IN 54 PATIENTS FOLLOWING FERTILITY-PRESERVING HORMONAL THERAPY FOR ENDOMETRIAL CANCER

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Aims
There have been few reports about the course and prognosis of successful pregnant cases following high-dose medroxyprogesterone acetate (MPA) therapy for fertility preservation in patients with endometrial cancer. We aimed to clarify the outcomes of pregnancies following hormonal therapy in our hospital.

Methods
We retrospectively reviewed 73 pregnancies (29 with atypical endometrial hyperplasia complex (AEHC), 40 with endometrioid adenocarcinoma G1, and 4 with G2) among 54 patients who experienced pregnancy following tumor disappearance with MPA therapy. They were presumed to have neither myometrial invasion nor metastases and who were treated with MPA. After 4 months oral administration of MPA 600mg/day, D&C was performed. When residual disease existed with no evidence of myometrial invasion nor metastases, an additional 2 months of oral administration and D&C were repeated.

Results
The median age at initial treatment was 34 (range 19-42) years old, and at initial pregnancy was 36 (range 22-43) years old, respectively. Delivery outcomes were 24 normal deliveries, 25 caesarean sections, 14 spontaneous abortions, 3 induced abortions, 1 unknown, and 6 during pregnancy. We experienced 3 cases (4%) of placenta accreta among serious delivery complications. 24 patients (33%) have relapsed following delivery. The relapse free rates at 5 years after delivery were 43% in adenocarcinoma cases and 90% in AEHC cases (Kaplan-Meier method).

Conclusion
Our results found a high relapse rate even after delivery; we thus recommend hysterectomy for patients with adenocarcinoma, if there is no further strong desire for fertility-preservation after delivery.

IGCSM-0870
Poster Shift III - Uterine Cancer including Sarcoma

SERUM HUMAN EPIDIDYMIS PROTEIN 4 AND MYOMETRIAL INVASION IN ENDOMETRIAL CANCER PATIENTS

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Aims
The primary treatment of endometrial cancer (EC) is surgery with adjuvant radiotherapy if risk factors for local recurrence or lymph node metastases are present. High grade endometrial cancer is more likely to invade deeply into the myometrium, increasing the possibility of lymph node metastases. If deep myometrial invasion can be predicted preoperatively, lymfadenectomy can be considered to avoid post-operative radiotherapy in the absence of metastases. MRI-scanning can be used to predict myometrial invasion. Also, serum HE4 is suggested to increase in the presence of deep myometrial invasion. The aim of this study is to evaluate the correlation of serum HE4 and depth of myometrial invasion in endometrial cancer and compare this to MRI.

Methods
Serum HE4 was measured in 59 patients with endometroid EC and 31 patients with other histological types. Clinical data were collected. MRI-scans and histology were revised.
Results
Serum HE4 value was elevated in 64% of the patients with stage IB endometroid EC. Patients with high grade EC (24%) had higher median HE4 values (p=0.029). Serum HE4 was significantly higher in patients with deep myometrial invasion (p=0.001) or the presence of lymph node metastases (n=8, p=0.005). MRI showed deep myometrial invasion in 50% (n=6) of the patients and the majority (92%) was correctly classified based on definitive histology.
Conclusion

HE4 can be used preoperatively besides MRI to identify patients with a high risk of lymph node metastases and may help to plan the extend of the surgical procedure in patients with high grade endometrial cancer.

IGCSM-0873
Poster Shift III - Uterine Cancer including Sarcoma

ENDOMETRIAL CANCER ARISING FROM ATYPICAL COMPLEX HYPERPLASIA: THE SIGNIFICANCE IN AN ENDOMETRIAL BIOPSY AND A DIAGNOSTIC CHALLENGE

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Aims

Endometrial hyperplasia with or without atypia is common gynecologic disease and a known precursor of endometrial carcinoma. Type I endometrioid carcinoma arising from atypical complex hyperplasia is 80% of endometrial cancer. We aim to assess endometrial hyperplasia with concurrent endometrial cancer diagnosed by endometrial sampling and find the solution for exact diagnosis.

Methods

A retrospective study was conducted based on the descriptive and statistical analysis of histopathological records of 126 patients who underwent diagnostic endometrial biopsy and management of endometrial hyperplasia between January 2005 and December 2013 in Busan Paik hospital.

Results

The patients were divided to 117 endometrial hyperplasia and 9 endometrial cancer arising from atypical complex hyperplasia by final pathology. The nine patients (9/33, 38%) of complex hyperplasia with atypia diagnosed by office based surgical endometrial biopsy were diagnosed endometrial cancer by hysterectomy. The patients with endometrial cancer arising from endometrial hyperplasia were younger(40.1 years vs 47.3 years, P=0.0340), more obese (26.1±8.9kg/m^2 vs 23.5±3.5 kg/m^2, P=0.0754) than patients with endometrial hyperplasia.

Conclusion

Detection of endometrial cancer before hysterectomy in complex hyperplasia with atypia can decrease the risk of suboptimal treatment. It can be challenging because as many as 38% of patients had found to have complex hyperplasia with atypia at office

endometrial biopsy, are found to have concurrent endometrial carcinoma at hysterectomy in our institution.Therefore, it is recommended that patients at high risk undergo D&C before hysterectomy.

IGCSM-0875
Poster Shift III - Uterine Cancer including Sarcoma

USE OF MOLECULAR MARKERS IMPROVES PROGNOSTIC STRATIFICATION IN HIGH RISK ENDOMETRIAL CANCER: A TRANSPORTEC COLLABORATIVE STUDY

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Aims

The adjuvant treatment of high risk endometrial cancer remains controversial but defining subgroups of patients with good prognosis, who are unlikely to benefit from the addition of chemotherapy, is important but is difficult with standard morphological assessment.

Methods

We generated a panel of 120 cases of high risk endometrial cancer (FIGO stage 1B, Grade III, serous, clear cell). Tissue blocks were reviewed prior to TMAs being created. Sections were stained with commercially available antibodies to ER,PR, p53, mdm2 and p21. Cases were scored blinded and p53 and hormonal signatures, based on the expression of these 5 markers, were generated for each case. These were correlated with survival data.

Results

Tumours with serous and clear cell morphology had a worse prognosis than GIII endometrioid tumours ($p<0.005$)

Tumours with an abnormal p53 signature were associated with a worse prognosis (hazard ratio 4.1). When the hormonal signature was added to the model there was no effect of p53 mutation in hormone receptor positive tumours but in hormone receptor negative tumours there was a highly significant effect of p53 with p53 wild type, hormone receptor negative tumours having a particularly favourable prognosis (hazard ratio 3.1).

Conclusion

These data suggest that the addition of simple molecular markers to routine diagnosis will define subgroups of patients with high risk disease who might have a favourable prognosis and who may be able to avoid the addition of chemotherapy to their adjuvant treatment. This hypothesis will be tested in the translational programme associated with the PORTEC3 study.

IGCSM-0912
Poster Shift III - Uterine Cancer including Sarcoma

MOLECULAR PROFILING OF HIGH-RISK ENDOMETRIAL CANCER; A TRANSPORTEC PILOT STUDY

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Aims

To investigate if molecular profiling improves risk assessment based on clinicopathologic characteristics in high-risk endometrial cancer.

Methods

*Trans*PORTEC is an international consortium dedicated to translational research related to the PORTEC-3 study. FFPE tumor samples were collected from four participating groups for this pilot series; tissue microarray was constructed and DNA isolated. Protein expression of p53 and MLH1 (as surrogate marker for sporadic-MSI) were analyzed using immunohistochemistry. Somatic hotspot analyses were performed using a panel of 14 genes known to be frequently mutated in gynecologic cancers. Rates of distant metastasis (DM), relapse-free and overall survival (RFS, OS) were calculated with Kaplan-Meier method and log-rank test.

Results

Samples of 120 high-risk patients were included, 13 (11%) clear cell, 18 (15%) serous and 89 (74%) endometrioid (37 FIGO stage I grade 3, 18 stage II, 27 stage III and 6 stage IV). For endometrioid, serous and clear cell cancers 5-year RFS rates were 61.0%, 38.8%, and 12.4% (p=0.002) and OS 62.7%, 47.8%, and 11.4% (p<0.001). Molecular profiling within the endometrioid cancers resulted in prognostically different subgroups. Both in the *POLE*-mutant (N=13) and microsatellite-instable (N=12) patients no DM occurred, compared to p53 mutant (N=19, 5-year DM 35.5%) and remaining patients (N= 45, 42.9%; p=0.02), and 5-year RFS of 91.7% and 74.1% for *POLE*-mutant and MSI vs. 55.7% (p53 mutant) and 47.6% (others), p=0.07.

Conclusion
Non-endometrioid endometrial cancers is associated with aggressive clinical course. Within the high risk endometrioid endometrial subgroup molecular analysis can be used to refine risk stratification and tailor adjuvant therapy.

IGCSM-0918
Poster Shift III - Uterine Cancer including Sarcoma

PREOPERATIVE DIAGNOSIS OF ENDOMETRIAL HYPERPLASIA DOES NOT NECESSITATE INTRAOPERATIVE FROZEN SECTION CONSULTATION

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Aims

The aim of this study was to investigate the frequency of endometrial cancer (EC) and the accuracy of frozen section (FS) analysis at time of hysterectomy among patients with endometrial hyperplasia (EH).

Methods

A database review was performed to identify patients who were subjected to hysterectomy with a preoperative diagnosis of EH, between 2007 and 2014 in Hacettepe University Hospital.

Results

190 cases were identified. Final pathological examination revealed EC in 16 women (8.4%). Risk of cancer in patients with EH were 1/125 (0.8%) in simple hyperplasia without atypia, 1/21 (4.8%) in complex hyperplasia without atypia, and 14 /44 (31.8%) in atypical hyperplasia. Of women with cancer, 2 of 16 (12.5%) had high risk features. FS analysis was requested in 47 cases. FS identified six out of 11 EC (54.5%). The sensitivity, specificity, positive and negative predictive values of FS analysis for the detection of EC among women with EH were 54.4%, 97.2%, 85.7% and 87.5%, respectively.

Conclusion

Although a significant proportion of patients with atypical EH are diagnosed to have EC following hysterectomy, most of these cases have low risk features and do not require surgical staging. Additionally, intraoperative FS has a low performance for diagnosing concurrent EC in patients with EH. Therefore, it seems that patients with EH could be operated in settings with no available intraoperative FS.

IGCSM-0926
Poster Shift III - Uterine Cancer including Sarcoma

RISK-ADJUSTED OUTCOMES IN ELDERLY ENDOMETRIAL CANCER PATIENTS: IMPLICATIONS OF THE CONTRASTING IMPACT OF AGE ON PROGRESSION-FREE AND CAUSE-SPECIFIC SURVIVALS

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Aims

The association between advanced age and progression-free (PFS) and cause-specific survival (CSS) was assessed in patients with endometrial cancer (EC).

Methods

Patients undergoing surgery for stage I-IIIC EC from 1999-2008 were stratified by age (≥70 vs. <70 years). To adjust for multiple confounding risk factors, three propensity score (PS) methods were utilized. A PS for each patient was derived using logistic regression based on demographic, pathologic and treatment characteristics. Cox models were fit to estimate the effect of age ≥70 on each outcome.

Results

Eligible patients included 360 (30.5%) ≥70 years at surgery and 822 (69.5%) <70. Compared to patients <70, those ≥70 were more likely to have multiple adverse risk factors. The total standardized differences of these factors was reduced by 74% and 81%, respectively when PS-stratification and PS-matching analyses were used. Although PFS tended to be associated with advanced age in an unadjusted analysis (HR=1.40; 95% CI, 0.95-2.04), it was not associated with advanced age based on PS analyses (Table). The unadjusted HR for the association between age and CSS was 2.03 (95% CI, 1.32-3.13).HRs were attenuated in PS analyses but retained significance (except PS matching). This potentially reflects the marked differences in salvage

therapies ($p<0.001$) including a 3-fold greater use of chemotherapy in the <70 cohort.

Conclusion

When risk-adjusted for the higher prevalence of adverse prognostic factors in elderly EC patients, PFS after primary therapy is **NOT** age dependent. By contrast, the less favorable CSS in the elderly cohort may reflect less use of chemotherapy post-recurrence.

IGCSM-0927
Poster Shift III - Uterine Cancer including Sarcoma

POLYCYSTIC OVARY SYNDROME PREDICTS PROGNOSIS IN ENDOMETRIAL CANCER PATIENTS

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Aims

Insulin resistance and increased insulin levels may be poor prognostic factors in patients with endometrial cancer (EC). Polycystic ovary syndrome (PCOS), a risk factor for EC, is also characterized by insulin resistance. Currently, the prognosis of EC patients with PCOS is unknown; therefore, the aim of this study was to evaluate the prognostic impact of PCOS on EC patients.

Methods

This retrospective study included EC patients aged <45 years who underwent hysterectomy between 2009 and 2013 in our institution. We collected information relevant to PCOS diagnosis, such as hyperandrogenism, irregular menstruation, and polycystic ovarian morphology, from medical records and reevaluated these characteristics using European Society of Human Reproduction and Embryology/American Society for Reproductive Medicine criteria. Correlations between PCOS and clinicopathological parameters were analyzed.

Results

Thirty-four patients were enrolled in the study, and 10 (29 %) patients were diagnosed with PCOS. Fasting insulin and homeostatic model assessment values were significantly higher in the PCOS group than in the non-PCOS group ($P = 0.045$ and $P = 0.043$, respectively), but the PCOS group was significantly younger than the non-PCOS group ($P = 0.040$). At the time of analysis, all patients were alive, but 3 patients in the PCOS group had recurrent disease. Univariate analysis revealed that both PCOS ($P = 0.005$) and Stage IV disease ($P = 0.002$) were significant poor prognostic factors. However, there were no significant factors by multivariate analysis.

Conclusion

In EC patients aged <45 years, PCOS may predict disease recurrence.

IGCSM-0929
Poster Shift III - Uterine Cancer including Sarcoma

THE EFFECT OF GNRH ANALOGUES ON PRIMARY HUMAN ENDOMETRIAL CARCINOMA EAG3

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Aims

To investigate the effect of Gonadotropin-releasing hormone(GnRH)antagonist in a human primary endometrial cancer cell (EAG3).

Methods

Improved explant culture and trypsin enzyme-digesting technique by using filter paper was used to establish a poorly differentiated primary endometrial cancer cell (EAG3), cell immunochemistry and immunofluorescence was used to detect the expression of ER, PR, PTEN, P53 and Cytokeratin. A lentiviral vector-mediated RNAi method was used to establish a PTEN-negative EAG3 cell clone (EAG3-ND). MTS was used to detect the cell proliferation after treatment with GnRH-I antagonist (Trp-1) and GnRH-II antagonist (cetrorelix). Using in cell Western method to detect the expression of pAKT.

Results

A novel poorly differentiated endometrial adenocarcinoma cell lines (EAG3) was successfully established,which characterized of epithelial origine by slightly ER?PR expression, moderately of PTEN, and strongly expressed of P53 and Cytokeratin. Immunofluorescence shows well expression of GnRH I, GnRHR?and slightly expression of GnRH??GnRHR?.The inhibiting effect of cetrorelix was stronger than Trp-1 in both EAG3 and EAG_3-ND, but the suppression rate of Trp-1 was more stronger in EAG_3-ND.The inhibition of p-AKT was more obvious when PTEN was knocked down.

Conclusion

GnRH antagonist can inhibit proliferation of EAG_3 and EAG_3-ND both of which were more sensitive to cetrorelix. While Trp-1 has a more effective inhibition when PTEN was knocked down which may be caused by activating GnRHR-?and AKT activity inhibition.

IGCSM-0930
Poster Shift III - Uterine Cancer including Sarcoma

INCORPORATING HE4 AND CA125 INTO AN ENDOMETRIAL CANCER SURGICAL REFERRAL ALGORITHM

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Aims

Outcomes for patients with high risk endometrial cancer (EC) are improved when cared for by gynecologic oncologists. Our aim was to identify predictors of risk in newly-diagnosed EC patients for the purposes of preoperative triage.

Methods

200 consecutive surgically-treated EC patients were identified. HE4 (Fujirebio Diagnostics, Inc) and CA125 were measured from stored preoperative serum. Logistic regression was used to develop predictive models for: I) deep myometrial invasion [(DMI); ≥50%] and II) need for specialized treatment [(NST); defined as stage III-IV; type II histology; grade 3; any grade with DMI]. The threshold for positive test was selected to give ≥90% sensitivity.

Results

In multivariable analyses considering age, ln(BMI), grade (1/2 vs. 3), $\log_2$(HE4), and CA125>35U/mL, HE4 and CA125 were significantly associated with DMI [area under the curve (AUC) 0.79] and HE4, CA125 and BMI were significantly associated with NST (AUC 0.83). For DMI, the combination of CA125>35U/mL and/or HE4>111pM yielded 92.1% sensitivity (35/38) and 50.0% specificity (81/162). The odds of DMI among patients with positive test were 11.7 times higher compared to patients with negative test (95% CI 3.4-39.5, P<0.001). Using the positive test rule for DMI, the hypothetical referral rate (RR) was 58% (116/200); the negative predictive value (NPV) was 96.4% (81/84). For NST, the combination of the 3 factors yielded a test with 90% sensitivity (63/70) and 49.2% specificity (64/130) [OR 8.7, 95% CI 3.7-20.5, P<0.001; RR 64.5% (129/200); NPV 90.1% (129/200)].

Conclusion

Our algorithm may identify newly-diagnosed EC patients most likely to benefit from referral to gynecologic oncologists.

IGCSM-0944
Poster Shift III - Uterine Cancer including Sarcoma

TOTAL LAPAROSCOPIC HISTERECTOMY WITH UTERINE MANIPULATION IN THE MANAGEMENT OF ENDOMETRIAL CANCER

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Aims

To evaluate the safety of Uterine Manipulation performing Total Laparoscopic Hysterectomy in early stage endometrial cancer.

Methods

We retrospectively reviewed medical records of patients with early endometrial cancer treated between July 2009 and December 2013 with TLH with intra-uterine manipulator (HOHL).

Results

A total of 102 patients underwent TLH for early endometrial cancer. All the procedures were performed with standard bipolar forceps; systematic pelvic +/- aortic lymphadenectomy was performed in 34 % of the patients.The median age at diagnosis was 64 years (range 37-86) and the median BMI was 30 (range 19-51). We didn't observe laparotomy conversion. The median time to discharge was three days (range 1-14). FIGO stage was IA in 71 pts (69 %) ; IB in 18 ; II in 8 ; IIIA , IIIB, IIIC1 one pt each . Histotype was endometrioid in 97 cases , serous in 4, mixed in 2. Adjvant treatment was performed in 19 pts (18,6 %): brachytherapy in13, associated to external-beam radiation-therapy in 2; chemotherapy in one; chemo-radiation in five. Median follow-up time was 22 months (range 6-54) and 5 patients had a recurrence. One patient , IA G2, had an isolated vaginal relapse at 11 months, actually NED after brachytherapy. Distant metastases were observed in 4 cases , 2 had serous cancer; one pelvic relapse occurred in IAG3 pt .

