conversion coefficients for each acquisition condition. This standardization is also important for identifying appropriate thresholds for differentiating high and low risk heart failure patients. In addition this cross-calibration would enable a better comparison between European and Japanese data.

OP217b

Audit on staff exposure when administering Radium 223 Dichloride Therapy

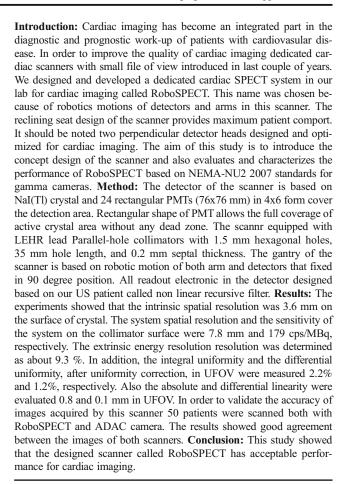
A. S. F. Ribeiro, S. Summers, L. Causer, T. Shepherd, I. Murray, J. Gear, G. Flux, M. Meintjes, Y. Du; Royal Marsden Hospital, Sutton, UNITED KINGDOM.

Background: Prostate cancer is the fourth most common cancer in both sexes combined and the second most common cancer in men. In 2012 an estimated 1.1 million men worldwide were diagnosed with prostate cancer according to the World Health Organization. Radium dichloride therapy (223Ra) has a half-life of 11.4 days which emits short-range alpha-particles with highenergy that selectively targets areas of increased bone turnover such as bone metastases. A range of methods to administer ²²³Ra have been reported from using protective suits with face masks to more commonly personal protective equipment such as gloves and aprons. This audits intends to evaluate our current practice with regards to staff exposure and method of administration of ²²³Ra. Materials and Methods: Since 2004 we have been involved with administering 223Ra. We currently perform an average of four patients a week (clinical and research). Data from 18 administrations was collected over a period of 3 months. Specialized techniques, such as two staff members for therapy administration, use of personal protective equipment (double gloves, apron and Inco pad sheets) are current practice when administering the therapy within our general Nuclear Medicine Service. Administration is currently performed under the Ionising Radiations Regulations 1999 (IRR99) by a team of four experienced members of staff (two clinical nurse specialists; two nuclear medicine research technologists). The average patient activity was 4.35 MBq of ²²³Ra , ranging from 3 MBq - 6.7 MBq. A dose meter was used at a 50 cm distance from the syringe (approximate distance from administrator to syringe) as well as Electronic Personal Dosimeter (EPD). Results: Our data showed the average dose rate from administering the therapy was 3.67 µSv/hr (±1.4) No EPD readings were observed for all 18 administrations. The room monitoring (injection chair; trolley and surrounding areas) and selfmonitoring were both not significant. Conclusion: This audit confirmed that according with the methods and practices used in our service, most Nuclear Medicine Departments can potentially deliver this treatment, providing adequate staff training is in place as well as good communication with all teams involved. ²²³Ra can be administered with safety for both patients and staff involved.

OP218

Design and Development of a Dedicated Robotic SPECT System for Cardiac Imaging

M. R. Ay¹, B. Teimourian², S. Sajedi¹, A. Akbarzadeh¹, S. Kaviani¹, M. Farahani¹, S. Farzanefar³, Z. Shapouri¹; ¹Research Center for Molecular and Cellular Imaging, Tehran University of Medical Sciences, Tehran, IRAN, ISLAMIC REPUBLIC OF, ²Faculty of Physics and Nuclear Engineering, Amir Kabir University of, Tehran, IRAN, ISLAMIC REPUBLIC OF, ³Depatment of Nuclear Medicine, Valiasr Hospital, Tehran University of Medical Sciences, Tehran, Iran, Tehran, IRAN, ISLAMIC REPUBLIC OF.



604 - Monday, October 17, 2016, 08:00 - 09:30, Hall 112

Do.MoRe: Thyroid & Parathyroid

OP219

Role of single-nucleotide polymorphisms (SNPs) of glucose transporter 1 (GLUT1) in differentiated thyroid cancer (DTC) patients

V. Stebner¹, N. Becher-Boveleth¹, S. Ting², A. Sabet¹, A. Bockisch¹, J. Nagarajah³; ¹Department of Nuclear Medicine, Medical Faculty, University Duisburg-Essen, Essen, GERMANY, ²Department of Pathology, Medical Faculty, University Duisburg-Essen, Essen, GERMANY, ³Department of Radiology, Memorial Sloan Kettering Cancer Center, New York, NY, UNITED STATES.

Aim: The human genome has about 35 million SNP. Some SNP are more common than other. Our aim was to identify SNP, which are presented more frequently in patients with DTC or which change for the worse of this disease. GLUT1 is up regulated in solid tumors like DTC and patients with higher standardized uptake values (SUV) on F-18-FDG (FDG)-PET show a poorer prognosis. For this we evaluated the effect of the three mostly reported SNP XbaI, HpyCH4V and HaeIII for the GLUT1 on progression free survival and overall survival in DTC patients. Methods: A total of 69 patients (P) with DTC and a follow-up of minimum 60 months were included in this retrospective study. All these patients had archival tumor free tissues for SNP analyses. Restriction fragment length polymorphism (RFLP) technique was used to identify SNP. Progression was defined as either increasing Tg-values and/or progress on imaging. FDG-PET was performed for all P and SUVmax was used to quantify glucose uptake. Kaplan Meier curve was made for progressionfree and overall survival. Results: The allele frequencies were: Xbal G>T: G=0,37, T=0,63; HpyCH4V A>T: A=0,15, T=0,85; HaeIII T>C:

