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EP7.01

A case report of overwhelming *Clostridium septicum* related life threatening puerperal sepsis

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Background Genital tract sepsis has become the leading cause of direct maternal death in the UK (CEMACE 2011). *Clostridium septicum* is one of the more aggressive progenitors of gas gangrene. Infections are typically seen in settings of trauma, surgery, malignancy and septic abortions. *C. septicum* infection rapidly progresses, with a mortality rate of approximately 79% in adults. There have been very few reported cases of *C. septicum* infection in pregnancy or puerperium so far. We report a case of puerperal sepsis caused by *C. septicum* leading to partial uterine necrosis and subsequently necessitating emergency hysterectomy as a lifesaving procedure.

Case report A 40-year-old woman was admitted 2 weeks after her emergency caesarean section, done at a different hospital, with pyrexia, tachycardia and loose stools. She was commenced on intravenous (IV) tazobactam and piperacillin (Tazocin) as her CRP and WCC were raised (137 mg/L and 21.2 × 10 × 9/L respectively). Her stool cultures were positive for *C. difficile* whilst blood cultures grew *C. septicum*, therfore oral vancomycin and IV metronidazole were added.

On examination her uterus was enlarged to 28 weeks size on a background of pre-existing fibroids. A pelvic ultrasound and CT scan showed a large uterine cavity with necrotic fibroid and large amount of retained products, although her lochia was minimal. The following day, she had evacuation of retained products amounting to about 1 L of clots and necrotic debris. Clinically she felt better, her diarrhoea improved, but inflammatory markers continued to rise. As her repeat blood cultures remained positive for *C. septicum*, another abdominal/pelvic CT scan was organised to identify any remnant foci of infection. It confirmed an enlarged uterine cavity with gas within. IV tazocin was changed to IV meropenem and IV immunoglobulins were administered.

She subsequently developed significant abdominal distension with rise in CRP (436 mg/L), after 5 days. An urgent abdomino-pelvic CT scan confirmed pockets of free air in abdominal cavity with suspicion of perforation of uterus or bowel. Multi-disciplinary opinion was sought from microbiologist and gastroenterologists. An urgent laparotomy was performed, which revealed a large edematous uterus weighing 2169 g, with necrotic tears in lower half and a large friable mass involving the fundus but intact bowels, with thick fibrin deposition. Total abdominal hysterectomy was performed and subsequently the patient improved.

Conclusion The rapid institution of antibiotics and timely surgical treatment were important factors in this life threatening infection by *C. septicum* in the postpartum period.

EP7.02

Improved safety of caesarean delivery: Experiences from a low resource country

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Introduction In low resource countries, women still abhor caesarean delivery and will go to any length to avoid it. This is due to their misguided belief that caesarean delivery is not safe and will result in death. In Nigeria, the safety of caesarean delivery has not been documented clearly, thus, we sought to evaluate and compare the morbidity and mortality associated with caesarean and vaginal deliveries in Port Harcourt, Nigeria.

Methods A prospective study of 1000 caesarean deliveries at the University of Port Harcourt Teaching Hospital in 2010. For a control group, we selected women matched for age and parity who had the next normal vaginal delivery after the caesarean section. Information from the case notes was extracted on to a proforma. Descriptive and comparative analysis of data generated was done using Epi Info Ver 6.04d. Chi-square test was used to evaluate differences in the mortality and morbidity rates between the two groups.

Results The caesarean section rate for the unit over the study period was 33.1% (1000/3025). Morbidity patterns were similar in both groups in terms of puerperal sepsis (1.1% in caesarean delivery versus 1.3% in vaginal group) and postpartum haemorrhage (0.6% in caesarean delivery versus 1.7% in vaginal group). Six maternal deaths occurred in the caesarean delivery group, five of which were in those who had emergency caesarean section while five maternal deaths occurred in the vaginal group. The difference was not statistically significant ($P > 0.05$).

Conclusion Caesarean delivery is associated with improved safety especially in tertiary institutions. Women in less resourced countries should therefore be counselled adequately so as to encourage quick access of this procedure and minimise complications of prolonged and often obstructed labour.

EP7.03

Views of maternity staff toward promoting vaginal birth after caesarean to women who have had one previous caesarean and the issue of maternal request

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Background The average caesarean section rate in the UK is currently 24.8%, and within Brighton and Sussex University Hospitals Trust (BSUH) the rate sits above the national average at 28.4%. In light of the government priority to reduce the overall caesarean section rate, the South East Coast Normalising Birth Project was created, and has identified women having an elective repeat caesarean section (ERCS) as a group in whom the caesarean rate might be reduced. The aim of this research was to identify staff attitudes towards vaginal birth after caesarean (VBAC) as a potential influence on women's decision to opt for VBAC and provide data to inform the current care pathway, care through the birth options clinic, for women who have had a previous caesarean and possibly shape staff training.
Methods During January to March 2012, an original questionnaire was formulated and delivered to maternity staff within BSUH: hospital midwives, midwife care assistants, community midwives, obstetric trainees and consultant obstetricians. Response data were inserted into a spreadsheet and analysed according to staff role, length of time in their current role and gender. Statistical significance of trends identified was assessed using Fisher's Exact Test.
Results A total of 82 responses were received; 95.1% of staff overall felt that one previous caesarean was not an indication for women to have an ERCS and 96% actively encourage women to opt for VBAC on the subsequent pregnancy. 73.3% of staff felt that women should have a choice between VBAC and ERCS. 81.2% of staff had a positive view towards the birth options clinic. 52.5% of respondents felt that women should be able to request a caesarean on the NHS without medical indications, and 88.5% of doctors questioned would perform a caesarean at a woman's request.
Conclusion The vast majority of staff felt that one previous caesarean section was not grounds alone to perform an ERCS and actively encourage women to attempt VBAC. This reinforces the current care model for these women within BSUH. These results also highlight a need for training to ensure compliance with new NICE guidelines.

EP7.04

Xanthenone prevents leptin induced increases in blood pressure and proteinuria during pregnancy in rats

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Introduction Decreased serum ACE2 activity and raised leptin levels in serum and placentae have been reported of pre-eclamptic women. The role of leptin and ACE2 in this however remains unknown.
Objective This study examines the effect of leptin and ACE2 activation, on systolic blood pressure (SBP), proteinuria, markers of endothelial activation and ACE2 expression during pregnancy in Sprague-Dawley rats.
Methods From day 1 to 20 of pregnancy rats were given daily subcutaneously injections of either saline (control) or leptin (60 μg/kg), or leptin + xanthenone (600 μg/kg), or xanthenone alone. SBP was measured every 5 days, and 24-h urinary protein excretion was estimated at days 0 and 20 of pregnancy. On day 20 of pregnancy, ACE, ACE2, endothelin-1, E-selectin and ICAM-1 levels were estimated in the serum. ACE2, endothelin-1, E-selectin and ICAM-1 gene expressions were determined in the kidney and aorta. Data were analysed using ANOVA and post-hoc analysis.
Results Compared to controls, SBP was higher in leptin-only-treated rats ($P < 0.001$) and lower in rats xanthenone alone treated rats ($P < 0.01$). ACE2 activity and expression were lower in leptin-only-treated rats ($P < 0.05$). Urine protein excretion, serum endothelin-1, E-selectin, and ICAM-1 levels were significantly higher than controls in leptin-only-treated rats ($P < 0.05$).
Conclusion It seems leptin administration during pregnancy significantly increases SBP, urinary protein excretion, levels and expression of markers of endothelial activation, but decreases the level and expression of ACE2, which are prevented by xanthenone, indicating that ACE2 suppression might be involved in leptin-induced increases in blood pressure and proteinuria during pregnancy.

EP7.05

Management of postpartum haemorrhage at the Royal London Hospital

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Introduction Postpartum haemorrhage (PPH) is the leading cause of maternal mortality globally; however the prevalence of PPH is significantly varied between developing and developed countries. PPH is also a major cause of maternal morbidity. Primary PPH is defined as 500 mL or more of blood loss within 24 h after delivery, while severe primary PPH is blood loss of 1000 mL or more within the same period. The Royal London Hospital audits all of its cases of primary PPH of 1500 mL or greater to identify deficiencies and areas for improvement in the management of PPH.

Methods All patients with a primary PPH of 1500 mL or more were identified from all deliveries that took place from 1 April to 30 September 2013 at the Royal London Hospital. Data were extracted retrospectively from patients' notes and entered into an audit proforma. The proforma was designed to collect data pertinent to maternal age, parity, known risk factors for PPH and the various interventions for the treatment of PPH according to the hospital guidelines. The data were then analysed using an Excel spreadsheet.

Results For the defined period there were a total of 2527 births at the Royal London Hospital. Fifty-eight cases of all deliveries satisfied the criteria of the audit of which 54 (93%) were audited. The prevalence rate of primary PPH of 1500 mL or greater was 2.3%. The range of estimated blood loss for the cohort was 1500–6600 mL, with three women suffering a primary PPH >5000 mL. Approximately two-thirds (63%) of the patients were of Asian origin. 74% of patients were either primigravida (43%) or had a parity of 1 (31%). Over a half (54%) of the patients had a Caesarean-section, of these, 72% had an emergency Caesarean section. Analysis of the documentation for the cohort showed that 44% did not have hourly urine output monitoring. 96% of the cohort received the recommended first-line treatment of IV oxytocin.

Conclusion Caesarean section is a known risk factor for PPH and appears to be a particularly significant risk factor in this group, with emergency caesareans carrying a greater risk. Although research shows multiparity is a risk factor for PPH, our audit interestingly suggests that a reduced parity may also be a risk factor. In light of our findings further research needs to be conducted to determine whether reduced parity is indeed a significant risk factor for the development of PPH.

EP7.06
The uptake of postmortem examinations among couples who suffered stillbirths

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Introduction The aims of investigation of stillbirth (SB) are to assess maternal wellbeing, to determine the cause of SB and to determine the chance of recurrence and possible means of reducing the risk. Postmortem examination (PME) has the highest diagnostic yield of all investigations. When combined with other diagnostic tests, it can offer information relevant to recurrence risk in 40% of cases and to management of next pregnancy in 51% of cases. PME should be 'offer to all- Free choice-Full or limite' and consent must be obtained.

Methods Retrospective analysis of all intrapartum and antenatal stillbirths from January 2009 to February 2013. A total of 131 cases were identified. Data were missing on 30 patients and thereby, 101 cases were analysed. There were 88 antepartum SB and 15 intrapartum SB. Data were stratified according to the proportion of women who had postmortem examination and findings of postmortem. Overall, 48% of patients who had SB in our study had agreed for PM examination. 45% of women who had antepartum SB had PME compared to 60% of those who had intrapartum SB. Furthermore, no cause was found in 22% of intrapartum SB compared to 40% who had antepartum SB.

Results

Table 1. Comparison of antepartum versus intrapartum SB

Antepartum stillbirth *n* = 88	
Had postmortem	*N* = 40 (45%)
No cause found	16 (40%)
Cord prolapse	2
Cord accident	2
Hypoxic ischemic event	1
True knot in cord	1
Meconium aspiration	2
PET/IUGR	4
Placental insufficiency	4
CNS abnormality	4
Chorio-amnionitis	1
Heart abnormality	1
Fetomaternal haemorrhage	1
Fetal thrombotic vasculopathy	1
Intrapartum SB *n* = 15	
Had postmortem *N* = 9 (60%)	
No cause found	2 (22%)
IUGR	1
Abruption/PET	1
Abruption	2
Chorioamnionitis	1
Placental insufficiency	1
Acute asphyxia	1

Conclusion Only 48% of women agreed to have PME. They were more likely to agree if they had intrapartum SB compared to antepartum SB (60% vs 40%). Many professionals may find it difficult to discuss postmortem and worry that it may add to stress that couple already suffer from. Emotional and psychological issues act as barriers for the uptake of PME of babies. Education and training of staff can be invaluable in helping bereaved parents make informed choice an improve percentages of PME.

EP7.07
Randomised double-blind placebo controlled trial comparing oral with vaginal misoprostol for induction of labour

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Introduction The optimal dose of oral misoprostol for labour induction is not yet known. In this study the safety and efficacy of oral misoprostol initiated with 50 μg followed by 2 doses of 100 μg at 4-hourly intervals was compared with three doses of 25 μg vaginal misoprostol given 4-hourly.

Methods This study was initiated after obtaining clearance from the Institutional Review Board (IRB(11) 7598 CTRI no. REF/

2012/01/003226). Women requiring induction of labour with a single live term fetus in cephalic presentation with Bishop's score of <6, intact membranes and an unscarred uterus were randomised to receive either oral or vaginal misoprostol after obtaining informed consent. Randomisation was computer generated, using variable block sizes and allocation was concealed by providing inducing agents in sealed opaque envelopes. Thus sequential envelopes were used and each woman recruited received either oral drug with vaginal placebo or vaginal drug with oral placebo. The primary outcome was vaginal delivery achieved within 24 h of induction and secondary outcomes measured were related to effectiveness and maternal and neonatal complications. To show a difference of 6% between the oral and vaginal misoprostol groups in achieving vaginal delivery within 24 h with an 80% power and 5% level of significance, the sample size required was 389 in each arm.

Results A total of 778 women were randomized. Twenty-one women were excluded after randomisation for various reasons. Baseline characteristics were similar in both groups. 253 (84.6%) women in the vaginal group and 255 (88.9%) women in the oral group delivered within 24 h ($P-0.14$). 53 (17.7%) in the vaginal and 67 (23.3%) in the oral group delivered within 12 h ($P-0.10$). 21% in the vaginal group and 24.5% in the oral group delivered by caesarean section ($P = 0.14$). Oxytocin for augmentation of labour was required in 80% of women in the vaginal group versus 73% in the oral group ($P = 0.02$). Uterine hyperstimulation with trace abnormality were similar in both groups (10.8% vs 11% $P = 0.73$). Maternal and fetal complications were similar in both groups.

Conclusion Oral and vaginal misoprostol administered with this regimen are equally effective in achieving vaginal delivery. However, statistically significant reduction in the need for oxytocin augmentation was seen in the oral misoprostol group.

Funding source: Institutional Fluid Research Funds

EP7.08

Joint perspective, joint decision making; improving maternity bereavement care for stillbirth. A mixed methods multi-centre study in the UK.

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Introduction Research into bereavement care for families who experience perinatal death has been identified as a priority by national and international healthcare organisations including the Department of Health (UK), International Stillbirth Alliance, and stillbirth charities.

Poor bereavement care is associated with poor long-term outcomes after perinatal death. The InSight Study is an in-depth study of the issues faced by bereaved parents during their care, and the staff who care for them.

Method Semi-structured interviews with bereaved parents using a unique staged-recruitment process immediately after their stillbirth, and multidisciplinary focus groups with maternity staff caring for parents.

Four main areas were prioritised for discussion: diagnosis / breaking bad news; mode of birth; postmortem consent process; follow-up.

Mixed-method analysis involved thematic analysis of qualitative findings alongside detailed investigation of local statistics and service provision data, to provide an in-depth understanding of maternity bereavement care.

Results Staff willingly participated in the focus groups, attending in their own time.

A recruitment rate of 75% exceeded expectations, with 24 out of 32 parents agreeing to participate. Most mothers chose to be interviewed at home with their partners.

Early analysis suggests that certain themes seem to be relevant to both parents and staff. While the majority of parents were positive about bereavement care, many identified weaknesses and proposed solutions including better training.

Poor examples of care that distressed some parents were incomplete awareness of parents' needs, lack of time, and inadequate shared decision-making.

'The impression from the doctor was,' I've got things to do. I'm off''.

When being given the news that their baby had died, parents valued an individual and empathetic approach from healthcare professionals that avoided pity or 'cold calculated' communication;

'Important that [healthcare professionals] can be normal, and talk, and look me in the eye'.

Parents and staff differed in their approach after the diagnosis; staff appeared to automatically shift care priorities to the mother and their potential future pregnancies, while parents continued to focus their concerns on their baby.

Conclusion There are key themes that are relevant to both parents and staff, but there are also clear differences that will need to be addressed to improve maternity bereavement care.

Communication and decision making is challenging for staff and parents at such a difficult time. A variety of changes in maternity care may be needed, so that parents and staff can understand each other and work together in a very demanding situation.

EP7.09

Improving discharge after caesarean at a London maternity unit

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Introduction Caesarean section is a common mode of delivery, with 20–25% UK births taking place in this way. Women who have had caesarean section are at increased risk of blood loss, infection, venous thromboembolism and intensive care admission than those who deliver vaginally. Safe and woman-centred postnatal care should be capable of early identification of the

deteriorating patient, as well as encourage timely postoperative recovery and cater to her physical and psychological needs.
Methods An audit of postnatal care records at a London District General Hospital. Case notes were reviewed and compared against an audit tool adapted from the UK National Institute for Clinical Excellence (NICE) guidance on caesarean section. Metrics included type of surgery and blood loss, current wellbeing of patient (including bowel/bladder function, lochia, wound care, pain control), early warning signs of deterioration (patient observations), debriefing (reasons for surgery, wellbeing of baby) and discussion/advice (wound care, contraception, postnatal check, venous thromboprophylaxis and future mode of delivery).
Results Twenty-five case notes were reviewed between January and February 2013. Postnatal notes documented type of surgery and blood loss in 92% cases. Wellbeing of patient was documented 75% of cases, however patient observations were not specifically documented in 81% cases. Documentation of discussion with the patient and debriefing of indication for caesarean were documented 45% and 0% respectively.
Conclusion This study demonstrates that postnatal care is often overlooked and although the basic post-operative details are documented, improvements need to be made in discussion/advice given to the patient, and in debriefing them after surgery. Unfortunately the study is limited by a small sample size and applicability of documented notes to actual conversations with patients (information shared with patients may not have been specifically documented).

Often the postnatal checks are conducted by junior medical staff inexperienced with care specific to caesarean section. As a result of this audit, a discharge tool was developed incorporating prompts for all the NICE recommended discussion points to guide the clinician through a thorough postnatal check. Education of new doctors was undertaken at induction meetings. A repeat audit is underway following implementation and will be presented at the meeting.

EP7.10
Vaginal birth after caesarean section: A national cohort study investigating factors associated with its uptake and success

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Introduction The majority of women with an uncomplicated primary caesarean section, in an otherwise uncomplicated pregnancy, are candidates for attempting a vaginal birth after caesarean section (VBAC) for their second pregnancy. When successful, VBAC is associated with lower morbidity than elective repeat caesarean section (ERCS). However, little is known about how many women with a primary caesarean section currently attempt VBAC. Among women who attempt a VBAC, success rates have been estimated at 70–80%; however, these rates are derived from historical cohorts that include women with prior vaginal births, the single best predictor of a successful VBAC. This study investigated the demographic and obstetric factors associated with uptake and success of VBAC in women with no prior vaginal deliveries.
Methods This national cohort study used hospital administrative data from the English National Health Service. Rates of attempted and successful VBAC were calculated for women whose first birth resulted in live singleton delivery by caesarean section between 1 April 2004 and 31 March 2011, who had a second birth before 31 March 2012, and who were eligible for a trial of labour. We used multivariate logistic regression models to estimate the crude and adjusted effects of maternal demographic and clinical risk factors, and indication for primary caesarean section, on rates of attempted and successful VBAC.
Results Among the 143 970 women in the cohort, 75 086 (52.2%) attempted a VBAC for their second birth. Younger women, those of non-white ethnicity, and those living in a more deprived area had higher rates of attempted VBAC. Overall, 47,602 women (63.4%) who attempted a VBAC had a successful vaginal birth. Younger women and women of white ethnicity had higher success rates. Black women had a particularly low success rate (OR 0.54; 95% confidence interval (CI) 0.50 to 0.57). Women who had an emergency caesarean section in the first birth also had a lower VBAC success rate, particularly those with a history of failed induction of labour (OR 0.59; 95% CI 0.53 to 0.67).
Conclusion In this national cohort, just over half of women with a primary caesarean section who are eligible for a trial of labour attempted VBAC for their second birth. Of these, almost two thirds successfully achieved vaginal delivery. Women of non-white ethnicity and women with a history of failed induction of labour had poorer prognosis for successful VBAC.

EP7.11
Development of a suite of indicators for quality improvement in maternity care

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Introduction Several recent publications have documented wide variation in maternity care in the UK and considerable deviation from national clinical guidelines. The aim of this project was to develop a suite of robustly-defined, case-mix adjusted quality indicators derived from routine administrative data to measure clinical practice in English maternity units.
Methods We assessed the adequacy of existing maternity care quality measures used in Europe, the USA, Canada, Australia and New Zealand. Indicators were shortlisted and reviewed by an expert panel according to specific evaluation criteria: validity; statistical power; fairness and technical coding. Selected indicators were derived for all medium and large maternity units in England

using 2011/12 Hospital Episode Statistics, a hospital administrative dataset from the English National Health Service. Indicators were adjusted for differences in case-mix using logistic regression models that incorporated demographic and clinical risk factors available in the dataset: maternal age, ethnicity, socioeconomic deprivation, parity, previous caesarean section, gestational age, presentation, birthweight, hypertension, diabetes, and placenta praevia/abruption. Funnel plots were used to explore variation in indicator values between maternity units and to determine whether differences were more than would be expected due to chance.

Results 194 existing quality indicators were identified from 33 sources. 94% either did not meet the evaluation criteria or could not be derived from the dataset. Five process and six outcome indicators were included in the final suite, covering the themes of induction of labour; mode of delivery; perineal tears and emergency readmissions. Adjustment for case-mix had a marked impact at the unit-level, with indicator values for individual units shifting by −37% to +53%. However, adjustment did not significantly reduce the overall amount of variation between units. Among the adjusted indicators, there was on average more than a twofold difference between units ranking in the 10th and the 90th percentiles, ranging from a 1.6-fold difference in the proportion of induced labours resulting in emergency caesareans section, to a fivefold difference in the rate of emergency readmission within 30 days.

Conclusion This study highlights the importance of defining clinically meaningful indicators to support quality improvement. The findings demonstrate that unadjusted rates should not be used to compare patient outcomes between hospitals because of the considerable impact that adjustment has on the identification of outliers. Nonetheless, even after adjustment, we found evidence of considerable variation in intrapartum care among English maternity units which cannot be explained by maternal characteristics or clinical risk factors.

EP7.12

Appropriate methods of urine protein estimation for predicting significant proteinuria in pregnancy complicated by hypertension

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Introduction Significant proteinuria in pregnancy is defined as presence of 300 mg or more of protein in 24-h urine. The gold standard 24-h urine protein estimation has errors related to variable and incomplete collection. It is inconvenient and delays diagnosis. Various methods used like sulphosalicylic acid test, urine dipstick test and protein to creatinine ratio. The objectives were to compare efficacy of: sulphosalicylic acid test, urine dipstick test and spot urine protein to creatinine ratio with 24-h protein estimation and to establish the cut-off value of urine protein to creatinine ratio in predicting significant proteinuria, in pregnancy complicated by hypertension.

Methods Comparative study consisting of single group, of 509 admitted pregnant women after 20 weeks of gestation with hypertension of ≥140/90 mm Hg. Women with pre-existing renal diseases, diabetes or urinary tract infection were excluded. First voided morning urine sample was taken for sulphosalicylic acid test, dipstick test, urine protein and creatinine estimation and urine culture. Subsequent urine samples were collected for 24 h protein estimation. Urine protein estimation was done by colorimetric method and creatinine estimation by modified Jaffe's method using auto analyzer. The receiver-operator characteristics (ROC) was used for comparison. With ≥300 mg proteinuria as true positive and <300 mg proteinuria as true negative.

Results The mean age of subjects was 25.09 years (range 18–39 years). For significant proteinuria sulphosalicylic acid test with 1+ proteinuria has sensitivity, specificity, positive and negative predictive value of 59%,48%, 39%, 67% where as 2+ proteinuria has 44%, 88%, 75% and 67% respectively. When dipstick test is used it is 71%, 52%, 54%, 70% for 1+ proteinuria and 49%, 87%, 75% and 69% for 2+ proteinuria respectively. An excellent correlation coefficient (r) = 0.93 existed with 95% confidence interval between spot urine, protein to creatinine ratio (mg/mg) and 24-h urine protein (mg/day) as calculated by Pearson's method. Coefficient of determination (r2) is 0.86 ($P < 0.0001$). The area under the ROC curve is 0.995 (95% confidence interval). The cut off value of 0.285 has sensitivity 100%, specificity 99.65%, positive predictive value 99.56%, negative predictive value 100%.

Conclusion Sulphosalicylic acid test and dipstick test are poor in predicting significant proteinuria. An excellent degree of correlation existed between the spot urine protein to creatinine ratio and 24 h protein in hypertensive disorders of pregnancy. The cut-off value of spot urine protein to creatinine ratio is 0.285 mg protein/mg creatinine. The level below this is not associated with significant porteinuria and further testing is unnecessary.

EP7.13

A case control study to evaluate the association between primary caesarean section for dystocia and failure to progress and vitamin D deficiency

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Introduction Rising caesarean section rates are now a concern all over the world as well as India, reducing the primary caesarean section would be the most effective endeavor to reduce the caesarean sections. The most common reasons for primary caesarean sections in the country are dystocia and failure to progress. Several factors may contribute to failure to progress or dystocia. There is now a lot of research into vitamin D deficiency and its acute and chronic manifestation. Poor muscular performance is an established symptom of vitamin D deficiency. Serum calcium status which is regulated by vitamin D would play an important role in both skeletal and smooth muscle function. With this background we decided to assess the association between maternal levels of vitamin D and primary caesarean

section. The objective was to evaluate the presence of vitamin D deficiency in women undergoing primary caesarean section for dystocia and failure to progress compared to women delivering normally.

Methods Antenatal women after 37 completed weeks of gestation admitted in labour room were recruited consecutively for the study after getting informed consent. Inclusion criteria were (1) all women undergoing LSCS with failure to progress or CPD as primary or secondary indication (2) all women undergoing LSCS for mal presentation. Exclusion criteria were (1) multiple pregnancy (2) IUGR (3) placenta praevia (4) patients on multivitamins (5) previous LSCS.

The control group were primigravida who deliver normally.

Results A total of 100 samples were collected from the patients in the labour ward and postnatal wards between January 2010 to November 2010. Of the 100 samples, 50 were of patients who underwent caesarean section and 50 were from those who delivered vaginally. The mean birthweight among cases was 2981 g (range 1900–4200) and it was 2888 g in controls (range 2080–3960). There was no statistical significance. ($P = 0.232$). Of the 100 participants 69% were moderately deficient in vitamin D, 21% were severely deficient and only 10% of them had optimal vitamin D status. Of the 50 participants who delivered by caesarean section, 12% were severely deficient, 68% moderately deficient or insufficient and 20% had optimal vitamin D level. Of the 50 participants in the control group, 8% were severely deficient in vitamin D, 70% had vitamin D insufficiency and 22% had optimal vitamin D levels. There was no association between vitamin D deficiency and increased primary caesarean section for dystocia and failure to progress. There was vitamin D deficiency in both the caesarean section group and normal delivery group.

Conclusion There was no association between Vitamin D deficiency and increased primary caesarean section for dystocia and failure to progress.