Conclusion

Use of uterine manipulator may predispose the spread of early-stage endometrial disease. Our data don't suggest an increased rate of metastasis.

IGCSM-0946
Poster Shift III - Uterine Cancer including Sarcoma

GENOME-WIDE COPY NUMBER ANALYSIS AND MUTATIONAL PROFILING PROVIDES EVIDENCE OF INTRATUMORAL HETEROGENEITY IN ENDOMETRIAL CANCERS

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Aims

Intratumoral heterogeneity (ITH) has been described in numerous solid tumors. Many studies have performed mutational profiling of endometrial cancers (EC) with the evaluation of single tissue samples at single time points. We undertook genomic interrogation of multiple tumor samples from the same individual across anatomic space and time in a cohort of women with EC.

Methods

Multiple tumor samplings were obtained in eight women with serous and endometrioid EC who had fresh frozen tissue, normal buffy coat and plasma available. One multisite recurrent sample was compared to primary FFPE hysterectomy specimens. Sequencing was performed for mutational profiling using exome sequencing (2 cases) and an Illumina custom TruSeq panel (26 genes) for all cases. The Affymetrix SNP6.0 chips were used for for copy number analysis(CNA).

Results

In each case, we identified the presence of an ancestral block of mutations found in most or all tumour samples, along with other mutations present in only one or a fraction of samples. Some mutations, including driver mutations, show differing frequencies in the multiple samplings within the same tumour. Genome-wide CNA revealed large variation between adjacent specimens of the endometrium. An example of predicted somatic mutations (>5% allelic frequency) from targeted sequencing(MiSeq) of regions amplified by IlluminaTruSeq panel across samples in a stageIIIC gr3 endometrioid EC is given below.

Conclusion

Endometrial cancers demonstrate characteristics of ITH by copy number analysis and mutational profiling. This diversity may be partially responsible for treatment failure in some endometrial tumor subtypes. Clinical trials, including those involving molecular targeted therapy must acknowledge this in trial design and interpretation.

IGCSM-0948
Poster Shift III - Uterine Cancer including Sarcoma

CA-19.9 COULD PREDICT BOTH ADVANCED STAGE DISEASE AND NODAL INVOLVEMENT IN MUCINOUS ENDOMETRIAL CANCER

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Aims
Mucinous endometrial cancer is a rare pathology. Our aim is to evaluate and find predictive factors for advanced stage disease and nodal involvement.
Methods

A total of 16 pure mucinous endometrial carcinoma patients operated between 2006 and 2013 at the Gynecologic Oncology Department of Zekai Tahir Burak Women's Health Education and Research Hospital were evaluated retrospectively.

Results

We analysed patients as stage 1A and over stage 1A (advanced stage) according to FIGO 2009 staging system. 12 patients were stage 1A whereas 4 patients were over stage 1A. Mean age of patients was similar with a median of 60 years. Lymph node metastasis and lympho-vascular space invasion (LVSI) were significantly positive in over stage 1A group (p=0.011, p=0.01 respectively). However tumor size, age, CEA and BMI were not different. CA-125 and CA-19.9 levels were elevated significantly in advanced stage disease (p=0.021, p=0.039 respectively). We also find CA-19.9 significantly elevated (p=0.026) in lymph node metastasis group. CA-125, parity, menopausal status, BMI, tumor size and grade (neither of nodal involvement group was grade 1) were not significant for lymph node metastasis.

Conclusion
Endometrial cancers generally have a favorable outcome however lymph node metastasis make patients upstaged. Predicting nodal involvement preoperatively is challenging. Nevertheless CA-19.9 levels could indicate both advanced stage disease and nodal involvement in mucinous endometrial cancers.

IGCSM-0952
Poster Shift III - Uterine Cancer including Sarcoma

RETROSPECTIVE EVALUATION OF UTERINE SEROUS TUMORS ARISING FROM A POLYP

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Aims

Uterine serous tumors are rarely seen and behave aggressively. Our aim is to evaluate uterine serous tumors arising from a polyp.

Methods

Clinicopathological data of patients with uterine serous cancer arising from a polyp at the Gynecologic Oncology Department of Zekai Tahir Burak Women's Health Education and Research Hospital were reviewed retrospectively.

Results

A total of 9 patients were reviewed. We analysed patients according to FIGO 2009 staging system as stage 1A and over stage 1A. 3 patients were stage 1A, 6 patients were over stage 1A. All the patients were postmenopausal. Mean CA-125, CA-19.9 and CA15.3 levels were elevated in over stage 1A group. However we did not find a statistical difference between age, parity, polyp size, CA-125, CA-15.3, CA-19.9 and CEA levels. Although myometrial invasion was not significantly different between groups, lympho-vascular space invasion (LVSI) was showing predictivity for advanced stage disease (p=0.025). Although all the polyps larger than 1cm were over stage 1A; when we analyse polyp size as 1cm or bigger, we could not find a statistical significance for stages.

Conclusion

The histopathologic nature of uterine serous carcinoma is a unique entity that is different from endometrioid carcinoma. The carcinogenesis pathway of serous tumors also directs the management of uterine serous tumors. Myometrial invasion is not characteristic for extrauterine disease nevertheless LVSI is important for advanced stage.

IGCSM-0954
Poster Shift III - Uterine Cancer including Sarcoma

A CASE REPORT OF UTERINE TUMOUR RESEMBLING OVARIAN SEX CORD TUMOUR

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Aims

Uterine tumours resembling ovarian sex cord tumours (UTROSCT) are rare. Less than one hundred cases have been reported. Most patients are perimenopausal, presenting with abnormal uterine bleeding and enlarged uterus. Diagnosis is made on histopathological examination and immunohistochemistry.

Methods

A 53 year-old woman presented with post-menopausal bleeding. Imaging indicated multiple uterine fibroids. Trans-cervical resection of submucous fibroid and endometrial biopsy was performed at hysteroscopy.

Histology showed a sex cord tumour consistent with a uterine primary. CT / MRI confirmed multi-fibroid uterus with normal adnexae and no distant metastases.

A staging laparotomy including hysterectomy, salpingo-oophorectomy and lymphadenectomy was performed.

Results

A 42x35x46mm infiltrating endomyometrial tumour showed pleomorphic epithelioid cells with low mitotic count, eosinophilic cytoplasm, trabecular and pseudoglandular formations. There was diffuse positive staining with AE 1/3, ER, desmin, SMA, CD56, but CK7 was negative. There was focal staining with inhibin, calretinin and SF1. This coexpression of epitheliod, muscle, sex cord markers and hormone receptors confirmed a sex cord stromal tumour, and negative histology of ovaries and other specimens confirms uterine primary (UTROSCT).

UTROSCT High power

Conclusion

Discussion: UTROSCT are unique group of uterine neoplasms of low malignant potential. Late distant recurrent disease has been reported. Definitive treatment involves hysterectomy and BSO, but fertility-sparing local resection has been reported. Immunohistochemistry can confirm the uterine origin of UTROSCT. Surveillance is advised for 10-15 years to exclude late presentation of occult metastases.

IGCSM-0955
Poster Shift III - Uterine Cancer including Sarcoma

LYMPHO-VASCULAR SPACE INVASION IN ENDOMETRIAL CARCINOMA WITH MUCINOUS COMPONENT

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Aims

Mucinous endometrial carcinoma is an uncommon histopathologic variant of endometrial adenocarcinoma. Since it has some different histologic features, lympho-vascular space invasion (LVSI) in endometrial cancers with mucinous component should be reviewed.

Methods

Medical data of 47 patients operated between 2007 and 2013 at the Gynecologic Oncology Department of Zekai Tahir Burak Women's Health Education and Research Hospital were evaluated. While 31 patients were having mucinous and endometrioid subtype, 16 patients were having only mucinous subtype.

Results

Of the total 47 endometrial carcinoma patients with mucinous component 35 patients were without LVSI and 12 patients were having LVSI. Median age of patients was 57. Age, body mass index and parity were not meaningful between groups whereas larger tumor size (≥2cm) ($p=0.04$), elevated CA-125 ($p=0.010$) and CA-15.3 ($p=0.017$) levels were significant for LVSI. We also found >1/2 myometrial invasion ($p<0.001$), cervical stromal involvement ($p=0.002$) and grade ($p=0.001$) significant for LVSI. However malignant abdominal cytology was not predictive for LVSI ($p=0.255$). In multivariate analysis we found only grade as an independent indicator of LVSI ($p=0.04$).

Conclusion

Endometrial adenocarcinomas are generally good in tumor behaviour and LVSI is an important determinant of prognosis. Although myometrial invasion, cervical stromal invasion, grade, tumor size, CA-125 and CA-15.3 was found significant in univariate analysis; grade was the independent risk factor for LVSI in multivariate analysis.

IGCSM-0958
Poster Shift III - Uterine Cancer including Sarcoma

WHICH STRATEGY FOR THE GYNAECOLOGICAL SCREENING IN LYNCH SYNDROME? A RETROSPECTIVE COMPARISON OF CLINICAL EXAMINATION, TRANSVAGINAL ULTRASOUND, AND DIAGNOSTIC HYSTEROSCOPY.

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Aims
To describe the gynaecological screening of a cohort of women with Lynch Syndrome (LS).
Methods
Retrospective study of consecutive patients with LS followed from August 1998 to May 2014 in our institution. The annual gynaecological screening included clinical examination (CE), endometrial biopsy (EB), transvaginal ultrasonography (TVUS), and/or diagnostic hysteroscopy (DH) from the age of 30 years. Patients with history of hysterectomy or refusing the gynaecological screening were not included.
Results
157 LS women underwent 504 screenings corresponding to 504 CE (in average 3 consultations per patient), 380 EB, 410 TVUS and 381 DH. Failure rates were 2.4% for CE, 0% for TVUS and 10.5% for DH. No complications had been notified. Median follow-up was 56 months. Endometrial cancers (EC) occurred in 6 cases and atypical hyperplasia (AH) in 0 case. 2 patients presented abnormal bleeding at the time or during the interval of the follow up. 2 were asymptomatic at the time of their diagnosis on an annual screening. The first patient had a benign endometrial biopsy with microarray instability leading to an operative hysteroscopy which diagnosed EC. The second case was observed on an endometrial biopsy. Two cases corresponded to a 5 years disrupted follow-up, and were diagnosed on post-menopausal bleeding. Gynaecological screening lead to 75 operative hysteroscopies, 2 hysterectomies and 31 prophylactic surgeries.
Conclusion

In our study, CE, TVUS and/or DH lead to a gynaecological screening of 6 cases of endometrial cancer without any complication. Clinical examination should be associated to TVUS or DH.

IGCSM-0959
Poster Shift III - Uterine Cancer including Sarcoma

UTERINE SEROUS TUMORS; ROLE OF LVSI AND PREDICTING NODAL METASTASIS

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Aims

Uterine serous tumors are high grade cancers with an aggressive nature. These tumors have a significant risk for lymph node metastasis and extrapelvic dissemination. Our aim is to identify the role of lympho-vascular space invasion (LVSI) for these tumors and find the associated markers for nodal metastasis.

Methods

A total of 29 endometrial cancer patients with serous histologic type who were operated at the Gynecologic Oncology Department of Zekai Tahir Burak Women's Health Education and Research Hospital between 2008 and 2013 were retrospectively evaluated. Endometrioid pattern and clear cell pattern were accompanying 7 and 8 serous cell tumors respectively.

Results

We grouped patients by LVSI; while 14 patients were without LVSI, 15 patients were with LVSI. All the patients were postmenopausal. We found no difference in age, parity, tumor size, CA-125, CA-19.9 and CEA levels. However CA-15.3 was significantly associated with LVSI (p=0.036). While >1/2 myometrial invasion (p=0.001) was associated with LVSI, we found malignant cytology as non-significant for LVSI. Moreover patients with LVSI were totally over stage 1A especially stage 3 or 4 (p=<0.001). On the other hand we found malignant cytology (p=0.16), high CA-125 (p=0.039)- CA-15.3 (p=0.010) levels and LVSI (p=0.003) correlated with lymph node metastasis, however myometrial invasion over 1/2 was not predictive for lymp node metastasis (p=0.114).

Conclusion

Role of LVSI for uterine serous tumors is outstanding. Nearly all patients with LVSI have an advanced stage disease or lymph node metastasis.

IGCSM-0963
Poster Shift III - Uterine Cancer including Sarcoma

THE ROLE OF NEUTROPHIL TO LYMPHOCYTE AND PLATELET TO LYMPHOCYTE RATIOS IN PATIENTS WITH ATYPIC COMPLEX HYPERPLASIA AND ENDOMETRIAL CANCER: A PRELIMINARY REPORT

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Aims

Neutrophil-to-lymphocyte (N/L) and platelet-to-lymphocyte ratio (P/L) are known to indicate systemic inflammatory response against various cancer types. We aimed to investigate the role of N/L and P/L ratios in patients with a diagnosed endometrial pathology.

Methods

A total of 467 patients with complex atypical endometrial hyperplasia (n: 26), endometrial cancer (n: 298) and controls (n: 143) were included in this retrospective study. CA 125 values, white blood cell (WBC), neutrophil (N), lymphocyte (L), platelet (P) counts and hemoglobin (Hg) levels were reviewed. Also neutrophil-to-lymphocyte (N/L) and platelet-to-lymphocyte ratios (P/L) were calculated.

Results

Endometrioid adenocarcinoma was the leading histologic type in patients with endometrial cancer. 61.1% of patients with cancer had stage IA disease. There were no statistical differences in the L, P counts and Hg values between the groups. Also the P/L ratios and CA 125 values were not statistically different. However, there were significant differences in the WBC and N counts and N/L ratio between the control and endometrial carcinoma groups ($p<0.05$) with levels significantly lower in the control group than the endometrial cancer.

Conclusion

The host immune reaction is important in the cancer propagation. N/L ratio may serve as a potential bio-marker of the cancer-associated inflammatory response in patients with endometrial adenocarcinoma. However, the actual predictive potential of inflammatory responses in the discrimination between the atypical complex hyperplasia and endometrial adenocarcinoma still needs further trials.

IGCSM-0973
Poster Shift III - Uterine Cancer including Sarcoma

A DISTINCT ENTITY, COTYLEDONOID MYOMA; DILEMMA OF GYNECOLOGIST; A CASE REPORT

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Aims

Leiomyomas are benign uterine tumors and they are the most common tumor of female genital tract. The rare type “cotyledonoid myoma” has a dissecting nature towards the myometrium and has a reddish, exophytic, placenta like gross appearance with its usual extention into the pelvic cavity.

Methods

A 46 year-old woman admitted to an outside hospital with menometrorrhagia and she was operated there for pelvic mass. They could not have resected the total mass and had performed a supracervical hysterectomy. Then she was referred to our hospital. We performed an abdominal computed tomography; a 25x18x15 cm solid-cystic not well circumsribed contrast filled mass, compressing rectum and bladder was observed. We performed laparotomy; a gross, multinodular, thick, irregular bordered mass, originating from the cervix lying towards the douglas posteriorly and extending to the real pelvis superiorly was detected. Although the mass gave an impression of a sarcoma at first sight; the frozen section result defined the mass as benign smooth muscle tumor. The mass was resected totally and the final pathology result revealed cotyledonoid myoma.

Results

Cotyledonoid myoma has a benign histologic nature without atypia and coagulative necrosis however its preoperative sonographic view may mimic a malignant mass. The tumor shape a solid mass at the pelvic cavity and lie towards the adjacent organs.

Conclusion

Cotyledonoid myomas do not recur in this characteristics nevertheless in a condition of incomplete resection the tumor may undergo further growth.

IGCSM-0982
Poster Shift III - Uterine Cancer including Sarcoma

PROGNOSTIC SIGNIFICANCE OF L1 CELL ADHESION MOLECULE (L1CAM) IN CERVICAL SQUAMOUS CELL CARCINOMAS

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Aims

The L1 cell adhesion molecule (L1CAM) is an major driver of tumour cell migration and its expression is correlated to poor clinical outcome in many tumour types, however data on cervical cancer is lacking. We aimed to assess whether L1CAM is expressed in squamous cell carcinomas of the cervix, and whether it is associated to lymph node status and survival in women with cervical squamous cell cancer (SCC).

Methods

L1CAM expression was investigated by immunohistochemistry in 136 tumour samples of patients with cervical SCC prospectively collected from 2006-2011 at the UMC Leiden. After CD171 immunohistochemical staining the samples were scored in percentages of L1CAM positivity (membranous staining) in steps of 10% by two investigators blinded for clinical outcome data. L1CAM expression was correlated (Kaplan Meier and Cox-regression) with lymph node state and survival.

Results

Of 136 tumours, 18,4% (25) were rated L1CAM-positive. Cox regression analysis showed L1CAM positivity as an independent prognostic factor for decreased survival (p=0.03).
Figure 1: Cox regression overall survival L1CAM positive versus negatieve (covariates: age, tumour size, depth of infiltration, presence of lymphnode metastasis), p=0.03.

Conclusion

L1CAM is an independent prognostic factor for survival in women with SCC of the cervix. Our results warrant further investigation into this promising marker. Validation of this work in an independent set will be presented at the meeting.

IGCSM-0984
Poster Shift III - Uterine Cancer including Sarcoma

RACIAL DIFFERENCES IN POPULATION AND TUMOUR CHARACTERISTICS IN ENDOMETRIAL CANCER

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Aims

Leicester City has the highest incidence of uterine cancer in England with an age standardized incidence rate of 29.2/100,000 (95% CI 24.1-35.0) compared 19.9/100,000 (95% CI 19.3-19.9) for England as a whole.

Methods

A retrospective review of all endometrial cancer cases diagnosed in Leicestershire between 2003-2013. Data collected included age and stage at diagnosis, histological subtype, body mass index (BMI), ethnicity and survival.

Results

In total, 991 patients were identified. The median age at diagnosis was 66 years with a range from 28-99 years. One hundred and twenty six (12.7%) women were of non-White British ethnicity, with women from South Asia (India/Pakistan/Bangladesh) (SA) being the largest group (10.6%). Ethnic differences were significant even after adjusting for age and BMI. Women of African/AfroCaribbean (AA) ethnicity were more likely to be diagnosed with a Type II cancer as compared to the other racial groups, 28.6% versus 8.7% for White British (WB) and 12.4% for SA ethnicity. AA ethnicity was also associated with advanced stage at presentation, 57.2% were stage II+ at diagnosis compared to 15.8% for WB and 16.2% for SA ethnicity. SA women developed their cancers at a significantly younger age than the WB population, median age 59 years versus 67 years, and this finding was seen in both Type I and Type II tumours.

Conclusion

Racial differences occur in both the patient and tumour characteristics of endometrial cancer. Further research is needed to identify potential causes for these differences since they do not appear to be explained by lifestyle or access to medical care alone.

IGCSM-0985
Poster Shift III - Uterine Cancer including Sarcoma

ENDOMETRIAL CANCER: IMPACT OF OBESITY ON FEASABILITY AND MORBIDITY OF SURGERY

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Aims
Obesity increases the risk of endometrial cancer. We report on a study on the impact of obesity on the choice of surgical approach, morbidity of surgery and survival.
Methods
Three groups of non obese (BMI <30), obese (30<BMI≤ 40) and morbidly obese (BMI>40) patients with endometrial cancer have been created, Patients and tumor characteristics, surgical procedures and their outcomes have been retrospectively reviewed for this analysis.
Results

From 1997 to 2013, 292 patients were enrolled (145 were non obese and 147 obese and 42 morbidly obese). Compared to non-obese patients, morbidly obese patients were younger (58 vs 64 years old; p=0,001), had preferentially a type 1 (95% vs79%, p=0,01), grade 1 (61% vs 31% p=0,001) at FIGO stage 1 (93% vs 72% p=0,02) tumor. Surgery was performed by laparoscopy in 66 to 78 % of cases. Laparo-conversion rate increased with BMI (5 % vs 12 % in obese, and 19 % in morbidly obese, p=0,006). According to guidelines, surgery was more often incomplete in obese pts (32 vs 21% (p=0.04). There was no significant difference between the groups in lengh of stay, operative time and perioperative complications. However, obese women had more complications in the first 30 postoperative days (54% vs 9%; p=0.001). No difference in overall (OS) and disease free survivals (DFS) was observed between the groups.

Conclusion

Laparoscopic surgery is feasible in obese or morbidly obese women to manage endometrial cancer with no significant increase in morbidity nor detrimental effect on survival.

IGCSM-1014
Poster Shift III - Uterine Cancer including Sarcoma

A SINGLE INSTITUTION REVIEW OF UTERINE SARCOMA

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Aims

Uterine sarcomas are rare tumours accounting for less than 10 per cent of uterine malignancies and less than 8 per cent of all soft tissue sarcoma. These tumours, however, have high risk of recurrence, rapid progression and poor prognosis. The aim of our study is to examine the clinical behaviour and outcomes of different types of uterine sarcomas in our unit.

Methods

We performed a retrospective case search of 'uterine sarcoma' in a tertiary referral centre. The age, symptoms of patients at presentation, findings on imaging and surgery, stage, grade of disease and adjuvant treatment offered was recorded. The time from diagnosis to remission/relapse was noted in months.

Results

Since 2006, our oncology database had 53 recorded cases of uterine sarcomas (Figure 1). Two cases were excluded as charts were not available. The median age at presentation was 57 years. The patients were reviewed in groups based on different histological subtypes and stage of disease. (Figure 2). The recurrence rate for ESS, LMS, MMMT was 33, 56, and 27 per cent respectively.

Conclusion

The clinical behaviour of various histological subtypes is different and should be taken into account when planning treatment. MMMT has higher association with nodal metastasis and recent evidence favours its treatment as high-grade endometrial carcinomas, with adjuvant chemotherapy, as was offered to five out of 11 cases in our cohort.

IGCSM-1023
Poster Shift III - Uterine Cancer including Sarcoma

SENTINEL NODE MAPPING IN UTERINE CARCINOSARCOMA

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Aims

Uterine carcinosarcoma (UCS) has unfavorable prognosis even in early stage disease. Retrospective studies have shown that lymphadenectomy is associated with improved survival. The removal of undetected disease in node-negative patients may have explained these findings. Sentinel lymph node (SLN) technique combined with pathological ultra-staging has been shown to increase the detection of small volume metastasis. This study aims to evaluate the use of SLN in UCS.

Methods

Patients who were surgically staged for UCS were identified through a prospectively collected institutional database (2010-2013). Technetium-99 and/or Patent-Blue were used for SLN. Fisher-Exact and Mann-Whitney-U tests were calculated.

Results

We identified 49 UCS patients. Lymph node metastases (LNM) were found in 26.5% (13/49). Pre-operative CA125 values (p=0.009) and LVSI (p=0.01) were associated with LNM, with a trend for deep myometrial invasion (p=0.08). SLN mapping was performed in 16 patients prior to lymphadenectomy. In one patient no sentinel node could be detected. LNM was found in 5/15 (33.3%) patients, including 2 patients in whom only isolated tumor cells (ITC) were detected. In the remaining 10 patients no LNM were found. Small volume metastatic disease was detected more frequently (2/15) in patients in whom SLN was performed successfully (borderline significance p=0.08) compared to lymphadenectomy without SLN (0/33).

Conclusion

SLN mapping and ultrastaging appears to detect small volume LNM more frequently than lymphadenectomy without SLN in UCS. Although current FIGO-staging does not allow upstaging of patients with ITC only, additional data and longer follow up may help determine if these patients have different prognosis.

IGCSM-1024
Poster Shift III - Uterine Cancer including Sarcoma

SIZE OF SENTINEL-NODE (SLN) METASTASIS AND PROBABILITY OF NON-SENTINEL-NODE INVOLVEMENT IN ENDOMETRIAL CARCINOMA

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Aims

SLN biopsy alone can accurately diagnose lymph-node involvement, and adjuvant therapy can therefore be planned without the need for complete pelvic lymphadenectomy in endometrial cancer. However, since retrospective studies have shown that lymphadenectomy is associated with improved survival, the removal of metastasis in non-SLN can be valuable. The objective of our study was to determine if the size of the SLN metastasis and other uterine factors can predict the risk for non-SLN metastasis.

Methods

We reviewed all patients who underwent primary surgery for endometrial carcinoma with lymphadenectomy and SLN mapping (2010–2013). SLNs were ultrastaged on final pathology. Chi-square tests was calculated.

Results

A total of 269 patients were included in the study. Sensitivity and NPV of SLN was respectively 97.3% and 99.4%. SLN metastases were found in 43 patients. Non-SLN node metastases were found in 19 patients. Positive SLN metastasis, outer-half myometrial invasion, grade, cervical involvement and lymphovascular involvement were predictive of non-SLN metastasis ($p<0.001$). The proportion of patients with non-SLN metastases increased with size of SLN metastasis: only one of 19 patients (5.2%) with a 2 mm or smaller metastasis in SLN had a non-SLN metastasis, whereas 14 of 24 patients (58.3%) with larger than 2 mm metastasis in SLN had a non-SLN metastasis ($p<0.001$).

Conclusion

Our data show that the risk of non-sentinel-node metastases increases with size of sentinel-node metastasis. 2 mm seems to be a size cut-off above which the risks of non-sentinel-node metastases are significantly higher and therefore complete lymphadenectomy may be valuable.

IGCSM-1027
Poster Shift III - Uterine Cancer including Sarcoma

LYMPHOVASCULAR SPACE INVASION (LVSI) AS A RISK FACTOR FOR NODAL AND EXTRA-UTERINE DISEASE IN PURE UTERINE PAPILLARY SEROUS CARCINOMA (UPSC)

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Aims
UPSC is an aggressive histologic subtype of endometrial cancer that has distinct clinical and pathologic characteristics and accounts for a disproportionate number of recurrences and deaths. Unlike typical endometrioid carcinoma, patients with UPSC frequently present with extra-uterine disease. There are controversies surrounding the patterns of tumor spread and the significance of local uterine factors.
Methods

We retrospectively reviewed 45 patients with pure UPSC who underwent complete surgical staging at our institution between 2005 and 2013. Fisher Exact Tests and Mann-Whitney U tests were calculated.

Results
Patients with clinical stage I were upstaged in 29% (11/39) by complete surgical staging (2 IIIA; 6 IIIC1; 1 IIIC2; 2 IVB). Overall, extra-uterine disease was present in 37 % of patients (17/45). Site of extra-uterine disease was respectively pelvic or para-aortic lymph nodes (12/17), omentum (6/17), ovary (5/17) and peritoneal carcinomatosis (3/17). LVSI was the most predictive factor for lymph node metastasis (p=0.0004) and extra-uterine disease (p=0.0002). Tumour size did not show any association with metastatic spread. Cervical stromal invasion (p=0.04) and deep myometrial invasion (p=0.04) were associated with increased risk for nodal metastasis and were of borderline significance for extra-uterine disease (p=0.06 and p=0.07 respectively).
Conclusion

In this study, the presence of LVSI appears to be more relevant than other uterine factors for predicting nodal and extra-uterine disease in UPSC.

IGCSM-1040
Poster Shift III - Uterine Cancer including Sarcoma

UTERINE MALIGNANT MIXED MULLERIAN TUMOR – THE POSSIBLE ROLE OF TAMOXIFEN

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Aims

To investigate the possible role of prolonged Tamoxifen (TAM) use in the development of uterine malignant mixed Mullerian tumor (MMMT).

Methods

All the cases of MMMT treated at the Clinic for Obstetrics and Gynecology from 2010 to 2013 were retrospectively identified, and the subgroup of patients previously treated with TAM separately analyzed.

Results

Out of eighteen patients diagnosed with uterine MMMT, four (22.2%) had been previously treated with adjuvant TAM for breast cancer. The average duration of TAM treatment was 6 years (range 5-9 years).

Vaginal bleeding was the main complaint in three patients and prompted dilation and curettage. One patient exhibited no signs of bleeding or endometrial hyperplasia and was admitted for total uterine prolapse.

Three out of four patients were diagnosed with uterine MMMT while on TAM treatment; the fourth developed MMMT four years after cessation of TAM.

Two patients were treated with abdominal hysterectomy, bilateral salpingoophorectomy and pelvic lymphadnectomy and subsequent adjuvant therapy; the patient with uterine prolapse underwent vaginal hysterectomy with bilateral salpingoophorectomy. One patient was diagnosed with pulmonary metastasis, and due to worsening overall condition received no specific treatment.

Patient’s age, stage of the disease, histologic characteristics and follow-up data are presented in the Table.

Conclusion

Patients on prolonged adjuvant TAM treatment for breast cancer are at increased risk for the development of uterine MMMT, and close gynecologic follow-up of these patients is therefore required.

IGCSM-1043
Poster Shift III - Uterine Cancer including Sarcoma

RESULTS OF COMBINED TREATMENT OF PATIENTS WITH ENDOMETRIAL STROMAL SARCOMA

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Aims
is a retrospective study of treatment results of patients with endometrial stromal sarcoma.
Methods

There was performed a data analysis of 33 patients with diagnosis of ESS. The age of patients ranged from 31 to 71 years old, median - 52.0 years, mean age - 51,6±1,7 years. All the patients were performed a comprehensive treatment - surgery, radiation therapy and 3 cycles of chemotherapy.

Results

Analysis of the different stages occurrence in our study showed that patients with initial stages of ESS I (T1NxM0) and II (T2NxM0) were 11 ((33,3 ± 0,8) %) and 11 ((33,3 ± 0,8)%). There were 6 patients ((18,2 ± 0,7) %) with disease stage III (T3NxM0), and 5 patients ((15,2 ± 0,6)%) with stage IV (T1-3NxM1).

At follow-up in 45.5 % patients there was revealed disease manifestation: in 33.3 % of patients it was a loco-regional tumor recurrence, in 66.7 % - distant metastases. Localization of metastases was observed in hepar, lungs, bones and paraaortic lymphatic nodes, and there was also synchronous lesions. The 5-year survival rate in patients with stage T1NxM0, T2NxM0, T3NxM0 was 90.9 , 45.5 and 16.7 %, respectively.

Conclusion

ESS is an aggressive tumor, which appeared almost in 50 % of patients. In these patients there were revealed both locally and distant recurrence, which requires further development of schemes of antiblastome therapy.

IGCSM-1056
Poster Shift III - Uterine Cancer including Sarcoma

OVARIAN PRESERVATION IN YOUNG WOMEN WITH ENDOMETRIAL CANCER: A DEBATE NO LONGER JUSTIFIED

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Aims

The standard management for women diagnosed with endometrial cancer is hysterectomy and bilateral salpingo-oopherectomy, however the impact of estrogen deprivation in premenopause women is an object of concern. The aim of this article is to review the safety of ovarian preservation en premenopause women.

Methods

We performed a systematic review of the English Language literature on ovarian preservation in young women with endometrial cancer. The MEDLINE, EMBASE, CLINICAL KEY, CINAHL, PUBMED databases were searched during the period of 1995 through 2013.

Results

A total of 939 patients were included in our analysis. The age of the patients included in this review ranged from 23 to 45. A total of 908 (98.8%) patients had stage I disease. The median follow-up was 123 months (range 1-278 months). Only 9% (n=85) had undergone unilateral oophorectomy versus 91% (n=854) who had both ovaries preserved, the data evaluated provided a 1.1 % (n=11) of patients had recurred, but only 1 patient recurred in both ovaries. There were 10 deaths, five associated with disease recurrence and 6 non-disease related causes.

Conclusion

Ovarian preservation in patients with endometrial cancer is not associated with primary ovarian cancer nor recurrent endometrial cancer to the residual ovary.

IGCSM-1065
Poster Shift III - Uterine Cancer including Sarcoma

INCREASED RISK OF COLORECTAL AND BREAST CANCER AFTER DIAGNOSIS OF ENDOMETRIAL CANCER:30-YEAR POPULATION-BASED REGISTRY IN TAIWAN

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Aims
To investigate the risk of second primary malignancies (SPM) among endometrial cancer (EC) survivors.
Methods
Data on women diagnosed with uterine cancer between 1979 and 2008 were obtained from the Taiwan cancer registry.Each subject diagnosed with EC as her first cancer were enrolled. Supercontrol data were used as control group instead of standardized incidence ratios. All subjects were followed up to the date of diagnosis of second primary malignancies, death, or study end point (December 31, 2012). Competing-risk proportional hazards models were used to compare the SPM incidence rates with supercontrol group.
Results

Records of 10,213 women with UC and 295,847 women as supercontrol group were analyzed. Median follow-up was 5.4 years. The risk of SPM was significantly increased for colon (OR = 7.13; 99% confidence interval [CI], 5.42–9.19), and breast (OR = 5.56; CI, 3.72–7.98) cancer. Among patients with colon cancer, the incidence of right-side colon cancer was significantly higher than the supercontrol group. (OR = 2.14, $p<0.01$).

Conclusion

Our study suggests women with EC are at increased risk of colon and breast cancer. Risk of right-sided colon cancer is also increased.

IGCSM-1098
Poster Shift III - Uterine Cancer including Sarcoma

TUMOR-INFILTRATING T LYMPHOCYTES AS PATHOLOGIC PROGNOSTIC FACTORS IN ENDOMETRIAL ADENOCARCINOMA

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Aims

The aim of this study was to determine the distribution of T lymphocytes and their relationship with clinicopathologic factors in endometrial carcinoma.

Methods

Samples were collected from 89 patients with endometrial endometrioid adenocarcinoma treated in Pusan National University Hospital from 2004 to 2011. Normal endometrial tissues were obtained from 30 hysterectomized women with benign adnexal masses and served as controls. Paraffin-embedded sections were immunohistochemically stained for CD8 (cytotoxic) and CD4 (helper) T lymphocytes. The relationship of these cells with stage, histological grade, myometrial invasion, and lymph node metastasis was analyzed.

Results

The proportion of CD8+ and CD4+ lymphocytes in the endometrial endometrioid adenocarcinoma tissues was 67.4% (60/89) and 44.9% (40/89), respectively, which was significantly higher ($P < 0.05$) than in the control group. The extent of CD8+ lymphocyte expression was negatively correlated with histologic grade, myometrial invasion, and lymph node metastasis. The proportion of infiltration of the CD4+ lymphocytes was negatively correlated with histologic grade and myometrial invasion.

Conclusion

The high rate of infiltration of T lymphocytes was negatively correlated with histologic grade, myometrial invasion, and lymph node metastasis. Our findings suggest that tumor-infiltrating T lymphocytes may be used as pathologic prognostic factors in endometrial carcinoma.

IGCSM-1139
Poster Shift III - Uterine Cancer including Sarcoma

ENDOMETRIOID ENDOMETRIAL CARCINOMA WITH LYMPH NODE METASTASIS TREATED WITH ADJUVANT PACLITAXEL/CARBOPLATIN CHEMOTHERAPY

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Aims
To assess the clinical outcome of node-positive endometrioid endometrial carcinoma patients treated with adjuvant paclitaxel/carboplatin chemotherapy and identify prognostic factors in these patients.
Methods

Patients with endometrioid endometrial adenocarcinoma with pelvic and/or paraaortic lymph node metastasis who underwent surgical staging including lymphadenectomy and received adjuvant paclitaxel/carboplatin chemotherapy between April 2001 and February 2014 were retrospectively reviewed. Patients who received adjuvant radiotherapy and patients with synchronous ovarian carcinoma were excluded.

Results

Seventeen patients were identified. The median age was 54 years (range, 41-73 years). Twelve patients had stage IIIC1 disease and five patients had stage IIIC2 disease. Four patients had both pelvic and paraaortic node metastasis. The numbers of patients with grade 1, 2, and 3 tumor were 4, 8, and 5, respectively. The numbers of women with 1, 2-3, 4-5, >6 positive nodes were 10, 2, 2, and 3, respectively. Recurrence developed in 3 patients (IIIC2 G2, IIIC2 G1, and IIIC1 G3). Two patients who developed recurrences in distant sites (the liver in one, and multiple sites in the other patient) died of disease, but one patient who developed isolated vaginal cuff recurrence was salvaged with radiotherapy. Five-year disease-specific survival rates of stage IIIC1 and IIIC2 patients were 91% and 80%, respectively, and those of women with 1-3 and >4 positive nodes were 100% and 60%, respectively.

Conclusion

In node-positive endometrioid endometrial carcinoma,
paclitaxel/carboplatin chemotherapy appears to be an effective adjuvant therapy. The number of positive nodes seems to be a prognostic factor in these cases.

IGCSM-1142
Poster Shift III - Uterine Cancer including Sarcoma

EFFECTS OF UP OR DOWN REGALATING PPARG EXPRESSION ON CELL MIGRATION,INVASION, AND PROLAFERATION IN ENDOMETRIL CANCER CELL LINES

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Aims

Background and aims: To observe the effects of differentially expressed PPARγ on cell migration, invasion and proliferation of endometrial cancer cells, and analyze the possibility that PPARγ used as the new therapeutic target for endometrial cancer.

Methods

We chose two endometrial cancer cell lines ECC-1 and KLE in this study. To up or down regulate PPARγ expression, we did transient transfection using PPARγ expression vector and PPARγ siRNA. Then, we used qRT-PCR and western blotting to detect PPARγ expression changes both in mRNA and protein levels. We further examined the effects on cell migration, invasion and proliferation using in vivo transwell migration, invasion assays and CCK-8 assay.

