

at 7 cm dilatation in primiparous and at 10 cm in multiparous. Proposed TPU cut-offs performed well to estimate the mode of delivery in occipito-anterior position, but not in occipito-posterior (OP) position.

**Conclusions:** The results strengthen previous studies regarding the feasibility of imagistic methods in establishing labour progress and anticipate potential complications. The sonopartogram proved to be a suitable alternative in assessing labour because it is well accepted, non-invasive and with minimal infectious risks. Ultrasound evaluation should be available in most delivery rooms.

P13.04

#### The role of ultrasound in prediction of successful induction of labour

V. Marsoosi, A. Jamal, L. Eslamian, S. Nejat Eslamifard

*Obstetrics and Gynecology, Tehran University of Medical Sciences, Tehran, Islamic Republic of Iran*

**Objectives:** The aim of this study was to evaluate the potential value of cervical length and posterior cervical angle measurement by transvaginal ultrasound and determination of the fetal head position by transabdominal ultrasound before induction of labour in prediction of successful induction of labour.

**Methods:** In a prospective study of 298 singleton pregnancies who admitted for induction of labour, after informed consent maternal characteristics were recorded. Fetal head position assessed by TAS, cervical length and posterior cervical angle measured by TVS. We examined the value of pre induction ultrasound parameters in prediction of labour induction outcomes.

**Results:** The cervical length measured by TVS was significantly shorter in patients who delivered vaginally in comparison with patients who delivered by Caesarean section due to the failure to progress (18.1±5.7) versus (29.5±11.1) mm, respectively ( $p < 0.001$ ).

The odds ratio for successful induction for occiput anterior was 1.75 (CI 95% = 1.064–2.878) and for OP was 0.455 (CI 95% = 0.272–0.763).

And risk ratio for OA was 1.243 (1.033–1.4950); and for OP was 0.701 (CI 95% = 0.541–0.908).

The mean of posterior cervical angle in patients delivered vaginally was 124±18; and in patients with failed induction was 100±20.5 ( $P < 0.001$ ).

**Conclusions:** Using pre-induction ultrasound to determine fetal head position and cervical changes provides more precise information in comparison with Bishop score to predict the outcome of induction of labour, and enable clinicians to improve further management of pregnancy.

P13.05

#### Can the "dynamic" assessment of intrapartum ultrasound parameters serve a better predictor for mode of delivery?

N.A. Elharbary<sup>1</sup>, L. Zayed<sup>1</sup>, R.E. Ali<sup>1</sup>, L. Hesham<sup>4</sup>, E. Montagufti<sup>2</sup>, A. Youssef<sup>3</sup>

<sup>1</sup>Obstetrics and Gynecology, Port Said University, Port Said, Egypt; <sup>2</sup>Obstetrics and Gynecology, S Orsola Malpighi University Hospital, Bologna, Italy; <sup>3</sup>Obstetrics and Gynecology, University of Bologna, Bologna, Italy; <sup>4</sup>Obstetrics and Gynecology, Alexandria University, Alexandria, Egypt

**Objectives:** The angle of progression (AOP) and progression distance (PD), measured by transperineal ultrasound, have been used for assessment of fetal head descent during labour.

Our aim was to assess the dynamic change of these parameters with uterine contraction and bearing down, and explore its ability to predict mode of delivery.

**Methods:** In this prospective observational study, we included nulliparas, in active first stage of labour for whom we obtained static and dynamic measures of AOP and PD using 2D ultrasound.

AOP and PD were compared between women with Caesarean delivery (CD) and those with vaginal delivery. Receiver–operating characteristics (ROC) curves were constructed to assess the accuracy of different parameters in the prediction of CD.

**Results:** We included 62 women in the study. Among those 48 (76%) cases delivered vaginally while 14 had CD (22.5%).

Women undergoing CD had significantly narrower AOP at rest (90.5 vs 108.8,  $P = 0.0005$ ) and under maternal pushing (98 vs 124,  $P = 0.0001$ ). On the other hand, the CD group had a smaller PD at rest (-1.7 vs 18.7mm,  $P = 0.0002$ ), and under maternal pushing (9.4 vs 34mm,  $P < 0.0001$ ).

AUC for prediction of Caesarean delivery; for angle of progression (AOP) was 81% (95% CI, 70–90%) ( $P < 0.0001$ ) and 90% (95% CI, 80–96%) ( $P < 0.0001$ ), for static and dynamic assessment, respectively.

Comparing ROC curves for dynamic versus static assessment, dynamic parameters were significantly better in predicting Caesarean delivery with  $p$  value = 0.0391.

Analysing results for progression distance (PD), AUC was 82% (95% confidence interval (CI), 70–91%) ( $P < 0.0001$ ) for static assessment versus 90% (95% confidence interval (CI), 80–96%) ( $P < 0.0001$ ) for dynamic.

In the comparison of dynamic versus static assessment for PD, dynamic parameters served a better predictor in prediction of Caesarean delivery with  $p$  value = 0.0193.

**Conclusions:** The dynamic assessment of intra-partum ultrasound parameters namely AOP, PD can serve better predictor of Caesarean delivery compared to their static counterparts in active first stage of labour.

P13.06

#### Ultrasound evaluation of safety of postpartum hemorrhage (PPH) compression belt in reduction of uterine, internal iliac and femoral artery blood flow in healthy postpartum women

T. Dias, M. Patabendige

*Obstetrics and Gynecology, University of Kelaniya, Kelaniya, Sri Lanka*

**Objectives:** Postpartum hemorrhage (PPH) accounts for a higher proportion of maternal mortality and morbidity throughout the world. Aim of this study was to evaluate the pelvic blood flow changes with PPH compression belt.

**Methods:** An interventional study was carried out on healthy postpartum women within 6 hours of vaginal delivery. Women with any underlying contraindications (PPH, delivered more than 6 hours ago, multiple pregnancy, pre-eclampsia etc.) were excluded. PPH compression belt (Laerdal Medical, Stavanger, Norway) was applied on the lower abdomen in a supine position with a slight lateral tilt. Resistance/pulsatility indices (RI, PI), Systolic/diastolic ratio (SD) and Peak flow velocity of internal iliac, femoral and uterine arteries were measured using Alpinion L cube ultrasound machine just prior and 10 and 20 minutes after the application of the belt.

**Results:** The mean time from delivery to study inclusion was 2.5 hours (range 0.5–5.0). The mean age was 26 years (range 19–33), mean parity was 1.6 (range 1–4), mean body mass index was 25.3 kg/m<sup>2</sup> (range 19.1–39.4), and mean gestational age at time of delivery was 39.1 weeks (range 37–40). Overall there were no significant changes in the internal iliac and uterine artery RIs, PIs and Peak Flow Velocities after application of the compression belt. However, results indicate there was a significant change in uterine artery PFV in 10 minutes ( $P < 0.05$ ). There were no changes in vital signs and no side effects noted.

**Conclusions:** Overall there were no significant changes in the internal iliac and uterine artery RIs, PIs and PFVs after application