EP7.14
Description of changes in metabolic correlation between regulatory polypeptides of the amniotic fluid – A new approach to pathogenesis of preterm delivery

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Introduction Within the last 10 years the frequency of preterm deliveries hasn't reduced, in spite of all efforts of research and practical obstetrics. High perinatal morbidity and mortality of dysmature infants, which are results of this pathology, stipulate the urgency of this issue. The objective of the study is to determine the content of bioactive components in the amniotic fluid that induce contractile activity of the uterus and to investigate their role in the development of preterm delivery.

Methods 69 women had labor at the 34th–37th week and 21 women – at the 38th–40th week (control group). There was normobiocoenosis in both groups of pregnant women. The following was determined in the amniotic fluid: the content of activin A, follistatin, TNF-α, NO metabolites (NO^{2-}, NO^{3-}), NO-synthase and arginase activity.

Results Thus, it was found that the content of activin A reduced by 1.3 times and the content of follistatin reduced by 1.26 times as compared to physiological values. A low level of follistatin disturbs the function of activin A, which in physiological concentrations ensures the activity of the given polypeptide, as well as TNF-α, a level of which is reduced by 2.5 times relative to the control group in women with preterm delivery. It can be supposed that the reason of reduction in the level of this cytokine, apparently, is the disturbance of the regulatory relations between activin A and follistatin. At the same time it was revealed that these women had a significant reduction of nitric oxide metabolites by 1.45 times and NO-synthase activity by 1.47 times as well as the increase in the arginase activity by 3.8 times. A low level of activin A, which controls the function of NO-synthase, stipulates the fall of the generation of NO on which also affects an high activity of arginase as well, because in these conditions the level of l-arginine is reduced. One of the mechanisms that controls the content of Ca^{2+} in cells is TNF-α, which increases its content by means of Ca^{2+} entry through the channels controlled by receptors. NO provides the reduction of Ca^{2+} concentration in myometrium cells.

Conclusion The revealed imbalance between TNF-α and NO according to our conception confirms the role of metabolic disorders in the development of preterm delivery as a result of the change in production of cellular bioregulatory compounds.

EP7.15
Pre-eclampsia referrals to a tertiary perinatal center: difficulties and delays

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Introduction Pre-eclampsia is one of the common cause of maternal death in India. High maternal mortality in India is due to maternal morbidity associated with non-medical factors including socioeconomic factors, availability, accessibility and affordability of care, transport and quality of care. Appropriate antenatal care and timely referral for pre-eclampsia has an impact on maternal and fetal outcomes. The aim of this study was to evaluate difficulties and delays in initiating management for pre-eclampsia at a tertiary care center.

Methods A prospective observational study of mothers who were referred with pre-eclampsia from December 2011 to October 2013 was conducted at Fernandez Hospital, a tertiary referral perinatal center with 7000 deliveries annually. The study variables included indication for referral, private or public antenatal care, number of antenatal visits to the primary care giver including number of antenatal visits after diagnosis, management of hypertension, corticosteroids for fetal lung maturity, difficulties in getting medication, interval of referral to admission at referral unit, reasons for delay, and referral notes. The maternal condition at admission was classified as stable, potentially life threatening, near miss and death based on WHO criteria.

Results We evaluated 96 mothers referred for management of pre-eclampsia during the study period. Forty-nine (51.04%) were classified as potentially life threatening and 13 (13.54%) as maternal near miss. Most of them had come from urban (n = 47, 48.9%) areas and 47.9% (n = 46) of all had travelled more than 100 km to reach the hospital. Ninety three (96.80%) mothers booked for antenatal care by 3rd month of pregnancy, 94 (97.9%) had private antenatal care. Sixteen of them had been referred immediately, 61 (63.54%) had at least 1–3 visits. Over one-third of mothers took more than 6 h to reach the hospital and only 21 (21.8%) were transported in an ambulance. A referral note with diagnosis was available for 60 (80%). However, last clinical examination details were mentioned in 57.3% (n = 43), gestational age in 74.6% (n = 56) and obstetric history in 69.3% (n = 52). Nearly 70% of referral note were without details of investigations.
Conclusion Late referrals, delay in accessing care after referral, and incomplete referral notes further delay appropriate management for women with pre-eclampsia. Appropriate guidelines for referral are a necessity.

EP7.16
Neonatal infection prophylaxis: Another reason to optimise primiparous induction of labour

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Introduction Maternal and neonatal morbidity associated with primiparous induction of labour (IOL) is well documented. Measures like cervical sweep have been recommended to minimise the number of women requiring IOL for prolonged pregnancy.[1] Interventions like intrapartum intravenous antibiotics (IV-Abs) in women with suspected chorioamnionitis and NICE guidelines on use of neonatal antibiotic prophylaxis aim to reduce morbidity and mortality associated with early neonatal infection.[2,3]
A postnatal ward audit to explore the perceived increased burden of prophylactic neonatal antibiotics, since the introduction of new NICE guidance[3] in August 2012, was undertaken in a tertiary inner-city hospital.
Methods A prospective audit of newborns requiring prophylactic IV-Ab on the postnatal ward was coupled with a 6-month retrospective prescription database review. Babies admitted to neonatal unit with sepsis were not included in this audit.
Results (a) Prospective review of term newborns that required IV-Abs during August- September 2013 revealed i. Entire group analysis (n = 47):
• 68% babies (n = 32) were born to primiparous women.
• IOL +/− syntocinon augmentation was required for 72% (n = 34) births
• Twenty five percent (n = 12) received IV-Abs in labour.
• In addition, eleven women (23%) were GBS +ve.
• In 62%, ruptured membranes were present for < 24 h duration.
(ii) Of note, the primiparous were more likely to have prolonged rupture of membranes, present in 50% (n = 16) of them.
(b) Retrospective database review: The number of neonatal prophylactic IV-Ab prescriptions increased from 10.7% to 13.5% from 1st January – 30th June between the years 2012 and 2013.
Conclusion Neonates born to primiparous women undergoing IOL and with prolonged rupture of membranes are at an increased risk of receiving prophylactic IV-Abs. As a result of the new NICE guidance there has been an increase in prophylactic neonatal antibiotics usage. Thirteen neonates out of every 100 now need antibiotics on the postnatal ward. This has resulted in an increase in the length of stay of mothers fit for discharge, with a knock-on effect on bed blockage and some disruption of activity flows within the maternity service.

Proactive management of primiparous women with pre-labour rupture of membranes, cervical priming measures like sweeps and scrutiny of indications for embarking on IOL in the primiparous group may help maternity units to lower the increasing number of neonates requiring prophylactic antibiotics on postnatal ward.

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EP7.17
How useful is a screening tool for sepsis in pregnancy?

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Introduction In the UK, genital sepsis superseded venous thrombo embolism as the leading cause for direct maternal deaths in the last triennial maternal mortality report (2005–2008). In response to this and other national drives such as the 'Surviving Sepsis' campaign, a large teaching hospital in the UK initiated a sepsis protocol to reduce morbidity and mortality caused by sepsis. In this audit we assessed our compliance with this protocol and reviewed the lessons which obstetricians can learn from this intervention.
Methods Cases of sepsis were identified contemporaneously between 2011 and 2013 in pregnant women attending our hospital. Notes were analysed retrospectively and audited against the hospital protocol. Sepsis was identified via a screening tool where 2 out of 6 criteria were met: i.e. tachycardia, pyrexia, hypotension, tachypneoa, altered mental state and abnormal leucocyte count. The protocol stipulated that intravenous antibiotics should be administered within 1 h of diagnosis to reduce morbidity. Outcome of the study included adherence to the hospital protocol, identifiable causes or organisms and risk factors for sepsis.

Results A total of 33 cases of sepsis were identified: four diagnosed antenatally, 13 in the peripartum period and 16 postnatally. 45% patients received antibiotics within 1 h of diagnosis. For those with sepsis in labour, 8 were delivered by caesarean section, six by normal vaginal delivery and three by instrumental delivery. Seven patients required high dependency care. In 70% of cases, neither site of infection nor causative organism was identified. Although chorioamnionitis was diagnosed clinically in 10 cases, the causative organism was identified in only four of them. In all four cases of urinary sepsis the causative organism was *Escherichia coli.* Blood cultures were negative in 91% with *Staphylococcus* identified in 2 and invasive Group A *Streptococcus* in one case. There were risk factors present in 88% of the patients. The most common identifiable risk factors were: prolonged spontaneous ruptured membranes (PSROM) >24 h (27%), post caesarean section (24%), post vaginal delivery (18%) and obesity (18%)

Conclusion The existing sepsis screening tool (designed for the general population) needs to be modified for the obstetric population taking into account normal physiological changes in pregnancy. The focus of sepsis and the causative agent are difficult to isolate despite clinical signs. The majority of cases will have prior risk factors and obstetricians should be vigilant in detecting clinical signs of sepsis and treating promptly with intravenous antibiotics.

EP7.18
Urinary tract infection in pregnancy: How useful are multi-reagent strips in their detection?

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Introduction It is well documented that one of the principal causes of premature labour in pregnancy is the presence of untreated urinary tract infection (UTI) or asymptomatic bacteriuria, highlighting the paramount importance of early detection and initiation of treatment.

The current NICE guidelines for diagnosis of UTI are based upon positive culture results of a midstream urine (MSU) sample. In our Maternal Assessment Unit (MAU), urine samples are sent for microscopy, culture and analysis of sensitivities (MCandS) if the patient has urinary symptoms or if leucocyte esterase, nitrites, protein or blood are detected using a multi-reagent strip.
Our study aims to evaluate the correlation between positive multi-reagent strip testing and the positive MSU culture results for detection of UTI and asymptomatic bacteriuria, within our MAU.

Methods We performed a prospective analysis of MSU sampling based on NICE guidelines in 100 pregnant patients attending MAU over a 4-week period. Collection of samples and dipstick analysis was performed to evaluate patients for the presence of UTI or asymptomatic bacteriuria. Laboratory analysis of MSU samples by MCandS was performed if dipstick testing confirmed the presence of blood, leucocytes, nitrites or protein. Data were analysed with respect to the presence of symptoms, dipstick testing parameters and MSU culture results in order to assess the efficacy of our current practice in identifying the parameters that best correlate with a positive MSU culture.

Results Of the 100 cases identified where MSU sampling was sent for MCandS, 84% were negative. The data collected highlighted proteinuria as the parameter most likely to be positive in the presence of a positive MSU culture (85%) over leucocytes (57%), blood (58%) and nitrites (2%). The patients with a positive MSU culture, without proteinuria, were shown to be symptomatic. In our study, the presence of either proteinuria or symptoms of UTI, if used as indicators for MCandS analysis, would result in 35% less samples sent for culture, yet still detecting all UTI or bacteriuria.

Conclusion Though this study consists of a small sample of patients, it demonstrates that in our department, there is a low correlation between multi-reagent strips and positive MSU cultures, accounting for the evident overuse of MSU culture testing. However, we intend to continue this prospective study in order to further validate these results and find the indicators that correlate the most strongly with a positive MSU culture result, inevitably saving valuable time, money and resources.

EP7.19
New multidisciplinary approach of conservative surgical management of placenta percreta antenatally diagnosed

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Background Placenta percreta, accreta, increta and transcreta are abnormal placentation adherence (APA), significantly associated with high maternal morbidity and mortality. When APA is suspected antenatally there are two current recommended alternatives: a radical treatment by planned caesarean-hysterectomy or a conservative management leaving the placenta in place with secondary uterine devascularisation by embolisation, with the aim of preserving fertility but at the cost of heavy monitoring and possibly severe complications and secondary hysterectomy. A third option could be considered when APA is antenatally diagnosed. This is a multidisciplinary planned management, consisting in per operative placental localization and delivery of the fetus via transverse uterine incision above the upper edge of the placenta. Then pelvic devascularization by inflation of internal iliac artery balloons preoperatively inserted is established and excision of the accreta part of the placenta followed by reconstruction of the uterine wall defect with healthy myometrium is performed.

Case We evaluated the management and outcome of all APA diagnosed between January 1st 2012 and 31 July 2013, in a Reunion Island tertiary care center, and describe our first case of placenta percreta managed according to this new multidisciplinary

conservative alternative technique. Statement of main conclusion: 7 cases of APA occurred during the study period, and have been systematically complicated of severe postpartum hemorrhage (PPH) and hysterectomy in four cases.
Conclusion This first case report of multidisciplinary planned CS and conservative management of a placenta percreta was also the first one uncomplicated to PPH, transfusion or hysterectomy, in our service since 2 years. This new alternative seems very encouraging, must be available as soon as possible and should be evaluated prospectively.

EP7.20
Utilising the informal health sector to reach women delivering at home with life-saving interventions: Traditional birth attendants distributing misoprostol to prevent postpartum hemorrhage at home births in Mozambique

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Introduction Postpartum hemorrhage (PPH) is a leading contributor to Mozambique's high maternal mortality rate of 520 maternal deaths per 100 000 live births. Misoprostol has the potential to reduce PPH-related maternal mortality and morbidity in low-resource settings since the recommended injectable drugs to prevent PPH are infeasible in communities where the majority of women deliver at home without a skilled provider. Traditional birth attendants (TBAs) serve as a critical opportunity to distribute misoprostol to women who do not access the formal healthcare system during pregnancy and delivery.
Methods In one district of Mozambique, TBAs were trained to conduct community and one-on-one education meetings on excessive bleeding, and provide women with misoprostol at deliveries they attended from November 2009 through October 2010. TBAs were trained to measure postpartum blood loss using a local garment, and to identify excessive bleeding with a threshold for referral. TBAs were linked to the formal healthcare system through meetings with their supervisor at the local health center.
Results A total of 2441 women delivered with TBAs and all took misoprostol at delivery. All but two women took the correct dose. TBAs reported that <1% of women experienced excessive bleeding, referring them for additional interventions. There were no maternal deaths at any of the TBAs' deliveries.
Conclusion This project demonstrated that TBAs can effectively reach women with misoprostol for PPH prevention, use the drug correctly, and refer when necessary. This project strengthened the link between the informal and formal health sectors by reaching women normally not reached by the formal health care sector with a life-saving intervention and facilitating needed referrals of women experiencing PPH at home births. Through linking TBAs with local health facilities, the ties between the formal and informal health sectors were strengthened to provide a continuum of care from household to hospital.

EP7.21
Case study: condom catheter for vaginal lacerations – Averting a disaster

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Background Postpartum haemorrhage (PPH) is every obstetrician's nightmare. Genital tract lacerations are an important cause of traumatic PPH. Balloon tamponade is well-known for management of atonic PPH but its use for vaginal tamponade in traumatic PPH is rather rare. The following case highlights the successful use of this simple, effective, readily-available and safe modality in the management of PPH from vaginal lacerations.
Case A 31-year-old low risk primigravida developed PPH after normal vaginal delivery with right mediolateral episiotomy. Exploration under general anaesthetic revealed extended episiotomy and extensive vaginal lacerations. Despite reasonable attempts at suturing, bleeding continued. Packing with betadine soaked roll gauze incited further bleeding from the vaginal mucosa necessitating pack removal. A condom catheter was prepared with 18Fr Foley's catheter and placed in the vagina. The bleeding stopped after inflation with 250 cc normal saline. Estimated blood loss was 1 L. Patient was monitored. The balloon was deflated and removed after 24 h. No further bleeding was noted. No complications occurred from the procedure. The episiotomy and lacerations healed well.
Conclusion Balloon tamponade performs better than gauze packs as it conforms to the shape of the cavity, is atraumatic, does not absorb blood and catheter channel prevents masked bleeding. Newer readymade vaginal tamponade balloons are epistat and v-stat.

EP7.22
Review of management of third and fourth degree perineal tears

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Introduction A third degree tear is a partial/complete disruption of the anal sphincter muscles. A fourth degree tear is disruption of the anal sphincter muscles with a breach of the rectal mucosa. The overall risk of an anal sphincter injury is approximately 2% of all deliveries.
Our standards taken from the RCOG and Nottingham University Hospitals Trust Guidelines stated that 100% of 3rd and 4th degree tears should be repaired in theatre by a competent, trained surgeon. Surgical technique used should be end-to-end or overlapping using 3-0 PDS suture or 2-0 Vicryl suture. 100% of women should receive post-op antibiotics and laxatives. 100% of women should be reviewed 6–12 weeks postnatal by physiotherapist and a specialist. In our trust, this specialist review is in the Pelvis after Pregnancy (PAP) clinic.

Methods A total of 187 3rd and 4th degree tears were identified retrospectively between September 2011 and September 2012. The notes were reviewed and the details entered onto a proforma. The results were analysed using SPSS and compared against the standards laid out above.

Results 65.2% of women had a normal birth. 40 babies weighed 4 kg and over, one of the RCOG risk factors for developing a 3rd or 4th degree tear. The majority of all tears were repaired in theatre with two being repaired in the room with good documentation as the reasons behind the need for repair in the room. A total of 58 women had complications following the repair. The most common complication was the development of a fissure (9 women). 6 women developed fissure as well as pain. 19 women had some other type of complication. One woman developed a fistula and 7 women developed some kind of incontinence, either flatal or faecal. Once seen in the PAP clinic, a plan for further pregnancies was made. Either the patient was suitable for vaginal delivery, or was recommended to have a caesarean section. Occasionally women were asked to come back to the PAP clinic for a review and if necessary, they were referred on to the colorectal surgeons.

Conclusion The specific Conclusion from this audit are that we should improve the standards of our documentation and make clear whether or not the knot has been buried to reduce the incidence of fissure. We need to stress the importance of attending physiotherapy and the PAP clinic postnatally to ensure we have a high rate of attendance for follow-up.

EP7.23

Prophylactic uterotonic use in the third stage of labour to prevent PPH: Are UK obstetric units following current guidelines?

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Introduction Postpartum haemorrhage (PPH) remains a major cause of maternal morbidity and mortality worldwide. Active management of the third stage of labour reduces the risk of PPH. Syntocinon® (oxytocin) and Syntometrine® (oxytocin-ergometrine) are uterotonic drugs used for active management of the third stage. When compared with Syntocinon®, Syntometrine® reduces risk of PPH ≥500 mL but not ≥1000 mL. Syntometrine® causes more nausea, vomiting and hypertension than Syntocinon®. Moreover, Syntometrine® use has been associated with fatal cerebro-vascular accidents in the most recent CMACE report in the UK. Carbetocin is a new oxytocic which has been used for vaginal births in clinical trials, but is not currently recommended for this use.

Contemporaneous guidelines from FIGO, ICM and the UK based NICE recommend that oxytocin alone should be used for active management of the third stage of labour. A recently updated Cochrane review of prophylactic oxytocin for this use found that maximum benefit is achieved from a 10iu dose given intravenously.

We aimed to investigate the current use of prophylactic uterotonics for the third stage of labour after vaginal birth in the National Health Service (NHS).

Methods

- Telephone survey of all 196 NHS consultant-led obstetric units in the UK
- 100% response
- Midwife coordinator asked one standard question: Which prophylactic uterotonic is routinely used for low risk normotensive women having a vaginal birth in your unit?

Results

- 71.4% (140) units: Syntometrine®
- 28.1% (55) units: Syntocinon®
- 0.5% (1) unit: patient routinely chooses
- 0% (0) units: Carbetocin
- Regional trends: A

–All units in Wales use Syntometrine®
–50% units in Scotland use Syntometrine®
–71.5% units in England use Syntometrine®
–Syntometrine® use most common in western half of the UK
Of units using Syntocinon®:
–96% (53/55) use 10 IU intramuscularly
–4% (2/55) would give 5 IU intravenously if the patient happened to have a cannula, otherwise 10 IU intramuscularly

Conclusion 71.4% of NHS obstetric units do not follow current UK recommendations for the prophylactic use of oxytocin to prevent PPH. This may be because Syntocinon® is currently not licensed for intramuscular use, and low risk UK women are not routinely cannulated. Widespread use of Syntometrine® increases the number of women suffering adverse nausea and vomiting, with no significant reduction in rates of clinically important PPH ≥1000 mL. More women than necessary are being put at risk of hypertension, and potentially fatal stroke. A better understanding of the reasons underpinning choice of oxytocic will help inform future research.

EP7.24

Outcome of teenage pregnancy in rural india with particular reference to obstetrical risk factors and perinatal outcome

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Introduction The aim of the present study is to evaluate the outcome and complications in teenage primigravida when compared to primigravidae of adult age group.

Methods A massive study involving 984 patients was undertaken. It was a prospective case control study carried out over 30 months from July 2010 to January 2013 at Shri Adichunchanagiri Hospital and Research Centre, B.G. Nagara. During this period booked and unbooked cases were included in the study and for every teenage primigravidae one subsequent adult primigravidae were studied. Patients with Major skeletal deformity such as kyphoscoliosis, polio, pelvic fracture, diabetes

mellitus, renal disorders, morbid obesity, all cases of molar pregnancy and primigravidas admitted for termination of pregnancy were excluded.

Results Among 492 teenage and equal adult primigravidae, 51.8% of teenage were unbooked compared to 13.6% of adults. 68.4% of teenage were anemic compared to 33.32% of adults, antenatal complications like anemia, hypertensive disorders of pregnancy, oligohydroamnios, hypothyroid were significantly more in teenagers (69.5%) compared to adults (19.3%), 33.7% of teenagers had preterm birth compared to 8.72% in adults. 48.3% of teenagers had LSCS compared to 21.9% of adults. Indication was CPD in majority of teenagers (45.4%). 31.74% of teenagers had low birthweight child compared to 16.6% in adults and 34.5% of teenage neonates required NICU admission compared to 12.4% in adults.

Conclusion It can be interpreted that teenagers had significant number of complications in pregnancy including leading cause being anemia, more preterm incidences and higher rate of LSCS followed by higher number of NICU admission. Pregnancy itself has a tremendous effect on teenage and her family. Teenage pregnancy is more common in low socio-economic status, due to lack of education, awareness of complications of teenage pregnancy, and various other factors. Hence awareness and various programmes should be taken up to educate mainly the poor in our rural setup. As early marriage cannot be prevented in our Culture so possibly the awareness regarding late conception can be taken up as of utmost importance.

EP7.25
Incidence of preterm labour following a single LLETZ procedure

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Introduction The purpose of this study was to determine whether the incidence of preterm labor (PTL) in women who have had a single previous large loop excision of the transformation zone (LLETZ) procedure was higher than background risk of the general population. This information is significant to our unit because LLETZ is an exclusion criterion for management in the low risk Midwifery Led Unit (MLU).

Drogheda maternity unit experiences 4000 deliveries per year. The MLU represents an efficient use of resources by appropriately triaging our pregnant population according to risk. However we found that some exclusion criteria for admission to the MLU may be prohibitive to low risk patients, such as those with one previous LLETZ procedure.

Methods Our study looked at women who had one LLETZ treatment over a period of 5 years (2008–2012) and who subsequently delivered in Drogheda. There was 332 case eligible for evaluation. PTL following the LLETZ treatment were evaluated (defined as <37 weeks gestation), using the electronic maternity database.

Results We found that 30 out of 332 patients with one previous LLETZ procedure experienced preterm labor, an overall incidence of 9%.

Conclusion The overall preterm delivery rate has been relatively stable at 5–10% in developed countries. A retrospective case control study in the UK showed that the preterm delivery rates in the study and control group were comparable.

We therefore conclude that one previous LLETZ did not increase the background risk of preterm labor in the patient sample reviewed. This finding may impact on the exclusion criteria of Drogheda Maternity's MLU.

EP7.26
The changing face of childbirth in a district general hospital maternity unit: 1955–2010

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Introduction The clinical approach in obstetrics has changed significantly over recent decades. An assessment of demographics and clinical practice in the field of obstetrics has yet to be reported in the literature. This study looked at the demographic and outcome changes from 1955 to 2010 in the maternity unit of Bedford Hospital, United Kingdom.

Methods A retrospective review of the birth records for the first 3 months of every fifth year over since 1955 to demonstrate real changes over the time period.

Results A pilot analysis comparing year 1955 and 2013 was conducted which is summarised below: live birth – 97% versus 100%; vaginal delivery – 88% versus 52%; c/s – 9% versus 24%; assisted vaginal delivery – 0% versus 18%; intact perineum – 73% versus 36%; doctor's assistance – 23% versus 35%; active management of 3rd stage – 76% versus 82%; analgesia for vaginal birth (excluding instrumental), use of gas and air/pethidine – 90% versus 68%; analgesia for vaginal birth (excluding instrumental), use of epidural – 0% versus 10%; anaesthetic for c/s, use of GA – 100% versus 0%; anaesthetic for c/s, use of spinal block – 0% versus 75%; breastfeeding – 84% versus 67%; average length of stay: 14 days versus 2 days.

Conclusion Our initial results demonstrate significant changes in the demographic pattern and major outcomes in obstetrics and midwifery over the last 55 years. These changes are multi-factorial and reflect clinical progress and innovation, as well as changing attitudes and expectations amongst mothers and staff. Our data demonstrate that in many respects, obstetric and midwifery care has indeed improved. However some aspects of the women's outcome (like an intact perineum or breastfeeding) were better in the 1950s, reminding us that there is always room for improvement and lessons to be learnt from past experience.

EP7.27

Adolescent pregnancies and age specific physical complications

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Introduction Adolescent pregnancies are a major health concern. It is a time of vulnerability and a period of profound biological, social and emotional changes. The implications on the young mother, the unborn child and the society are enormous. Despite various preventive measures, it remains culturally acceptable in certain parts of the world. Thus, understanding the physical implications may just be as essential as the preventive measures.

The objective of this study is to understand the age specific physical complications of adolescent pregnancies. Although the social implications are more dramatic, it is less easily measured and this vital step will play a greater role as we endeavor towards achieving the Millennium Development Goals.

Methods This is a retrospective cohort study. The study period was from 1 January 2010 until 31 December 2012 and 19 946 adolescent pregnancies were analysed. Specific variables were extracted from the National Obstetric Registry of Malaysia from all the participating hospitals which totalled to 399 274 patients.

Results The incidence of adolescent pregnancies in Malaysia were 50/1000 deliveries and 16% of those deliveries were below the age of 16. There is a three-fold increased risk of preeclampsia among adolescent pregnancies and this risk is significant even for those aged 19, OR 2.96 (1.95–4.49, $P < 0.001$). This risk remains constant irrespective of age of the adolescent mother. Interestingly, the risk of PIH is not increased although the risk of pre-eclampsia is significant.

The highest risks of maternal and fetal complications were for those aged 15 and 16. The risk of premature delivery before 28 weeks had an OR 3.51 (2.73–4.52, $P < 0.001$) and the risk of stillbirth had OR 1.50 (1.04–2.16, $P < 0.037$). After the age of 15, there is an indirect correlation between the age of the mother and the severity of prematurity. Those aged below 14 has the highest risk of birth asphyxia OR 1.85 (1.23–2.77, $P < 0.001$) but surprisingly, there were no increase in other obstetric complications. Adolescent pregnancies are not associated with increased risk of PPH, genital tract trauma or dysfunctional labour. There is no association between adolescent pregnancies and IUGR.

Conclusion There should be a more holistic approach in prevention and management of adolescent pregnancies. Preeclampsia, prematurity and stillbirth are the commonest physical complications, with the highest risk for those aged 15 and 16.