Results

PPARγ was expressed in both cell lines. After up-regulated PPARγ expression in ECC-1 and KLE cells, the migratory and invasive cell numbers were significantly decreased and cell viability was reduced obviously. After down-regulated PPARγ expression, ECC-1 cell numbers on the underside of the membrane were increased significantly and cell viability was enhanced, whereas no apparent changes were found in KLE cells.

Conclusion

Increased expression of PPARγ can inhibit cell migration, invasion and proliferation in endometrial cancer cells. Thus, PPARγ may be a new therapeutic target for endometrial cancer, and may be helpful in prevention of tumor recurrence and metastasis.

IGCSM-1155
Poster Shift III - Uterine Cancer including Sarcoma

DISTAL VAGINAL RECURRENCE OF ENDOMETRIOID ADENOCARCINOMA LOCALIZED TO UTERINE CORPUS

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Aims

Surgery is the main treatment of endometrium cancer especially in early stages. Although endometrioid carcinoma is a very favorable cancer it may have some predictors for local and distant recurrence in regard to the histopathologic conditions.

Methods

A 51 year old woman with menometrorrhagia was operated for endometrium cancer. After staging surgery her final pathology result revealed stage 1B endometrioid cancer, grade 2 with lympho-vascular space invasion. She took pelvic external beam radiotheraphy and brachytheraphy. However six months after the surgery during her routine controls we detected a nodular mass 2cm in diameter at the distal posterior vaginal orifice and a nodular lesion at the urethral region. We excised the local masses and her patholgy result revealed metastasis of endometrioid carcinoma. Afterwards we performed a local wide vaginectomy and pathology result defined intact surgical borders. She took her 6 cycles of platin based chemotheraphy so now she is in follow up schedule without any tumor.

Results

Brachytheraphy is a role player for the locoregional control of endometrium cancer. Vaginal cuff and pelvis are the common sides of local recurrence and combined radiotheraphy prevents recurrence by prolonging disease free survival in high risk patients. We detected recurrence incidentally and apart from the vaginal cuff; at the distal vagina.

Conclusion

Grade and lympho-vascular space invasion are good predictors of recurrence and routine gynecologic examination may detect recurrences earlier than usual presentation.

IGCSM-1156
Poster Shift III - Uterine Cancer including Sarcoma

CLINICOPATHOLOGICAL MANAGEMENT IN EARLY RECURRENCE OF STUMP

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Aims

Uterine smooth muscle tumor of unknown malignant potential (STUMP) is an uncommon tumor and there are controversies over classification. It is a distinct entity that is neither leiomyoma nor leiomyosarcoma. The engaged terminologies on this issue cause dilemmas in diagnosis and challenges in treatment approaches.

Methods

A 40 year old secondary infertile patient with two abortuses was operated for myoma uteri and the pathology result of myomectomy revealed atypical epithelioid smooth muscle tumor; 7cm in diameter with 2 mitosis and mild atypia. The patient was put on a close follow up schedule with the diagnosis of STUMP. However 6 months after the surgery during routine controls we detected a 4cm solid-cystic pelvic masss and operated the patient with this findings. The final pathology result was epithelioid leiomyosarcoma. Afterwards we performed a hysterectomy and there were not any other lesion at the pelvic cavity. The pathology result revealed intramural 3cm epithelioid leiomyosarcoma without any dissemination. Now 4 years after the surgery we are still following the patient without any recurrences.

Results

The pathological characteristics and clinical course of STUMP is problematic. Hence tumor necrosis, mitosis and atypia are predictive factors to some extent. However misdiagnosis of pathologic specimen is not unusual. For STUMP patients recurrences are mainly without progression and occur within a lower ratio than leiomyosarcomas thus this terminology provides a better overall survival to patients.

Conclusion

By the way close follow up of patients especially in whom fertility was preserved is needed.

IGCSM-1160
Poster Shift III - Uterine Cancer including Sarcoma

A COMPARISON OF CLINICO-PATHOLOGICAL CHARACTERISTICS OF PATIENTS WITH SEROUS AND CLEAR CELL CARCINOMA OF THE UTERUS

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Aims

Serous carcinoma (SC) and Clear cell carcinoma (CCC) of uterus constitute 10% and 3% of ECs but are responsible for 39% and 8% of cancer deaths, respectively. In this study, we aimed to present a comparison of SC and CCC in terms of surgico-pathological and clinical features, and survival and to determine the factors effecting recurrence and survival.

Methods

Patients with clear cell and serous endometrial cancer who were operated in our clinic between January 1993 and December 2013 were retrospectively analyzed. Kaplan-Meier method was used for analysis of survival. Log rank test was used for univariate analysis of factors effecting survival.

Results

Forty-nine patients had clear cell and 51 patients had serous uterine carcinoma. Mean age at diagnosis was 63±8.2 years. Forty-two percent of patients had advanced stage (stage III and IV) disease in the clear cell group, while 62% had advanced stage disease in the serous group (p=0.044). Thirty-seven percent of the patients with clear cell and 51% of the patients with serous carcinoma had lymph node metastasis (p=0.17). There was no statistical difference between the groups regarding the type of adjuvant therapies used (p=0.192). Recurrence pattern was similar between the groups. 5-year PFS and 5-year OS were 60.6% and 85.8%, 45.5% and 67.8% for clear cell and serous tumor, respectively.

Conclusion

There was no statistically significant difference between the patients with CCC and SC ECs regarding surgico-pathological features, recurrence rates and patterns, and survival rates except that SC ECs presented at more advanced stages.

IGCSM-1163
Poster Shift III - Uterine Cancer including Sarcoma

RETROSPECTIVE AUDIT EXAMINING PELVIC/PARA-AORTIC LYMPHADENECTOMY AND LYMPH NODE STATUS IN ENDOMETRIAL CANCER OVER A ONE YEAR PERIOD IN NORTHERN IRELAND.

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Aims

Current literature stipulates women receiving lymphadenectomy are more likely to experience surgically related morbidity. National Cancer Institute's 2014 figures quote incidence of lymph node metastasis in high grade endometrial cancer(EC) as 20-60% and 10-30% involvement of pelvic and para-aortic(PA) nodes respectively. International Federation of Gynaecologists and Obstetricians suggests lymphadenectomy for staging EC in all cases. This audit aims to determine positivity rates for node involvement, type of nodes sampled compared with grade of cancer.

Methods

An electronic search of the Cancer Database identified cases of EC, who underwent surgery over the past year in Northern Ireland. Histopathology reports were obtained and data extracted using a pre-designed proforma.

Results

Data includes 128 cases.

Endometrial	No cases	Nodes taken	Node type Sampled	Positive Nodes	Negative Nodes
Grade 1	37 (28%)	2 (5%)	2 PELVIC	None	2 (100%)
Grade 2	33 (25%)	5 (15%)	4 PELVIC 1PELVIC+PA	None	5 (100%)
Grade 3	58 (45%)	35 (60%)	17 PELVIC 1 PA	6(17%)	29 (82%)

			17 PELVIC+PA		

Lymph Nodes were sampled in 42 cases and 14% were positive. 67% of patients had no nodes sampled.

Conclusion

The audit identifies a positivity rate in the region of 4.6%, significantly lower than evidence suggests. It demonstrates inconsistency in undertaking lymphadenectomy. Bearing in mind the morbidity of this procedure, the audit's outcome questions the rationale for, and benefit of lymphadenectomy in EC. A randomised controlled trial is recommended.

IGCSM-1164
Poster Shift III - Uterine Cancer including Sarcoma

CLINICO-PATHOLOGICAL FEATURES OF UTERINE SEROUS CARCINOMA: A SINGLE-INSTITUTION EXPERIENCE

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Aims

Although uterine serous carcinoma (USC) accounts for only approximately 5% of all endometrial cancer, it is known to be remarkably poor prognosis because of early peritoneal spread and lymph node metastasis. The aim of this study is to reveal clinico-pathological features of USC.

Methods

We retrospectively reviewed medical and pathological records of 14 patients with pure USC treated in our hospital from 2008 to 2012. Kaplan-Meier method and log-rank test were used to analyze overall survival (OS) and progression-free survival (PFS).

Results

Median age of patients was 63.5 (range 44-77) years-old and number of patients in stage I/II/III/IV was 6/1/4/3, respectively. All but 1 patient were post-menopausal. USC was supposed in 10 of 14 patients (83%) by combination of preoperative endometrial cytology and biopsy, while imaging study (CT/MRI) could not detect endometrial tumor in 7 patients and elevation of serum CA-125 was detected in only 3 patients.

Thirteen patients underwent surgery (TAH+BSO in 13, PLA in 11, PALA in 7 and pOM in 3), and 12 patients received platinum-based adjuvant chemotherapy. Median follow-up period was 38 months. Three-year PFS and OS were 57% and 84%, respectively. PFS was significantly higher in stage I/II than in stage III/IV (p = 0.0188). There were no patients with peritoneal dissemination at the first recurrence.

Conclusion

Although imaging study and serum CA-125 had limited value, endometrial cytology and biopsy were useful for preoperative diagnosis of USC. Complete surgical staging followed by platinum-based chemotherapy seemed to be effective management of USC.

IGCSM-1178
Poster Shift III - Uterine Cancer including Sarcoma

HISTOPATHOLOGICAL REVIEW OF 98 CONSECUTIVE CASES OF CARCINOMA ENDOMETRIUM CASES OPERATED AT A SINGLE CENTRE IN NORTH INDIA

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Aims
We aim to review the histopathological features of 98 consecutive cases of cancer endometrium operated at our centre and compare it with other published data.
Methods
We looked retrospectively at our prospectively maintained database of operated cases of cancer endometrium from January 2012 to April 2014.
Results

The mean age of our patients was 62 years. The most common histology was endometroid carcinoma accounting for about 88% of cases followed by papillary serous type (6%). Grade I tumours were most common accounting for about 54% cases followed by grade II (26%) and grade III (20%) respectively. 71% patients had less than half of myomerium invasion with 10% of these cases having involvement of only endometrium. Lymphovascular space invasion was seen in 19% of cases. Lymph node dissection was carried in all cases with average lymph node yield of 24. But positive lymph nodes were seen in only in 5 cases. Involvement of cervix was seen in 3 cases and involvement of adnexa was seen in 2 cases only. None of the patients had involvement of vagina or parametrium. Stage IA patients accounted for about 72% of cases, stage IB 18%, stage II 3%, stage IIIA 2% and stage IIIC 5% of cases.

Conclusion
The case load of cancer endometrium in our centre is predominately of grade I endometroid type of cancer. Our data is more or less in concordance with most of western literature were most of the cases are of endometroid type and present at an early stage.

IGCSM-1203
Poster Shift III - Uterine Cancer including Sarcoma

EXPRESSION OF ER,PR AND HER-2/NEU IN ENDOMETRIAL CARCINOMA - A CLINICOPATHOLOGICAL STUDY

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Aims
To correlate the expression of estrogen receptor (ER), progesterone receptor(PR) and HER-2/neu in endometrial carcinoma, clinically and pathologically.
Methods
50 formalin fixed, paraffin embedded tissues with endometrial carcinoma were studied and evaluated at our institution, between January 2011 and May 2014. More than 50% cases were of Grade -1 endometrial carcinoma. Recently, hormone receptor status, estrogen receptor [ER] and progesterone receptor [PR] in endometrial cancer has been suggested to be a prognostic factor.
Results
The most common chief complaint was postmenopausal bleeding and dysfunctional uterine bleeding. 64% cases were ER positive, 60% were PR positive and 22% were HER-2/neu positive. ER staining showed moderate to strong nuclear positive and PR was mild to moderate in grade I-II. Both ER and PR were negative for grade III and type 2 endometrial carcinoma. Grade III carcinoma was triple negative in 55% cases but 45% cases showed HER-2/neu positivity. Her-2/neu expression was positive in type 2 endometrial carcinoma.
Conclusion

ER expression is a good prognostic factor while HER-2/neu expression appears to be a poor prognostic factor in North Indian population.

IGCSM-1205
Poster Shift III - Uterine Cancer including Sarcoma

THE ANALYSIS OF PATIENTS WITH STAGE IVB ENDOMETRIAL CANCER; 20 YEARS EXPERIENCE IN A SINGLE CENTER

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Aims: Endometrial cancer were usually diagnosed in earlier stages. Due to small number of cases, experience was limited for stage IVB disease in most centers. We aimed to analyze the stage IVB endometrial cancer patients during last two decade and to investigate the impact of the clinico-pathologic variables on survival.

Methods: Sixty-three patients with stage IV B endometrial cancer were included into study. Exclusion criterias were the presence oF sarcomatous component in tumor and extra-abdominal disease. Cytoreductive surgery was performed in addition to staging surgery when macroscopic tumor was detected intraoperatively. Maximal, optimal and suboptimal debulking was defined as presence of no gross residual tumor, ≤1cm and >1cm residual tumor in maximal diameter following surgery, respectively.

Results: Mean age of the patients was 58,46 years. Tumor was endometrioid in 36 patients (57,1%). Median overall survival was 20 months for all patients. With a median follow-up of 14 months, the median overall survival for maximal, optimal and suboptimal cytoreduction were estimated as 21 and 15 months respectively. Median disease free survival for all patients with maximal and optimal&suboptimal debulking were 15 and 10 months respectively p=0.38. The age, tumor histology, number of nodes, myometrial or cervical invasion, positive cytology did not affect the survival.

Conclusion: Although survival advantage of cytoreduction were defined for advanced ovarian cancer, there were limited data for advanced endometrial cancer. Except the extent of the cytoreduction, none of the clinico-pathologic factors were found as a predictor of survival in stage IVB endometrial cancer.

IGCSM-1206
Poster Shift III - Uterine Cancer including Sarcoma

SURVIVAL OUTCOME IN ENDOMETRIAL CANCER PATIENTS ACCORDING TO HEREDITARY PREDISPOSITION

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Aims
We investigated hereditary factors by examining the incidence of synchronous malignancy in patients with endometrial cancer, and assessed the prognostic role of heredity in endometrial cancer.
Methods

We retrospectively evaluated patients with endometrial cancer who underwent surgery from January 2001 to April 2011. A hereditary background in this study was defined as double primary cancer: endometrial cancer accompanied by colon, ovarian, or breast cancer suggestive of Lynch syndrome, hereditary breast ovarian cancer syndrome, or Cowden syndrome, respectively.

Results

Among 282 patients with endometrial cancer in the study population, 20 (7.1%) had a hereditary predisposition: 10 (3.5%) had ovarian cancer, 6 (2.1%) had breast cancer and 4 (1.4%) had colon cancer. Age and lower uterine segment involvement were not statistically different between the hereditary and non-hereditary groups. The majority of the women in the hereditary group presented with stage I cancer; however, there were no significant differences in Stage I between the hereditary group and the sporadic endometrial cancer group (85% and 77%, respectively, p=0.561). The median follow-up period was 60 months. Five year overall survival rate was not different between the two groups (95% and 95%, respectively, p=0.659). Among a subgroup of stage I, the 5 year overall survival rate was lower in women with a hereditary predisposition (98% and 94%, respectively, p=0.027).

Conclusion

Seven percent of the women with endometrial cancer in our study had other malignancies. Among a subgroup of stage I, 5 year overall survival rate was significantly low in endometrial cancer with hereditary predisposition. This finding should be confirmed in a larger population.

IGCSM-1221
Poster Shift III - Uterine Cancer including Sarcoma

ANALYSIS OF THE RELATION BETWEEN DIAGNOSTIC ACCURACY OF FROZEN SECTION DIAGNOSIS AND TUMOR SIZE OF LYMPH NODE METASTASIS IN SENTINEL NODE BIOPSY FOR ENDOMETRIAL CANCER

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Aims
Both high detection rate of SNs and high diagnostic accuracy of intra-operative frozen section (FS) diagnosis are required fore sentinel node (SN) navigation surgery. For clinical application of the SN biopsy in endometrial cancer, we analyzed the relation between diagnostic accuracy (sensitivity, negative predictive value; NPV) of intra-operative FS diagnosis and tumor size of lymph node metastasis.
Methods
From 2009, 78 patients undergoing laparotomy for endometrial cancer were enrolled in SN biopsy. Tracer injection of ^{99m}Tc-phytate combined with subserosal injection of indocyanine green was done. SNs were examined pathologically with FS and examined by immunohistochemistry (IHC) with cytokeratin antibody. Back-up lymphadenectomy was performed in all cases. In 16 cases with SN metastasis (20.5%), distribution of SNs, sensitivity, NPV of intra-operative FS diagnosis and size of lymphnodes metastasis (macro metastasis, micro metastasis; MM, isolated tumor cells; ITC) were analyzed retrospectively.
Results

Detection rate of SNs were 98.7% and average number of detected SNs was 5.3. Sensitivity and NPV of FS diagnosis were 62.5%, 91.0% respectively. Metastasis to para-aortic lymphnodes (PAN) were found in 68.8% cases. In lymphnodes with MM or ITC, only 15.8% were diagnosed precisely by intra-operative FS diagnosis. In cases with ITC, 80% showed false negative result in FS diagnosis, but metastasis to Non-SN was absent.

Conclusion

ITC cases showed high false negative rate, and it was considered that there was a limit for detection by conventional FS diagnosis. PAN metastases were confirmed in 68.8% out of patients who had metastases in SNs, and the importance of the SN exploration in PAN region was indicated.

IGCSM-1240
Poster Shift III - Uterine Cancer including Sarcoma

RISK–STRATIFICATION OF ENDOMETRIAL CANCER BY CLINICOPATHOLOGICAL FACTORS AND CA125 LEVEL BEFORE AND AFTER TREATMENT

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Aims

We aimed to investigate the outcome prediction of tumor marker CA125 before and after definitive treatment and their correlation with other clinicopathological features in endometrial cancer.

Methods

A total of 1080 patients with endometrial cancer by histological confirmation was retrospectively reviewed between 2000 through 2010, and 530 cases with complete information including tumor marker CA125 before and after definitive treatment in our institute and regular follow-up information were eligible for this study. The correlation of patient characteristics, treatment outcome and CA125 was analyzed by independent sample *t* test, Chi-square test, Cox proportional regression hazard model and regression tree decision tree methods

Results

A total of 213 (40.2%) and 31 (5.8%) patients were detected to have serum CA125 greater than 35 U/mL before and after the definitive treatment, respectively. The CA125 before treatment is highly correlated with advanced stage, non-endometrioid type cancer, high grade, deep myometrial invasion, presence of lymphovascular space involvement, adnexal or lymph node metastasis and positive cytology. By multivariate analysis, advanced stage, high grade, positive cytology, deep myometrial invasion and CA125 after treatment > 35U/mL were independent risk factors in progression-free survival (PFS), but only stage, grade and CA125 after treatment indicate poor impact in cancer specific survival (CSS). The stratification of four risk groups by combined CA125 level before and after treatment demonstrates the different odds ratio of recurrence or death.

Conclusion
The results demonstrated a potential prediction model for PRS and CSS by integrating these independent clinicopathological prognostic factors and CA125 level in normogram.

IGCSM-1247
Poster Shift III - Uterine Cancer including Sarcoma

HIGH PREVALENCE OF OBESITY AND DIABETES IN UAE AND ITS IMPACT ON ENDOMETRIAL CANCER

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Aims

To find out the impact of obesity and diabetes as risk factor for endometrial cancer in United Arab Emirates population

Methods

Ethical approval was obtained for this retrospective case-control study. Data was obtained from Cancer Registry of Health Authority Abu Dhabi from Jan 2008 till Sept. 2013. The data analyzed was age at diagnosis, body mass index BMI, menopausal status, diabetes, parity, and histological tumor subtypes. Controls were women attending the gynecology clinic with menstrual disorders in the same period.

Results

We identified 154 cases of endometrial cancers. Among endometrial cancer cases 68% women were obese (BMI > 29.9) and 39% were diabetic.

ODDS RATIO TABLE

	Cases n =		**Controls n =**		**Odds**	**95% Confidence**
Obesity	**154**		**184**		**Ratio**	**Interval**
	Num	**%**	**Num**	**%**		
Yes	105	**68**	103	**55**	**1.68**	**1.33 - 6.10**
No	49	**32**	**81**	**45**		
	Cases n =		**Controls n =**		**Odds**	**95% Confidence**
Diabetes	**154**		**184**		**Ratio**	**Interval**
	Num	**%**	**Num**	**%**		
Yes	60	39	**59**	32	**1.35**	**0.58 - 2.98**
No	**94**	61	**125**	68		

Conclusion

The Emirati population has two of the most dominant risk factors for development of EC yet the disease prevalence is found to be low in UAE, as compared to that in Western population. This may be partly explained by the under-reporting of the disease, the presence of protective genetic factors or the protective effect of high fecundity compared to western women.

IGCSM-1257
Poster Shift III - Uterine Cancer including Sarcoma

C-REACTIVE PROTEIN SERUM LEVEL IS AN INDEPENDENT PROGNOSTIC PARAMETER FOR PATIENTS WITH UTERINE LEIOMYOSARCOMA

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Aims

C-reactive protein (CRP) serum levels have been previously described to be of prognostic value in patients with gynecologic cancers. The aim of this study was to evaluate whether preoperative CRP serum levels may be used as a prognostic parameter in patients with leiomyosarcoma of the uterus.

Methods

In this study, women diagnosed with uterine leiomyosarcoma and were treated at the Department of gynaecology and gynaecologic oncology of Medical University Vienna were included. Pre-treatment CRP serum levels were measured - after presence of infection was ruled out - correlated to clinicopathological findings and survival analyses were performed.

Results

A total of 45 patients were included in this study (Table 1). Mean (SD) CRP serum level was 3.89 mg/dl (4.29). High pre-treatment CRP serum levels (> 3.89 mg/dl) were associated with advanced tumour stage (FIGO III+IV, p=0.02), and patients' age (p=0.044), but not with tumour size (p=0.19). In a univariate and multivariate analysis CRP serum levels, tumour stage, and patients' age, but not histological grade, histological type and tumour size were associated with overall survival. Women with high pre-treatment CRP serum level showed impaired overall survival compared to women with lower CRP serum level (5ys-OS: 52.0% vs. 28.6%, p=0.025, Fig. 1).

Conclusion

High pre-treatment CRP serum levels were independently associated with advanced tumor stage and impaired prognosis in women diagnosed with uterine leiomyosarcoma. Larger prospective clinical trials have to validate our preliminary findings.

IGCSM-1263
Poster Shift III - Uterine Cancer including Sarcoma

FROZEN SECTION IN ENDOMETRIAL CARCINOMA: GUIDE FOR SURGICAL STAGING: PRELIMINARY REPORT

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Aims

Endometrial cancer is the most common malignancy of the female genital tract in developed countries. Lymph node metastasis is an unequivocally recognized prognostic factor that normally guides the indication for adjuvant therapies. Frozen section is used by many specialist to determine the need for lympadenectomy.

Methods

The paraffin section reports of 65 cases (57 Endometrioid type, 5 non –endometrioid type, 3 mixed type) with endometrial carcinoma were compared with intraoperative frozen section reports.

Results

55 patients' paraffin sections and frozen investigation results were similar. 3 patients (4,6%) were downgraded and 7 patients (10,7%) were upgraded after paraffin section investigation. 54 patients' paraffin section results were similar with frozen investigation in terms of invasion. Increased degree of invasion was detected in 10 patients in paraffin section. There was only one patient that lighter invasion was detected in paraffin section.

Conclusion

Many centers use risk categorization defined by GOG for determining treatment strategies for endometrial cancer. Choice of treatment modality for low risk patients is usually simple hysterectomy. For intermediate and high risk patients various adjuvant treatment options can be used.Systematic lympadenectomy is known to increase overall survival for intermediate- high risk group. On contrary, lymphadenectomy in low risk group has no shown beneficial effect on overall survival.In our study, frozen parameters as tumor grade, myometrial invasion, tumor diameter can predict lymph node

involvement with a 100% accuracy.Careful and detailed frozen investigation can be a very accurate and useful tool for determining patient that lympadenectomy should be performed.

IGCSM-1266
Poster Shift III - Uterine Cancer including Sarcoma

CLINICAL OUTCOME OF SECONDARY SURGERY IN RECURRENT ENDOMETRIAL CANCER

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Aims

To determine clinical outcome of secondary surgery in recurrent endometrial cancer (rEC) patients.

Methods

Patients undergoing secondary surgery between January 2007 and January 2014 for rEC were retrospectively analyzed. Survival was calculated using the Kaplan Meyer method.

Results

Fifty patients were identified. Thirty four (68%) patients were referred to us at time of recurrence. Pathology showed endometrioid, papillary serous and carcinosarcoma in 86%, 10% and 4% of the cases. Adjuvant radiotherapy, chemoradiotherapy and chemotherapy was delivered to 30%, 6%, and 22% of the cases. Median DFI form first surgery was 26 months. Recurrences were isolated in 58% of the patients. Pathology was negative in 6 patients who were excluded from further analyses. Recurrence was lymph nodal in 43%, centropelvic in 48%, pulmonary in 14% and defined as other in 7% of the cases. In 23% of the cases surgery was aborted secondary to unresectable disease. Residual Tumor was absent, <1cm, <5cm and >5cm in 66%, 9%, 7% and 18% respectively. Surgical procedures were lymphadenectomy (43%), pelvic mass resection and colpectomy (32%), bowel resection (11%), genitourinary tract resection (9%), lung resection (7%) and pelvic exenteration (7%). Major perioperative complications occurred in 16% of the cases but surgical management was required in 7% of these cases only. Estimated overall survival was 70% and 66% at 3 and 5 years. No residual disease statistically correlated with overall survival.

Conclusion

In selected patients surgery is feasible and has acceptable perioperative complication rates. Survival data are extremely high. No macroscopic disease is associated with improved overall survival.

IGCSM-1268
Poster Shift III - Uterine Cancer including Sarcoma

TERTIARY CYTOREDUCTION IN ENDOMETRIAL CANCER. A CASE SERIES.

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Aims

To assess the feasibility, safety and clinical outcome of tertiary surgery in recurrent endometrial cancer (rEC).

Methods

A case series on patients undergoing tertiary surgery for rEC between January 2003 and April 2014 is presented.

Results

Four patients with median age of 66 were identified. All patients had G1 or G2 endometrioid cancer. Median DFI at first recurrence was 31 months. First recurrence was isolated in 2 cases. Surgery at first recurrence included retroperitoneal lymphadenectomy and bowel resection in 2 cases, colpectomy in a case and pelvic exenteration in one case. All patients had no residual disease. Adjuvant treatment included chemoradiotherapy in 2 cases. Median Disease Free Interval at tertiary surgery was 46 months. Recurrences were isolated in three cases. Median tumor diameter was 22 mm. Site of recurrence was retroperitoneal lymph nodes (2), centropelvic (1) and pulmonary (1). Tertiary surgery was lymphadenectomy in 2 cases, pelvic exenteration in 1 case and lung resection in one case. Surgical time ranged between 50 and 290 minutes, hemoglobin drop ranged from 0,8 to 2,7 g/dl and one patients requiring blood transfusions. All patients achieved no visible residual tumor. Severe postoperative complications were recorded only in the patient subjected to exenterative procedure who suffered from bowel leak and ureteral stricture. Three patients received adjuvant chemotherapy. At a median follow up of 21 months all patients are disease free.

Conclusion

In selected cases tertiary surgery yields good oncological outcome in heavily pretreated recurrent rEC patients but severe complications can be expected after exenterative procedures.

IGCSM-1272
Poster Shift III - Uterine Cancer including Sarcoma

PREOPERATIVE AND FROZEN SECTION FINDINGS ASSOCIATED WITH EXTRAUTERINE DISEASE OR POSITIVE LYMPH NODES IN ENDOMETRIAL CANCER PATIENTS

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Aims

Evaluate predictive factors present on preoperative and frozen section (FS) findings to extrauterine disease (ED) or positive lymph nodes (PLN) in endometrial cancer patients submitted to surgical treatment.

Methods

All endometrial cancer cases,between 2011 and 2013, were included. All underwent to surgical treatment,including total hysterectomy and BSO. Pelvic and paraortic lymphadenectomy were performed in high risk group. ED was defined as involvement of adnexal or any extrauterine organ or structure,as pelvic or paraaortic lymph nodes. Preoperative findings included MRI data and CA-125 value. Pathologic FS results was prospectively collected. Data were analyzed by chi-square. To define tumor size cut off was used ROC curve. A p value < 0.05 was considered significant.

Results

Eighty-eight women were included,18(20.5%) had ED and 8(9.1%) had PLN . Predictive factors for ED were:CA-125 >35U/ml (p=0.02) and FS findings:disease location at istmus (p=0.001) or cervix (p<0.001),LVSI (p=0.007),stromal cervical invasion (p<0.001),grade 3 endometrioid or type II histology (p<0.001) and MI > 50% (p=0.009). There was a significant presence of PLN when MRI shows suspect lymph nodes (p<0.001). CA-125 value >35U/ml was not associated with PLN (p=0.66). FS analysis showing tumor location at istmus (p=0.001) or cervix (p<0.001),LVSI (p<0.001),SCI (p=0.001),grade 3 endometrioid or type II histology (p=0.001) were associated with PLN. Tumor size > 5.5 cm had sensitivity of 77.8 % and specificity of 78.6% (AUC=0.80) for ED and for PLN,sensitivity of 87.5% and specificity of 72.5% (AUC=0.78).

Conclusion

Factors associated with ED or PLN were presented in preoperative CA-125 value and FS.These findings could guide a comprehensive surgical staging.

IGCSM-1273
Poster Shift III - Uterine Cancer including Sarcoma

PREDICTION OF PARAORTIC LYMPH NODE METASTASIS BY CLINIC PATHOLOGICAL AND RADIOLOGIC PARAMETERS IN ENDOMETRIAL CANCER

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Aims

Paraortic lymph node dissection is not a consensual procedure in endometrial cancer. Many studies have tried to distinguish patients with high risk of lymph node metastases using different clinical or radiologic parameters. We propose to study the role of histologic type, tumor size, lymph vascular involvement (LVSI), deep of myometrial invasion and radiologic lymph node features in prediction of paraortic lymph node metastases.

Methods

We studied a total of 310 patients with endometrial cancer attended in Department of Gynecology of *Instituto do Cancer do Estado de Sao Paulo* between 2009 and 2014. The 3 different histologic types (serous, clear cell and endometrioid) were analyzed separately. We used image (paraortic lymph node compromise, tumor myometrial infiltration, tumor size) and pathologic parameters (myometrial invasion, tumor grade, LVSI) to predict paraortic lymph node metastasis.

Results

Of the 310 patients, 176 patients were submitted a complete pelvic and paraortic lymphadenectomy. The 3 histologic types analyzed were endometrioid 140(79.5%), serous 23(13%) and clear cell 13(7.4%). The image paraortic lymph node compromise has the best NPV between the parameters in the global analysis (NPV=93.4%, OR=14.18, p<0.01), endometrioid type (NPV= 93.8%, OR=8.90, p<0.01) and clear cell type (NPV=100%, OR=133, p=0,03).

Conclusion

The use of the image features of paraortic node is the strongest parameter related to paraortic lymph node metastases, especially in endometrioid and clear cell histologic subtypes.

IGCSM-1280
Poster Shift III - Uterine Cancer including Sarcoma

DIABETES, BODY MASS INDEX AND SURVIVAL OF ENDOMETRIAL CANCER: A PROSPECTIVE STUDY

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Aims
To assess the association between diabetes,BMI and risk of all-cause and EC-specific mortality.
Methods
During 1984-1986 and 1995-1997 two health surveys were conducted in the Nord-Trøndelag county/Norway (HUNT 1 and 2). Women who developed EC were identified through individual linkage to the Cancer Registry of Norway. Our primary outcome measure was risk of death from any cause after the diagnosis of EC. Secondary outcome was death due to EC adjusted for competing causes of death. Cox proportional hazards models and Fine and Grey models (competing risk models) adjusted for age, stage of cancer and histological subtype were fitted. In stratified analyses, we studied the risk associated with diabetes in normal weight (BMI <25 kg/m2) and overweight/obese women (BMI ≥25 kg/m2).
Results

Among the 31 865 women included in HUNT 1 and 2, 337 women developed EC. During a mean follow-up of 6.6 years, 166 (49%) of the women died. We found no statistically significant association between BMI and overall or EC specific mortality. However, the overall risk of death in EC patients with diabetes was more than doubled as compared to patients without diabetes (HR 2.14, 95% CI: 1.26-3.63). Also, the EC specific mortality was more than doubled in women with diabetes (SHR 2.62, 95% CI: 1.07-6.43). In stratified analyses, normal weight women with diabetes had higher risk of both overall and EC-specific death compared to overweight/obese women.

Conclusion
Diabetes, but not BMI, was associated with increased risk of all-cause and EC-specific mortality. This association may be especially pronounced in normal weight women.

IGCSM-1293
Poster Shift III - Uterine Cancer including Sarcoma

OUTCOMES OF PATIENTS WITH UTERINE SEROUS CARCINOMA AFTER ROBOTIC SURGERY

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Aims

To evaluate the outcomes of patients with uterine serous carcinoma (USC) who underwent robotic surgical staging.

Methods

The data for all 46 consecutive patients with USC who underwent robotic surgery for 5 years (2007-2012) was reviewed. Inclusion criteria required >10% USC in mixed tumors. All had comprehensive surgical staging including omentectomy. Postoperatively, all patients were treated with carboplatin/paclitaxel and brachytherapy.

Results

The mean age was 66 (50-86) years and the mean BMI was 30.8 (21-45.3) kg/m^2. Extra-uterine macroscopic disease, present in 3/46 (6.5%) patients, was completely resected. There were no conversions to laparotomy. Hospital stay was 1.3 (1-3) days.
Pure USC was diagnosed in 32/46 (69.5%) patients and mixed cancers in 14/46 (30.5%) patients. There was no residual carcinoma in 6/46 (13%) patients' specimens. Mean total lymph node count was 22 (8-46) and mean para-aortic count was 6 (1-15). Stage distribution was: stage IA 32/46 (69.6%), stage IB 3/46 (6.5%), stage IIIA 3/46 (6.5%), IIIC1 5/46 (10.9%), IIIC2 2/46 (4.3%) and stage IVB 1/46 (2.2%).
Median follow-up was 35 (2-66) months. Recurrences were diagnosed in 9/46 (19.5%) patients. Four/35 (11.4%) stage IA patients recurred with mean disease-free survival (DFS) of 25 (14-39) months. They are alive with disease. Among 11 patients with stage III or IV, 5 (45.5%) recurred after mean DFS of 19.6 (17-24) months and they died of disease.

Conclusion

Robotic surgery can accomplish comprehensive staging and complete tumor debulking in patients with USC. While DFS is similar for recurrences in stage I vs III/IV, overall survival is better for patients with stage I.

IGCSM-1317
Poster Shift III - Uterine Cancer including Sarcoma

WHOLE EXOME SEQUENCING REVEAL SOMATIC MUTATION OF LNCRNA IN RECURRENT UTERINE LEIOMYOSARCOMA

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Background and aim: Uterine leiomyosarcoma (LMS) is an aggressive tumour with a relatively poor prognosis and high rate of recurrence. It is unknown the genetic alteration of the recurrent Uterine leiomyosarcoma. Here we aimed to uncover the somatic mutations driving tumor formation, progression and recurrence in uterine leiomyosarcoma using whole-exome sequencing.

Methods: We performed whole-exome sequencing on 3 recurrent LMS tumor and their normal tissue (2 patientseor peripheral blood (1 patients) by Illumina HiSeq 2000 (Illumina, San Diego, California). Reads were aligned to the human reference genome and BWA software was used for variant calling. ANNOVAR software was used for Functional annotation of genetic variants.

Results: The total number of reads per sample ranged from about 62,858,796-100,704,888,aligned reads were ranged 98.50%-98.8, Mean depth of target region was 57X-90X , Coverage of target region was 89. 03-90.81%. Averaged 86.75 %Targeted region covered at depths of at least 20X. There were ranged 415-535 somatic SNPs and 28-45 somatic indels. There were 25 somatic SNPs presented in all or at least two cases, but none common indels. Among these SNPs, 9 were located at intergenic sites, 9 at intronic sites, 2 at UTS, 6 at exonic sites. It is interesting that three somatic SNPs located in two lncRNA genes (LINC01001, LINC01002).
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Conclusion:Whole-exome sequencing in recurrent LMS revealed that the somatic mutation or deletion is mostly like individual variation. The mutation in lnRNA (LINC01001, LINC01002) need further study to comfirm its role in LMS progression.

IGCSM-1325
Poster Shift III - Uterine Cancer including Sarcoma

PRIMARY CHORIOCARCINOMA OF SPLEEN

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Aim: Chriocarcinoma is a rare gynecologic malignancy, which usually involves uterus with wide metastasis potentials. Extrauterine choriocarcinoma often involves ovary but in extremely rare cases, can originate from intraabdominal oragns like spleen. Almost all reported cases of primary splenic choriocarcinoma were presented after rupture, with acute abdomen. Here, we report a case which was diagnosed before rupture and managed appropriately.

Material & Methods: RP is a 31 Y.O. lady (G1 L1) developed lower abdominal pain and vomiting. Beta HCG was 5214 mIU/ml. Transvaginal sonography revealed normal empty uterus, but showed a 55 x 42 mm cyst in left ovary with suspicious gestational sac within it.