The benefit of aspirin and other prophylactic measures of preeclampsia for adolescent pregnancies needs to be evaluated in future trials.

EP7.28

Audit of stillbirth: Are we compliant with national guidelines?

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Introduction In the UK approximately one in 200 babies are born dead. Factors that have been suggested to be associated with stillbirth (SB) include: obesity, extremes of maternal age, smoking, low socioeconomic status, previous SB, black or Asian ethnicity, infection, maternal diseases and IVF. The objective of this audit was to assess the compliance with national and local standards.

Methods A retrospective analysis of all antenatal stillbirths from January 2009 to February 2013 was performed. We identified 131 cases of SB from electronic data. Of these, 101 case notes were reviewed. There were 88 women who suffered antepartum SB and 15 intrapartum stillbirths. One woman had IUD of MCDA twins and one woman had stillbirth on two occasions. There were 30 case notes missing.

We looked at compliance with the following standard – Investigations for maternal wellbeing, percentage of proforma filled, postmortem offered, appropriate consent for postmortem, percentage offered follow-up, review by senior obstetrician at follow-up and appropriate surveillance in future pregnancy. We also looked at percentage of women who had Kliehauer test all investigations for cause of death, proportion of women who had suppression of lactation and percentage of women who were offered lactation suppression.

Results Our stillbirth rate was 6.8 per 1000 births, which is higher than the national average. Overall, in 45% cases the cause was unexplained. We achieved 100% compliance with the following standards: investigations for maternal wellbeing, post mortem offered, appropriate consent for postmortem, percentage offered follow-up by senior obstetrician and appropriate surveillance in future pregnancy.

However, we did not achieve national standards for the following: performing Kleihauer test in both rhesus positive and rhesus negative women, only 27% had the test, and completion of all recommended tests to determine cause of SB (TORCH screen, thrombophilia screen, placental swabs and histology). 97% of women had cabergoline lactation suppression (eight women contraindication of hypertensive diseases received carbegoline). There was one case of uterine rupture in a woman given high dose misoprostol with history of previous scar.

Conclusion Recommendations:

- Information leaflet to patients at diagnosis
- Kleihauer test on all women regardless of Rh status soon after diagnosis
- Complete investigations to determine cause of SB
- Use of lower doses of misoprostol in keeping with trust guidelines
- Cabergoline to be offered only if no contraindications.
- Re-audit 6 months

EP7.29

Maternal mortality and near miss obstetrical events in tertiary care hospital

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Introduction Millenium Development Goal 5 (MDG 5) asks for decreasing maternal mortility and morbidity. In order to achieve this goal we need to understand what causes maternal mortality and near miss events to judge quality of care patient is getting so as to improve health care system. The aim was to determine maternal near miss and maternal mortality in our setup and to see trends and determining factors for this adverse outcome. To determine various maternal healthcare indices in our setup and make recommendation to improve maternal health.
Methods Maternal near miss cases and maternal deaths in a 1-year period are included for study purpose. Identification of maternal near miss cases are based on WHO criteria 2009. Data collected are then analysed.
Results During study period there were 3831 deliveries with 3799 live births and 63 near miss cases and 13 maternal mortality. Majority of cases were unbooked, primiparas and in their 3rd trimester. Out of the total 76 cases, 74 were referred while two cases were our booked cases. Leading cause of near miss was haemorrhage, hypertensive disorder and sepsis. With regard to various indices: maternal mortality ratio was 342/100 000 live births. The maternal near miss incidence ratio was 16.6/1000 live births, maternal near miss to mortality ratio was 4.8:1.
Conclusion Maternal mortality ratio in our setup is far below needed to achieve MDG 5. Leading cause of near miss events are haemorrhage and hypertensive disorder followed by sepsis and hepatitis. The near miss analysis indicates quality of health care which needs further improvement to match international standard of developed country.

EP7.30

Obstetric patients requiring critical care

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Introduction The UK maternity population is becoming more high risk with increasing maternal age and comorbidities such as obesity, diabetes and cardiovascular conditions. There is evidence that these women are at higher risk of severe maternal morbidity. Admission to ICU has been proposed as an indicator of quality maternity services. We reviewed women admitted to ICU in order to assess their background risk and indication for admission.
Methods A retrospective review of obstetric patients requiring critical care admission in a large tertiary centre over a 24 month period (01/01/2011 – 01/01/2013) was undertaken. There were 11 794 maternities during this time period. Cases were identified from electronic patient records, ICU database and admission/discharge codes. We reviewed the electronic and paper records of all cases.
Results There were 64 obstetric admissions to ICU during the study period, representing 0.5% of all maternities.
This cohort had a median age of 33.5 years (IQR 40.0–25.5). 59% were Caucasian, 33% Asian and 8% Black African/Caribbean. Mean BMI was 26.0 (SD 6.5); 19% of women were obese (12/64). There were 54/64 spontaneous conceptions, 10/64 IVF pregnancies and 13/64 multiple pregnancies. Median parity was 0 (IQR 3-0). Median gestation at delivery was 36 + 5 weeks (IQR 40 + 2–29 + 5). Median duration of admission to ICU was 36 h (IQR 91–24).

There were 59 emergency (92%) and 5 elective (8%) admissions. All elective admissions were for monitoring of patients with known cardiac disease. Of the 59 emergency admissions 86% (51/59) were postpartum and 14% (8/59) were antenatal; 8% (5/59) had pre-existing comorbidities: cardiac disease (3/5), TTP (1/5) and ovarian cancer (1/5).

Obstetric haemorrhage was the most common reason for admission at 38% (24/64). Causes included placenta praevia/accreta/percreta (10/64); uterine atony (10/64); placental abruption (4/64). Cardiac disease was the second most common reason for admission at 19% (12/64). 16% (10/64) of admissions were for pre-eclampsia/eclampsia, where ventilatory support or invasive monitoring was required. 9% (6/64) of admissions were for sepsis, with 3 patients admitted following second trimester miscarriages. There were no maternal deaths during the study period.
Conclusion The obstetric population requiring critical care represents a small percentage of maternities. The majority of women admitted to ICU did not have significant risk factors and therefore this cohort is not predictable. A detailed multi-disciplinary review of admissions to ICU is useful to assess clinical care, maternity care professionals' recognition of severe maternal morbidity and processes involved in transfer to ICU.

EP7.31

Analysis of 15 intrapartum stillbirths in a South East London hospital in the UK

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Introduction Stillbirth is defined as a baby delivered with no sign of life after 24 completed weeks of pregnancy. Approximately one in 200 babies are born dead. There are around 4000 stillbirths (SB) in the UK annually. Factors associated with stillbirth include obesity, advanced maternal age, smoking, previous SB, infection such as group B streptococcus infection, maternal diseases and IVF. Postmortem examination of babies can provide valuable information about the cause of death. The aims of investigation of SB are to assess maternal wellbeing, to determine the cause of SB and to determine the chance of recurrence and possible means of reducing the risk. The objective of this study was to determine the proportion of couples that had postmortem examination and analysis of the causes of stillbirths.

Methods Retrospective analysis of all intrapartum stillbirths from January 2009 to February 2013. A total of 15 intrapartum SB were recorded and data were collected from hospital database and reviewing medical notes. Data were stratified according to woman age, parity, BMI, smoking habit, social status, ethnicity, postmortem examinations and management.
Results Participants were 46% Black African and 54% White. Nine of 15 couples had postmortem examination (60%). Of these no cause was found in 4 (44%). Placental abruption was the most common factor, affecting 3 cases. Other factors included IUGR, chorioamnionitis and asphyxia due to head entrapment. Three of the 6 couples who did not have a postmortem had a known cause of fetal demise including one with uterine rupture in a VBAC attempt, one due to intrapartum asphyxia and a third case due to placental abruption. Eleven out of 15 patients had placental histology, and placental swabs were sent for 14 out of 15 patients. Examples of pathogens grown include *Staphylococcus aureus*, group B streptococcus and enterococcus. Eight women had delivered vaginally, and 7 required an emergency caesarean.
Conclusion Sixty per cent of couples who suffered intrapartum SB had postmortem examination and of these no cause was found in 44%. Placental abruption was the most common factor identified on postmortem.

EP7.32
An audit of the rising caesarean section rates in a tertiary hospital using Robson's categories

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Introduction Caesarean section (CS) rates are increasing worldwide with no significant improvement in neonatal outcomes. We observed a rise in CS rates in our hospital from 26% in 2000 to 32% in 2012. To identify potential areas of reduction, we conducted an audit using Robson's classification that divides the obstetric population into 10 mutually exclusive and totally inclusive categories.
Methods The study was performed in Singleton Hospital, Swansea, Wales which conducts 3700 births per annum and is a referral centre with level 3 neonatal facilities. We extracted data from the obstetric register and the electronic database. We identified 2 months for the study; February 2012, which had the highest CS rate that year and the subsequent month which showed a rate closer to the average. Data were entered into a proforma and analysed. We compared our CS rate for the 10 Robson categories to those derived from an international multicentre study. Case notes of all the caesarean sections where the indication was debatable were analysed.
Results There were 582 deliveries during the study period, of which 194 were by caesarean section (33%). The CS rates in Robson groups 1, 2, 3 and 5 were 19.7%, 50%, 5.6% and 76.8% respectively which were higher than the comparator. These groups constituted 72.6% of our obstetric population. The individual groups contributed 14%, 22.6%, 4.3% and 28.2% respectively to the total caesarean sections. The CS rates in groups 6–10 were similar to the comparator and constituted <15% of the obstetric population. The high proportion of multiple births (2 triplets and 4 twins) in February was partly responsible for the higher rate.
Conclusion The Robson's categorisation provides a reproducible framework for comparisons and to establish whether the CS rates are justified for that obstetric population. The audit helped us to identify the subgroups in which there was potential for reducing the CS rates. Analysis of the case notes of CS performed showed that adherence to guidelines for the induction and management of labour in groups 1 and 2 (term cephalic singleton nullipara) which in a low risk population would result in a reduction in overall CS rates.

EP7.33
Determinants of stillbirths – A hospital based analytical study in eastern India

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Introduction Stillbirths are profound but neglected tragedies. Despite approximately 4 million stillbirths worldwide, rarely does it draw attention of policy maker. The objective of this study was to identify various medical, obstetric, social and economic factors contributing to stillbirths in a semi-urban/rural set-up of eastern India.
Methods In a hospital based, prospective observational study, during August 2012 to July 2013, we included 400 cases of stillbirths. For comparison, 400 cases of live births delivered immediately after the index stillbirths served as controls. Various risk factors are identified by calculating odds ratio (OR).
Results Stillbirth rate during the study period was high, 31.9/1000 births. The study included 148 (37%) fresh and 252 (53%) macerated stillbirths. According to 'Relevant Condition at Death' (ReCoDe) classification, common attributable causes were maternal factors (45.25%) followed by fetal factors (16.5%) and intrapartum factors (10.7%), and 11% stillbirths remained unclassified. Maternal hypertension and its complications such as eclampsia remained the most important cause of stillbirths in 102 (25.5%) cases. Maternal anaemia was sole contributor in 12% of all stillbirths. Intrapartum causes of stillbirth include prolonged or obstructed labour (55, 14%), cord accidents (21, 5%), fetal distress (15, 4%) and uterine rupture (6, 1.5%). Age below 20 years, primiparity, rural residence, low-income, maternal illiteracy and lack of antenatal care are important risk factors for stillbirths. Prematurity (OD 5.8, $P < 0.001$) and low birthweights (OD 3.8, $P < 0.001$) were significant fetal attributors for stillbirths.
Conclusion Stillbirths are associated with low socioeconomic status, lack of antenatal care, pregnancy complications, preterm and low birthweight deliveries, and suboptimal intrapartum care. Therefore, the preventive strategies should include regular antenatal care, adequate intrapartum care with prompt referral

system, and multiple strategies to prevent preterm delivery, and pragmatic socioeconomic interventions.

EP7.34
A retrospective audit of the management of sepsis in labour at Queen Charlotte's and Chelsea hospital, London

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Introduction The overall maternal mortality rate in the UK has decreased in recent years.[1] Despite this, there has been an increase in deaths related to sepsis, which is now the leading cause of direct maternal death in the UK. This audit aims to review the management of sepsis in a tertiary maternity unit of a large teaching hospital in London.

Methods Over a 3-week period, details of all women with pyrexia in labour or within 4-weeks post-delivery were collected from labour and postnatal ward records. Patients on intravenous antibiotics for Group B-Streptococcus colonisation without pyrexia were excluded. Thirty-four women fit the inclusion criteria from a total of 284 and data were extracted from their medical notes.

Results 11.9% (34/284) of women were pyrexial in labour. 44% (15/34) of these women had CTGs showing a fetal heart rate of >160 bpm. 88% of women had epidurals sited. The average number of vaginal examinations performed was 4.88 (range 1–10) while the average number post-SROM was 3.53 (range 1–9). The average duration from SROM to delivery was 32 h (range 3.5–191 h), including one case with PPROM. The mean delay of the abnormality being recorded and administration of antibiotics was 90 min (range 1–315 min) and involving senior obstetric staff (registrar or consultant) was 110 min (range 1–630 min). Senior obstetricians were involved in decision-making in 79.4% (27/34) of cases, anaesthetists in 20.6% (7/34) and microbiologists in 11.8% (4/34). The average durations for IV antibiotic use and postnatal ward stay were 2.1 and 3.3 days, respectively. Blood cultures were taken in 76.4% (26/34) of patients with no positive results. Urine cultures were done in 67.6% (23/34) with two positive results and low vaginal swabs in 58.8% (20/34) with four positive results. The majority of women had blood tests including a FBC (88.2%) and CRP (82.4%). Only 26.5% of women had their lactate level measured. 17% (6/34) of the pyrexial women met the criteria for sepsis.

Conclusion Pyrexia in labour is common and early intervention is paramount to prevent morbidity and mortality from sepsis. Other factors found to increase the risk of pyrexia in labour include multiple vaginal examinations, epidurals, urinary catheters and misoprostol. A multidisciplinary approach involving senior staff and prompt administration of antibiotics is crucial.

Reference:

1 Cantwell R, Clutton-Brock T, Cooper G, Dawson A, Drife J, Garrod D, et al. Saving Mothers' Lives: Reviewing maternal deaths to make motherhood safer: 2006–2008. The Eighth Report of the Confidential Enquiries into Maternal Deaths in the United Kingdom. *BJOG* 2011;118(Suppl 1):1–203.

EP7.35
Use of IVC filter in pregnancy

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Background DVT and pulmonary embolism represent 2 points in the continuum of a single disease process and constitute a major health burden. Systemic anticoagulation with intravenous heparin followed by oral warfarin remains the mainstay of treatment for DVT and PE. However 33% of the patients develop second PE while receiving adequate anticoagulation therapy. IVC filters prevent pulmonary embolism in such patients by causing partial interruption of IVC flow.

Case 1 A 32-year-old Asian G2 P1 (previeous Caesarean section for Breech Presentation) was dignosed with pulmonary embolism at 10 weeks gestation. She was started on low molecular weight heparin (LMWH) in therapeutic dose. She presented with left calf pain at 30 weeks and was diagnosed with extensive deep vein thrombus (DVT) extending from the femoral vein to the mid superficial vein despite full anti coagulation. A Gunthar tulip IVC filter was inserted through the right internal jugular vein. She underwent elective lower segment cesarean section (LSCS) at 38 weeks of gestation and was started on warfarin on the second postoperative day. The filter was removed on the 14th day when optimum INR levels were achieved. Sterilised 6 weeks after delivery and is being followed up in anticoagulation clinic.

Case 2 A 29-year-old Somalian Refugee, G4 P3 (NVDsx3) had several episodes of shortness of breath (SOB), blackouts and transient fits in early pregnancy. A diagnosis of 'Panic attacks' was made after normal CT of the brain and EEG. She was pregnant with monochorionic diamniotic (MCDA) twins. Had an uneventful pregnancy and was booked for elective LSCS at 36 weeks. Presented with SOB and left side upper back pain. Pulmonary embolism (PE) was suspected and she was started on therapeutic LMWH. CT pulmonary angiogram confirmed the diagnosis of multiple PEs. As she was at increased risk of perioperative thromboembolism, an IVC filter was inserted in addition to full anti coagulation prior to the caesarean section. Warfarin was started on D3 and the filter was removed after 3 weeks. She was continued on wafarin and followed up in the anticoagulation clinic.

Conclusion IVC filter provides a safe and effective method of preventing PE in patients with recurrent DVT and PE while being on anticoagulation. There were no complications and operative morbidity was low in both cases reported. We therefore propose the placement of IVC filters to be considered for the pregnant patients who have recurrent DVT and PE despite the use of heparin.

EP7.36
Optimising use of ultrasound to safely monitoring fetal growth for our antenatal patients with obesity

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Introduction The obese obstetric patient presents difficulties regarding assessment of fetal growth and wellbeing. According to the CMACE/RCOG joint guideline for management of women with obesity in pregnancy, it is one of the commonest obstetric risk factors. however the issue of how often and by whom these women should have obstetric ultrasound assessment is not addressed.

Methods The antenatal notes of 132 obese women at a Pembury Hospital, Tunbridge Wells, UK were examined through a retrospective audit and subdivided into 3 groups, 1 (body mass index [BMI] 30–34.9 kg/m^2), 2 (BMI 35–39.9 kg/m^2), 3 (BMI above 40 kg/m^2). The number of additional scans performed (excluding nuchal and anomaly scan), the indication for scanning and action taken was recorded.

Results In total, 225 additional scans were performed across the 3 groups.

Group 1 had a median of 1 additional scan (average 1.5), 13 patients had no additional scans. Group 2 had a median of 1 additional scan, (average 1.5), 9 patients had no additional scans. Group 3 had a median of 2 additional scans (average 2.3), 2 patients had no additional scans.

In total 125 additional scans were performed to monitor for growth. 58 of these were requested at the initial obstetric appointment. 67 were requested later in gestation due to clinical suspicion of growth discordance. Two babies were identified as IUGR and induced, both in diet controlled diabetic patients. The number of patients who required additional scans to complete the anomaly scan increased when BMI exceeded 40, 10 in group 3 versus 4 in group 1 and 4 in group 2.

Conclusion Higher BMI increases the need of midwives and clinicians to rely more on ultrasound for assessment. A large number of extra scans are performed, with little effect on management. In order to safely monitor normal growth in obese patients, a national consensus on the number of scans is needed, and/or a change in the way we follow symphysis-fundal height in the obese patient.

To reduce the number and costs of repeat attempts at anomaly scans, patients with a BMI >30, should have their scan booked towards the end of the 19–20 + 6 week window for optimal views, using the highest quality machines, optimising settings for obese patients. Patients with a BMI > 40, could be directly referred to more experienced sonographers or a consultant-led scanning session.

EP7.37
Consanguinity and adverse fetal outcome

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Introduction The exact relationship between consanguinity and pregnancy outcome. This study aim to assess the effect of consanguinity on (congenital anomalies, preterm labour, stillbirth rate and low birthweight).

Methods Cross section study, 6 months period (April-October 2011, two center (Baghdad and Najaf/Iraq). 2119 women from Baghdad and 2119 from Najaf) at labour, were questioned about their consanguinity relation with their husband. Fetal outcome were recorded after delivery. We calculate numbers and percentage of different variables using chi-square test and *P*-value <0.05 as significant.

Results The prevalence of consanguinity marriage in this study is 59.9% (49.5% in Baghdad and 70 > 2% in Najaf). There was a significant difference in congenital anomalies (10.1% in Baghdad and 12.6% in Najaf), preterm birth (23.1% in Baghdad and 27.4% in Najaf) and stillbirth rate (19.8/1000 birth in Baghdad and 29/1000 birth in Najaf). There was no significant difference in low birthweight (3.7% in Baghdad, 3.9% in Najaf).

Conclusion Consanguinity marriage has significant adverse effect on congenital anomalies, preterm birth and stillbirth rate.

EP7.38
Induction of labour with oxytocin: is an intermediate-dose regimen better?

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Introduction Comparison of two oxytocin regimens for labour induction. The objective was to compare a high-dose with an intermediate-dose regimen of oxytocin for induction of labour.

Methods Two hundred women admitted for labour induction at ≥37 weeks of gestation were randomized to Group I (received oxytocin infusion at 6 mU/min with similar increments every 45 min) and Group II (3 mU/min with similar increments every 45 min) till adequate contractions were established, to a maximum of 42 mU/min.

Results We observed that in Group I (oxytocin 6 mU/min), the caesarean section rate (18% versus 6% $P = 0.009$), contraction abnormalities (35% versus 14% $P = 0.0005$) and mean neonatal bilirubin levels (7.99 ± 2.70 versus 6.80 ± 2.65, $P = 0.002$) were higher than in Group II (oxytocin 3 mU/min). The mean induction-delivery interval (IDI) was similar in the two groups.

Conclusion The oxytocin regimen of 3 mU/min at 45 min increment interval is an 'intermediate dose' regimen which has advantages over the high-dose regimen as it resulted in more vaginal deliveries, less uterine contraction abnormalities and lower neonatal serum bilirubin levels.

EP7.39

Case study – a case of spontaneously resolved acute postpartum respiratory failure

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Background The physiological changes during pregnancy cause an increase in oxygen demand. Acute hypoxia during this period is uncommon due to maternal compensation, but undiagnosed pathological causes can be life threatening. Due to its multifactorial aetiology, diagnosis of pathological hypoxia can be a challenge but with methodical history, focused examination multi-disciplinary involvement and appropriate investigations, most causes of obstetric hypoxia can be diagnosed and successfully treated.

Case A healthy 35-year old woman with a history of a previous mid-trimester miscarriage at 15 weeks was admitted at 24 weeks gestation with a history of abdominal pain with backache and was found to be in threatened preterm labour. She was given antenatal corticosteroids for fetal lung maturity and magnesium sulphate for fetal neuroprotection, but was not given any tocolytics. The contractions settled initially and 28 h after magnesium therapy her membranes ruptured spontaneously draining clear liquor and 18 h later she delivered a live infant vaginally. Within thirty minutes of delivery she 'felt wheezy' and was found to be profoundly hypoxic (saturations of 88% on room air with a pO2 of 6.8 kPa on arterial blood gas). On further questioning she denied any other symptoms and on examination she was alert, apyrexial, tachycardic, tachypnoeic and had fine bibasal crepitations. Blood tests were normal. Chest X-ray showed increased pulmonary vasculature. ECG displayed sinus tachycardia. CT pulmonary angiogram exhibited no evidence of pulmonary embolism but dependant air space opacities consistent with non-cardiogenic pulmonary oedema. Echocardiogram showed normal valve morphology and good biventricular function. She was treated on high dependency area with 60% humidified high flow oxygen and antibiotics. Over the next 4 h she improved dramatically. The patient subsequently made a full recovery and a repeat chest X-ray was clear. The placental histology showed chorioamnionitis with early funisitis.

Conclusion Acute respiratory failure in postnatal period is uncommon and main differential diagnoses are cardiac disease, non-cardiogenic pulmonary oedema, sepsis, pre-eclampsia, thromboembolism, amniotic fluid embolism, pneumonia and acute respiratory distress syndrome. Pulmonary oedema is the fourth most common cause of severe maternal morbidity in pregnant women. Studies suggest that any disruption of Starling's forces (hydrostatic pressure, oncotic pressure and capillary permeability) surrounding fluid movement across capillary membranes influence the development of pulmonary oedema. In pregnancy and puerperium, numerous potential risk factors increase the development of pulmonary oedema. In this case it is plausible that spontaneous pre-term labour, chorioamnionitis and magnesium sulphate, and corticosteroid administration aggravated the development of pulmonary oedema.

EP7.40

Review of management of 3rd and 4th degree perineal tears

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Introduction A third degree tear is a partial or complete disruption of the anal sphincter muscles. A fourth degree tear is disruption of the anal sphincter muscles with a breach of the rectal mucosa. The risk of an anal sphincter injury is approximately 2% of all deliveries. A third or fourth degree tear can have significant consequences on the women's health with impact on subsequent pregnancy and delivery. Our objective was to review the compliance of our management of third and fourth degree tears and study the incidence of anal fissures following those tears.

Methods This was a retrospective study of 187 women who had 3rd and 4th degree tears between September 2011 and September 2012. The notes were reviewed and the details entered onto a proforma. The results were analysed using SPSS and compared against the set standards. Our standards were the RCOG and Nottingham Hospitals Trust guidelines. These state that all 3rd and 4th degree tears should be repaired in theatre by a competent trained surgeon, receive postoperative antibiotics and laxatives and are reviewed postnatally by physiotherapist and a specialist. In our trust, specialist review is in the pelvis after pregnancy (PAP) clinic.

Results 34.8% of the women had an instrumental delivery (24% delivered with forceps). 21.5% of women delivered a baby over 4 kg. 98.9% were repaired in theatre. About 75% were seen by the physiotherapists. There was 100% referral to PAP clinic but 13% did not attend. 58 women had complications following the repair. Interestingly, the most common complication was development of anal fissure (4.8%). One woman (0.5%) developed a fistula-in-ano and 3.74% women developed flatal or faecal incontinence. All women were prescribed antibiotics and laxatives. Once seen in the PAP clinic, a plan for delivery in future pregnancies was made in all women. If indicated, follow-up was arranged or referred on to the colorectal team.

Conclusion We recommend clear documentation of surgical technique including the type of suture materials used and whether the knots have been buried or not, as knot migration can contribute to perineal pain and anal fissure formation. Two cases were not repaired in theatre and the reasons for deviation from the guideline were well recorded. 100% compliance was achieved with antibiotics, laxatives and clear documentation of plan for future deliveries at follow-up. A need was identified to amend the local guidelines clarifying situations where supervision by senior staff is mandatory.

EP7.41

Case study: Efficacy and safety of uterine artery embolisation in pregnancy related hemorrhage

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Background Postpartum hemorrhage has significant impact on maternal morbidity and mortality. Timely and appropriate interventions can reduce this. Uterine artery embolisation as treatment for primary and secondary postpartum hemorrhage has shown good clinical outcomes. This retrospective analysis was done to assess whether uterine artery embolisation is effective and safe in the management of pregnancy related hemorrhage.

Cases Retrospective observational study was done on eight pregnant women who aborted or delivered with intractable bleeding, which could not be controlled by uterotonics or curettage, from May 2010 to November 2013. Procedure related complications (fever, insertion site hematoma or infection, muscle pain, bladder necrosis, vesicovaginal fistula), control of hemorrhage, prevention of hysterectomy and factors contributing to outcome of procedure were analysed. Seven patients had immediate resolution of hemorrhage except one woman who had minimal bleeding for a week. The causes of uncontrolled hemorrhage like, pseudo aneurysm in 3 women, AV malformation in 2, adherent placenta in 1 and unexplained cause in 2 did not affect the success of the procedure. Uterine artery embolisation was also successful in 3 women who presented in shock with disseminated intravascular coagulation. None of the patients required hysterectomy. There were no major procedure related complications only one patient had urinary retention which settled with catheterisation.