Results: Laparatomy was negative for ectopic pregnancy. Left ovarian cystectomy was performed. Pathology report was corpus luteal cyst. Beta HCG rose to >200,000 mIU/ml. Abdominopelvic CT revealed a large cystic/solid mass 75x80mm in spleen. Other abdominopelvic organs were normal. Chest CT showed mild left sided pleural effusion. Thyroid function test was normal. Beta HCG rose again to 374,630 mIU/ml within one week. Brain MRI showed a cystic lesion 60x35 mm in posterior fossa in favor of arachnoid cyst. Chemotherapy with MAC & sodium valproate started. Level of B-HCG dropped to 51,913 mIU/ml after 2 weeks. Further courses of chemotherapy resulted in favorable clinical and chemical response.

Conclusion: When there is a highly suggestive lesion in spleen, and no other explanation for rising level of B-HCG, due to extremely vascular nature of choriocarcinoma, chemotherapy is indicated without tissue diagnosis.

IGCSM-1326
Poster Shift III - Uterine Cancer including Sarcoma

NON- GESTATIONAL CHORIOCARCINOMA OF THE UTERUS

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Aim: Choriocarcinoma of the uterus is a rare type of trophoblastic neoplasia, either gestational or nongestational in origin. Although, mostly gestational, in rare cases nongestational choriocarcinoma of the uterus (NGCU) occurs. This rarity makes the diagnosis very difficult in women of child bearing age. Here we report a case of NGCU occurring in a 27-year-old virgin female.

Materials & Methods: REK, a 27 y.o. virgin female, presented with abdominal pain following 2 months missed period. Pelvic sonography revealed a 66x60 mm uterine mass. Received OCP (HD) and presented with vaginal bleeding after 2 weeks.

Results: New pelvic sonography revealed a huge cystic/solid, septated mass (132x98x84mm), unknown in origin. Beta HCG titer was > 200,000 mIU/ml. Abdominopelvic MRI revealed enlarged uterus, containing inhomogenous materials (155x80mm) with honey-comb appearance, in favor of choriocarcinoma. Brain MRI was normal. Beta HCG rose to 593,990 mIU/ml. Chest CT revealed two 14x16mm nodules in left lung and multiple small lymph nodes in sub carinal / paratracheal areas. EMA-CO chemotherapy started. Beta HCG remained the same and she developed bowel obstruction after second chemotherapy. In laparatomy, two large ovaries containing large theca lutein cysts were found causing pressure effect on large bowel. Uterus was about 18 weeks in size. Hysterotomy with suction curettage was done. The patient had uneventful course. Chemotherapy continued with favorable clinical and chemical response.

Conclusion: Although rare, NGCU should be considered in differential diagnosis of missed period and abdominal pain even in virgin females.

IGCSM-1327
Poster Shift III - Uterine Cancer including Sarcoma

HOW RISK STRATIFICATION AFFECTS THE ACCURACY RATE OF PREDICTING LYMPH NODE METASTASES IN ENDOMETRIAL CARCINOMA?: 16 YEARS EXPERIENCE OF ANKARA ONCOLOGY EDUCATION AND RESEARCH HOSPITAL

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Aim: The aim of this investigation was to evaluate the distribution and accuracy rate of predicting lymph node metastases (LNM) in patients with endometrial cancer (EC) according to risk groups.

Methods: The data of 268 patients who underwent lymph node dissection (LND) for EC between January 1996 and December 2011 were reviewed retrospectively. Grade, histopathological type, myometrial invasion (MI), tumor size and nodal status were evaluated. Grade1-2, <1/2 MI, type 1 histology, <2 cm tumor; grade3, ≥1/2 MI, type 2 histology, ≥2 cm tumor were classified as low and high risk patients, respectively.

Results: 84 and 184 patients were grouped low and high risk, respectively. LNM was significantly (p=0.001) more common in high risk group of patients (2.3 %, 2/84 low risk vs 11.4 %, 21/184 high risk).

Conclusion: There is great difference between low and high risk groups in patients with EC in predicting LNM. But still this risk stratification cannot avoid unnecessary LND over 85% of patients even though in high risk group. Besides low risk group is not free of LNM.

IGCSM-1334
Poster Shift III - Uterine Cancer including Sarcoma

A REVIEW OF ENDOMETRIAL CARCINOMAS IN GOLD COAST, QUEENSLAND, AUSTRALIA

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AIM:

To review the characteristics, staging and management of patients diagnosed with endometrial carcinomas at the Gold Coast Health Service, Queensland, Australia.

METHODS:

We reviewed all cases of endometrial carcinoma diagnosed between 2010 to 2013 at the Gold Coast University Hospital. Data was collected from electronic patient records, pathology reports and Physicians ' letters.

RESULTS:

A total of 118 patients with endometrial carcinoma were identified from January 2010 to December 2013. Seventy-nine patients (73%) had type I tumours (endometrioid histology of grade 1 or 2), twenty-six (24%) patients had type II tumours (grade 3 endometrioid subtype, clear cell, and serous carcinomas), and ten patients had carcinosarcomas.The most common histological types were: Endometrioid (80%), carcinosarcoma (8%), clear cell (6%), and serous papillary (1.5%).

Seventy-three percent of patients with endometrioid carcinomas had stage I disease, 15% had stage II, 7% had stage III and only 4% had stage IV malignancy.

Almost all patients had surgery with either curative or palliative intent. Fifty percent of patients with locally advanced or metastatic disease received systemic chemotherapy.

The most common adjuvant treatment regimen used was the combination of Carboplatin and Paclitaxel, followed by Cisplatin with concurrent External Beam Radiotherapy.

CONCLUSION

The spectrum of endometrial malignancies on the Gold Coast was comparable with the world literature. We found an unusually high number of uterine carcinosarcomas. Carboplatin and Paclitaxel was the most common chemotherapy regimen in the adjuvant and palliative setting.

IGCSM-1336
Poster Shift III - Uterine Cancer including Sarcoma

FEASIBILITY AND LIMITATIONS OF HIGH PARA-AORTIC LYMPHADENECTOMY ABOVE THE INFERIOR MESENTERIC ARTERY VIA THE ROBOTIC TRANSPERITONEAL APPROACH

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Background and aims. Evaluate the feasibility and limitations of high para-aortic lymphadenectomy (PALND) above the inferior mesenteric artery (IMA) via the robotic transperitoneal approach.

Methods. A retrospective study was performed on patients who underwent robotic transperitoneal PALND for gynecologic cancers. Patients were divided into two groups according to the proximal border of PALND: above-IMA (N = 33) and below-IMA (N = 47). We assessed the factors associated with failure to access the high para-aortic lymph nodes above the IMA.

Results. Compared to the below-IMA group, patients in the above-IMA group had a higher percentage of grade 3 disease (67% vs. 32%; P = 0.008), lower BMI (31.7 vs. 36.6, P = 0.045), and more ASA class 2 (85% vs. 55%; P = 0.006). The above-IMA PALND retrieved more para-aortic lymph nodes (19.3 vs. 10.6; P < 0.001) and total lymph nodes (47.2 vs. 32.0; P < 0.001). The above-IMA PALND required longer operative (110 vs. 68 min; P< 0.001) and overall console time (323 vs. 266 min; P = 0.002), but did not result in increased complication rates. In the above-IMA group, 4 patients (12%) required mini-laparotomy to complete the PALND, while conversion rate in the below-IMA group was 0% (P = 0.026). High waist/hip (W/H) and intra-abdominal visceral/subcutaneous fat (IVF/SF) ratios were found to be predictive of conversion (P < 0.05).

Conclusions PALND above the IMA via the robotic transperitoneal approach is feasible. Alternative anthropometric measures are better predictors for conversion than BMI.

IGCSM-1343
Poster Shift III - Uterine Cancer including Sarcoma

AUDIT OF ENDOMETRIAL CANCER PATIENTS TREATED AT THE GYNAECOLOGY ONCOLOGY UNIT, UNIVERSITY OF PRETORIA

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Background and aims

Endometrial cancer is the second most common cancer managed at our unit. The aim of this study is to describe the clinical profile and tumour characteristics of women treated for endometrial cancer.

Methods

This is a retrospective audit of the histopathological tumour characteristics, clinical profile and treatment of 144 women treated for endometrial cancer in the Gynaecological Oncology Unit, University of Pretoria from 1 January 2010 to 31 December 2013

Results

Mean age was 66.4 years of which 44.4% had FIGO stage I, 14.8% had stage II, 29.7% stage III, and 11.1% stage IV disease. Primary surgery was performed in 77%. The final histological subtypes were endometrial adenocarcinoma in 70%, adeno-squamous carcinoma in 1%, clear cell 1%, mucinous adenocarcinoma in 2%, squamous 20% and papillary serous carcinoma in 3%. Pre- and post-operative histology and histological grade were similar in 63% and 53% of cases respectively. Five patients (3.6%) were HIV infected.

Conclusion

According to published literature up to 75% of women with endometrial cancer present with stage I disease. In women treated in our unit 44% were stage I and 30% were in stage III. The substantial discordance between pre- and post-operative histological type and grade as well as the high proportion of women presenting with late stage disease, represent important challenges in the management of these patients.

IGCSM-0341
SCREENING AND PREVENTION

NOVEL RECRUITMENT AND METHODS IN ASSESSING IMPACT OF HPV VACCINATION ON HPV GENOTYPE INFECTION AND CIN3 CASES IN AUSTRALIAN WOMEN

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Aims

In April 2007 Australia launched the National HPV Vaccination Program to reduce the incidence of cervical cancer. As the first country to implement a government-funded program, Australia is ideally placed to measure vaccine effectiveness in a real-world setting, yet no routine surveillance currently exists to monitor HPV prevalence post-vaccination. We aim to assess the effectiveness of the programme in measuring i) HPV prevalence of vaccine-targeted HPV genotypes (HPV6/11/16/18) among vaccine-eligible young women ii) proportion of CIN3 lesions positive for vaccine-specific genotypes.

Methods

In the VACCINE (Vaccine Against Cervical Cancer Impact and Effectiveness) study we are measuring i) prevalence of vaccine-targeted genotypes on self-collected vaginal swabs from vaccine-eligible Victorian women aged 18-25 recruited through social networking website Facebook ii) HPV prevalence in CIN3/AIS lesions in vaccine age-eligible Victorian women (born after 30 June 1981) using laser capture microdissection to dissect lesions prior to HPV genotyping, to define the causal genotype for each lesion.

Results

In an interim analysis, i) vaccine-targeted HPV genotypes have been detected in only 7 of 645 (1.3%) samples thus far, all being HPV16 ii) prevalence of HPV16 in 202 CIN3/AIS lesions (of 500 targeted) was 59% and among the younger subset (18-25 years) a lower HPV16 prevalence was noted compared to pre-vaccine age-matched CIN3 samples, almost reaching statistical significance (69% vs 55%; p=0.06).

Conclusion

i) Prevalence of vaccine-related HPV genotypes is remarkably low amongst vaccine-eligible women.
ii) HPV16 prevalence in CIN3 lesions may be falling, with confirmation awaiting further sampling to enhance power.

IGCSM-0530
SCREENING AND PREVENTION

LIFESTYLE MODIFIERS OF RISK OF ENDOMETRIAL CANCER FOR WOMEN WITH GERMLINE MUTATIONS IN DNA MISMATCH REPAIR GENES

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Aims
A women carrying a germline mutation in a DNA mismatch repair (MMR) gene is at increased risk of endometrial cancer, colorectal cancer and several other cancers. Identifying modifiers of cancer risks is important for understanding carcinogenesis as well as for genetic counselling, screening and risk-reduction strategies. We investigated the associations between lifestyle factors and risk of endometrial cancer for women with MMR gene mutations.
Methods

This study comprised 976 female mutation carriers (361 *MLH1*, 472 *MSH2*, 90 *MSH6* and 53 *PMS2*) from the Colon Cancer Family Registry (148 from Canada, 542 from Australia, and 286 from USA). During 41,710 person-years of observation from birth, 140 carriers (14%) were diagnosed with endometrial cancer. Using Cox proportional hazards regression weighted to correct for ascertainment bias, we estimated hazard ratios (HRs) and 95% confidence interval (CIs) for associations between lifestyle factors and risk of endometrial cancer for carrier women, adjusting for measured potential confounders.

Results

A decreased risk of endometrial cancer was associated with ever use of multivitamin supplements (HR 0.38, 95% CI: 0.22–0.65), folic acid supplements (HR 0.22, 95% CI: 0.08–0.58), and oral contraceptives (ever vs. never use HR 0.41, 95% CI: 0.26–0.65) compared with never use. There was no evidence of associations with intake of calcium supplements, aspirin or other NSAIDs, consumption of wine, beer or liquor, cigarette smoking, use of hormone replacement therapy, and increased adult body mass index.

Conclusion
Intake of multivitamin and folic acid supplement and oral contraceptives might reduce risk of endometrial cancer for women with MMR gene mutations.

IGCSM-0696
SCREENING AND PREVENTION

RANDOMIZED CONTROLLED TRIAL OF HOME-BASED HPV SELF-SAMPLING FOR IMPROVING PARTICIPATION IN CERVICAL SCREENING BY NEVER- AND UNDER-SCREENED WOMEN IN AUSTRALIA

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Aims

The trial is evaluating whether mailing an HPV self-sampling kit increases participation by never- and under-screened women in Australia

Methods

Women 30-69 years with either (1) no record on the Victorian Cervical Cytology Registry of a Pap test (never-screened) or (2) a last recorded Pap test 5-15 years ago (under-screened) were eligible. Women were randomly allocated in a 7:1 ratio to receive 1) an invitation letter, HPV self-sampling kit, instructions and information brochure or 2) a reminder letter to attend for a Pap test. **F**our focus groups were conducted to review trial materials. Dry samples were validated against the standard practice of wet samples for HPV detection, using the PCR based Cobas test.

Results

Women in focus groups responded positively to HPV self-sampling. Appealing features of self-sampling were cost (free), convenience and anticipated less discomfort than a Pap test. Agreement between wet and dry samples was perfect for HPV 16 and almost perfect for HPV 16/18 (kappa=0.94). Sensitivity and specificity of dry samples relative to wet samples for HPV detection were 88.5% (95% CI 79.9-94.3) and 95.9% (95% CI 90.7-98.7) respectively. Around 11,000 letters and 4000 kits have been mailed so far. Trial recruitment will be completed in June 2014 and 3 months participation evaluated in September.

Conclusion

There was high acceptance of self-sampling in focus group testing and validation showed satisfactory performance of the dry swab for HPV detection, together suggesting that HPV self-sampling with a dry flocked swab may be an appropriate method to reach under-screened women.

IGCSM-1017
SCREENING AND PREVENTION

OVARIAN CANCER RISK AFTER SALPINGECTOMY: A NATIONWIDE POPULATION-BASED STUDY

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Aims

Recent genetic and morphologic studies have challenged the traditional view on the pathogenesis of ovarian cancer; suggesting that ovarian cancer predominantly arises within the fallopian tubes or the uterus. We hypothesize that surgical removal of the fallopian tubes results in a reduced risk for ovarian cancer.

Methods

In this population-based cohort study, we used data on women with previous surgery on benign indication (sterilization, salpingectomy, hysterectomy and bilateral salpingo-oophorectomy (BSO), hysterectomy; n=254607) compared with the unexposed population (n=4755968) between 1973-2010. The effects of one- and two-sided salpingectomy were considered in a sub-analysis.

Results

There was a significantly lower risk for ovarian cancer among women with previous salpingectomy (HR 0.65, 95% CI 0.52-0.81) when compared with the unexposed population. In addition, significant risk reductions were observed among women with previous hysterectomy (HR 0.78, 95% CI 0.70-0.88), sterilization (HR 0.72, 95% CI 0.64-0.82), and hysterectomy with BSO (HR 0.06, 95% CI 0.03-0.12). Bilateral salpingectomy was associated with a 50% decrease in risk of ovarian cancer compared to the unilateral procedure (HR 0.35, 95 % CI 0.17-0.73 and 0.72, 95 % CI 0.57-0.91 respectively).

Conclusion

Salpingectomy on benign indication is associated with a significantly reduced risk of ovarian cancer. These data supports the hypothesis that a substantial fraction of ovarian cancer arises in the fallopian tube. Our results suggest that removal of the fallopian tubes by itself, or concomitantly with other benign surgery, is an effective measure to reduce ovarian cancer risk in the general population.

IGCSM-1048
SCREENING AND PREVENTION

SHOULD MORBIDLY OBESE WOMEN BE SCREENED FOR ENDOMETRIAL CANCER?

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Aims

Endometrial cancer (EC) ranks highest amongst all cancers in its association with obesity. Morbidly obese women have a lifetime risk as high as 9-10%, yet the prevalence of occult endometrial pathology remains unknown. We investigated the endometrial effects of morbid obesity and weight loss in women attending weight management and bariatric surgery clinics.

Methods

Blood, endometrium and cervical cytology samples, where overdue, were taken from morbidly obese women before and after weight loss (bariatric surgery or medically supervised diet).

Results

To date 64 women with a median age of 43 years (range 24–65 years) and body mass index 52.5 kg/m^2 (range 38–75 kg/m^2) have been recruited. Of these 31% had type 2 diabetes and 15% had polycystic ovary syndrome. 55 women underwent bariatric surgery and 9 commenced non-surgical weight management.

Four grade 1 EC (6%) and six atypical endometrial hyperplasias (AEH) (9%) were detected. Eight of these ten women were premenopausal and only one had abnormal vaginal bleeding. 31 (48%) of women were overdue cervical screening and one stage 1b1 cervical cancer was detected. The effect of weight loss on the endometrium (including Ki-67 expression), insulin resistance and reproductive function will also be presented.

Conclusion
The 15% prevalence of EC and AEH in this cohort is clinically significant. These data suggest that cervical and endometrial screening should be considered in morbidly obese women at the time of work-up for bariatric surgery.

IGCSM-1084
SCREENING AND PREVENTION

EFFICACY, SAFETY AND IMMUNOGENICITY OF THE HPV-16/18 AS04-ADJUVANTED VACCINE IN CHINESE WOMEN: 4-YEAR FOLLOW-UP RESULTS FROM A RANDOMIZED CONTROLLED TRIAL

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Aims

An event-triggered analysis of this ongoing phase II/III, double-blind, randomized, controlled trial (NCT00779766) in young Chinese women demonstrated high efficacy of the human papillomavirus (HPV)-16/18 AS04-adjuvanted vaccine against HPV-16/18-associated infections and cytological abnormalities after ~21 months of follow-up in 2011.[1] Here, we present efficacy and safety data after ~47 months of follow-up and immunogenicity results until Month (M)24 after initial vaccination.

Methods

Healthy 18-25-year-old women were randomized (1:1) to receive 3 doses of HPV-16/18 AS04-adjuvanted vaccine or Al(OH)3 control at M0-1-6. Primary objective: vaccine efficacy (VE) against HPV-16/18-associated 6-month persistent infection and/or cervical intraepithelial neoplasia (CIN)1+. Secondary objectives include VE against HPV-16/18-associated virological, cytological and histological endpoints, safety and anti-HPV-16/18 antibody responses by enzyme-linked immunosorbent assay.

Results

VE is shown for HPV-16/18-associated endpoints in the according-to-protocol efficacy cohort and total vaccinated cohort (TVC) for efficacy (Table 1).

In the TVC, 45/3026 (1.5%) and 71/3025 (2.3%) women reported serious adverse events (SAEs) in the vaccine and control groups, respectively, with 1 possibly

vaccination-related SAE (gastrointestinal tract infection) and 2 fatal SAEs (suicides, not vaccination-related). Anti-HPV-16/18 antibody responses in the according-to-protocol immunogenicity cohort are presented in Table 2.

Conclusion

The HPV-16/18 AS04-adjuvanted vaccine showed consistent high efficacy against cervical infections and lesions associated with HPV-16/18 after a ~4-year follow-up, induced persistent immune responses and had a clinically acceptable safety profile.

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[1]Zhu, Int J Cancer 2014.doi:10.1002/ijc.28897

IGCSM-1218
SCREENING AND PREVENTION

EFFECTIVENESS OF VISUAL INSPECTION WITH ACETIC ACID TO MANAGE HPV POSITIVE WOMEN: RESULTS FROM A PRIMARY SCREENING PROJECT IN A LOW INCOME SETTING

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Aims
WHO recently advocated a sequential testing with HPV testing followed by VIA as a suitable option for cervical cancer screening. However, its accuracy has not been directly assessed in the context of primary screening. This study sought to evaluate the effectiveness of HPV self-sampling (self-HPV) followed by VIA for cervical cancer screening in sub saharan Africa
Methods

We recruited 540 women aged between 30 and 65 years in Cameroon. Eligible women were counseled about HPV infection, cervical cancer and how to perform self-HPV. HPV positive women and a randomly chosen sample of HPV negative women were called back for VIA examination and biopsies. Accuracy of VIA, HPV testing and sequential testing for CIN2+ was determined.

Results
Sensitivity and specificity of VIA for CIN2+ were 36.4% (95% IC: 15.2%-64.6%) and 90.4% (95% CI: 85.4%-93.7%), respectively. Sensitivity of self-HPV (100.0% (95% CI: 79.6%-100.0%) to detect CIN2+ was 66% higher than that of the sequential testing (33.3% (95% CI: 15.2%-58.3%)). Meantime, specificity of HPV testing (74.5% (95% CI: 70.6%-78.1%)) was 22% lower than that of sequential testing (96.7% (95% CI: 94.8%-97.9%)). Positive predictive value (PPV) was two times higher for sequential testing (22.7% (95% CI: 10.1%-43.4%) than for HPV testing alone (10.3% (95% CI: 6.3%-16.3%)).
Conclusion

Self-HPV followed by VIA improves the specificity of cervical cancer screening, but at the expenses of an important decrease in sensitivity. Ways to improve VIA performance or other triage tools are needed to increase positive predictive value of a HPV-based screening strategy without impairing its sensitivity.

IGCSM-1269
SCREENING AND PREVENTION

A TIME SERIES ALGORITHM DOUBLES SENSITIVITY OF POPULATION SCREENING FOR OVARIAN CANCER IN THE UNITED KINGDOM COLLABORATIVE TRIAL OF OVARIAN CANCER SCREENING (UKCTOCS)

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Aims

Cancer screening strategies have commonly adopted single threshold rules to interpret biomarkers. We report on use of a risk algorithm based on serial measurements for

ovarian screening in UKCTOCS.

Methods

46,230 postmenopausal women underwent incidence screening in the multimodal arm using annual serum CA125 interpreted with the 'Risk of Ovarian Cancer Algorithm'(ROCA). Women at normal risk were returned to annual screening, intermediate risk had repeat CA125 and elevated risk repeat CA125 and transvaginal ultrasound. Risk was recalculated following each repeat CA125. Women with persistently increased risk were clinically evaluated. All participants were followed through national cancer/death registries. Performance characteristics of single threshold rule and ROCA were compared using receiver operator curves.

Results

During the initial189,056 annual incidence screens, 369 women underwent surgery. Eighty had primary invasive epithelial ovarian cancer(iEOCs) - 82.5% Type II, 42.5% Stage I/II. Half(40/80) had serum CA125 below the standard cut-off(35U/mL) at last annual screen. Despite significantly($p<0.0001$) longer intervals from screen to surgery (median 31versus 12 weeks), 52.5% of the latter had Stage I/II cancers compared to 32.5% of those with CA125$\geq$35U/mL ($p=0{\cdot}07$). Twelve interval iEOCs were reported within one year of screening. The sensitivity and specificity of multimodal screening were 87·0%(95%CI:78·3-93·1%) and 99.8%(95%CI:99.8-99.8%) respectively, with 4·6 operations/iEOC. ROCA(0.916) had significantly($p=0.0004$) larger area-under-curve compared to single threshold rule(0.852).

Conclusion

Screening using ROCA doubled the number of screen-detected iEOCs compared to standard cut-off. Reliance on predefined threshold rules in context of cancer screening may result in valuable biomarkers being discarded

IGCSM-1288
SCREENING AND PREVENTION

PROTEOMIC DISCOVERY OF CANDIDATE SERUM BIOMARKERS FOR EARLY DETECTION OF OVARIAN CANCER

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Objectives: We used preclinical serum specimens from UKCTOCS (UK Collaborative Trial of Ovarian Cancer Screening) in conjunction with quantitative mass spectrometry to identify putative early detection biomarkers.

Methods: Serum samples from UKCTOCS encompassing 25 women with Type I and Type II OC taken at <14 and >34 months to diagnosis alongside matched controls were pooled separately, iTRAQ labelled and analysed by mass spectrometry, in triplicate. Orthogonal validation of putative biomarkers was carried out using immunoassays.

Results: Data analysis provided a high stringency list of seven putative biomarkers. One markedly down-regulated protein was followed up via ELISA analysis of over 500 individual serum samples encompassing controls, Type I and Type II OC patients spanning up to seven years prior to diagnosis. Comparison of this protein with patient CA-125 levels, using Loess linear regression, showed that in Type I patients its levels mirrored that of CA-125. The levels of this protein compared to control were significantly decreased,***p=0.00044, demonstrating the power of this proteomic discovery approach.

Conclusions: We identified seven potential OC biomarkers with ELISA verification of one biomarker raising the possibility of novel biomarkers for early detection of OC.

IGCSM-1231
Uterine Cancer including Sarcoma

STATIC FIELD INTENSITY MODULATED RADIATION THERAPY VERSUS HELICAL TOMOTHERAPY- RETROSPECTIVE STUDY COMPARING THE TWO TREATMENT MODALITIES IN THE PLANNING OF POST OPERATIVE ENDOMETRIAL PATIENTS.

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Aims

Intensity Modulated Radiation Therapy (IMRT) is the preferred technique for the adjuvant radiotherapy treatment of patients with endometrial cancers.
IMRT has proven to improve tumour coverage, whilst also sparing dose to surrounding healthy tissue when compared to conformal radiotherapy. Helical Tomotherapy (HT) is a newer treatment modality with shorter
planning and treatment delivery times compared to IMRT. There are a
wide range of studies available comparing HR and IMRT for a variety of treatment sites but a paucity of studies in gynaecological malignancies. The aim of this study was to perform a dosimetric comparison of HT and IMRT for adjuvant endometrial cancer radiotherapy.

Methods

Ten consecutive patients who received adjuvant radiotherapy for endometrial cancer were selected. IMRT and HT plans were generated for each patient dataset. Dosimetric comparisons were performed for target volume coverage using conformity and homogeneity indices. Organ at risk (OAR) doses were compared using dose volume histograms (DVH).

Results

Interim results on 6 cases show that both modalities achieved similar conformity, although the HT mean PTV V100 was greater than the IMRT plans with 89.8% vs 63.9% respectively. The HT plans consistently demonstrated that the dose received by femoral heads and rectum were lower than the IMRT plans (p = 0.05 and 0.03 respectively).

Conclusion

Whilst both HT and IMRT plans produced comformal and homogenous plans, the dose received by the normal tissues was significantly reduced with HT.

IGCSM-0031
UTERUS

SUCCESSFUL PREOPERATIVE IDENTIFICATION OF HIGH-RISK GRADE 1 ENDOMETRIAL CANCER UTILIZING MRI, CA125 AND BMI BEFORE SURGERY: A PROSPECTIVE QUALITY IMPROVEMENT INITIATIVE

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Aims

Accurate pre-operative prediction of patients with G-1 endometrial cancer who would benefit from systematic lymphadenectomy is important. We adopted a quality improvement protocol to identify patients with high-risk for lymph node metastasis using pre-operative MRI, CA125 and BMI. The primary objective of this study was to evaluate the predictive value of our protocol.

Methods

Patients with G-1 endometrial cancer who have CA125>30 or any MRI features (tumor volume >36 mm^2, > 50% myometrial invasion, cervical or adnexal metastasis, pelvic lymphadenopathy) underwent a systematic lymphadenectomy at the time of surgery. We analyzed sensitivity, specificity, positive and negative predictive values to predict the presence of high-risk uterine features on final pathology.

Results

Consecutive 100 patients underwent the protocol over 15 months. Mean age was 59.6 (28-84) and BMI was 35.2(28.4-59.8). On final pathology, (25%) had high-risk uterine factors, (35%) underwent systematic lymphadenectomy with the hysterectomy and BSO. This protocol had a false negative rate of (4%). Sensitivity, specificity, positive and negative predictive values were 84%, 81.3%, 60%, and 93.9% respectively. In patient's ≤ 40 years and a BMI ≥30, the false negative rate was (1.5%). Sensitivity, specificity, positive and negative predictive values were 93.3%, 80.4%, 58.3%, and 97.6%.

Conclusion

Applying this preoperative protocol with BMI, MRI and CA125 in patients with grade1 endometrial cancer is highly predictive of the need for systematic lymphadenectomy. This protocol has potential to improve surgical planning, utilization and efficiency. It may also obviate the need for frozen section pathology.

IGCSM-0469
UTERUS

PRE-SURGICAL WINDOW STUDY OF METFORMIN IN ENDOMETRIAL CANCER

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Aims

Metformin use is associated with reduced cancer risk in several observational studies of patients with type II diabetes. Pre-clinical studies in endometrial cancer show that metformin reduces cellular proliferation. We hypothesised that metformin would reduce cellular proliferation *in vivo* in atypical endometrial hyperplasia (AEH) and endometrial endometrioid adenocarcinoma (EC).

Methods

Women with AEH or EC received metformin 850mg BD or no drug in the 1-4 week pre-surgical window between diagnosis and hysterectomy. Paired blood and tumour samples were obtained at recruitment and at hysterectomy. Cellular proliferation was assessed by Ki67 proliferation index. Automated scoring (DEFINIENS) on two separate occasions provided consistent replicate scores (SD<10%).

Results: Samples from 28 metformin-treated and 12 control women have been analysed. The median age was 64 years in the metformin-treated, and 66 years in the control group, respectively. Over 60% of all patients were obese. 55% of patients had undiagnosed diabetes (n=4, fasting glucose > 7.0mmol/L) or insulin resistance (HOMA-IR >2.8). Metformin was taken for a median of 20 days (range 7-34). In the metformin-treated group, Ki-67 was 12.9% lower at hysterectomy than at recruitment (95%CI 3.7-22.1, p=0.008) after adjusting for baseline Ki-67, Ki-67 change in controls, age and BMI.

Conclusion

Undiagnosed insulin resistance/diabetes was common in our study population. Short-term pre-surgical metformin was associated with a reduction in Ki-67 proliferation index. Attainment of low Ki-67 scores in response to metformin by many patients will allow testing of the hypothesis that this biomarker shift is associated with an improved prognosis, as established for post-treatment Ki-67 and breast cancer.

IGCSM-0805
UTERUS

DOES GYNAECOLOGIC ONCOLOGISTS IMPROVE SURVIVAL OF WOMEN WITH ENDOMETRIAL CANCER?

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Aims

Correct staging of women with endometrial cancer is a prerequisite for proper treatment and should improve survival. Staging involves pelvic lymphadenectomy in high risk women (deep myometrial involvement, histology grade 3) and should be performed by gynaecologic oncologists at specialized centres. We elucidate if operation at these centres improves survival.

Methods

The investigation includes a prospective, nationwide cohort of women operated in the period 2005-2010. The standard operation was hysterectomy, bilateral salpingo-oophorectomy, and pelvic lymphadenectomy (high risk patients). Surgery of serious, clear cell, and undifferentiated tumours included omentectomy. The survival was evaluated by Cox regression analysis and adjusted for the following possible confounders: FIGO-stage (before 2009), histopathology, BMI, comorbidity, ASA score, age, and smoking.

Results

3719 women were included in the study (Table I). 813 died within the observation period. Mean survival according to stage is shown in Table II. Surgery was abandoned in 302 (8.1%) women due to age and comorbidity. 898 (24.2%) had pelvic lymphadenectomy of which 735 (81.5%) were performed at a specialized centre. The 5-year survival at specialized centres versus non-specialized centres was insignificant (0.3>p>0.8).

Table I	Total (N = 3719)		Specialized centre (n = 2018)		Non-specialized centre (n = 1701)	
Histopathology	No.	%	No.	%	No.	%
Endometrioid	3218	86.5	1667	82.6	1551	91.2
Non-endometrioid	224	5,5	155	7.5	69	4.1
High risk	277	7.5	196	10.1	81	4.8
FIGO-stage						
I	2577	69.3	1302	64.5	1275	75.0
II	508	13.7	294	14.6	214	12.6
III	496	13.4	322	15.9	174	10.3
IV	138	3.7	100	4.9	38	2.2

Table II FIGO-stage	Centre	Mean survival	95% Confidence Interval	
			Lower Bound	Upper Bound
Stage I	Specialized	68,3	67,4	69,2
	Non-specialized	68,8	68,0	69,6
Stage II	Specialized	61,3	58,2	64,3
	Non-specialized	62,0	59,0	64,9
Stage III	Specialized	46,1	42,3	49,9
	Non-specialized	47,8	43,0	52,6
Stage IV	Specialized	24,5	18,3	30,6
	Non-specialized	22,7	14,7	30,8
All stages		63,3	62,6	64,1

Conclusion

Treatment of endometrial cancer by gynaecological oncologists may improve staging and treatment according to guidelines. However, the survival seems unaffected.

IGCSM-0839
UTERUS

OUTCOMES OF REPEATED FERTILITY-PRESERVING HORMONAL THERAPY USING MEDROXYPROGESTERONE ACETATE AMONG 165 YOUNG PATIENTS WITH ENDOMETRIAL CANCER OR ATYPICAL ENDOMETRIAL HYPERPLASIA

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Aims

We aimed to clarify retrospectively, the results of repeated high-dose medroxyprogesterone acetate (MPA) therapy in young patients with endometrial cancer (EC) or atypical endometrial hyperplasia complex (AEHC).

Methods

We reviewed 165 patients with EC G1 (104), EC G2 (4), and AEHC (57), who were determined to have neither myometrial invasion nor extrauterine metastasis. After 4 months oral administration of MPA 600mg/day, D&C was performed. An additional 2 months medication and D&C were repeated when positive residual disease. At intrauterine recurrence, we repeated MPA therapy for patients meeting the same eligibility for initial therapy. We analyzed the rate of tumor disappearance (CR), recurrence rate, and pregnancy rate.

Results

Median follow-up period was 37.5 months. In initial therapy, pathological CR rate was 97% in AEH, 89% in G1 and 100% in G2. In total, recurrence rate was 58%, and pregnancy rate in patients with a partner was 21%. We repeated MPA therapy in 88 cases (55%). Therapy cycle was 2 in 88 patients, 3 in 42 patients, 4 in 15 patients, 5 to 8 in 21 patients. In repeated therapy, CR rate was 98%, recurrence rate was 68%, and pregnancy rate was 21%, respectively. Pregnancy rate was 25% after 2nd therapy, 18% after 3rd therapy, and 5% after 4th or more therapy.

Conclusion

Repeated MPA therapy was feasible and effective in patients meeting the eligibility of initial therapy, however, after 3 times repeated therapy, the rate of successful pregnancy was not satisfactory.

IGCSM-0923
UTERUS

DISPARITIES IN TREATMENT AND SURVIVAL IN WOMEN WITH ADVANCED STAGE ENDOMETRIAL CANCER: A NATIONAL CANCER DATABASE REGISTRY ANALYSIS

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Aims

To identify socio-economic and demographic variables associated with cancer treatment and overall survival (OS) in women with advanced endometrial cancer (EC).

Methods
A National Cancer Database Registry study of EC patients who underwent hysterectomy for endometrioid, serous or clear cell carcinoma from 1998-2010 was conducted. Demographic, clinical and treatment-related variables associated with the outcomes of interest were assessed using multivariable cox proportional hazards and logistic regression.
Results
A total of 228,511 patients were identified, of which 24,176 were stage IIIC-IV. Patients with Medicaid payer status (vs private insurance; OR 1.50) or living in the Mountain region (vs South; 1.29) were more likely to have advanced disease. Women of black race were more likely to be diagnosed with serous carcinoma (vs endometrioid, OR 3.9). Factors associated with decreased likelihood of receiving chemotherapy or radiation for stage IIIC-IV disease were age ≥70 years (OR 0.51), Charlson-Deyo score ≥2 (OR 0.68), Medicare payer status (vs private OR 0.80) and treatment in the Mountain region (vs South; OR 0.71) (all $p<0.05$). Charlson-Deyo score ≥2 (HR 1.46), black race (HR 1.26), Medicaid payer status (HR 1.20) and treatment at a low volume institution (<5 vs ≥30 cases/annually; HR 1.25) were independently associated with poor OS (all $p<0.05$).
Conclusion
Multiple socio-economic factors were independently associated with inferior OS in women with advanced EC; black women had especially poor OS, even after controlling

for other factors. Nationwide standardization and concentration of treatment at high volume centers may help alleviate these disparities and improve OS.

IGCSM-0945
UTERUS

PRACTICAL TECHNOLOGIES FOR MOLECULAR-BASED CLASSIFICATION TO IMPROVE MANAGEMENT IN WOMEN WITH ENDOMETRIAL CANCER

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Aims
Classification of endometrial cancers (ECs) by morphologic features is inconsistent and our ability to predict clinical course and guide appropriate surgical, chemotherapeutic, and radiation management for individuals poor. New systems for classification are proposed.