Conclusion Though there is limitation of non availability of equipment and interventional radiologists, the high success and low complication rates makes it a valuable option in the management of intractable pregnancy related bleeding prior to hysterectomy. Hemodynamically unstable women can also be managed successfully by uterine artery embolisation after correction of disseminated intravascular coagulation. Therefore uterine artery embolisation is effective and safe option for controlling pregnancy related hemorrhage.

EP7.42

A partnership approach to improve the recognition and treatment of the unwell woman in Zimbabwe

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Introduction A modified obstetric early warning (MOEWS) chart facilitates the timely recognition and treatment of the unwell woman. When plotted abnormal observations fall into a red or amber zone. One red or two amber observations should prompt a medical action. MOEWS charts are widely recommended, but rarely implemented in low resource settings. An objective of a health partnership between maternity units in the UK and Zimbabwe was to assess the feasibility of implementing MOEWS charts in a lower resource setting.

Methods Zimbabwean staff adapted the existing UK MOEWS chart and 2000 charts were printed locally. Staff were taught how to use the charts at their locally run obstetric emergency training course (PROMPT). The MOEWS chart pilot commenced in April 2013. Inpatient spot-check audits were conducted before, and 1, 2, 6 and 7 months post-launch. Staff completed a feedback questionnaire at 3 months; following this the chart was amended.

Results Pre-introduction 5% (2/43) had observation charts. Post-introduction 95% (19/20) of cases had MOEWS at 1-month, 91% (10/11) at 2-months, 84% (26/31) at 6-months and 78% (18/23) at 7-months. Action was required in 59% (24/41) pre-introduction and 47% (9/19) at 1-month, 60% (6/10) at 2-months, 58% (15/26) at 6-months and 50% (9/18) at 7-months. Action was recorded in 4% (1/24) pre-introduction, 67% (6/9) at 1-month, 83% (5/6) at 2-months, 53% (8/15) at 6-months and 77% (7/9) at 7-months. 87% of midwives and 89% of doctors were aware of MOEWS charts. 93% of midwives and 78% of doctors knew where to locate a MOEWS chart. 87% midwives and 100% of doctors found MOEWS charts useful. 20% of midwives reported that a doctor always responded to a trigger, 80% of midwives reported a doctor sometimes responded 44% of doctors reported always responding to a MOEWS trigger, with 56% responding sometimes. 40% midwives and 44% doctors suggested improvements to the charts.

Conclusion MOEWS charts have been successfully integrated into practice. Staff are aware of MOEWS charts, find them useful and have suggested locally relevant improvements. Abnormal observations are being recognised and acted upon: after the introduction of MOEWS 67% of patients whose observations should have triggered an intervention had an action taken (e.g. commencement of antibiotics or antihypertensives), compared to 4% pre-MOEWS. Ongoing challenges ensuring effective use, are being addressed through regular auditing and further training. Local adaption, staff engagement, training and monitoring appear to be important in successfully implementing MOEWS charts into clinical practice.

EP7.43

Effect of carbotecin versus syntometrine in the management of third stage of labour

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Introduction Postpartum haemorrhage (PPH) is a commonly occurring cause of maternal morbidity and mortality in low-income countries. PPH is defined as a blood loss of 500 mL or more within 24 h after birth. Most deaths resulting from PPH occur during the first 24 h after birth. The majority of these could be avoided through the use of prophylactic uterotonics. Oxytocin

is a well known uterotonic agent for the prophylactic managementof PPH. Carbotecin is an oxytocin agonist and remains effective for up to 16 h by increasing uterine muscle tone reducing postpartum blood loss. This study compares the efficacy and safety profile of intramuscular (IM) carbetocin with IM oxytocin/syntometrine in preventing PPH. Intramuscular carbetocin may be a good alternative to IM syntometrine that is commonly used to prevent postpartum haemorrhage. We conducted this study to compare the efficacy and safety of carbetocin with syntometrine in managing the third stage of labour among women without any high risk factors for PPH.

Methods This study was comparative cross sectional and data were collected from Mafraq Hospital, Abu Dhabi and Lady Willingdon Hospital, Lahore, through nonprobability convenient sampling. Women with a singleton pregnancy achieving vaginal delivery beyond 37-week gestation were included. Patients having pre-existing hypertension, pre-eclampsia, asthma, cardiac, renal or liver diseases and grand multiparity were excluded. Sample size was calculated by using the World Health Organization Software where alpha = 5%, 1-beta = 90, anticipated population proportion P1 = 10%, anticipated population proportion P2 = 30%. Sample size = 67. The researcher recruited 70 patients to avoid the chances of type 2 error. Each hospital recruited 67 patients who fulfilled the criteria. Mafraq Hospital used Carbetocin while Lady Willingdon gave Syntometrine for active management of third stage of labour. The predominant variable of concern in this study was the percent (%) drop in haemoglobin between the two drugs. The level of haemoglobin was recorded on admission to the labour ward and followed by recording 24 h after the delivery. Secondary clinical variables were primary PPH (blood loss more than 500 mL). Maternal blood pressure and peripheral pulse rate were checked post delivery and repeated at 30 and 60 min intervals. Prolonged duration of third stage (>30 min), manual removal of placenta. The data were entered on SPSS version 18 for statistical analyses. A comparison was derived between the carbetocin and oxytocin groups using ANOVA and chi-square and P value of <0.05 ($P < 0.05$) was considered as statistically significant.

Results There was no statistically significant difference between the two groups.

Conclusion Carbotecin is as effective as syntometrine.

EP7.44

Caesarean section rates from malaysian tertiary hospitals using Robson's 10-group classification

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Introduction Caesarean section (CS) rates have been gradually rising in Malaysia. Robson's 10 group classification according to specific characteristics allows us to analyse which group is significantly contributing to the rising CS rates. The rate of complications both in women and the babies may increase with efforts to achieve WHO set optimal CS rate at 10–15%.

Method This was a retrospective cohort study conducted over a 3 year period from 1st January 2010 to 31st December 2012. Data were obtained from the National Obstetric Registry which is an online database that captures obstetric data from 14 tertiary hospitals in Malaysia. The data were compiled to satisfy the Robson's Classification of CS with the objective of identifying the groups of women contributing most to CS rates. There were a total of 399 274 deliveries analysed with 94 671 resulting in CS between 2010 and 2012

Results The overall CS rates were 23.04%, 23.41% and 25.08% from 2010 to 2012. Group 5 (previous CS, single cephalic, >37 weeks) made the greatest contribution to the total CS rates for all 3 years at 18.7%, 19.3% and 20.1%. We also see a rising trend in this group from 2010 to 2012. Largest number of women admitted for delivery was also from group 5. Group 2 (nulliparous, single, cephalic, >37 weeks, induced or CS before labour) had the second highest contribution to the CS rates in 2011 and 2012 whilst Group 4 (multiparous-excluding previous CS, single cephalic >37 weeks, induced or CS before labour) was second highest in 2010. In all 3 years the groups that contributed least to the CS rates were group 8 (all multiple pregnancies-including previous CS) and group 9 (all abnormal lies-including previous CS).

Conclusion In 2011, there were 130 specialists in these hospitals. Direct specialist involvement in the decisions regarding delivery in both the antepartum and intrapartum periods is important to reduce the CS rates since the reproductive future of a woman is determined by the mode of delivery of her first pregnancy. Assessment for induction of labour in nulliparous women should follow guidelines and women with previous CS should be encouraged for vaginal birth after CS. Caesarean section audits should become the norm. The patient should be intimately involved in the decision making after being fully informed of the facts and risks. Robson's classification has made it possible to gauge CS accurately and we recommend it to be adopted to assess CS rates for Malaysia.

EP7.45

Management of maternal sepsis in a large UK District General Hospital: Audit results, interventions and introduction of a regional audit tool

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Introduction In the UK, Sepsis was the leading cause of direct maternal deaths reported in the in 2006–2008 Confidential Enquiries into maternal deaths; substandard care was identified in 46% cases. The Royal College of Obstetricians and Gynaecologists (Greentop Guideline 64) and the Surviving Sepsis Campaign has provide an evidence-based framework for sepsis management. The 'Sepsis-6', is a care bundle easily implemented and proven to reduce sepsis-related mortality. Sepsis 6 comprises three investigations (blood cultures, urine output measurement and measurement of serum haemoglobin and lactate) and three

interventions (oxygen therapy, intravenous fluid therapy and intravenous antibiotics) implemented within 1 h of diagnosis.
Methods A retrospective analysis of the case-notes was undertaken for women treated for sepsis in the maternity critical care unit during a 6 month period. Using a modified, trust-wide sepsis management audit proforma, we collected data on accurate diagnosis, screening for severe sepsis, implementation of the Sepsis-6 care bundle and review by a senior clinician with 3 h.
Results Twenty women satisfied the diagnostic criteria for sepsis. Eleven cases (55%) had complete screening for severe sepsis; screening parameters most commonly omitted were coagulation (75% complete) and serum lactate (80% complete). There were seven cases of severe sepsis identified. Completion of Sepsis-6 within the 1-h target was not achieved in any patient; individual measures were implemented as follows: oxygen therapy 10%, haemoglobin and lactate measurement 35%, urine output measurement 35%, blood cultures 50%, IV fluids 60%, IV antibiotics 60%. Beyond the 1-h target Sepsis-6 was completed in 4/20 (20%) women overall and 3/7 (43%) women with severe sepsis. Review by a senior clinician within 3 h was completed in 40% of cases (range 1.25–13 h). There were no admissions to Intensive Care Unit and no maternal deaths.
Conclusion Following sepsis diagnosis, action is being taken, but activation of the Sepsis-6 care bundle by clinicians is inadequate. Implementation is improved in women with severe sepsis, but due to incomplete screening some cases of severe sepsis may not have been identified.

Local interventions to increase awareness of sepsis management included multidisciplinary education, installation of visual prompts in clinical areas, update of our clinical guideline to emphasise key points relating to accurate recognition and timely management of sepsis and introduction of 'sepsis stickers' for use in the clinical notes to standardise management. A regional Maternity Sepsis Audit Proforma appropriate for prospective and retrospective data collection throughout the North West region is under development.

EP7.46
Case report of successful outcome of pregnancy with Churg Strauss Syndrome

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Background Churg and Strauss initially described Churg Strauss syndrome (CSS) in 1951, setting it apart from classical Poly-Arteritis Nodosa. It has three clinical phases: prodromal phase, eosinophilic phase, and vasculitic phase. Incidence of 34.6/million/asthmatics/year. Cardiac involvement in up to 60% of patients and accounts for about 50% of deaths. Recently, CSS has received much attention because several reports suggest CSS in patients on asthma drugs belonging to cysteinyl leukotriene-receptor antagonists group. The poor prognostic factors are renal insufficiency, cardiomyopathy, severe gastrointestinal tract and central nervous systems involvement.
Case A 22-year-old woman, hospitalised with bilateral lower limb pain, weakness and skin hyperpigmentation, diagnosed as CSS and treated with methylprednisolone and immunosuppressants. One year later she conceived spontaneously, however, pregnancy was terminated as she was on high dose of steroid. Due to her desire for pregnancy and asymptomatic nature of the disease, her steroids dose was tapered down. After 1 year she conceived and she herself stopped medications. She had flare up of disease. She was started on higher dose of steroids and routine antenatal profile within normal limits. At 16 weeks of gestation she presented with bleeding per vagina and anaemia and treated with micronized progesterone and blood transfusion. At 33 weeks of gestation she presented with hypertension with proteinuria and severe intrauterine growth retardation with oligohydramnios. On admission she was started on beta-blocker and Alpha-Dopa. CSS treatment continued. In view of uncontrolled blood pressure decision was taken for cesarean section. A live male baby was extracted with birthweight of 1.4 kg. Baby kept in NICU for 1 month in view of preterm with neonatal hyperbilirubinemia. Postpartum period was uneventful with BP under control. She was discharged with nifedipin for 10 days, steroid and cyclophosphamide and had follow-up twice.
Conclusion CSS, an uncommon condition, occurs even more rarely in pregnancy. In this case, diagnosis was based on sural nerve biopsy with h/o bronchial asthma, Axonal Mononeuritis Multiplex and Peripheral Eosinophilia. The rapid and aggressive onset of vasculitic mononeuropathies, was thought to justify the use of cyclophosphamide in this case. Nephropathy is a relatively unusual manifestation of CSS, while pre-eclampsia is common. Finally, systemic vasculitides are so rarely seen that it is difficult to generalise its effect on CSS, but there may be rapid progress of the illness from the earliest asthmatic symptoms to frank vasculitic changes during pregnancy.

EP7.47
Pregnancy outcome following large loop excision of transformation zone treatment in an University Hospital, Ireland

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Introduction Large Loop Excision of transformation Zone (LLETZ) is a common procedure performed for the treatment of Cervical Intraepithelial Neoplasia (CIN). Our aim is to find any association of LLETZ treatment with adverse pregnancy outcome.
Methods A retrospective 3 year study of 252 patients, who had undergone LLETZ previously and delivered in Galway University Hospital between January 2010 and December 2012 were identified from the electronic booking system. Data included age, parity, smoking status, gestation and method of delivery. Data on grade of CIN and depth and volume of excision were only available for 68 patients. Of the 252 women, 21 (8.33%) had a preterm delivery. The overall hospital preterm delivery rate over the 3 year study period was 5.3%.

Results Of the 21 patients, 10 underwent caesarean section, (multiple pregnancy = 5, ante-partum haemorrhage = 2, Intrauterine Growth Restriction /Hypertension = 2, other = 1). The remaining 11 patients (4.36%) with preterm deliveries, for whom the LLETZ may have been a contributory factor, one delivered at 33 weeks, 7 (34–36 weeks) and 3 (36–37 weeks). A recent study by Khalid et al.,[1] suggests that LLETZ with a depth of excision of > 12 mm or volume of excision of > 6 cm^3 are associated with a 3 fold increased risk of preterm delivery. Of the 68 patients in our study on whom histological data were available, only 1 had a volume of excision of 6 cm^3 and she delivered at 40 + 2 weeks. 12 of the 68 patients had a depth of excision > 12 mm (9 delivered > 37 weeks, one delivered at 35 + 4, one at 36 + 0 and one at 36 + 4). Although the rate of preterm delivery in our LLETZ group was higher than in the general obstetric population, in accordance with previously published studies, this increased rate of preterm delivery was not clinically significant. Excluding those cases where delivery was for fetal or maternal indications and therefore unrelated to the history of previous LLETZ, there was only 1 delivery before 34 weeks of gestation and 8 of the patients delivered between 35 + 0 and 36 + 6. Only 4 babies required admission to the NICU and the neonatal outcome was good in all cases.

Reference:

1 Khalid S, Dimitriou E, Conroy R, Paraskevaidis E, Kyrgiou M, Harrity C, Arbyn M, et al. The thickness and volume of LLETZ specimens can predict the relative risk of pregnancy related morbidity. *BJOG* 2012;**119**:685–91.

EP7.48

How reliable is the fetal cardiotocography for fetal distress in labour and cesarean sections rates

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[1]None; [2]None

Introduction The objective was to demonstrate the utility of the cardiotocography (CTG) as a noninvasive method for diagnosis fetal distress in labour. To estimate the relationship between fetal distress in labour and the rate of cesarean sections. Cardiotocography (CTG) is a screening tool that is used to detect fetal hypoxia during labour. Variable and inconsistent interpretation of the tracing by clinician may affect the management of the patients. Diagnosis of fetal jeopardy based on CTG alone has led to an increase in caesarean-section rate. Unfortunately, although the rates of caesarean sections have dramatically increased over the last 40 years, there has been virtually no change in cerebral palsy rates. However, increasing caesarean section rates have contributed to maternal morbidity and mortality, including rising incidence of morbidly adherent placenta (placenta accrete, increta and percreta).

Methods This a prospective observational study conducted in the obstetrics and gynecology department in sultan Qaboos hospital Salalah Oman during the period of 6 months for 109 patients that underwent emergency cesarean section for suspected fetal distress following changes in the CTG pattern. The maternal factors like age, parity, any associated risk factors, specific types of abnormal fetal heart rate tracing and The adverse immediate neonatal outcomes in terms of Apgar score < 7 at 5 min, umbilical cord pH <7.0 and NICU admissions were noted. The correlation between non-reassuring fetal heart, and neonatal outcome were analysed.

Results Out of 2909 patients delivered during the study period, 586 (20.1%) patients had caesarean section, out of these 396 (67.5%) were emergency caesarean section, 109 (27.5%) patients had caesarean section during labor for suspected fetal distress. The most common fetal heart abnormality was non-reassuring traces in 63 (57.8%) cases followed by variable deceleration in 14 (12.8%) cases and unclassified decelerations in 10 (9.2%) cases. suspicious traces in 7 (6.4%) cases, reduced variability in 7 (6.4%) cases, and pathological traces in 2 (1.8%) cases. In 4 (3.6%) babies the 5 min Apgar score was < 7, 21 (19.3%) babies required SCBU admission for observation, out of these 3 (14.2%) babies required intubation and 2 (9.5%) babies had cord pH < 7.0. Rest 88 (80.7%) neonates were born healthy and cared for by mother.

Conclusion Non-reassuring fetal heart rate detected by CTG did not correlate well with adverse neonatal outcome. Understanding the types of hypoxia, fetal reserves and other intrapartum risk factors coupled with appreciating the human factors that affect CTG interpretation may help improve perinatal outcomes and reduce unnecessary interventions, even in centres where additional tests of fetal wellbeing are not available.

EP7.49

Assessment of cervical length by transvaginal ultrasound at 20–24 weeks to predict preterm labour in low risk women

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Introduction Preterm labour is an important problem associated with high perinatal mortality and morbidity. The reported rates from the USA is 12–13%, whilst in Europe is generally between 5 and 9%. Cervical length measurement by transvaginal ultrasound and detection of fetal fibronectin in the vaginal secretion have emerged as reliable predictors of preterm labour. The aim of this study was to assess cervical length at 20–24 weeks gestation in asymptomatic primigravid women with singleton pregnancies and analyse whether these measurements could be used to predict preterm labour.

Methods This was a prospective study, in which 131 primigravid women over a 2-year period, had their cervical length measured by transvaginal ultrasound between 20 and 24 weeks of gestation. One hundred and nineteen women included in the study and 12 had to be excluded because of confounding factors.

Results The mean age of the women was 23.2 ± 2.72 years. Spontaneous preterm delivery occurred in 4.7% of women. A cervical length of more than 2.5 cm at 20–24 weeks was associated with 98% predictive value for term delivery. If the cervical length was <2.5 cm, it was found to have a 75% positive predictive value in predicting a preterm delivery. The sensitivity of the test is 60%

while the specificity is 99% for patients with cervical length <2.5 cm in predicting preterm labour. As the threshold value for cervical length increases, the sensitivity increases but the positive predictive value decreases. Negative predictive values are consistently very high.

Conclusion The accurate predictor, prophylaxis and management of preterm labour is a challenge for every obstetrician. Many studies have confirmed that early scans do not have a role in predicting preterm delivery. Hence, negative test results would reassure both the woman and the clinician thereby avoiding overzealous treatment.

The advantage of using cervical length measurements as a predictor for preterm labour is that it is a well accepted, standardised method, which can be easily combined with the routine anomaly scans. Also it can be combined with biochemical and biological assays to improve risk assessment for prematurity in women at risk. In developing countries where the cost of managing preterm babies are much higher, it could be beneficial to offer women routine cervical length measurements as a screening tool.

EP7.50
Maternal mortality in teritiary care centre – 3-year study

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Introduction The objectives were to identify the various reasons of maternal mortality of cases coming to teritiary centre. An estimated 15% of all pregnancies will encounter complications, 7% will require referral to a higher level of care. All women need to be able to reach emergency care if they develop a complication. Globally it is estimated that 80% of rural and 25% urban women who need a lifesaving obstetric intervention fail to receive it.

Methods All maternal mortality cases occurred at MGMH petlaburz under Osmania Medical College during the period of Jan 2010–2012 are studied in various aspects like age, education, occupation, socioeconomic status, residence, parity, gestational age, previous antenatal visits, referring health centre, reason for referral, time interval between referral and time of admission, condition of the patient at the time of admission, outcome of pregnancy and the cause of maternal mortality.

Results Total number of deliveries during the study period of 3 years are 65 833. Total number of maternal deaths are 127. Maternal mortality rate is 193. High mortality rate can be attributed to the fact that being tertiary care centre, patients with critical clinical condition are referred to our institute. Delay in deciding to seek care by individual or family in about 45%. There is delay in reaching adequate health care in about 70%. Only 30% reached hospital within 6 h of referral. 44% are delivered, 56% undelivered. 14% are booked, 86% unbooked. 27% did not have any prior antenatal checkups anywhere. 32% did not have any basic investigations such as HB%, blood group. Most common cause of referral is lack of blood. 82% patients required blood transfusion. 48% are primigravida, 30% 2nd gravida, 22% multigravida. In many cases more than one cause is found; predominant causes are hypovolemic shock due to APH and PPH and eclampsia. The condition of the patient at the time of admission had a significant role.

Conclusion Almost three quarters of maternal deaths are due to direct causes clustered around the time of labour and delivery and are preventable with timely access to skilled emergency obstetric care. Most cases of mortality can be prevented by identifying the high risk pregnancies and their timely referral from peripheral centres. Facilities for blood transfusions and immediate transportation facilities also play a vital role in achieving MDG 5.

EP7.51
Episiotomy rate cut by half – An audit of 1665 deliveries in a rural hospital in India

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Introduction The Maternal Health Division of the Government of India (GoI) has produced clear guidelines for intrapartum care. These are evidence-based and aim to improve the birth experience and thus encourage women to deliver in a recognised health facility. The rationale behind institutional delivery was born out of a need to address the appalling maternal mortality rates across rural India. It has been shown that the presence of a skilled birth attendant in an enabling environment during childbirth improves both maternal and neonatal outcomes. But even with financial incentive to institutional delivery many women still deliver at home. Questioning women reveals one of their fears is 'episiotomy'. Restrictive episiotomy is one of the evidence-based changes in practice advocated in the GoI Guidelines. Routine episiotomy is still practiced in resource poor settings where there has been no regular updating of skills. In 2013 a British midwife agreed to provide 2 weeks of intensive in service training for all our maternity staff.

Methods The aim was to audit the effect of implementing the practice of restrictive episiotomy. Patient data were recorded for 1 year and data analysed before and after in service training. Outcomes assessed were whether the perineum was intact, torn or had episiotomy.

Results Episiotomy was performed in 69.8% of primaparous women during the first 6 months, and fell to 35.7% in the second 6 months. There was a concomitant increase in perineal tear from 16.6% to 39.9%. The rate of intact perineum rose from 13.5% to 24.4% in the same time period. KSN Hospital labour ward nursing staff were impressed by Karen their teacher. She delivered the majority of primiparous women with intact perineum. With supportive supervision from an obstetrician the staff began to change their practice. Reducing the rate of episiotomy correlates with a greater number of tears but more intact perineum. A spontaneous 1st or 2nd degree vaginal tear is less traumatic than episiotomy. Overall lower episiotomy rate was associated with less

severe perineal trauma and shows an improvement of the quality of care at KSN hospital.

Conclusion It would seem that, prior to in service training in KSN Hospital in January/February 2013 many women were denied the opportunity to have a normal delivery with an intact perineum. Midwives practicing in KSN should have access to clinical support to enable them to continue to develop appropriate skills, so that they feel confident in this change to restrictive episiotomy practice.

EP7.52
Case study: an unusual presentation of collapse in a high-risk primigravida

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Background Maternal collapse is a rare but life-threatening problem that necessitates effective resuscitation and investigations to exclude serious causes. It affects between 14 and 600 of 100 000 births in the UK and often requires a multi-disciplinary approach to optimise the antenatal and postnatal care of the affected individuals.

Case A 26-year old primigravida Asian woman with a BMI of 48.7 kg/m^2 was found collapsed semi-conscious in hospital while awaiting her glucose tolerance test at 24 + 5 weeks and was successfully resuscitated. She had no medical problem and had been on enoxaparin 60 mg daily since 17 + 4 weeks. Her antenatal scan at 19 weeks was reassuring. Both her physical examination and vital observations were reassuring with no signs of head injury. Her blood glucose was 7.7 mmol/L and arterial blood gas showed normal pH, pO2 and haemoglobin levels. Her ECG, chest radiograph and echocardiogram were all unremarkable. She recovered after 5 min with signs of retrograde amnesia and continued to have mild chest discomfort with no changes on subsequent ECG readings. She then developed two episodes of generalized seizure lasting for 60 s each 36 h later and was resuscitated again. Her Doppler ultrasound excluded DVT but her lung ventilation perfusion scan revealed a small to moderate left basal perfusion mismatch confirming a solitary basal pulmonary embolism. Her enoxaparin was increased to 120 mg twice daily but she continued to develop chest discomfort and left arm pain during her obstetric-haematology review at 34 + 4 weeks and her anti-Xa levels remained suboptimal at 0.43 U/mL from 0.45 U/mL at 24 + 5 week (normal 0.5–1.0 U/mL). Her subsequent troponin levels, ECGs and Doppler ultrasound that were again reassuring. Her antenatal growth scan at 38 + 5 weeks was also reassuring. However, she re-attended hospital at 40 + 1 weeks due to worsening chest pain and was commenced on unfractionated heparin infusion in hopes of delivering her baby via caesarean section 48 h later. Her APTT and Anti-Xa levels were optimised between 1.5 and 2.5 and 0.91 U/mL respectively. Her baby of 3.4 kg was delivered with normal Apgar scores but she developed postpartum haemorrhage of 1200 mL and therefore received 2 units of blood transfusion. She was then commenced on warfarin for 3 months and discharged with further haematology appointments.

Conclusion All high-risk, symptomatic antenatal patients should be thoroughly investigated to exclude persistent thromboembolism despite being commenced on early anti-coagulation treatment.

Reference:

1 Royal College of Obstetricians and Gynaecologists. *RCOG Green-top Guideline No. 56. Maternal Collapse in Pregnancy and the Puerperium.* London; RCOG: 2011.

EP7.53
Comparison of etiology of maternal near miss in a tertiary referral centre in booked and referred population

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Introduction A maternal near-miss has been defined as a woman who nearly died but survived a complication that occurred during pregnancy, childbirth or within 42 days of termination of pregnancy. Maternal near miss (MNM) criteria has been standardized by WHO and analysis of these mothers allows us to assess the quality of maternal care and to evaluate the processes in place (or lack of them). Women with life threatening conditions (WLTC) refer to those who either qualified as maternal near miss or who died. Assessment of etiology of this group allows us to focus our efforts, to improve care, and institute a protocol aiming to reduce the incidence of near miss. Majority of mothers categorized as near miss are referred for tertiary care. The aim of this study was to look at the etiology of near-miss among booked cases, mothers who had antenatal care with us, in a tertiary referral centre. The objective was to compare the causes of maternal near miss amongst booked and referred cases.

Methods Prospective observational study over 2 years, January 2011 to December 2012 in Fernandez Hospital, Hyderabad, a tertiary referral perinatal centre, with 7000 deliveries annually. We collected data on maternal, fetal characteristics, laboratory results, and interventions to categorize our mothers as maternal near miss and women with life threatening conditions using the WHO criteria. We defined booked cases as those who had antenatal care, delivery with us and referred cases as those who had been admitted only for emergency critical care. The near miss morbidity indicators, Near Miss Incidence ratio (MNM IR), Severe Maternal Outcome Ratio (SMOR), maternal near miss: mortality ratio and mortality index were calculated for both populations.

Results During this period we had 13 001 deliveries, 13 219 live births, and 103 (0.79%) were categorised as maternal near-miss. Twenty three mothers (22.33%) categorized as near-miss were booked cases and 80 mothers had been referred for emergency critical care. Preexisting hematological diseases (5, 21.5%), adherent placenta (4, 17.3%) pre-eclampsia (4, 17.3%) were leading causes in booked patients in comparison to sepsis (23, 28.7%) pre-eclampsia (23, 28.7%) and hepatic diseases (11.2%) amongst referrals. SMOR was 1.7/1000 in booked cases and 6/

1000 in referred group. There were no maternal deaths in booked population and 6 deaths in referred group.
Conclusion Pre-existing diseases were the most common reasons for booked patients to be categorized as maternal near-miss.

EP7.54
Case study – a case of a postpartum ovarian vein thrombosis in association with ulcerative colitis

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Background The occurrence of ovarian vein thrombosis (OVT) is uncommon, but can be associated with increased morbidity and mortality if not managed appropriately. OVT is mainly recognised in the postnatal period and diagnosis in the antenatal period appears to be rare. The right ovarian vein is more prone for thrombosis, but it can occur in either or both veins. We report a case of an incidental finding of left ovarian vein thrombosis on a computed tomography (CT) of abdomen and pelvis undertaken for a woman known to have ulcerative colitis and presented with right sided abdominal pain, following preterm vaginal delivery.
Case A 29-year-old patient, with a history of ulcerative colitis and two previous normal vaginal deliveries, presented with pre-term labour at 30 weeks of gestation. She had no personal or family history of thromboembolic disease. She progressed quickly and delivered a live premature male baby. One day after delivery the patient complained of severe abdominal pain in the right hypochondrium and right iliac fossa. Due to a history of ulcerative colitis, CT abdomen and pelvis was organised which showed no bowel pathology, but demonstrated a left ovarian vein thrombosis involving a great length of the vessel. She was started on broad-spectrum antibiotics, therapeutic low molecular weight heparin and given anti- thromboembolic stockings. Her right sided pain settled in the next few days and she did not display symptoms and signs of pulmonary embolus or lower limb deep vein thrombosis. Heparin was converted to warfarin for long-term anti-coagulation.
Conclusion Thromboembolism is the third most common direct cause for maternal deaths in the UK and better identification of 'at-risk women' and extensive use of thromboprophylaxis in pregnancy have contributed in decreasing the mortality. The incidence of OVT appears to be more common than observed and varies between 1 in 600 to 2000 deliveries. Approximately one fourth of untreated patients develop pulmonary embolism and the mortality can be about 4%. The pathogenesis of this condition in the postnatal period is not fully understood. Differential diagnoses of ovarian vein thrombosis are appendicitis, septic pelvic thrombophlebitis, peritonitis, adnexal torsion, pyelonephritis and tubo-ovarian abscess. Though OVT may manifest with clinical symptoms it can also be asymptomatic and may go undiagnosed. This case highlights the importance of including OVT as a differential diagnosis for acute abdominal pain, during both antenatal and postnatal period. If left undiagnosed there is a potential for serious consequences for patients.

EP7.55
Multicultural views on stillbirth and maternity bereavement care

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Introduction There is a paucity of literature on the needs of parents from diverse cultural and religious backgrounds after stillbirth. This study aimed to explore relevant and unique beliefs surrounding stillbirth in the six main religious and cultural groups within the UK, to improve the design and provision of bereavement care.
Methods Structured interviews with male and female representatives from a healthcare support network, expressing Jewish, Christian, Sikh, Hindu, Buddhist and Islamic beliefs. All interviews were digitally recorded, transcribed and analysed independently by 3 researchers using content analysis.
Results Despite differences in belief systems, all representatives emphasised the need for a supportive, empathetic approach to provide holistic bereavement care. Examples of relevant beliefs include:
Jewish (Orthodox) – Too many babies died before, during or soon after childbirth, and mourning had to continue for 1 year after every death. It was accepted therefore that a baby should not be mourned unless at least 30 days old before dying.
Christianity – Stillborn babies cannot be baptised, but they can be blessed by anyone.
Sikh – The soul leaves the body after the last 'breath', when the heart stops beating, and cremation is preferred to burial. This means that if a postmortem is required, it would not be seen to interfere with the soul.
Hindu – The baby already has a soul from conception. The soul leaves the body at death. Cremation is preferred but any child <10 years old should be buried.
Buddhist – As soon as a baby is stillborn the head must be tapped with the holy book or implement, by the parents, to assist the 'mind' leaving the body and enable rebirth. Afterwards the baby should be disturbed as little as possible. A postmortem should not take place for at least 3 days, preferably 10.
Islam – The soul enters the body at 16 weeks of gestation and, does not leave the body until it is buried. Postmortems are seen to cause harm, and as exposing 'the modesty' of a person to others.
Conclusion These data serve to emphasise the variety of different beliefs that will need to be considered if maternity staff in the NHS are to provide bereavement care that meets both the cultural and religious needs of service users. This unique study will help guide training and improve service provision tailored to parents' needs in a culturally diverse world, for example by considering non-invasive postmortem investigations when appropriate.

EP7.56
Analysis of 88 antepartum stillbirths in South East London Hospital UK

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Introduction Stillbirth is defined as a baby delivered with no sign of life after 24 completed weeks of pregnancy. Approximately one in 200 babies are born dead. There are around 4000 stillbirths (SB) in the UK annually. Postmortem examination of babies can provide valuable information about the cause of death. Factors associated with stillbirth include obesity, advanced maternal age, smoking, previous SB, infection such as group B streptococcus infection, maternal diseases and IVF. The aims of investigation of SB are to assess maternal wellbeing, to determine the cause of SB and to determine the chance of recurrence and possible means of reducing the risk. The objective of this study was to determine the proportion of couples that had postmortem examination and analysis of the causes of stillbirths and management.
Methods Retrospective analysis of all antenatal stillbirths from January 2009 to February 2013. The data were collected from hospital database and review of medical notes. Data were then stratified according to age, parity, BMI, smoking habit, social status, ethnicity, postmortem examinations and management of these women. There were 86 women who suffered antepartum SB including one case of MCDA twins and another woman who had two stillbirths.
Results 38% were Black African, 40% were White, 17% were Asian, 1% mixed ethnic origin and in 2% of women ethnicity was not recorded. Forty of 86 couples had postmortem examination (45%). Of these no cause was found in 16 (40%). IUGR, placental insufficiency, CNS abnormalities were among the most frequent reported causes. Others include: meconium aspiration, chorioamniotitis etc. Most women had induction of labour. 83% had vaginal delivery. Two had forceps delivery and 14% had caesarean section. Only one had failed induction in women with no previous scar. One woman had rupture uterus following induction of labour with previous caesarean section.
Conclusion Vaginal delivery can be achieved in most women with no previous scar. Caution should be exercised in women with previous scar and preferably use small doses of misoprostol. PET/IUGR and placental insufficiency caused greatest risk. Efforts to detect fetal growth restriction and improved surveillance of fetal growth may reduce risk of stillbirth. Postmortem examination by experienced perinatal pathologist may improve detection of growth restriction and hence appropriate planning during next pregnancy.

EP7.57
Decision to delivery intervals in trials of instrumental delivery – Effects on maternal and neonatal morbidity

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Introduction It is well-known that prolonged decision to delivery intervals at caesarean section are associated with poor maternal and neonatal outcomes. There is a paucity of literature on outcomes for instrumental delivery. Here, we compare findings from trials of instrumental delivery to determine if these outcomes are dependent on decision to delivery interval.
Methods Retrospective analysis of delivery notes and computerised databases in a UK district general hospital were used to compare maternal and neonatal outcomes against decision to delivery interval for women who underwent trials of instrumental delivery from April 2012 – September 2012.
Results 107 women underwent instrumental delivery in theatre. A decision to delivery time of >60 min was associated with increased anal sphincter trauma, major postpartum haemorrhage and increased length of stay in hospital. There was an increased likelihood of poor neonatal outcomes as measured by Apgar score, cord pH, and SCBU admission.
Conclusion Transfer to theater for operative vaginal delivery should be expedited to minimise maternal and neonatal morbidity. Where possible instrumental delivery should take place within 60 min from the time of decision.

EP7.58
Randomised controlled trial of amnioinfusion during labour with oligohydramnios

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Introduction To assess the effect of amnioinfusion during labour with oligoamnios on caesarean section rate and perinatal outcome. It is a prospective randomised controlled study at a tertiary care teaching hospital in India from June 2010 to March 2012. Singleton pregnancies in cephalic presentation with oligoamnios with gestational age > 32 weeks and <40 weeks, in labour were included. Excluding multifetal gestation, non cephalic presentation, previous uterine scar, meconium stained amniotic fluid, premature rupture of membranes and preterm premature rupture of membranes, absent or reversed end diastolic flow in umbilical artery Doppler, antepartum haemorrhage, chorioamnionitis, cephalopelvic disproportion and medical complications.
Methods Total of 4376 deliveries with 1871 caesarean sections oligoamnios was diagnosed in women with amniotic fluid index (AFI) <7. With cardiotocography (CTG) changes identified in women with AFI <6.321 cases of oligohydramnios 200 women in labour with more than 32 weeks of gestation, single cephalic presentation with oligoamnios were randomised to control and amnioinfusion groups at a 1 : 1 ratio. Amnioinfusion was

performed using 500 mL of Ringer lactate in study group with suspicious CTG changes therapeutically and maintained until delivery. The control group received routine care. Both groups had continuous fetal heart rate monitoring during labour. The primary outcome measure was caesarean section rate. Secondary outcome measures were CTG changes, 1 min and 5 min Apgar <7, neonatal distress, neonatal intensive care unit admission.

Results The caesarean section rate in the amnioinfusion group was less than the control group (RR 0.47; 95% CI 0.24–0.93). 90 patients delivered normally in the study group compared to 47 in control group. The indication for lower segment caesarean section was fetal distress in 10 patients in the study group compared to 40 women in the control group. Amnioinfusion was associated with a significant improvement in the incidence of abnormal and suspicious CTG changes ($P = 0.001$) around 78 of 100 women with CTG changes, improvement in 1 min apgar scores ($P < 0.02$) 23 in cases and 55 in control groups with 1 min Apgar <7, fewer admissions to NICU in case which is 24 compared with the controls of 43 in number.

Conclusion Transcervical amnioinfusion in labour in oligohydramnios with CTG changes decreases caesarean section rates and fetal morbidity. It is a simple, safe and easy-to-perform procedure. It can be performed safely to reduce incidence of caesarean section and reduce fetal morbidity.

Source of funding None.

Disclosure of interest None.

EP7.59

Study on induction of labour versus expectant management in gestational hypertension or mild preeclampsia after 36 weeks of gestation

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Introduction Hypertensive disorders complicate 6–8% of all pregnancies and are a major cause of maternal and neonatal morbidity. In women with mild preeclampsia/gestational hypertension it is unclear whether induction of labour/expectant management is beneficial for mother or baby as evidence is lacking. The aim of the study was to compare the maternal and perinatal outcomes of immediate induction of labour with expectant management in mild preeclampsia between 36 and 40 completed weeks of gestation.

Methods The study was carried out from May 2011 to April 2012 in Government Medical College, Kolkata. Consecutive 100 gravid women with mild preeclampsia/gestational hypertension at 36–40 weeks of gestation were enrolled in the study and randomized in 1:1 manner to get induction of labour or expectant management. A diagnosis of gestational hypertension was made if systolic blood pressure (SBP) ≥140 or diastolic blood pressure (DBP) ≥90 mmHg for the first time during pregnancy without proteinuria. A diagnosis of mild preeclampsia was made if SBP is 140–159 mmHg and DBP is 90–109 mmHg accompanied by proteinuria of >0.3 g to <5 g/24 h.

Results Both the groups were comparable with respect to age, parity, body mass index and gestational age. Mean SBP ([induction group] 146.36 ± 4.33 versus [expectant group] 147.48 ± 5.18) and DBP ([induction group] 94.68 ± 2.93 vs [expectant group] 94.36 ± 2.82) was similar in groups and there was no statistical difference. Maternal outcome as adjudged by occurrence of severe hypertension, severe proteinuria, eclampsia, placental abruption, HELLP syndrome, disseminated intravascular coagulation, postpartum haemorrhage, retinal haemorrhage, pulmonary oedema. Acute renal failure was significantly higher in expectant group (28%) than induction group (10%) P value = 0.0395. The rate of caesarean section was 24% in induction group and 28% in expectant group ($P = 0.8200$). The mean admission to delivery interval was 21.426 ± 4.182 (hrs) in induction group and 120.880 ± 61.831 (hrs) in expectant group. So, the difference in latency period was statistically extremely significant ($P = 0.0001$). Total maternal hospital stay was prolonged among women in the expectant group (6.42 ± 2.82 days) compared with induction group (3.60 ± 1.83 days) and this difference was statistically extremely significant ($P = 0.0001$). Adverse perinatal outcome did not vary in both the groups. The incidence of asphyxia, RDS, VLBW, meconium aspiration, mechanical ventilation, NICU admission was more in expectant group (20%) than induction group (6%) but difference was not significant ($P = 0.0744$).

Conclusion In a limited population, induction of labour in women with mild gestational hypertension/preeclampsia between 36 and 40 weeks of gestational age is associated with less maternal hospital stay and less maternal and neonatal morbidity. Active management of these patients did not result in any significant increase in caesarean delivery. Thus active intervention leading to delivery is more beneficial than expectant management.

EP7.60

Prepartum correction of anemia by antenatal iron sucrose injection

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Introduction In spite of oral iron supplementation, the prevalence of iron deficiency anaemia in pregnancy is 35–75% in India, makes up 95% of all anaemia in pregnancy and this contributes to 20% of the maternal mortality. Therefore it is important to correct the deficiency before term gestation. Injection of iron sucrose has been shown as a safe and effective method for correction.

Method A hospital based, cohort observational study was conducted on pregnant women of any parity, between 16 and 34 weeks of gestation, with moderate anaemia (Hb 7–9.9) in spite of oral iron intake. After the cause of anaemia was confirmed to be iron deficiency, informed consent was taken and total dose of iron calculated and administered in divided doses. Complete haemogram and serum ferritin were estimated before and and 4 weeks after treatment.

Results Out of 64 patients, 55% of the group was primigravida, in the 18–24 age group. 62% were in 24–28 weeks of gestation. there was significant increase in Hb, Hct, MCV, MCHC serum ferritin and the peripheral smear in 4 weeks after the iron injections. There were no adverse reactions.
Conclusion All the patients in the study entered term pregnancy with corrected anaemia. The increase in serum ferritin within 4 weeks, signified that iron stores were also replenished before delivery. Injection iron sucrose was effective even when oral iron failed to prevent anaemia. the injection was found to be safe in pregnancy and should be recommended during early third trimester to reduce the high risk of anaemia at term.

EP7.61
Survey of current inutero transfer services in England

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Introduction Despite huge improvements in the provision of ex-utero transfer in the past 10 years, in-utero transfer, when appropriate, results in improved neonatal outcomes and a reduction in healthcare costs.[1] Gale et al.[2] reported that the median duration of in-utero transfers within London was 340 min (200–696 min) and the median time spent in attempting to arrange unsuccessful transfers was 240 min (150–308 min). Despite the overwhelming evidence, improving in-utero transfer services has been overlooked and remains an unnecessary burden to labour ward clinical staff. The purpose of this survey was to determine the overall perception of the current in-utero transfer processes in England and identify areas where improvements could be made.
Methods The survey was created using Survey Monkey and available between March and May 2013. The survey was emailed to obstetricians and neonatologists via labour ward leads, and Thames Regional Perinatal Group, and advertised in the March 2013 edition of Scanner (Royal College of Obstetricians and Gynaecologists monthly e-news bulletin to all College members)
Results There were 82 respondents; 49 obstetricians (20 consultants, 21 registrars, 8 SHOs); 33 neonatologists (19 Consultants, 8 Registrars, 6 SHOs). The majority of respondents were from Greater London (45/82). Kent, Surrey and Sussex, North West, West Midlands, South West, Middlesex, East Anglia, and Oxford were also represented. 84% (69/82) of respondents felt their current system was inefficient. Only 34% (28/82) believe the Emergency Bed Service is a useful adjunct to arranging in-utero transfer.Suggested solutions:

1 Technology innovation involving an online or smartphone application with real-time cot availability prioritising the hospital with the lowest level NICU appropriate for the mother in question, clear direct numbers for one point of contact for accepting transfers.
2 Consensus on principles of transfer (i.e. indications, agreed definitions for 'stable for transfer' or 'no availability', consultant led, one point of contact, and utilisation of quantitative fetal fibronectin)
3 Agreed transfer pathway with increased responsibility for neighbouring Trusts within network.
4 Improved transparency and accountability.

Conclusion The solution to this age-old problem is not simple but requires the cooperation of obstetricians, neonatologists and commissioning bodies. Our survey reinforces an urgent need to address this inefficient service and identifies solutions to achieve this. Ex-utero transfer should be viewed as a major clinical incident and investigated as such, only then will networks align and solve a historic problem that continues expose neonates to unnecessary risk.

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EP7.62
Management of shoulder dystocia – Re audit

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Introduction Shoulder dystocia is an obstetric emergency which is associated with significant maternal and fetal morbidity and mortality. It is a cause of litigation in the UK and therefore minimum standards for documentation are essential. The objectives were to monitor compliance with audit recommendations made in the index audit. These include completing a shoulder dystocia proforma (adapted from RCOG guidelines) and documentation of fetal outcomes.
Methods Follow-up of a 2010 audit. The audits were carried out at Whipps Cross University Hospital which has nearly 6000 deliveries per annum. The index audit highlighted that documentation of the manoeuvres used during the event and materno-fetal outcomes was substandard. It was recommended that a shoulder dystocia proforma (adapted from the RCOG guidelines) be introduced and staff should be made aware of it. Fetal outcomes should be measured using paired cord pH results and admission to SCBU. Following these implementations a re-audit was carried out. Cases between January 2011 and October 2012 were identified from the birth register and incident reports. Documentation was analysed against the minimum standards. Risk factors predisposing to shoulder dystocia, manoeuvres used to resolve each case, members of staff present, filling in of the proforma, maternal and fetal morbidity were examined.
Results A total of 17 cases of shoulder dystocia were identified retrospectively, during this 22 month period. Total number of deliveries was 8856. The incidence of shoulder dystocia was 0.19%. This cohort of patients had similar characteristics to the first audit. Maternal obesity was present in 35% of cases. 59% of cases were post dates delivery and instrumental delivery was carried out in 23% of cases. Documentation had improved since

2010. The proforma was filled out in 59% of the cases. The documentation of cord gases was present in 65% of the cases compared to 10% in 2010. 17% of babies required admission to SCBU which had risen from 0% in 2010. 77% of cases were managed by a registrar or consultant compared to 86%. Maternal postpartum haemorrhage occurred in 12% of cases and third degree tear in 12%.
Conclusion Documentation had improved following introduction of the proforma. Recommendations for re-audit include compliance to increase to 100% for filling out of the proforma. Regular skills and drills for obstetricians and midwives of all grades. Continuous re-audit should take place.

EP7.63
Stepwise devascularization versus B-Lynch for massive postpartum heamorrhage

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Introduction To compare the efficacy, feasibility and potential complications of stepwise devascularisation and the uterine compression B-Lynch suture in controlling massive postpartum heamorrhage.
Methods The study was conducted on 40 women with severe postpartum heamorrage with failed medical treatment and planned for surgical intervention. They were randomly allocated either for stepwise devascularisation or B-Lynch compression suture.
Group I: 20 female patients had stepwise devascularisation.
Group II: 20 female patients had B-Lynch compression suture.
All patients were observed for control of bleeding, amount of blood transfusion needed, operative time, need for hysterectomy, any complications and operative feasibility experienced by surgeons
Results There were no significant difference between both techniques regarding operative time, blood transfusion needed and need for hysterectomy. The devascularisation technique seems to be more rapid in control of bleeding and more easily performed by surgeons. We have only one case of broad ligament heamatoma in the devascularisation group and one case of avulsed adnexea in the compression suture group.
Conclusion Both stepwise devascularisation and B-Lynch suture techniques are effective in managing cases with postpartum haemorrhage. Surgical skills and experience are the cornerstone in the choice of the intervention needed.

EP7.64
Role of condom balloon tamponade for postpartum hemorrhage after failed medical management

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Introduction Obstetric haemorrhage is significant contributor to worldwide maternal morbidity and mortality. Guidelines for the management of PPH involve stepwise escalation of pharmacological and eventual surgical approaches. The method of uterine tamponade using balloons has recently been added to the armamentarium for managing PPH. The aim was of this study was to study the efficacy and complications of uterine tamponade using condom catheter balloon in non-traumatic PPH.
Methods This retrospective study was conducted in AVBRH, Sawangi meghe from 2012 to 2013. Thirteen patients with non-traumatic PPH not responding to medical management were included in the study. Uterine tamponade was achieved by a condom catheter balloon filled with 500 mL saline and kept in situ for 8–48 h. The main outcome measures were success rate in controlling hemorrhage, time required to stop bleeding, subsequent morbidity and technical difficulties. Data were analysed using appropriate statistical methods.
Results The success rate of condom catheter balloon in controlling hemorrhage was 92.3%. Of the two failures, surgical intervention was required in one case for retained cotyledons and there was one maternal death unrelated to PPH as patient committed suicide. In cases where the balloon was successful it was removed around 24 h later. In these cases no further bleeding was observed, and no complications occurred from the procedure. Three patients had infection (23%) following the procedure.
Conclusion Condom catheter balloon is effective in controlling non-traumatic PPH in 92.3% cases. It is effective, simple, inexpensive, easily available to manage non-traumatic PPH refractory to medical management, especially in limited resource settings and in those with successful placement no surgical morbidity was observed.

EP7.65
Intervention rates in term pregnancies with spontaneous onset of labour

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Introduction It is not clear from previous studies what the ideal duration of labour is and whether there is a set time cut-off point, beyond which there is no point in carrying on with labour. There is also a concern that prolongation of labour would adversely affect the fetal condition and result in an increase in admissions to Neonatal intensive care. This study was therefore undertaken to document intervention rates and outcomes in full term pregnancies with spontaneous onset of labour.
Methods The maternity system database at Hull Royal Infirmary was studied to identify women who had singleton term deliveries

over a 5-year period. Data was analysed on SPSS v15 (SPSS Inc., Chicago, IL, USA). Statistical analysis was undertaken using a chi-square or analysis of variance as appropriate. The total number of cases (n = 26719) was divided into two main groups: Primiparous women (n = 11825) and Multiparous women (n = 14894). According to the duration of first stage of labour, the cases were regrouped into seven 2-hourly periods: 0–2 h, 2–4 h, 4–6 h, 6–8 h, 8–10 h, 10–12 h and >12 h. Intrapartum interventions such as augmentation, epidural, instrumental delivery, caesarean section and Neonatal unit admission were compared across the various groups.

Results There is a significant increase in the intervention rates with an increased duration of first stage of labour in both primiparous (chi sq 1857, $P < 0.0001$) and multiparous (chi sq 2322, $P < 0.0001$). About 10% of primiparous women and 1% of multiparous women were in the first stage of labour for over 12 h. Notably, in this group, the normal delivery rate was 63.9% and 80.5% in primiparous and multiparous women respectively. Admission rate to the neonatal unit was not related to the duration of the first stage in primiparous women but rose significantly in multiparous women.

Conclusion O'Driscoll's view that labour should not last >12 h would be reassuring to many women but the high spontaneous vaginal delivery rate after this time would indicate that it is appropriate to continue the labour longer than 12 h. The safety of the longer labour appears to confined to primiparous women but not multiparous women. It is notable that there is an increasing intervention rate but a cut off point after which there is an unacceptably high level of intervention was not possible to define.

Funding Not applicable

EP7.66
Our VBAC experience

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Introduction There is a high prevailing rate of caesarean section (CS) in India because of which we see a large number of women who have had a previous section. Many of these seek a vaginal delivery after a prior CS (VBAC). In our practice we have a policy of discussing and counselling for VBAC. A trail of labour (TOL) is allowed in women who do not have a recurring indication, who consent for VBAC, if they present in spontaneous labour by term. We do not have a policy of induction in the presence of a scar.

Methods We did a retrospective chart review of all women who had a singleton pregnancy following one previous CS who delivered under our care between September 2012 and August 2013. We looked at our rates of success and possible reasons for failure.

Results There were 154 singleton pregnancies with one previous scar previous CS who had delivered in our unit between September 2012 – August 2013. Of the 92 willing for a TOL, 13 were excluded as they subsequently developed preeclampsia, IUGR or GDM requiring insulin. 49 of these women went into spontaneous labour by 40 weeks and vaginal delivery was achieved in 51%. The commonest reason for failed TOL was failure to progress. 38% of those intended for VBAC did not go into spontaneous labour at 40 weeks and underwent an elective section as we do not induce previous sections. The average birthweight in the group which delivered normally was 2970 g and 3243 g in the group that had a failed trail. This showed statistical significance (P = 0.039). There were 69% who were obese or overweight in the successful VBAC group as opposed to 80% in the failed group. But this not reach statistical significance.

Conclusion The quoted rates of successful VBAC varies from 44 to 75%. In our practice, where a significant number of women come requesting a VBAC, we are able to achieve 50% success if they go into spontaneous labour. A larger cohort will need to be followed to judge the impact of birthweights and BMI.

EP7.67
Documentation and patient satisfaction in consenting prior to undergoing caesarean section

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Introduction A full disclosure of treatment information, good mental capacity of the patient are pre requisites prior to giving consent. Our objective in this study was to assess compliance to current consenting standards.

Methods A retrospective questionnaire based audit conducted at a district general hospital in Northern Ireland, UK.

Results 50 questionnaires were used for data collection of which, 25 were from patients who underwent elective caesarean section (CS) and 25 from those who had an emergency CS. In the emergency group, 20% were consented by the consultant, 40% by the registrar and another 40% by the senior house officer (SHO). Whereas, in the elective group 20% were consented by the consultant, 12% by the registrar and 68% by the SHO. 56% of the patients responded that they were not adequately informed about the risks of the surgery prior to undergoing emergency CS however, this number reduced to 16% in the elective CS group. The documentation was legible 80% (n = 46) of the study group. Risk of haemorrhage and infection were discussed with all patients in both elective and emergency CS category. The next commonest risk discussed in both the groups were bladder and ureteric injury (elective CS – bladder injury/ureteric injury – 92%), (emergency CS – bladder injury – 96% and ureteric injury – 84%). The need for blood transfusion was discussed with only 68% of the emergency CS group. Whereas, it was discussed with 80% of patients undergoing elective CS. When assessing satisfaction of the consenting process, all patients undergoing an elective CS confirmed that they understood the nature of the procedure, they were aware of the reason for their CS and were also aware of the type of anaesthesia they were going to have. However, only 92% confirmed to have received an information leaflet during their preoperative appointment. When assessing patient satisfaction in those undergoing emergency CS, 92% had understood the nature of the procedure and were aware of the reason for their CS. 96%

of the patients had a discussion about the type of anaesthesia prior to surgery.
Conclusion Our audit confirmed compliance to current recommended standards. There was legible documentation and discussion of common risks associated with caesarean section. However, in patients who underwent emergency CS, we identified shortfalls with information provision prior to the surgery. Therefore, we recommend to provide adequate information and to have a detailed discussion with the patient during the consenting process, especially prior to an emergency CS.