Methods
The Cancer Genome Atlas (TCGA) used whole genome data to construct a molecular classification system that categorized ECcases into four groups with distinct prognostic outcomes. Methodologies utilized were work–intensive and costly. We tested alternative pared-down classifiers not requiring analysis of the whole genome that would result in a very similar classification of the TCGA data. Components most valued/weighted were carried forward to a new cohort of cases. Microsatellite instability(MSI), copy number analysis(CNA), POLE sequencing, and immunohistochemistry for mismatch repair proteins(MMR), p53, PTEN, L1CAM, stathmin, and PR were performed on 4 tissue microarrays encompassing over 492 cases.

Results
Results for principal components were available in 144cases thus far, allowing preliminary statistical analysis with similar characteristic of the TCGA-proposed decision tree. Four EC subtypes; ultramutated/POLE, MSI-high, CN-high and CN-low, immerged with a pattern of survival curves consistent with the TCGA results.

Conclusion

Molecular classification of endometrial specimens identifies distinct subset of EC's comparable to the subtypes described in TCGA. Validation of the full cohort as well as

interrogation of preoperative endometrial biopsy specimens is now being undertaken. Improved, consistent classification of EC will enable better clinical decision making than current post-surgical staging clinicopathologic-based systems.

IGCSM-1000
UTERUS

PROGNOSTIC SIGNIFICANCE OF POLE EXONUCLEASE DOMAIN MUTATION IN EARLY STAGE ENDOMETRIAL CANCER

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Aims

Improvement of risk assessment for endometrial cancer (EC) may reduce over- and under use of adjuvant therapy. Recent studies report a subgroup of about 7% ECs, defined by somatic *POLE* exonuclease domain mutations (EDM) resulting in ultramutated tumours. We tested whether *POLE*-EDM ECs display favourable prognosis.

Methods

We performed targeted *POLE* sequencing in ECs from the PORTEC-1 and -2 trials, and analysed outcome in the combined trial population, and in the grade 3 subgroup. We added 3 independent EC-series to generate weighted hazard ratios of recurrence-free survival (RFS) and cancer-specific survival (CSS).

Results

POLE EDMs were detected in 48/788 (6·1%) ECs. *POLE*-EDM tumours occurred in younger women (63·5 vs. 68.5 years, $P<0.001$) and were more frequently high grade (31·3% vs. 12·7%, $P<0·001$). Multivariate analysis demonstrated a trend to improved RFS (HR=0·43, 95% CI 0·13-1·37; $P=0·15$) and CSS (HR=0·19, 95% CI 0·03-1·44, $P=0·11$) with *POLE* EDM. Of 107 women with grade 3 tumours, there were no recurrences in the 14 (13·1%) cases with *POLE*-EDM compared to ~30% in those lacking *POLE*-EDMs, reflecting a significantly improved RFS ($P=0·02$) and CSS ($P=0·034$). Pooling of studies showed significantly better RFS (HR=0·34; 95%CI 0·12-0·93, $P=0·039$) of *POLE* EDM ECs, and a trend to improved CSS ($P=0·067$).

Conclusion

Women with *POLE* exonuclease domain-mutant EC have a very low risk of recurrence and may be spared adjuvant therapy. The strongest relative effects are observed in high-grade tumours.

IGCSM-1042
UTERUS

SENTINEL LYMPH NODE DETECTION COMPARING INTRA-OPERATIVE CERVICAL INJECTION OF INDOCYANINE GREEN, TECHNETIUM, AND BLUE DYE FOR ENDOMETRIAL CANCER

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Aims

With the debate over extent of lymphadenectomy in endometrial cancer, sentinel lymph node (SLN) mapping may provide a focused approach to evaluate the most relevant lymph nodes (LN) while minimizing the complications associated with LN removal. We evaluated SLN mapping using filtered 99mTc-sulfur colloid (99mTc-SC), indocyanine green (ICG), and blue dye.

Methods

Prospective evaluation of 85 patients who underwent SLN mapping by cervical injections of filtered 99mTc-SC, ICG, and blue (methylene or patent) dye as part of the staging procedure for endometrial cancer.

Results

A total of 244 SLNs were mapped (2.9 per patient) in 77 of the 85 patients, (91%). All 3 dyes were detected in 56 patients, 99mTc-SC in 73, ICG in 70, and blue dye in 63 patient. Bilateral SLNs were found in 58 cases with 52 (90%) detectable by ICG and 47 (81%) by blue dye. In 8 cases, the SLN was in the para-aortic area and in 11 cases in the pre-sacral or internal iliac vein area. In 9 cases, the SLN was positive for metastasis, and in 5 the SLN was the only positive node. One SLN was falsely negative. No complications or anaphylactic reactions were noted.

Conclusion

Intra-operative SLN mapping using cervical injection is feasible in patients with endometrial cancer and yields adequate detection rates. It allows to map SLN in areas (pre-sacral, internal iliac vein) not routinely sampled. A combination of ICG and 99mTc-SC yielded the best results.

IGCSM-1350
UTERUS

MISMATCH PROTEIN REPAIR (MMR) STATUS AND ENDOMETRIAL CANCER AETIOLOGY AND SURVIVAL

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Background and aims: Up to 25% of endometrial cancers (EC) demonstrate disruption of the mismatch repair (MMR) pathway manifesting as microsatellite instability and/or loss of MMR protein expression. A minority of MMR-deficient cases are due to germline MMR gene mutations, but most arise from somatic changes in the tumour. We sought to evaluate differences in EC risk and survival by MMR protein expression status.
Methods: Participants were 665 women with endometrial cancer and 689 population controls from the Australian National Endometrial Cancer Study. Cases included 524 women with MMR-proficient tumours and 167 with tumour protein loss (MMR-deficient). Women with a germline MMR gene mutation were excluded. We used polynomial logistic regression and Cox proportional hazards regression to estimate adjusted odds/hazard ratios (OR/HR) and 95% confidence intervals (95%CI) for associations with risk and overall survival, respectively.
Results: Obesity was associated with significantly increased EC risk and parity and OC use with significantly reduced risk, irrespective of MMR status. However a history of diabetes was significantly more strongly associated with MMR-deficient (OR=3.3, 95%CI=1.8-6.1) than MMR-proficient EC (1.6, 1.0-2.7, p-heterogeneity=0.01). MMR status was not significantly associated with overall survival (adjusted HR=1.4, 95%CI 0.8-2.5 for MMR-deficient vs. proficient).
Conclusion: Our data provide little evidence that risk factors and survival differ for women with MMR-proficient and MMR-deficient endometrial cancer.

IGCSM-0193
VULVA

HUMAN PAPILLOMAVIRUS STATUS OF PRIMARY TUMOR IS AN INDEPENDENT PROGNOSTIC FACTOR FOR SURVIVAL AND MODULATES LOCAL IMMUNE RESPONSE IN VULVAR SQUAMOUS CELL CARCINOMA.

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Aims

Background: Two independent pathways in the development of vulvar squamous cell carcinoma (vSCC) have been described: human papillomavirus (HPV)-dependent and HPV-independent. We aimed to evaluate the impact of HPV status on prognosis and immune surveillance of vSCC. We also assessed the prognostic significance of tumor-infiltrating lymphocyte (TIL) subsets in relation to HPV status.

Methods

Eighty-five vSCC tumor specimens collected from surgically treated patients were classified as HPV-negative or HPV-positive based on p16 expression. The expression of CD8, CD4, FOXP3, CD68, CD56, and granzyme B (GZB) in TILs from HPV-positive and HPV-negative tumors was determined by immunohistochemistry.

Results

Of the 85 vSCC patients, 50 were HPV-negative (p16-) and 35 were HPV-positive (p16+). The median follow-up was 89.20 months (range 1.7–189.5 months). HPV positivity was an independent prognostic factor for overall survival (OS) (p=0.001063) and predicted better response to radiotherapy (p=0.0006). HPV-negative vSCCs were infiltrated more intensely by CD8+, CD4+, and GZB+ cells than HPV-positive vSCCs (p=0.032, p=0.016, and p=0.007, respectively). High intraepithelial (IE)CD4+ and (IE)CD56+ infiltrates correlated with OS in HPV-positive cases (p=0.039 and p=0.013, respectively), whereas high (IE)CD68+ infiltrates inversely correlated with OS in HPV-negative cases (p=0.018).

Conclusion

HPV positivity is an independent prognostic factor for OS in vSCC and predicts improved clinical outcome in patients receiving adjuvant radiotherapy. Differences in immune cell infiltration of the primary tumor and the prognostic significance of TIL subtypes between HPV-positive and HPV-negative vSCC patients suggest that HPV status affects clinical outcome by modulating local immune response.

IGCSM-0464
VULVA

DOES GROIN NODE DISSECTION IN VULVAR CANCER DECREASE THE RISK OF GROIN RECURRENCE?

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Aims
Background and Aims: To determine if the risk of groin recurrence is lower in a population-based cohort of vulvar cancer patients who have had a groin node dissection (GND) compared to those without groin node dissection.
Methods
Methods: This population-based retrospective cohort study includes all cases of invasive squamous cell carcinoma identified in a provincial cancer registry from 1998-2007. Data collection was completed for all clinical and pathological factors by chart abstraction. Cause-specific Cox models were used to examine the hazard of recurrence, and cumulative incidence functions for recurence were estimated, accounting for death before recurrence as a competing risk.
Results
Results: Clinical and pathological data were collected for 1109 patients, of which 942 patients were eligible for GND. 654 patients (69.4%) had a GND as part of their primary management, while 288 patients (30.6%) did not. Median follow-up time was 2.4 years. Controlling for age, comorbidities, advanced disease, depth of invasion, lymphovascular invasion, and groin radiation, GND was not significanlty associated with decreased groin recurrence with a hazard ratio (HR) of 0.83 (95% CI 0.52-1.34, p=0.45). Cumulative incidence plots demonstrate that the risk of death without recurrence was significantly higher than the risk of groin recurrence, particularily within the first year after diagnosis (12% vs 6%, $p<0.05$).
Conclusion
Conclusions: There was no significant difference in groin recurrence in those with or without GND. Patients had a higher probablity of death before a groin recurrence could occur. Future work with outcomes in vulvar carcinoma needs to consider death as a competing risk.

IGCSM-0827
VULVA

IMPORTANCE OF RESECTION MARGIN FOR LOCOREGIONAL CONTROL IN NODE-NEGATIVE VULVAR CANCER – SUBSET ANALYSIS OF THE AGO CARE-1 MULTICENTER STUDY

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Aims

The standard of 8mm minimal pathological resection-margin for primary vulvar cancer has recently been challenged since several single-center analyses failed to show impact of smaller margins for disease control.

Methods

AGO CaRE-1 is a retrospective survey of treatment patterns and prognostic factors in vulvar cancer. Patients with primary squamous-cell vulvar cancer FIGO IB and higher

(UICC-TNM 6) from 29 gynecologic cancer centers in Germany 1998-2008 were included. While a total of 1618 patients were documented, this sub-analysis focuses on surgically-staged node-negative patients with complete resection and known margin distance without radio/chemotherapy(n=289).

Results

Median age was 66 years(22-94); 141(48.8%) had pT1b,140(48.4%) pT2 and 8(2.8%) pT3 tumors. 125(43.3%) underwent complete, 127(43.9%) partial vulvectomy and 37(12.8%) radical local excision. Median minimal resection-margin was 5mm(1mm–33mm); median follow-up was 38.8 months. 46 patients(15.9%) developed disease-recurrence, thereof 34(11.8%) at the vulva, after a median of 18.3 months. 26 patients(9.0%) died. Vulvar recurrence rates were 12.6% in the group of patients with a resection margin <8mm and 10.2% in patients with a margin ≥8mm. When analyzed as a continuous variable, margin distance had no significant impact on disease-free survival(HR per mm increase 0.945,95%CI0.886–1.009,p=0.090). Similarly, neither uni- nor multivariate analysis adjusted for age, stage, grade, depth of invasion and tumor diameter could reveal a significant difference in disease-free survival (multivariate HR 0.642,95%CI 0.355–1.162,p=0.143).

Conclusion

Tumor-free resection margins are crucial for loco-regional control in vulvar cancer. The need for a minimal margin of 8mm could, however, not be observed in the large cohort of the AGO-CaRE database.

IGCSM-1120
VULVA

COMPARISON OF MRI AND 18F-FDG PET/CT IN DETECTION OF REGIONAL LYMPH NODE METASTASIS IN VULVAR CANCER AND VAGINAL CANCER

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Background and aims: The most important factor in survival of vulvar cancer is the number of involved lymph nodes at the time of diagnosis. Undetected lymph node metastasis will often be fatal for the patients. This prospective study was designed to evaluate the diagnostic value of magnetic resonance (MR) imaging and 18F-fluorodeoxyglucose (18F-FDG) positron emission tomography/computed tomography (PET/CT) in detection of regional lymph node metastasis in vulvar cancer and vaginal cancer. Histopathology was used as reference standard.

Methods: From October 2010 to August 2013 women, diagnosed with vulvar cancer or vaginal cancer, were prospectively enrolled in this study. Of a total of 102 patients, 69 patients were MR-scanned, 63 patients had MR and histopathology, and 53 patients were scanned by both MR and 18F-PET/CT, and histopathology was available.

Results: When choosing the maximum standardized uptake value (SUVmax) cut off to 4, the over-all based sensitivity, specificity, positive (ppv) and negative predictive value (npv) of 18F-FDG PET/CT detection of nodal disease were 94.7%; 76.5%; 69.2%; 96.3% respectively. In stead, if SUVmax cut off were set to 3 the results were 63.1; 67.6%; 52.2%; 76.7%. In comparison, the results for MR were 63.1; 76.5; 60%; 78.8% respectively.

Conclusions: This study showed that when SUVmax cut off value were set to 4, 18F-FDG PET/CT had a better sensitivity, specifity, ppv and ppv compared to MR. When SUV max cut off value were set to 3 MR had better results.

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VULVA

MODIFIED GLUTEAL FOLD ADVANCEMENT V-Y FLAP FOR VULVAR RECONSTRUCTION AFTER SURGERY FOR VULVAR MALIGNANCIES.

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Aims
The aim of the study is to assess the feasibility and complications of the modified V-Y advancement gluteal flap in the vulvo-perineal reconstruction among women operated for vulvar malignancies.
Methods
From December 2008 to April 2012 women who underwent radical surgery for invasive vulvar cancer were considered for the study. Patients after demolitive procedure were submitted to reconstructive step (Group A) consisting of bilateral or monolateral V-Y advancement fascio-cutaneous flap, from gluteal fold. Surgical results were compared to those of a historical group of patients (Group B) with the same characteristics but not submitted to the reconstructive step.
Results
Twenty-nine patients were considered for the study and submitted to radical surgery followed by V-Y flap. Surgical results were compared to those of 78 patients submitted to demolitive surgery only. There were no differences in terms of clinical characteristics between the two groups. The average length of hospital stay was 7 and 10 days, respectively for Groups A and B (P=0.0067). Mean operating time was higher in Group A, 210 vs 120 min (P<0.00001). Among women with tumor size larger than 4 cm (27 Group A, 30 Group B), Group A had lower complication rate (dehiscence 11% vs 40%; P=0.0172).
Conclusion
Modified gluteal fold advancement V-Y flap is a safe and simple procedure and can be harvested in a single surgery session. It could be able to reduce hospital stay and in patients with large loss of substance could reduce rate of complications.

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IMPACT OF LYMPHEDEMA ON QUALITY OF LIFE IN GYNECOLOGIC CANCER SURVIVORS AFTER PELVIC LYMPH NODE DISSECTION

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Aims
We firstly evaluated the impact of lymphedema on quality of life (QOL) in cervical, endometrial, and ovarian cancer survivors after pelvic lymph node dissection (LND).
Methods

A cross-sectional case-control study was performed using the Korean version of the Gynecologic Cancer Lymphedema Questionnaire (GCLQ-K) and EORTC QLQ-C30. Among 67 enrolled patients, 25 out of 33 women (75.8%) with lower limb lymphedema (LLL) and 28 out of 34 women (82.4%) without LLL completed both questionnaires.

Results
Patients' characteristics in terms of age (mean, 50.0 year), type of cancer, FIGO stage, and time since cancer diagnosis (mean, 3.9 year) were not statistically different between LLL group and control group. GCLQ-K total symptom score was poorer in LLL group ($P<0.001$): swelling-general ($P<0.001$), swelling-limb ($P<0.001$), heaviness ($P=0.007$), and aching ($P=0.099$) except physical function, infection ($P=0.156$), and numbness. In EORTC QLQ-C30, all functional scales (physical, role, emotional, cognitive, and social), 3 symptoms scales (fatigue, pain, and nausea and vomiting), and 5 items of symptoms (dyspnea, insomnia, appetite loss, constipation, and diarrhea) were not statistically different in both groups. Financial difficulty was deteriorated in LLL group (mean, 16.0 vs. 6.0; $P=0.035$). Global health status was poorer in LLL group with borderline statistical significance (mean, 62.7 vs. 71.4; $P=0.069$). Spearman's correlations suggested that physical functioning in GCLQ-K was consistently correlated with global health status in EORTC QLQ-C30.
Conclusion
QOL is degraded in terms of financial difficulty and global health status in women with LLL after LND.

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ABDOMINAL RADICAL TRACHELECTOMY (ART): A TEN-YEAR EXPERIENCE WITH UPDATED DATA OF 207 PATIENTS

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Aims: As ART becomes a favored fertility-sparing procedure, the relative contraindication of tumor size >2 cm has been questioned. We report our ART experience in patients with cervical malignancies, describing the surgical, oncologic, and fertility outcomes.
Methods: We conducted a retrospective review of a prospectively maintained database of patients undergoing ART at our institution from April 2004 to June 2014.
Results: A total of 207 patients with cervical malignancies underwent for planned ART. Sixteen needed immediate completion of radical hysterectomy due to unfavorable intraoperative findings. Median age was 38.9 years. Median follow-up was 42.3 months. Histology included 22(10.6%) adenocarcinoma, 166 (80.2%) squamous carcinoma, 9 (4.4%) adenosquamous carcinoma, and 10 (4.8%) cervical sarcoma. Ninety-one of 135 stage IB1 cases had tumor ≥2 cm and 79 (86.8%) of them had preserved fertility. Five recurrences were observed so far. Four had adenocarcinoma or adenosquamous carcinoma and 3 of them had tumor ≥2 cm. ALL were offered salvage surgery and chemoradiation. Only 55 patients attempted to conceive and 9 (16.4%) of them succeeded. Six delivered by cesarean section at 27-39 weeks' gestation, two miscarriaged, and one is still expecting.
Conclusions: Although 3 patients had recurrences, ART provides secured oncologic outcomes for selected patients whose tumor size is ≥2 cm. Patients in our study group had less favorable obstetric outcomes, which may be related to the radicality of the surgery as well as social, familial, and physical factors. In the future, personalized fertility-sparing surgery may be offered to patients based on their different situations.