EP7.68
Episiotomy in Zambia: is it a routine procedure

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Introduction Evidence suggests that a restrictive episiotomy policy results in less severe perineal trauma, less need for suturing and fewer complications with wound healing, with no significant difference in rates of future dysparunia, urinary incontinence and postpartum pain. Episiotomy rates vary widely the world over from 9 to 100%. A World Health Organization guideline recommends the lower episiotomy rate of 10% to be 'a good goal to pursue' The aim of this student project was primarily to investigate the current rate of episiotomy in Kitwe Central Hospital, Zambia. The secondary aim of this study was to explore the attitude of midwives to episiotomy.
Methods Between March and April 2012, data was collected from 100 women who delivered in the department and met the inclusion criteria for the study. The data were reviewed retrospectively and compared to large studies from both other African countries and the UK. Questionnaires exploring midwife attitude to episiotomy, included their knowledge of current international attitude to episiotomy, awareness of the negative sequelae of episiotomy, their own estimated rates, and if these rates had reduced since they began their practice.
Results Of the 100 women studied, the episiotomy rate was 17%. Of the 52 primiparous women in the study 25% received episiotomy. Of the 17 women overall who received episiotomy, 14 had a spontaneous vaginal delivery, two were a forceps delivery carried out by an obstetrician and 1 was a ventouse delivery. 100% of episiotomies were done in the medio-lateral position. In the group of women who did not receive episiotomy, 31.6% of primiparous women and 22% of multiparous women sustained a first or second degree perineal tear.
Conclusion The rate of episiotomy was low with midwives being aware of current international attitudes to episiotomy, and the risks and benefits of the procedure. Most actively endeavoured to carry out as few as was possible, and only where there was perceived to be a clear clinical benefit.

EP7.69
Case study: Can we achieve the benefits of vaginal delivery at Caesarean?

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Background Although caesarean sections have become safer for the mother, vaginal delivery still offers some important advantages to the mother and child such as less frequent atonic postpartum haemorrhage (PPH) and less frequent transient tachypnoea of newborn (TTN). Several technical modifications have been described to reduce the disadvantages of caesarean delivery, but these principally concern the surgical aspect and not the delivery technique per se.
Case We describe a unique technique specifically aimed at delivery of the infant to accrue the benefits of vaginal delivery at caesarean. The key components of the technique are pre-incisional oxytocin induced uterine contractions, slide manoeuvre and total spontaneous expulsion of the infant. After placing the women in supine (with left lateral tilt) position under appropriate anesthesia, oxytocin infusion is started at 20 mIU/min. A low transverse uterine incision is extended bluntly and the membranes ruptured. The operator then introduces the index and middle finger in to incision along which the head (or the breech) slides out [the slide manoeuvre]. The shoulders are then gently released through the uterine incision as the uterine contractions spontaneously push the baby out, in manner similar to vaginal delivery. The operator does not attempt any fundal pressure. Rest of the surgical steps are the same as in conventional technique. Initial data on 300 women with singleton pregnancies in cephalic presentations undergoing planned caesarean births using this technique showed a single case of atonic PPH; there were no cases of TTN. All except one placenta delivered spontaneously; 4 babies required neonatal intensive care unit [NICU] admission. Intraoperative manoeuvres such as fundal pressure, forceps or vacuum extraction were not required in any of the cases for assisting delivery. Also there were no angle extensions or scar dehiscence. Seventy nine per cent of women reported a pain score of 3 or less on first postoperative day.
Conclusion Prelabour caesarean entails few disadvantages such as difficult delivery of the floating head, atonic PPH and TTN. This technique effectively addresses these three major concerns. Uterine contractions and slide manoeuvre facilitate easy delivery of the floating head. Spontaneous expulsion ensures sufficient uterine action to prevent atonicity and allows 'physiological auto-resuscitation' of the infant by squeezing the fluid out of the chest similar to vaginal delivery. Minimal handling of tissues also results in decreased postoperative discomfort. The case series demonstrates the feasibility and safety of the new technique. A larger comparative study in underway to assess the benefits.

EP7.70

Five year of audit of clinical care provided for women diagnosed as placenta praevia in Abudhabi

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Introduction Placenta praevia refers to the presence of placental tissue that extends over or lies proximate to the internal cervical os. The objectives were: to assess and review the clinical presentation and management of placenta praevia in a tertiary health facility; to compare the performance of the Mafraq Hospital with the standards set by RCOG Guidelines no 27 on management of placenta praevia; to implement changes in clinical practice in order to improve the outcome; to assess the outcomes after the implementation of change in clinical practice.
Methods An initial retrospective audit was conducted between October 2009 to April 2013 by analyzing 22 cases of placenta placenta praevia and accreta. Results were compared with international standards and recommendations were developed which were implemented in clinical practice in order to meet the international standards and SEHA standards.
Results The total number of deliveries was 11 781, during this period, 67 cases of placenta praevia giving an incidence of 5.7/1000 births. Placenta accreta was present in 19 cases giving an incidence of 1.6/1000 deliveries. Incidence of placenta accreta among placenta praevia cases was 283/1000 deliveries or 28.35%. All the patients admitted with antepartum hemorrhage more than 20 weeks had sonography done. 90% patients with suspected accreta on scan had MRI to confirm and correlate the findings on scan i.e. 13 cases on scan diagnosed as placenta accreta MRI done in 11 cases. All the patients of suspected placenta accreta had elective caesarean section and emergency hysterectomy for placenta accreta or uncontrolled PPH, by the consultant with prior consent and cross matching of blood.
Intraoperative or postoperative blood transfusion was given to 18/19 patients of placenta accreta i.e. 94.7% and 47.7% patients of placenta praevia alone i.e. 32/67 cases. 67.1% cases of placenta praevia had emergency caesarean (35/67) and 32.1%of placenta praevia (22/67) had elective caesarean section. However 42/67 cases i.e. 62.5% was done in the duty hours (8 am–5 pm) when the consultant availability was sure. 31/47 patients of placenta praevia and accreta had PPH, 14 patients of placenta accreta and praevia, had more than 2 L of blood loss 2 patients had DIC, 2 had wound infection 1 had VVF. Maternal outcome was good in all cases and there was no maternal mortality or morbidity.
Conclusion We found that we are adhering to the RCOG guidelines at present. This report highlights the high quality of maternity care in Mafraq, when benchmarked internationally.

EP7.71

Placenta accreta: A single center experience

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Introduction Our aim was to present our experience with the management of antenatally diagnosed placenta accreta at KK Women's and Children's Hospital, Singapore.
Methods The medical records of women with antenatally-diagnosed placenta accreta from 2005 to 2012 were reviewed.
Results There were 42 women diagnosed with placenta accreta, of which 95.2% had at least one caesarean section. The incidence of placenta accreta was 1 in 2307 (0.04%). The mean maternal age was 34.0 years and median parity was two. Median gestational age at diagnosis with ultrasound was 32 weeks.
Out of 42 women, 22 (52.4%) women had a hysterectomy during caesarean section, six (27.3%) had placental removal and in 14 (33.3%) women the placenta was retained. Of 14 women with placental retention, eight had spontaneous placental resorption, five had delayed hysterectomy and one underwent manual removal of placenta 8 weeks later. Of women who had placental removal, one required hysterectomy 6 h later due to massive postpartum hemorrhage. Women who had caesarean hysterectomy had greater blood loss and were more likely to have intra-operative and post-operative complications. There were no maternal mortalities.
Conclusion Placenta accreta is associated with high maternal morbidity and mortality. Conservative management with placental retention is an acceptable option in selected cases avoiding the complications associated with caesarean hysterectomy with benefits of uterine conservation if successful.

EP7.72

Study of maternal and fetal outcome of pregnancy at the age of 40 years and above

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Introduction The pregnancy at advanced maternal age carries high risk for maternal and fetal complications. Aims and objectives – 1. To find out the incidence of pregnancy at the age of 40 years and above. 2. To study the maternal and fetal complications in this age group.
Methods Prospective case control study. The study was conducted in the department of obstetrics and Gynaecology at IMCH, Govt. Medical College, Kozhikode (Calicut), Kerala, India from January 2011 to December 2012. The samples were collected from the parturition register, caesarean register and case sheets. The case control study compared the pregnancy outcome of pregnancy at or above 40 years with outcome of pregnancy between the age of 20–25 years and analysis was done.
Results The total number of deliveries during the period was 30393.

The total no. of pregnancies at and above 40 years of age was 84 (0.28%). 10.7% had taken treatment for infertility and 4.76% conceived spontaneously after stopping treatment for infertility. 19 (22.6%) cases were primigravida, 48 cases (57.14%) between 2–4th gravida and 17 (20.2%) were grand multigravida. 78% had maternal complications in the study group compared to 19% in control group.

The main maternal complications were diabetes (25%), hypertension, (27.2%) severe preeclampsia (8.3%), thyroid disease (7.1%) and anaemia (6%).

The main mode of delivery was caesarean section in study group (64.2% of cases) where as in the control group the incidence of CS was only 21.4%. 30.9% had fetal complications in the study group compared to 10.7% in control group.

The main fetal complications were IUGR (10.7%,) congenital anomalies (3.57%), IUD (7.1%), MSAF (9.5%).

Required NICU admissions in 43 cases (51.1%) in study group compared to 16 (19%) in control group and there was 3NNDs (3.6%). There was no maternal complications in 18 cases (21.4%) and no fetal complications in 55 cases (65.48%). There was no maternal mortality.

Conclusion Pregnancy at advanced maternal age significantly affects the maternal and perinatal outcome. In this study, maternal and fetal complications were higher in women with pregnancy at or above 40 years when compared to their young counterparts. But if they are properly counselled, monitored and managed in a tertiary care centre, obstetric outcome can be improved.

EP7.73
Proteomic profiling of serum in prediction of preterm delivery

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Introduction In spite of a big number of studies devoted to different aspects of preterm delivery, many issues related to molecular mechanisms of preterm initiation of labor activity are still unexplained and it limits the possibilities of its prediction. Recently it has become possible to solve this problem thanks to the development of post-genomic technologies, particularly proteomics, the application field of which is closely connected with the search of prognostic markers of different diseases. The aim of this study was to identify of proteome differences in serum samples in normal pregnancy compared with preterm labor by using magnetic beads-based proteomic methods.

Methods 20 women at the age of 24–35 were included in the study: 10 women with physiological pregnancy and timely delivery, 10 women with the threat of preterm delivery, whose pregnancy finished at the term of the 34th–37th week. The material for the study was the blood serum of women taken at the 16th–17th week of gestation. To fractionate serum samples we used the kits for profiling that contained magnetic bead (MB-HIC C8, MB-IMAC Cu, MB-Wax Kits). For identification affinity bead-purified serum protein was subjected to matrix-assisted laser desorption/ionization time-of-flight/time-of-flight mass-spectrometry (MALDI-TOF/TOF-MS) analysis followed by Mascot identification of the peptide sequences and a search of the NCBI protein database.

Results Proteomic analysis we revealed the following functional groups of proteins, which composed molecular profiles of serum in case of preterm delivery: molecular chaperone, signal transduction proteins, cytoskeleton and membrane proteins, transport proteins, proteins involved in the oxidative metabolism and transcription, proteolysis, angiogenesis and apoptosis. Employing MALDI-TOF/TOF-MS we identified 26 proteins that differed more than two-fold between the groups ($P < 0.05$), 14 up-regulated and 13 down-regulated in preterm delivery. The up-regulated proteins included insulin-like growth factor-binding protein 1, apolipoprotein A-IV, bikunin, matrix metalloproteinase-8, interleukin-6, interleukin-7, retinol-binding protein 4, ribosomal protein S6 kinase alpha-3, pigment epithelium-derived factor, transcription elongation factor A protein 2, transferrin, fibrinopeptide B, tropomyosin M1, lipocalin-1. The down-regulated proteins were transgelin-2, superoxide dismutase 1, β-2-glycoprotein 1, peroxiredoxin-2, peroxiredoxin-3, gelsolin, isoform 1, vascular endothelial growth factor-A, prolactin-inducible protein, Janus kinase 2, folate transporter 1 (placental), E-cadherin, heat shock cognate 71 kDa protein, endoplasmin.

Conclusion The revealed differentially expressed proteins of serum can be suggested as markers for preterm delivery prediction that will allow to discover the threat of preterm delivery development at early stages of a pathologic process and will make it possible to correct disorders.

EP7.74
Morbidly adherent placenta-optimising management strategies

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Introduction Morbidly adherent placenta is a life threatening complication that occurs during pregnancy and the incidence is increasing because of increased caesarean sections, increasing maternal age, previous myomectomy, and dilatation and curettage. In morbidly adherent placenta the chorionic villi invades the myometrium and beyond as there is deficiency of desidua basalis, according to their encroachment could be placenta increta, percreta, accreta, the incidence is 1 in 2500 deliveries. The mortality rate is almost 7 to 10% globally. There is a need for early recognition, prediction and well planned management strategies. The objectives were: 1. Early diagnosis of the morbidly adherent placenta by 20 weeks with the help of grey scale ultrasonography and Doppler. 2. To make strategies to manage such cases with minimal facilities available. 3 To reduce the maternal morbidity and mortality by multidisciplinary approach.

Methods A retrospective study was done at Govt. maternity hospital, Hyderabad AP from September 2011 to September 2013.

This is a tertiary care center with many referrals. All the unbooked and booked cases, emergency and elective cases are Included in the study.

Results There were about 126 cases of placenta praevia among which 13 patients had morbidly adherent placenta. All the patients had peripartum caesarean hysterectomy. Among the 13 patients there were four deaths, one from private hospital with hysterotomy with pack in situ no prior diagnosis. Of placenta acreta, hysterectomy was done, 10 blood transfusions were given but could not be saved. Among the 13 cases nine were booked cases, diagnosed, admitted, counselled, had a elective surgery at 38 weeks of GA, a higher incision was given on the uterus, after baby delivery cord clamping, placenta is left in situ and hysterectomy was done. Almost all the patients had blood transfusion. Bladder injury was seen in three patients.

Conclusion In patients diagnosed to have morbidly adherent placenta-counseling, planned elective Surgery, avoiding placental separation, caesarean hysterectomy with blood bank facility and Multidisciplinary approach had better maternal outcome.

EP7.75

Caesarean section – sufficiently informed consent?

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Introduction At Good Hope, a district general hospital near Birmingham, UK, clinicians write procedure-specific details on printed consent forms by hand. This leads to a wide variation in practice and to the possibility of inadequate counselling prior to caesarean section. A service evaluation was performed to discover if there was documented evidence of the most serious and frequently occurring complications of caesarean delivery having been discussed before the operation.

Methods A proposed standard for the unit was developed using the Royal College of Obstetricians and Gynaecologists' Consent Advice (No.7) as a guide. A prospective audit of 53 case notes was performed.

Results Performance was variable. Bleeding and infection were discussed on almost all occasions (96% and 98% respectively). Fetal laceration was mentioned in 49% of the cases in this study. Not one clinician documented that the woman had been informed of the risk of return to theatre or readmission. Clinicians recorded the source of information given to the woman prior to consent in only 15% of cases. Some risks (such as bowel injury and anaesthetic complications), which are not covered by the college publication, were included.

The results were described in full at the local Clinical Governance meeting. An action plan was made to enhance local training in consent and communication of risk. The Trust will consider procedure-specific consent forms on the Labour Ward in order to ensure uniformly good practice in taking informed consent.

Conclusion Obstetricians have a duty to obtain informed consent prior to surgical procedures. An accurate and thorough consent form facilitates this process and should be linked to printed information.

EP7.76

Fresh stillbirths at a referral hospital in Zimbabwe: are there any common themes to address?

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Introduction Stillbirths are a devastating experience for women and their families. It is estimated that across the world there are 2.65 million stillbirths per year, 98% of these deaths occur in low resource settings.[1]

45% of stillbirths occur during the intrapartum period; many of these stillbirths could be prevented with improved intrapartum monitoring and care. Preventing these deaths is a priority at our hospital, a tertiary referral center in Zimbabwe. We aimed to identify any factors the care of women who experienced a fresh stillbirths (FSB) that could be improved.

Methods The management of 26 women who experienced a FSB at our hospital in 2011–12 was compared to the care of 66 women who had a live-birth in the same period. A proforma was used for data extraction and Microsoft Excel was used for analysis.

Results 12% (3/26) of women experiencing a FSB were un-booked deliveries (ie had no antenatal care), compared to 3% (2/66) of the women who had a live-birth. A partograph was used in 73% (19/26) and 88% (58/66) of FSBs and live-births respectively. The mean decision-to-delivery interval in 12 patients (with information available) was 301 min for FSB group. The one caesarean in the live birth group had a decision-to-delivery time of over 60 min. 8% (2/26) of FSB babies were low birthweight (under 2.5 kg), compared to 2% (1/66) of live-births. 31% (8/26) FSB faced documented resources and staffing issues compared to 0% in the live-birth group.

Conclusion This audit provides an insight into some contributors to FSB that could be altered by improving the quantity and quality of hospital-based care. Improving access to antenatal care, would provide a vital opportunity detect fetal growth restriction and provide antenatal education.

Closer intrapartum monitoring may provide an opportunity for timely intervention and the prevention of intrapartum death. The decision-to-delivery interval for FSB women was much longer compared to live births, and improving access to resources to reduce these intervals could significantly improve outcomes.

This audit has prompted the inclusion of a session on monitoring in labour in our multi-professional emergency obstetric training course (PROMPT). Closer monitoring of the maternal and fetal condition in labour, earlier recognition of abnormality and the subsequent prioritization of actions, through improved knowledge and teamwork on the labour ward, have the potential to reduce intrapartum stillbirths.

Reference

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EP7.77
Retrospective study of rupture of gravid uterus in teaching hospitals

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Background To study the contributing factors, clinical presentation, management and maternal and fetal outcome. The clinical details of 74 cases of rupture of gravid uterus managed in the hospitals attached to J.J.M. Medical College, Davangere during the period 2006–2012 were studied.

Case The incidence of rupture uterus was about 84 in 1000 deliveries. Most of the cases were second and third para, 61 cases, (82.4%). Half of the cases were unbooked, that is 38 (51%). Most common clinical presentation were those of classical signs of rupture with altered uterine contour 22 cases (30%), superficial fetal parts and absent fetal heart sounds. 21 cases (28.4%) were haemodynamically unstable. The commonest cause of rupture was due to separation of previous caesarean scar, 60 (81.1%). Rent repair was done in 23 cases (31.1%). There were two maternal deaths (2.7%) and perinatal outcome was poor, 55 cases (74%) observed in our study.

Conclusion In majority of cases uterine rupture of gravid uterus and its consequences are preventable with proper antenatal and intranatal care, identification of high risk cases and early referral to tertiary centre. There was a significant rise in rupture of previous caesarean scar in the study and since LSCS incidence is on the rise, education of the pregnant women about the need for carefully supervised and planned delivery in a tertiary level during her subsequent pregnancy is mandatory. Rupture of the uterus should be suspected when there are sudden fetal heart abnormalities during labor or unexpected postpartum shock. Suture repair should be considered whenever possible in order to maintain the patients' future fertility.

EP7.78
Rare case presentation – Late complication of uterine compression sutures and uterine devascularization – An obstetrical nightmare

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Case A low risk G2P1L1 presented to emergency room with premature rupture of membrane of 12 h duration. Following two doses of sublingual PGE1 (50 mcg) she went into active labour and delivered a female baby with good APGAR. In spite of active management of third stage of labour being instituted she developed intractable atonic postpartum haemorrhage (PPH) which did not control with medical measures and required surgical intervention. Multiple uterine compression sutures were undertaken followed by stepwise uterine devascularisation was done thus uterus was saved. She recovered well from hypovolaemic shock but succumbed to infection. She had a stormy postoperative course and stayed in the hospital for 35 days and subsequently she was hospitalised twice because of persistent purulent discharge. Finally, she expelled a large fleshy mass (15×12 m) which retained the shape of uterus. Later her purulent discharge came down and her outlook improved very much. She is still lactating and awaiting menses. It was a real challenge for the obstetrician who took so much effort to conserve the uterus.

Conclusion We are presenting the case because it is one of the rare scenarios following conservative surgical management of atonic PPH.

EP7.79
Caesarean myomectomy – our experience

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Introduction Myomectomy is a surgical procedure which is usually not performed during caesarean section. This dislike of the surgeons is because of the apprehension of hemorrhage and difficulty in securing haemostasis. The aim of this study was to evaluate the feasibility and outcome of myomectomy during caesarean section.

Methods From 2005 till date, 80 caesarean myomectomy were done. Out these 80, 62 fibroids were diagnosed antenatally. Majority of the myomas were located anteriorly. Myomectomy was resorted to after delivery of the baby. Myomectomy was done prior to delivery in cases of the lower uterine segment myomas. Myomas located near the cornu were not removed for fear of distortion of anatomy of fallopian tube. Routine infiltration with Vasopressin was advocated in all cases. The technique of myomectomy was conventional. The women were analysed with regard to age and parity, number, location and size of the fibroids, time required for surgery, blood loss, postoperative period, and findings at follow-up after 6 weeks.

Results The average time taken to perform LSCS along with myomectomy was 58.14 min and the average blood loss was estimated to be 480 mL. In a study conducted in Ghana, the average duration of operation was longer in cases having myomectomy with LSCS (62.08 min) than in those who had LSCS only (50.83 min). In a comparative study of caesarean myomectomy Brown et al showed that the mean blood loss was 495 mL (range 200–1000 mL) compared with 355 mL (range 150–900 mL) in the control. 46 women had multiple myomas. Cobellis et al have reported removal of multiple fibroids by electrocautery during LSCS. We removed six fibroids in one case. In the present study, in one case, a huge myoma of 2 kg was removed prior to the delivery of the baby. Omar et al reported two similar cases.

Blood transfusion was required in seven cases. Postoperative period was uneventful in all. Follow-up after 6 weeks showed that the uterus had properly involuted in all except one.
Conclusion With the advent of better anesthesia and availability of blood, caesarean myomectomy is no longer a dreaded job in the hands of an experienced surgeon and in a well-equipped tertiary centre.

EP7.80
An audit of category I caesarean section
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Introduction According to the UK National Institute of Health and Care Excellence (NICE), UK caesarean section (CS) rates are rising: from 9% in 1980, to 20% in 2003, and 25% in 2011. CS are categorised according to their urgency, from I to IV. Category I is for the most urgent cases, with a corresponding NICE target decision-to-delivery time of and ≤30 min. NICE advises that the overall performance of obstetric units can be indicated by the appropriateness of CS categorisation, and whether target decision-to-delivery times are achieved. University Hospital Coventry (UHC) has a busy maternity unit with approximately 6000 deliveries per year. We carried out an internal audit to determine if category I CS were correctly categorised, and if the target decision-to-delivery time was achieved. A revised skills-drills programme and a change in CS paperwork were introduced in late 2012, and therefore we also compared results from 2012 with those from 2013.
Methods Women delivered by CS at UHC between July and September 2012, and those between July and September 2013, were identified from the hospital database. Thirty patients with a recorded category I CS were randomly selected from each time period, and relevant data collated from their hospital notes, including indication for CS and decision-to-delivery time.
Results The cumulative CS rate at UHC for the first 9 months of 2013 was 25.6%, 25.7% of these were recorded as Category I. The most common indication for category I CS was 'fetal distress' or 'fetal bradycardia' (54.4%). There was an improvement in achievement of target decision-to-delivery time for category I CS from 39% in 2012 to 54% in 2013. We also observed an occasional discrepancy between the category of CS recorded in the main body of the hospital notes and that recorded on the hospital database.
Conclusion Importantly, there was an improvement in the achievement of target decision-to-delivery times associated with the improved skills-drills programme. There was also an observed inconsistency between the category of CS recorded in the hospital notes and that recorded on the hospital database. As data is transcribed from the hospital notes onto the database by administrative staff, this inconsistency may be reduced by clearer notation of category in the hospital notes. We have presented our findings at a unit meeting and recommended clearer recording of CS category and indication in the hospital notes. The skills-drills programme will continue to run. We will re-audit in 4 months.

EP7.81
Improving venous thromboprophylaxis in London maternity unit
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Introduction Venous thromboembolic (VTE) disease is a significant contributor to maternal morbidity and deaths in developing countries. Incidence has been reduced in the last decade by increasing awareness and targeted interventions. Guidance issued by national bodies including the RCOG has prompted the development of antenatal and postnatal risk assessment tools. These aim to assist practitioners in identifying women at increased risk of VTE and to direct appropriate prophylaxis.
Methods An audit of venous thromboprophylaxis at a London District General Hospital. Maternity records were reviewed and compared to hospital antenatal and postnatal risk assessment tools. Criteria included use of risk assessment tool, accurate documentation of risk factors, correct risk stratification of patient and appropriate prophylaxis instigated.
Results 50 case notes were reviewed between February and March 2013. The group included inpatients (80%) and outpatients (20%). 72% patients were formally risk assessed at booking, 62% were assessed on admission to the antenatal ward, and 100% patients were risk assessed prior to admission to the postnatal ward; overall 92% were risk assessed at least once in their pregnancy. The correct risk factors were accurately documented in 70% cases, with advanced maternal age >35 years (n = 11) and caesarean section (n = 8) most commonly cited. Patients were correctly categorised to high/medium/low risk groups in 53% cases, and the appropriate prophylaxis plan according to risk category was documented 65% cases.
Conclusion These results indicate that despite the risk assessment tool being used at least once in 92% pregnancies, it did not lead to accurate risk stratification in 47% cases and for 35% patients the prophylaxis plan therefore did not follow recommended guidelines. Often the checklists were not available or were not fully completed. The risk assessment tool has since been replaced with a simplified adhesive checklist that is inserted into the contemporaneous account at booking and again at admission. The unified design allows its use for antenatal/postnatal assessments. Further training of clinicians and midwives has been undertaken to familiarise staff with the new tool. A repeat audit of case notes is underway and results will be presented at the meeting. The study was limited by availability of documentation and small sample size.

EP7.82
Peripartum cardiomyopathy – An emergency reviewed

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Background Peripartum cardiomyopathy, also known as pregnancy-associated cardiomyopathy, is a potentially devastating cause of heart failure that affects women late in pregnancy or in early puerperium. It is a distinct entity of dilated cardiomyopathy. The reported incidence fluctuates globally but is higher in developing countries. The exact cause still remains unknown. Peripartum cardiomyopathy is a diagnosis of exclusion. The diagnostic criteria is as follows – development of cardiac failure in a patient with no cardiac disease, in the last month of pregnancy or within 5 months after delivery and with left ventricular systolic dysfunction demonstrated by classic echocardiographic criteria such as depressed shortening or ejection fraction <45%. Following are case reports of PPCM in the past 6 months (from May 2013 – November 2013) at Manipal Hospital Bangalore.

Cases 1. 30-year-old woman G2P1L1 at term gestation, and a known case of chronic HTN reported to labour room in early labour and cardiac failure. ECG showed ectopics. ECHO showed an EF of 50%. She was stabilised and then taken for LSCS (indication- previous LSCS with PROM with an unfavourable cervix). Postoperative period was uneventful; was discharged on diuretics and anti-arrythmics.

2. 37-year-old woman, G2P1L1 at 36 weeks of gestation with type 2 DM on insulin, presented to the emergency room with complaints of breathlessness for 2 days (NYHA IV). On examination she was tachycardic, tachypnoeic, normotensive with bilateral extensive crepitations. Her EF 50%. She was stabilised with diuretics, inotropes, and was taken up for LSCS. Postoperatively she was shifted to ICU, required ventilation for a day and was on diuretics and vasopressors. Her Serum prolactin level was 1225. She was started on cabergoline 0.5 mg along with other medications. (anti-arrythmics, diuretics, ACE inhibitors, and amiodarone), and was asked to continue the same on discharge.

3. 27-year-old woman, G2P1L0 at 37 weeks was admitted for elective LSCS. This lady had a history of PPCM in her previous pregnancy and was advised heart transplant. Over time, she improved and was taken off the transplant list. The couple was very much interested in conceiving, so much so that the lady was ready to risk her life for the same. Under cardiologist guidance, an option of starting cabergoline 0.5 mg in the last trimester was discussed and patient opted for the same and this was continued till delivery. Patient had a LSCS with an uneventful intra and post operative period and was discharged with a healthy baby.

Conclusion Yes PPCM is an emergency with a high mortality rate and can present differently, but early diagnosis and treatment aids in a better outcome. Also the cabergoline is emerging to be a good option in these cases. Since it is a diagnosis of exclusion, a vigilant watch and early diagnosis can have a good outcome.

EP7.83
Clinical significance of elevated maternal serum alpha-feto protein in second trimester of pregnancy

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Introduction Conventionally, α-fetoprotein levels have been used as an important antenatal screening test in patients suspected of open neural tube defects and Down's syndrome. Elevation of maternal serum α-fetoprotein (MSAFP) levels also exist in approximately 1% of the obstetric population who don't have neural tube defects. A consensus has been reached that elevated maternal serum α-fetoprotein level is clinically significant as these patients face an increased risk of adverse pregnancy outcome like preterm labor, oligohydramnios, abruptio placentae, preeclampsia, low birthweight and intrauterine fetal death. The aim of the study was to investigate the association between elevation of maternal serum AFP and pregnancy outcome and to identify pregnancies at high risk of adverse outcome.

Methods In this prospective study maternal serum AFP levels were estimated in 250 antental women in the second trimester (14–22 weeks) by microplate immune enzymometric assay by EIA-AFP kit. Results were noted in terms of mean serum level of the marker, development of pre-eclampsia, preterm labor, oligohydramnios, low lying placenta, premature rupture of membranes and fetal outcome.

Results Out of 250 women, 14 developed preeclampsia (5.6%). Significant rise of mean serum AFP level (109 IU/mL, $P < 0.001$) was present in those who developed preeclampsia. 23 patients developed preterm labor (9.2%) and mean serum AFP level was 93.74 IU/mL ($P < 0.001$ and RR = 28.68). Oligohydramnios was significantly associated with the higher level of maternal serum AFP ($P < 0.001$ RR = 5.07), the mean being 102.8 oIU/mL in patients with oligohydramnios and 62.56 IU/mL in patients without oligohydramnios. There was no relation between MSAFP and preterm rupture of membranes and low lying placenta ($P = 0.159$, $P = 0.626$). The significant association was found between higher level of MSAFP and fetal outcome like low birthweight ($P < 0.001$), intrauterine growth retardation ($P < 0.001$)

Conclusion Elevation of MSAFP levels in the second trimester of pregnancy is associated with an adverse maternal and fetal outcome like preterm labour, preeclampsia, oligohydraminos, low birthweight and intra uterine growth restriction, thus helping in identifying pregnancies at high risk who reguire a closer surveillance.

EP7.84
Operative vaginal delivery – the importance of regular data review to improve outcome and patient consent

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Introduction To review practice and outcome data for operative vaginal delivery (OVD) to improve accuracy of consent.
Methods A retrospective case note review of all OVD at a district general hospital from 13/01/13 to 17/06/13 inclusive. Demographics, labour, delivery and outcome data were collected on a standardised proforma, reviewed and analysed.
Results During the study period, there were 2846 deliveries of which 303 (10.6%), were OVD. The mean age of women who underwent OVD was 30 years; 234 (77.22%) were nulliparous and 69 (22.77%) were multiparous; 192 (63.3%) laboured spontaneously; 111 (36.6%) were induced or augmented. Mean duration of active second stage was 118 min with a range of 10 to 297 min. Indications for OVD included: (more than one given on occasion) suspicious/pathological CTG 199 (62.5%); delay in 2nd stage 130 (40.8%); maternal indication 14 (26.4%). Of all OVD 172 (56.7%) were ventouse deliveries, 94 (31.02%) were forceps deliveries, 37 (12.2%) had ventouse and forceps. Place of delivery: 236 (77.8%) in the room, and 67 (22.11%) in theatre. Of the 236 deliveries in the room, 141 (59.7%) were ventouse alone; 60 (25.4%) were forceps alone and 35 (14.8%) were dual instrument. Of the 67 deliveries in theatre 31 (46.2%), 34(50.7%) and 2 (2.98%) were ventouse, forceps, dual instrument respectively. Complications: Of the OVD's, 61 (20.1%) had estimated blood loss (EBL) of >1000 mL; 17 (5.6%) had a shoulder dystocia; 37 (12.2%) had third/fourth degree tears and 35 (11.5%) of the babies were admitted to SCBU for a variety of reasons but 29 (82%) of those babies had an OVD for pathological CTG, 4 (11.4%) of which required dual instrument.
A further 15 (4.7%) attempted OVD were unsuccessful and resulted in caesarean section: 7(46.6%) were Forceps; 6(40%) Ventouse; and 2(13.3%) double instrument. In this unsuccessful group 2(13.3%) babies were admitted to SCBU but 6(40%) had an EBL >1000 mL. Of all attempted OVD = 318, 15 (4.7%) were unsuccessful.
Conclusion This study demonstrates the importance of detailed OVD data collection and regular review to allow not only practice development, but accurate counselling when consenting women for OVD. It allows for extension of the RCOG obtaining valid consent guidance to be specific to local rates of outcome. It is important to share information including local rates of place of OVD; double instrument use; unsuccessful OVD attempts; blood loss and admission to SCBU.

EP7.85
Mullerian anomalies – pregnancy outcome

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Introduction To analyse the outcome of pregnancy in patients with mullerian anomalies.
Methods This is a retrospective analytical study over a period of 22 months from January, 2012 to October, 2013 in Department of Obstetrics and Gynaecology, Government General Hospital, Kurnool. Data were collected from medical records. Patients with diagnosed anomaly, anomalies detected during surgical procedure were noted. The anomalies were classified according to AFS classification (1988). The obstetric (abortions, ectopic, preterm and term labour) and perinatal outcome (live births, term, preterm and stillbirths) were analysed as the primary and secondary outcome.
Results During the period of our study, there were 16 176 deliveries of which 38 patients were noted to have mullerian anomaly (incidence:2.3/1000 live births) Among all anomalies, unicornuate uterus was noted to be more frequent in 13 patients (34%) than bicornuate (29%), septate (21%) and arcuate uteri (16%). One patient presented with habitual abortions and on evaluation was diagnosed with a bicornuate uterus. Ectopic gestation was seen in 5 patients (13%) with bicornuate and unicornuate uteri. All five patients underwent laparotomy. Of these, two were indicated for failed induction which was later found to be pregnancy in unruptured horn and the other three were indicated for intraperitoneal haemorrhage with rupture horn. Preterm labor (18%) was more common with bicornuate and unicornuate than with septate and arcuate uterus. Pregnancy continuing to term (65.7%) was noted to be more with unicornuate, arcuate and septate uteri. Longitudinal lie was common with all anomalies except in subseptate uterus where transverse lie was more common. Breech presentation (51%) was more common in unicornuate and septate. Total live birth rate was 28 live births (73.6%). Live birth rate was more in arcuate (100%), septate (87.5%) and less with unicornuate (69.2%) and bicornuate (54.5%). Still births (10.5%) were seen more with unicornuate and bicornuate uteri.
Conclusion The incidence of mullerian anomalies in our study was 2.3/1000 live births and unicornuate uterus was noted in most cases. In majority of our cases, the diagnosis was made peroperatively. Breech presentation was more in unicornuate and transverse lie was noted in subseptate uteri. Term pregnancy is more in unicornuate, septate, arcuate uteri and least with bicornuate uterus. Preterm labour was more common in bicornuate and unicornuate uteri. Rupture ectopic presenting with hemodynamic instability was more in bicornuate and unicornuate uteri. Favorable perinatal outcome was more in arcuate and septate uteri. Poorest perinatal outcome was noted with bicornuate uterus.

EP7.86
Case study: Delivery of fullterm dead locked twin by MVA cannula

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Background Locked twin is a rare, hazardous obstetric complication. Most common form of interlocking is chin to chin when aftercoming head of first twin gets locked with forecoming head of second twin. Antenatal diagnosis of twin gestation with leading twin breech and second twin cephalic presentation raises index of suspicion of potential locked twin. Timely done caesarean delivery can avoide fetal death but if it presents late with already dead fetuses vaginal delivery can be established without operative morbidity.
Case An unbooked primigravida aged 23 years was admitted to the labour room with arrested after-coming head of breech after prolonged labour. It was a full-term pregnancy. On examination, her vitals were stable. Per abdominal examination revealed uterine fundal height of 34 weeks' size and no fetal heart rate. No heart sound was found for the first baby also. Vaginal examination showed the head of the second baby. It was then realized that the head felt above the symphysis pubis was that of the first twin. As the locking was so tight and liquor drained out application of forceps could have led to vaginal lacerations. Hence lower segment caesarean section (LSCS) was planned in the interest of mother to prevent lower genital tract injury. An alternative way to preserve mothers obstetric career was thought of and it was decided to do distructive procedure hence cannula of Manual Aspiration kit was used to aspirate brain matter of both fetuses leading to collapse of both deads fetuses and subsequent delivery of both twins avoiding operative intervention.
Conclusion The management of locked twins must be individualised. Our case was unfortunate as regards fetal outcome not only because of the rare condition but also because of its being unbooked and presented late in labor. Maternal operative morbidity was avoided due to this innovative technique, hance Cannula of MVA kit can be used in selected cases.

EP7.87
Case study. Gravid uterus in an umbilical hernia at full term – Report of 2 rare cases

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Background Umbilical hernias are present in about 15% of pregnant African women but one large enough to contain a gravid uterus is very rare. In world literature there are only 5 cases described. We are presenting 2 cases of women with prolapse of a full term gravid uterus into the umbilical hernia.
Cases 1. 46 years G6P3 black African lady with a BMI of 32 kg/m^2. She had three vaginal deliveries in the past. One baby was a stillbirth due to cord prolapse. She had borderline blood pressure and a large umbilical hernia. She had an uneventful pregnancy and she was referred to the medical antenatal clinic at 39 weeks. Abdominal examination revealed the complete uterine prolapse into umbilical hernia with a very deficient abdominal wall fascia and musculature. Ultrasound revealed extended breech and cord presentation. Patient was admitted to the hospital and elective lower segment caesarean section (LSCS) was arranged. She had rupture of membranes prior to surgery. On vaginal examination cervix was closed. Ultrasonography showed a normal heart rate with the fetus in transverse presentation with loops of cord above the cervix. Patient had emergency LSCS. During the surgery a large (15 cm) umbilical hernia with the uterine fundus prolapsing through the defect was confirmed. The uterus was easily corrected to the normal position. Patient had uneventful post operation recovery.
2. 41 years old G3 P2 black African lady with a BMI of 43. She had two previous caesarean deliveries. She gave a history of umbilical hernia since after her first pregnancy which gradually increased in size during subsequent pregnancies. At the routine growth scan at 34 weeks it was noticed that the level of fundus of uterus was covered just by the skin and subcutaneous tissue. She was booked for elective LSCS. At 38 weeks she had spontaneous rupture of membranes. Abdominal examination revealed a large mass protruding through the umbilical area. Fetal parts could easily be palpable across the herniated gravid uterus. The fetus was in cephalic position. Emergency LSCS was performed. Caesarean section was complicated by the high maternal BMI. Patient had uneventful recovery.
Conclusion We are presenting two rare cases. With multidisciplinary input we achieved successful pregnancy outcomes as well as the avoidance of known complications. Both patients were seen by surgeons in antenatal period and post-delivery follow-up has been arranged for further investigations for estimate the size of the hernia to plan the repair electively.

EP7.88
Standards in the management of 3rd and 4th degree perineal tear: A retrospective audit

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Introduction The aim of the study is to look into the risk factors associated with the 3rd and 4th degree tear and also compare our practice with the RCOG guidelines.
Methods We conducted a retrospective case note review of all patients with third and fourth degree tear in Singapore based tertiary referral hospital during the 6 year period from January 2006 to December 2011. Relevant data were collected in specially prepared datasheet and data analysis was carried out using the SPSS 19.0 statistical package.
Results A total of 87 (0.18%) women's were identified with third and fourth degree tear during the study period. Majority of patients sustained third degree perineal tears 69 (77%), while fourth degree tears were sustained by 18 (20.7%).
Third/Fourth degree tears complicated operative vaginal deliveries in 28/87(32.2%) and 2/5th associated with epidural. In the majority of cases, the repair was done by either consultant or

registrars 75 (86.2%). In 12 patients the tears were repaired by the senior medical officers under senior supervision. We use restricted episiotomy in nulliparous women than routine episiotomy and 3/5th cases associated with medio-lateral episiotomy. Around 25% of the tear is associated with increase maternal weight (>75kg) and 20% as above of women with fetal weight more than 3.5 kg. Nearly 50% of tears were associated with induction of labour and 1/3rd of cases with a prolonged second stage of labour.
From our study we noted that 62% of the cases had continuity of follow-up in our hospital without any complications except one case had superficial wound infection. Rest of the cases requested for polyclinics follow-up or in their home countries despite being counseled regarding the importance of continuity of follow-up and also they were aware of long term complications. We noted nearly 1/5th of cases the documentation was suboptimal with reference to RCOG standards.
Conclusion Overall in the majority of patients there were no long-term complications. As per RCOG standards the repair was carried out by adequately trained surgeons. However the incidents of tear were low which may be attributed to lack of identification of the cases at junior staff or mid-wives. Hence we have come out with a special training program for them to avoid any missed diagnosis. Moreover the standards in the documentation need to be improved, for which we designed an audit form including all criteria's as per RCOG guidelines.

EP7.89
Case study: uncommon resipratory complications in pregnancy and labour

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Background Spontaneous pneumothorax and pneumomediastinum are rare complications during pregnancy and labour. Less than 50 cases of PSP have been reported, but both are potentially dangerous complications in pregnancy and labour. Pneumothorax is an abnormal collection of air in the pleural space separating the lung from the chest wall. Pneumomediastinum is air trapped in the mediastinal connective tissue, occurring most frequently in the second stage of labour.
Cases We present two different cases in this report. The first presented with a pneumothorax at 32 weeks gestation that occurred following episodes of hyperemesis. A 24-year-old multiparous lady presented with sudden onset shortness of breath and right sided chest pain. The pain came on after a 3-day period of severe vomiting due to viral illness when she felt a 'pop' on the upper right aspect of her chest. On clinical examinations, apart from slight shortness of breath and right sided decreased air entry on auscultation, all other examinations were normal. Chest radiograph revealed a 6 cm right sided pneumothorax with no mediastinal or tracheal deviation. She was treated with needle aspiration but required a chest drain insertion the following day after repeated chest radiographs showed recurrence.
The second, presented with subcutaneous emphysema and pneumomediastinum in the postpartum period. She was transferred to theatre for trial of instrumental delivery, after failing to progress with oxytocin infusion, under epidural anaesthesia. She had a forceps delivery with prolonged periods of Valsalva manoeuvres. She was transferred to delivery suite for observation and prior to transfer to postnatal ward, midwife noted swellings of the neck, jaw and face. On examination, crepitations were felt over those areas with minimal change in voice. Chest radiograph confirmed pneumomediastinum which was treated conservatively with high flow oxygen after discussions with chest physicians, as it is known to expedite the resolution of PSP and pneumomediastinum.
Conclusion Both the cases were successfully managed. In patients with pneumomediastinum high flow oxygen helps early resorption of subcutaneus air. In general a prolonged second stage due to repeated Valsalva manoeuvres raising the intrathoracic pressure is the cause for this complication. Hence prolonged second stage should be avoided.

In pnuemothorax during pregnancy, an early epidural is recommended as it reduces pain, allows rapid anaesthesia for caesarean section and can expedite the second stage of labour via assisted delivery. General anaesthesia is best avoided as IPPV can drastically enlarge and even precipitate tension pneumothoraces.

EP7.90
Risk factors and perinatal outcome associated with umbilical cord complications

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Introduction Cord prolapse and cord presentation are the obstetric emergencies that change the management of a simple pregnancy and necessitate urgent delivery. They are associated with high perinatal mortality and morbidity. The present study was conducted to analyse the perinatal outcome in patients with cord presentation and cord prolapse and to assess the obstetric risk factors associated with these cord complications.
Methods All cases of cord presentation and cord prolapse diagnosed in a tertiary hospital over a period of 2 years (2009–2010) were studied. The information regarding maternal presentation at the time of admission, mode of delivery, and neonatal outcome was retrieved from case sheets of patients available in Medical Record Department. Maternal factors in terms of age, parity, gestational age, mode of presentation, mode of delivery were analysed. Fetal outcome was assessed by Diagnosis to Delivery Interval (DDI), Apgar score at 0 min and 5 min, fetal weight and need for NICU admission.
Results Among 22 681 deliveries over a period of 2 years, 53 cases of umbilical cord complications were identified, giving the incidence of cord complication as 0.23%. Out of these, 7 (13.20%) had cord presentation and 46 (86.80%) had cord prolapse. Among these 46 patients, 11 patients developed cord prolapse in labor room (3 after artificial rupture of membranes and 8 after spontaneous rupture of membranes), rest 34 had presented in emergency with cord prolapse. There were 79.24% multiparous patients, 16 patients had malpresentation and breech

was the commonest malpresentation. Forty one patients had positive cord pulsations at the time of admission, all these patients underwent emergency caesarean section and all had live babies. Twelve patients reported to us with absent cord pulsations, 3 amongst these underwent LSCS for obstructed labor with hand and cord prolapse, rest 9 delivered vaginally. The average DDI was 26.00 min. In the patients who had developed leaking in the hospital, the DDI was 18.90 min ± 5.48 min with no NICU admission and good APGAR score post delivery; whereas in patients admitted with cord prolapse as emergency, the DDI was 29.34 min ± 6.37 min ($P < 0.05$). The perinatal mortality in our study was 0.52 per 1000 births.

Conclusion Analysis of the study concluded that the delivery interval between cord prolapse and delivery of the fetus is very important. Shortening of this interval can decrease neonatal complications at birth and reduce NICU admission.

EP7.91
Fetal outcomes in women with severe acute maternal morbidity (SAMM) – 'timely delivery saves lives'

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Introduction Usually the health of the mother and the fetus are inseparable. Pregnancies with complications have higher risk of poor fetal outcome in terms of abortions, preterm deliveries, stillbirths and neonatal deaths. The main direct causes are preterm delivery, sepsis, birth asphyxia and others. So this study is to see if early identification and timely intervention for the mother can save babies lives too. The objective was to determine the outcomes of fetuses in women with severe acute maternal morbidity

Methods Descriptive study done over a period of 1 year from January 2012 to December 2012. Women with near miss (severe acute maternal morbidity) were identified using WHO 2009 criteria. The outcomes were in terms of live births, still births and fetal losses before the period of viability.

Results There were a total of 3645 deliveries, 3619 live births during this period. There were 63 near miss cases (severe acute maternal morbidity cases) of which 60 (95.2%) were referred and three (4.8%) booked at our hospital. Forty-two (71%) cases were referred in the antenatal period and 18 (29%) in the postnatal period. Among the antenatally referred cases, fourteen pregnancies (33%) were either abortion or ectopic (early fetal loss). Nine antenatal cases (21%) were referred with still births. Five (55%) were due to abruption. Nineteen (45%) had live births in which 10 cases (52%) were due to preeclampsia. In the cases referred in the postnatal period, 17 cases (94%) had live births and 1 (4%) still birth. In the postnatal cases the inciting factor (postpartum haemorrhage and sepsis) was after the delivery; hence the high live births. All the booked cases had live births.

Conclusion Women with severe acute morbidity in the antenatal period have poor fetal outcomes with more still births. We believe that timely delivery will lead to more live births.

EP7.92
Rising trends and changed indications of caesarean sections in sikkim: cause for concern?

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Introduction A consistent increase has been observed in the rate of caesarean section (CS) deliveries in most of the developed countries and in many developing countries, including India, over the last few decades. There appears to be a developing tendency among obstetricians to promote the right of women to choose an elective CS on maternal request without any co-existing medical or obstetric indications. The purpose of this study was to document the recent levels and trends, and changed indications of caesarean sections in Sikkim, India.

Methods This was a retrospective cohort study. Data were collected from original obstetric records of hospitals of Sikkim in 2001 and 2011.

Results Overall, the total caesarean delivery rose from 7.1% to 21%. In private sector the caesarean rate rose from 17% to 43%. The main indications for elective caesarean section in 2001 were malpresentations or cephalopelvic disproportions (CPD), where as presumed fetal distress was the most common indication for emergency and urgent caesarean section. The dominant indication for an elective caesarean section in 2011 was maternal request without any co-existing medical or obstetric indication. In private sectors maternal request for fear of childbirth became indication for caesarean section in as high as in 48% deliveries. The main reason behind this request was maternal fear of childbirth for pain in vaginal delivery. Non progress of labour and prolonged labour remained the main indications for emergency caesarean sections in 2011.

Conclusion There is a high and unprecedented increase in caesarean section rates in Sikkim. The high rate reported in this study may be partly due to caesarean sections that were for maternal request without any medical or obstetric indication. This reflects altered attitudes towards mode of delivery among obstetricians and in the childbearing population. Further comprehensive studies are required to better understand the precise forces sustaining these trends as well as the development of standardised keys aiding an obstetrician in decision-making procedures concerning the indications for caesarean sections.

EP7.93
Maternal and fetal outcome in women with preterm premature rupture of membrane between 26 and 34 weeks' gestation on expectant management and evaluation of interleukin 6 as a subclinical marker of chorioamnionitis

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Introduction To evaluate fetal outcome in singleton pregnancies complicated by preterm premature rupture of membranes

(pPROM) on expectant management between 26 and 34 weeks of gestation and role of IL 6 in umbilical cord blood for predicting early onset neonatal sepsis and maternal chorioamnionitis. This was a prospective cohort study of 106 consecutive women with PPROM conducted in a tertiary care centre equipped with specialised neonatal care in North India. Gestational age, length of hospital stay, development of clinical chorioamnionitis, composite morbidity of the neonate, length of NICU stay stratified by weeks of gestation and cord blood IL6 were evaluated. Statistical analysis was done using SPSS version 20 and considering $P \leq 0.05$ as significant.

Results Perinatal survival improved with increasing gestational age. Composite morbidity and length of NICU stay were more in babies delivered at <32 weeks. Positive correlation was found between early onset neonatal sepsis and lower gestation at PPROM ($P = 0.001$), at delivery ($P = 0.006$) and clinical chorioamnionitis ($P = 0.028$). No significant relation seen between period of latency, cervical swab and placental membrane positivity. IL 6 level were significantly raised in babies with neonatal sepsis ($P = 0.002$). Babies with neonatal sepsis without any feature of chorioamnionitis (clinical cervical swab positivity, placental membrane positivity) did not have significant difference of IL 6 value.

Conclusion Outcome is better in pregnancies delivering at higher gestation and cord blood IL6 was a significant predictor for neonatal sepsis, but its role in subclinical chorioamnionitis could not be established.

EP7.94
Case study – Internal iliac artery embolisation in post LSCS severe postpartum haemorrhage

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Background Postpartum hemorrhage (PPH) is an important cause of maternal morbidity and death all over the world. When conservative methods fail to control the life threatening haemorrhage one has to quickly resort to surgical intervention to save the life of the patient. Internal iliac embolisation is a less invasive technique but very effective method to control PPH. We report a case of post caesarean primary PPH complicated referred from outside in which internal iliac embolisation was done to save the life.

Case A 24-year-old woman referred from outside as a case of PPH following LSCS for fetal distress. According to the referring doctor all the conservative treatment had been done on the patient but bleeding was not being controlled and patient was sinking. On examination the patient was conscious, two IV lines were there. Ringer lactate in one hand and PRC in the other hand were running. Pulse 130/min, BP-80/60 uterus was well contracted. She was continuously bleeding from uterus. Investigations were sent and PRC and FFP were ordered. Hb-6.5 g %, haemotocrit -22%, PT 21, INR 1.62, APTT.60. Options of hysterectomy, internal iliac ligation and internal iliac embolisation discussed. Inrternal iliac embolisation was decided. She was shifted to cath lab. Interventional cardiologist performed transfemoral emblisation bilaterlally using gelfoam. Immediately after embolisation bleeding decreased significantly. After the procedure she was given 4 units of PRC and 5 units of FFP. She was discharged after 4 days. After 1 year she conceived spontaneously at present she is 30 weeks pregnant and doing absolutely fine.

Conclusion Internal iliac embolisation is an effective method of controlling life threatening PPH. This may be done in even in haemodynamically unstable patient. Embolisation not only saves the patient but also the uterus and adnexal organs, thus preserving fertility. In those hospitals where embolistion is available it should be the procedure of choice for PPH prior to surgical intervention.

EP7.95
Case presentation: A rare post caesarean complication

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Introduction Caesarean sections are the safest and the most frequently performed obstetrical operations worldwide.

Case A 27-year-old Mrs. C. P4 presented as a referred case with history of distension of abdomen, difficulty in breathing, fever with chills and rigors and burning micturition for 4 days. She had past history of Caesarean section done 14 days back at some center outside the hospital. She was P4, previous three normal deliveries but 4th was caesarean delivery done for transverse lie. On examination she had tachycardia, tachypnea, was febrile, dehydrated, with pallor +, diminished air entry in both lungs and bilateral crepts. Per abdomen examination revealed abdominal distension, fluid thrill and shifting dullness. The bowel sounds were sluggish. On per speculum examination the vagina was full of watery discharge with flakes of pus coming through cervix. On per vaginal examination os was closed. She was admitted in gynaecological intensive care unit and started on higher antibiotics. Ultrasonography showed gross ascitis. Urologist had genitourinary fistula in mind, but there was no leakage of urine on retrograde filling of the bladder. CECT abdomen revealed filmsy adhesions of abdominal viscera and complete dehiscence of suture line. Provisional diagnosis: Septic peritonitis with suture line dehiscence with ascitic fluid per vaginum. She was taken up for an exploratory laparotomy followed by subtotal hysterectomy.

Conclusion With the rising incidence of caesarean deliveries, the clinicians should be well versed with the complications. Our patient was admitted in a critical condition but thorough investigation with a multidisciplinary approach and timely laparotomy and peripartum sub-total hysterectomy saved her life.

EP7.96

Incidence and risk factors for placenta praevia and placenta accreta/increta experience in a tertiary care Mafraq Hospital Abudhabi

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Introduction Placenta praevia, accreta/increta/percreta is one of the major pregnancy complications and is thought to be becoming more common with the increasing number of caesarean sections. The aims of this study were to estimate the incidence of placenta accreta/increta in Mafraq hospital Abudhabi and to investigate and quantify the associated risk factors. Currently placenta accreta is one of the most common indications for peripartum hysterectomy also.
Methods A retrospective study of data of all women who delivered between January 2009 and August 2013 in Mafraq hospital (tertiary care unit) was collected. Women with placenta praevia and accreta requiring peripartum hysterectomy were identified. Independent associated risk factors and associations were identified. Statistical analysis was performed using SPSS v 15.
Results Total number of deliveries was 11 781, during this period, 67 cases of placenta praevia were identified based on either prenatal scan diagnosis or intraoperative diagnosis. 5.7/1000 births. Cases of placenta accreta depending on histopathological and clinical diagnosis was found to be 19 (1.6/1000 deliveries). Incidence of placenta accreta among placenta praevia cases was 283/1000 deliveries Median age of presentation was 33 years (range 19–47 years). Higher age of placenta praevia patients was associated significantly with multiparity ($P = 0.001$) 85.1% patients were multiparous and 14.9% were primi patients. 4.5% ($n = 3$) were twin deliveries and 6% ($n = 4$) patients had an IVF treatment. There are 19 cases positive clinically for placenta accreta. 10 of them were histopathological proven. Higher age >33 years has higher association with placenta accreta ($P = 0.006$). Multiparity is also significantly associated with placenta accreta ($P = 0.021$). Higher BMI is mildly significant ($P = 0.082$). Previous caesarean section is highly associated with placenta accreta ($P = 0.001$). Clinically positive placenta accreta cases are positively correlated with pathologically diagnosed placenta accreta cases ($r = +0.642$; $P = 0.001$). Clinically positive placenta accreta are positively correlated with MRI diagnosed placenta accreta cases (r = +0.492; $P = 0.001$) 18 cases of placenta accreta had previous caesarean out of 19 cases i.e. 94.7%. 11 cases of placenta accreta needed caesarean hysterectomy 58%.
Conclusion The risk of placenta praevia/accreta appears to be raised in previous caesarean delivery, and other uterine surgery. There is also increased risk of placenta accreta in higher maternal age, higher BMI. There is higher risk of caesarean hysterectomy in patients with placenta accreta. There seems to be association between placenta praevia and accreta, increased surgery duration, need for blood transfusion, higher blood losses, need for ICU, prolonged hospital stay.

EP7.97

Prenatal diagnosis of placenta accreta: sonography or magnetic resonance imaging?

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Introduction The purpose of this study was to analyse the accuracy of transabdominal sonography and magnetic resonance imaging (MRI) for prenatal diagnosis of placenta accreta.
Methods A retrospective study of data of all women who delivered between January 2009 and August 2013 in Mafraq hospital (tertiary care unit) was collected from the department's obstetric register, to identify patients who had placenta praevia and accreta and those who had undergone peripartum hysterectomy. Those women with placenta praevia who had suspicion of accreta depending on the scan findings further had MRI pelvis to confirm scan findings. Statistical analysis was performed using SPSS v 15. A P value ≤ 0.05 was considered statistically significant. Sonographic findings.
Results A total of 12 patients who were clinically at high risk of placenta accreta underwent both sonography and MRI antenatally. Seven had HPE and clinical diagnosis of accreta, 4 clinical diagnoses alone and 9 had histopathological diagnosis of placenta accreta alone. There was discordance between MRI and Sonography in 4 cases, sonography was correct in all 3 cases and MRI in 1 case sonography had sensitivity of 90.9% and specificity of 50%. MRI had sensitivity of 62.5% and specificity of 25%. Sonography was more sensitive and specific than MRI in diagnosis of placenta accreta.
Conclusion Both sonography and MRI have fairly good sensitivity for prenatal diagnosis of placenta accreta; however, specificity does not appear to be much high as reported in other studies. In the case of inconclusive findings with one imaging modality, the other modality may be useful for clarifying the diagnosis. Trans abdominal sonography remains the test of choice which is 99% accurate. To be able to come to a conclusion a prospective study is required. The limitation of this study was small number of patients. It needs huge data base to come to a definite conclusion and at least 100 patients are needed in a paired study. A multi-institutional study may be required to make it feasible to attain higher number of cases to get an accurate comparative data. In our study scan appears superior to MRI in diagnosing placenta accreta This could be due to a dedicated sonologist with experience in obstetrics with consistently true positive reports of placenta accreta. MRI reports had higher false negative reports making it less sensitive tool This could be due to limited experience of the radiologist in cases of placenta accreta in MRI.

EP7.98
Withdrawn by author.

EP7.99
Individual term for each fetus: with surge in amniotic fluid optical density

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Introduction Results from amniotic fluid optical density (AFOD) research indicate, fetuses attain completion of functional maturity at AFOD value 0.98 ± 0.28 and go in for spontaneous labor at any time from 35w + d to 42w + d, indicating individual term for each fetus. Babies can be functionally fully mature even at 35w + d gestation if AFOD value is 0.98 ± 0.28. On the other hand babies can be functionally premature and develop RDS even at 40 weeks if AFOD value <0.40. Different authors reported, surge like raise in amniotic fluid lecithin, L/S ratio and serum hyaluronic acid in different studies, with the onset of spontaneous labor. Similar surge in many biologically active substances which participate in the process of labor was also reported in animal studies. In this study we attempted to find similar surge like raise in AFOD with the onset of spontaneous labor.
Methods AF samples collected by USG guided amniocentesis for lung maturity assessment as per the ACOG guidelines in 12 singleton preterm labor subjects were utilised for AFOD estimation. After successful tocolysis and continuation of pregnancies, AFOD estimations were repeated when women presented with labor pains again before 37w + 6 days. AF samples were also collected while doing amniotomy at spontaneous labor. AFOD estimations were done for un-centrifuged fresh AF samples with laboratory colorimeter at 650 nm. Babies were evaluated for functional maturity in terms of RDS, color of the skin and adherence of vernix caceosa on skin surface at birth.
Results Among these 12 subjects the CRL gestational age at delivery ranged from 35w + 3 days to 41w + 4 days. The AFOD values at amniotomy ranged from 0.80 to 1.54. In 11 subjects who underwent repeat amniocentesis, the trend lines plotted showed a slow and prolonged rise in AFOD till a value around 0.40 was reached. After this value, the AFOD rose rapidly like a surge, which coincided with the onset of spontaneous labor. The skin of all babies were mature pale brown in color with very little vernx caceosa and none of them developed RDS irrespective of gestational age and birthweight. In 6 subjects the duration of surge, (from value of 0.40 to labor) ranged from 5 to 10 days.
Conclusion There is a definite surge like raise in AFOD which coincides with completion of fetal functional maturity and onset of spontaneous labor. All these factors occurring at different gestational ages with different fetuses indicate individual term for each fetus.

EP7.100
Video demonstration of a novel low cost episiotomy trainer kit for low resourced settings

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Introduction Perineal trauma during childbirth can have serious consequences. Over 85% of women will sustain some form of perineal trauma and of these 60–70% will require suturing. This prompted us to devise a small, cost effective portable episiotomy training kit that would promote teaching and training in outreach health centres.
Methods As part of the vocational training team (VTT) of the Collaborative Action on Lowering Maternity Encountered Deaths (CALMED) project, sponsored by the Rotary International, a pilot trip to Sikkim, India was conducted in April 2013. The 2 week visit provided the opportunity to train local practitioners to act as future trainers, and to reflect on the different methods of teaching that were adopted. This lead to the observation that the commercially available episiotomy simulation repair kit provided and utilised by the training team, although very good, could not withstand the repetitive use required to teach this important skill. Therefore, a novel episiotomy training kit fashioned out of low cost locally available material (such as sponge, mackintosh, cardboard, PVC pipe and thread) was devised. This kit was designed in such a way that the material could be replaced as required for frequent use. Being low cost, the local healthcare trainers learnt to duplicate it easily. We demonstrate its use in this video demonstration.
Results The training kit devised was extensively used for the training of the local trainers who also used the kit to train their own trainees. It was well received by the team and became an integral part of the training curriculum in general hospitals and in primary health centres in the area.
Conclusion This sustainable episiotomy repair training kit aids in improving the confidence of the trainees and trainers and provides continued professional development at a low cost. This novel kit costs £3.00 (Rupees 300.00) in comparison to the previously used commercially available episiotomy training kit which cost £300.00 (Rupees 30,000). We hope that this kit will be used to enable training at all levels of expertise in low resource settings.

EP7.101
Fetomaternal outcome in obstructed labour in a tertiary care hospital of Western Odisha

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Introduction Obstructed labour is one of the common preventable causes of maternal and perinatal morbidity and

mortality in developing countries. It accounts for about 8% of maternal mortality. This study was conducted to assess the incidence, causes and outcome of obstructed labour in Department of Obstetrics and Gynaecology, VSS Medical College, Burla.

Methods Hospital-based, prospective observational study was conducted on all mothers who were admitted and delivered in the labour ward of VSS Medical College and Hospital from February 1, 2013 to September 30, 2013.

Results The incidence of obstructed labor was 3.59% (106 cases). Out of these 61.5% did not have antenatal care follow-up. 92 (86.7%) cases were taken for LSCS and 14 (13.2%) cases underwent operative vaginal delivery. The causes of obstructed labor were cephalo-pelvic disproportion in 72(67.6%) and malpresentation in 34 (32.1%) of the cases. The commonest maternal complications observed were uterine rupture in 35 (33.02%) and sepsis in 28 (26.41%) of the cases with complications. 79% of fetuses were born alive and most of them had low first minute Apgar score.

Conclusion The incidence of obstructed labor was high with high rate of complications. The antenatal care follow-up practice was also found to be low. Improved antenatal care, patient education, early recognition and good referral system are recommended to prevent obstructed labour and its complications.

EP7.102

Emergency obstetrics hysterectomy at Al-Thawra modern general hospital-Sana'a-Yemen

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Introduction Emergency postpartum hysterectomy is one marker of severe obstetric morbidity. The purpose of this study was to determine the frequency, risk factors, indications, complications, and maternal morbidity associated with emergency obstetric hysterectomy at AL-Thawra Hospital in Sana'a, Republic of Yemen.

Methods The information of 50 cases of obstetrics hysterectomy at Al-Thawra Hospital in Sana'a was collected from the obstetric files in the statistic department through retrospective study from January, 2003 to December, 2005.

Results There were 50 obstetric hysterectomies, the incidence is increased with increasing maternal age and parity, 71.6% were full term, and 28.8% had previous caesarean section. Uterine rupture was the most common cause 42%. In 54.7% of them subtotal hysterectomy was done, where as 45.2% underwent total abdominal hysterectomy. Patients who required blood transfusion were 95%. The common and serious complication was disseminated intravascular coagulopathy (DIC) 28.3%, maternal mortality was 4%.

Conclusion Uterine rupture is still a problem in developing countries, and is still the most common cause of obstetric emergency hysterectomy, which is significantly associated with grand multiparity, scarred uterus, lack of antenatal care, unsupervised labor at home and low socioeconomic status of the patient, and most of these factors are largely preventable.

EP7.103

Maternal mortality amongst women with sickle cell disease in Bahrain in 36 Years (1977–2012)

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Background Sickle cell disease (SCD) is a major health problem encountered in the Kingdom of Bahrain as it is associated with high maternal morbidity and mortality.

The objectives were to compare the demographic variables and pregnancy outcome among deceased women with SCD and those with no SCD in the period between 1977 and 2012 (36 Years). 2. To analyse the demographic variables and pregnancy outcome amongst deceased mothers with SCD as compared with those with no SCD over the two 18-year-periods (1977–1994; 1995–2012) 3. To determine the immediate cause of maternal mortality in women with SCD as compared with the rest.

Methods This is a retrospective study which included all reported maternal deaths in the different maternity hospitals in Bahrain during the period between first of January 1977 up to 31 December 2012. Demographic variables, pregnancy outcome and direct cause of death were compared between women with SCD and the rest of women without SCD.

Results There were 122 reported maternal deaths in Bahrain in the period between 1977 up to 2012. Out of them, 37 had SCD accounting for 30% of maternal deaths. There was significant decline in overall MMR in Bahrain (34 (1977–1986) up to 14/100 000 total births (2005–2011). However, the odds ratio of maternal mortality by SCD was significantly very high reaching 117 during the study period. The most important direct causes of maternal mortality amongst SCD women were pulmonary embolism (13 patients; 35%), sepsis (9 patients; 24%), postpartum haemorrhage (6 patients; 16%) and acute chest syndrome (5 patients; 13.5%). In non SCD group the leading cause of death was embolism and hypertensive disorders (18; 21%), followed by infection and haemorrhage (14; 16.5%) and heart disease (10; 11.8%).

Conclusion Sickle cell disease is the leading cause of maternal death in the Kingdom of Bahrain as it accounted for 30% of maternal death. There was significant decline in overall Maternal Mortality Rate in Bahrain but unfortunately we could not achieve substantial reduction amongst SCD mothers. Embolism was the leading cause of death in both groups. Other important causes of maternal mortality among women with SCD were sepsis, haemorrhage and acute chest syndrome.

EP7.104

Incarcerated term uterus – A case report

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Background Uterine retroversion before 12–14 weeks' gestation occurs in approximately 15% of pregnancies and is usually considered an innocuous finding. When the uterus remains retroverted as the pregnancy advances, the growing uterine corpus becomes impacted in the hollow of the pelvic cavity and uterine incarceration may develop. Incarcerated retroverted uterus at term is an extremely rare and serious complication of pregnancy.
Case We present a case where a 26-year-old patient, diagnosed to have complete placenta praevia, and cervical fibroid, had undiagnosed uterine incarceration at term. Operative delivery proved difficult due to distorted anatomy, fundal (not cervical) fibroid uterus and placenta praevia (diagnosis unsure). Our initial diagnosis was dextrorotated uterus, as our incision was noted to be on the posterior wall, but after we noted the transected cervix we suspected that we were dealing with an incarcerated uterus. In our case, delivery of the fetus was actually through transcervical caesarean section. Repair of the transected cervix was done and patient was discharged home on day-6. On day-10 post-op she developed bowel obstruction which was dealt by laparotomy and release of the adhesions.
Conclusion This case report discusses the diagnosis of incarceration of the retroverted uterus at term and management to the complication encountered (transcervical caesarean section). In presenting this case, we aim at improving awareness, diagnosis of a simple and avoidable condition 'retroverted incarcerated gravid uterus' and management of complications associated with the caesarean section.

EP7.105

Observational study of uterine rupture in a district general hospital in the UK

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Introduction Uterine rupture in pregnancy is a rare but serious obstetric complication, can lead to catastrophic maternal and fetal complications. The overall incidence is 0.07%, with incidence in women with uterus with surgical scar is 0.5% and, 0.0012% in those with unscarred uterus. With a rising caesarean section (CS) rate in the UK, a good proportion of women with previous CS are opting for vaginal birth after caesarean section (VBAC).
Methods An observational study of consecutive cases of uterine rupture between July 2006 to June 2013, in a district general hospital in the Northeast of England with an annual delivery rate of 3500 and supported by level III neonatal units.
Result 12 cases were identified. Of these 10 occurred in scarred uteri, all with previous LSCS. Two ruptures occurred in unscarred uteri (one of which was associated with placental abruption). Mean age of the women was 30.3 years (20–40), mean gravida 3 (2–6) and mean BMI 28.5 (18.5–48). Mean gestational age at rupture was 37.8 weeks (27–41) and mean gestational interval was 3 years (1–10). Six had spontaneous labour, three had labour augmented with oxytocin and three induction with prostaglandin. Two ruptures were clinically asymptomatic with normal CTG (both in scarred uterus). Two patients presented with collapse and shock and did not have time for CTG. The remaining eight (includes both ruptures in unscarred uterus) had abdominal pain with abnormal CTG additionally six had vaginal bleeding as well. The mode decision to delivery interval was 14 min (13–67 min – the two asymptomatic outliers at 45 and 67 min). Two underwent caesarean hysterectomy. Three were admitted to the high dependency unit and needed blood transfusion.
Two babies were stillborn (decision to delivery time 13 and 14 min). Of the remaining 10, five were compromised with low cord blood pH and gases and were admitted to the neonatal unit. Both asymptomatic ruptures had initial fetal compromise with good eventual outcome. Mean maternal hospital stay was 4.8 days (2–11).
Conclusion Uterine rupture in a modern obstetric unit is rare but unpredictable. It was more common in patients undergoing trial of labour after previous CS. Provision of rapid delivery with neonatal support improved outcomes with low hysterectomy rate, but did not alter the still birth rate. Identifying asymptomatic ruptures with normal CTG required high index of suspicion. However, both these cases in our series had good eventual fetal and maternal outcome.

EP7.106

Caesarean myomectomy – a retrospective comparitive study

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Introduction Leiomyoma is a common problem during reproductive age group and it is not uncommon to encounter fibroids in pregnancy. It was the practice to leave behind these fibroids during caesarean section because of the fear of torrential hemorrhage and increased morbidity.
Method A retrospective comparitive analysis was done between 27 cases of caesarean myomectomy and 30 cases of myomectomy on non pregnant uterus conducted during the period from march 2008 to September 2013 in the Department of OBG, Government Medical college, Thrissur, Kerala. Case sheets were reviewed for the following outcome: operating time, intra operative blood loss as indicated by the need for blood transfusion and haemoglobin fall, post operative morbidity, re-laparotomy, duration of hospital stay were analysed. Tourniquet and vasopressin were not routinely used in either group.
Result Both groups were comparable in age, type and number of fibroids. 47.4% of study group required blood transfusion, compared to 52.6% in the control. Operating time was 79.2 min in the study group compared to 81 min in the control group which is not statistically significant. There was no need for re-laparotomy or hysterectomy in either group.

Conclusion Caesarean myomectomy can be a safe and effective procedure which may obviate the need for a future possible surgical intervention.

EP7.107
Substance abuse in pregnancy
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Introduction There are between 200 000 and 300 000 children in England and Wales where one or both parents have serious drug problems. Parental drug use can and often does compromise children's health and development from conception onwards. Maternal drug use during pregnancy can seriously affect fetal growth and there is serious concern about the effect of cocaine on fetal development. Heroin and other opiates, cocaine and benzodiazepines can all cause severe neonatal withdrawal symptoms. Maternal drug injecting carries the risk of transmission to the baby of HIV and viral hepatitis.
Method It was a retrospective audit. We looked at all the pregnant women who booked and delivered at Stafford hospital between 2010 and 2013 with a history of:
1. Current or recent history (within 6 months) of drug abuse, detox programme or drug substitute programme.
2. Current heavy maternal alcohol intake or binge drinking.
Results 40 women were identified who fitted the above criteria in the 3 year period. 60% of the women had been taking heroin, 20% alcohol, 10% cocaine, ectasy, and 10% were on other drugs. Most of them stopped taking drugs when they found themselves pregnant and were ready to take the substitute methadone or subutex. 70% booked at <16 weeks of pregnancy and there was a 30% rate of failure to attend ANC appointment. 72% had a vaginal delivery were as 28% had a caesarean section. 75% of the babies were below the 10th centile for their birthweight and 28% require admission to SCBU.
Conclusion We aim to provide a maternity service for problem drug and alcohol users that is accessible, confidential and non-judgemental offering high quality care aimed at minimising the impact of the mothers drug and alcohol use on the pregnancy and the baby.

EP7.108
Alexis-O in C-section of women with BMI more than 35 kg/m^2
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Introduction With rising adult obesity, there is associated rise in obesity in pregnancy. A scottish study found that prevelance of obesity has increased from 9.4% to 18.9% over 12 years period. Obese women have higher rate of complications in pregnancy and intrapartum, including caesarean section and its associated complications.
Methods Prospective observational study. we studied use of Alexis-O caesarean section retractor in 18 women with BMI kg/m^2 more than 35 kg/m^2 undergoing elective caesarean section.
Results We hypothesised that use of alexis is associated with reduced blood loss at surgery, reduced operating time, decreased duration of hospital admission, decreased wound infection and breakdown. Based on our small study we propose to confirm the preliminary result by larger case-control studies and further trials of use of Alexis-O. it may make these high risk surgeries easier to perform with better outcome and reduced morbidity.

EP7.109
Maternal near miss in Father Muller hospital, Mangalore
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Introduction Morbidity during pregnancy represents part of a continuum between good health and death of the mother. Near miss is another measure to assess the quality of healthcare. Near miss in obstetrics is defined as 'A woman who survives severe life threatening conditions, either after receiving emergency medical/ surgical interventions or otherwise; during pregnancy, abortion, childbirth or within 42 days of pregnancy termination.' The objectives were to assess the incidence of near miss in our hospital during the study period; to compare the near miss events with that of the maternal mortality; to relate the various risk factors and causes of near miss.
Methods An audit was done in father Muller Hospital, Mangalore a tertiary care centre catering to referral area covering six districts. Case notes were studied and results obtained. Study period was November 2012 to October 2013.
Results The number of deliveries were 3142, near miss were 87, maternal deaths were 5. The incidence of near miss was 27.7/1000 deliveries The maternal mortality was159/100 000 ICU admissions were 27 The main causes of near miss were haemorrhage 53 (55.17%), severe pre-eclampsia 22 (25.2%) Other risk factors and trends were studied. These were also compared with studies from other centres.
Conclusion The study gives an insight into the quality of the present healthcare and useful points to improve the same.

EP7.110
Management of major degree placenta praevia during LSCS operation – A new surgical technique (Dutta's)
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Introduction Evaluation of a new surgical technique (Dutta's) to prevent postpartum hemorrhage due to major degree placenta praevia during caesarean section.

Methods This study was conducted at tertiary care hospital (JNM, and NSGH) at Kalyani, Nadia, West Bengal, India from the period January 2004 to December 2009. Ninty-four (94) cases diagnosed to be having major degree placenta praevia, undergoing LSCS operation, were selected for this study. New surgical technique (Dutta's) was adopted in a stepwise manner = delivery of baby > bilateral uterine artery ligation by chromic catgut no-1 suture >injection tranexamic acid (1000 mg) IM > injection oxytocin in intravenous infusion (10 units 30 drop/min in 500 mL of 5% dextrose) > delivery of placenta and membranes > checked properly if any tear or laceration in placental site > closure of uterine wound was done after securing bleeding from placental bed > closure of abdomen in layers by polyglycolic acid no 1 suture.

Results It was observed from this study that good effectiveness to control bleeding and intra-operative blood loss <300 cc were seen in 89 (94.68%) cases respectively. Six (6.3%) cases required underlying interrupted suture for bleeding from placental bed. Subtotal caesarean hysterectomy was advocated in 3 (3.28%) cases due to failure to control uterine atony. Immediate postoperative bleeding <200c.c was found in 81 (86.16%) cases. Maternal mortality was found to be absent. Maternal morbidity was seen in 12 (12.76%) cases. Subsequent menstrual cycles were found to be normal in 80 (87.91%) cases and repeated pregnancy was observed in 26 (28.57%) cases indicating non effect on gonadal function.

Conclusion Dutta's new surgical technique during LSCS for major degree placenta praevia was found to be simple, safe and quick procedure. It reduces perfusion pressure, permits time for further steps, thereby avoiding unnecessary ligation of bilateral internal iliac arteries and caesarean hysterectomy. Maternal mortality and morbidity were also found to be reduced. This technique is suitable for rural based hospital in absence of adequate blood transfusion facility.

EP7.111
Case study – Rupture of noncommunicating rudimentary horn pregnancy with heart disease

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Background Mariceau and Vasal published the first description of rudimentary horn pregnancy in 1669. Uterine anomalies affects 0.1% to 3.0%. of all women and prevalence of congenital uterine anomalies is 1:200 to 1:600 in fertile women. Pregnancy in rudimentary horn is also rare between 1 per 76 000 and 1 per 140 000 pregnancies. As per new ESHRE/ESGE classification, unilaterally formed uterus with non communicating rudimentary horn with cavity has been classified under ClassIVa. Pregnancy in noncommunicating rudimentary horn is possibly by transperitoneal migration of sperm or fertilised ovum. Risk of uterine rupture is 50%–90% with 80% of ruptures occurs during second trimester. The case was further complicated with presence of Rheumatic Heart Disease (Mitral Valve Replacement Done and on anticoagulants). It has been documented that cardiac disorders complicate approximately 1% of pregnancies and contribute significantly to maternal morbidity and mortality rates. Maternal mortality rate is 3–5% with mechanical valves .

Case 30 year old, Gravida 4 Para 2 Living 1 Abortion 1 with cervical encirclage in situ presented in the emergency at 16 weeks 3 days amennorhoea with complaints of lower abdominal pain and associated giddiness. It was not associated with bleeding P/V. Patients first pregnancy had full-term normal delivery 7 years ago whereas had stillbirth in 2005 and miscarriage in 2010. Patient was known case of rheumatic heart disease. Mitral valve replacement (Metallic) was done in 2006 and was on oral anticoagulant. On examination, patient was drowsy with unrecordable blood pressure. Pulse was thready and feeble with cold and clammy skin. Per abdomen examination revealed tense and tender abdomen. Aspiration further confirmed haemoperitoneum. Ultrasound was suggestive of pregnancy in right horn with no fetal cardiac activity. Laparotomy done and Intra-operatively, about 1 L of blood clots and rupture of non-communicating horn of bicornuate uterus with fetus lying in the peritoneal cavity was seen. Resection of the non-communicating rudimentary horn along with right salpingoophorectomy was done. Blood transfusion given intra-operatively and post-operative period was uneventful.

Conclusion Pregnancy in a non-communicating rudimentary horn is extremely rare and usually terminates in rupture uterus in the second trimester. It carries grave consequences for the mother and fetus. Early and prompt diagnosis is very important on strong suspicion as timely laparotomy and excision of the rudimentary horn is the life saving treatment. Heart disease with MVR further complicates and requires anticoagulation.

EP7.112
Comparative study of methylergometrine and low dose carboprost (PGF2-α) in active management of 3rd stage labor

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Introduction Up to 25% of maternal deaths worldwide are due to obstetric haemorrhage. Active management of third stage labour is one of the most important practices to prevent uterine atony, the most common cause of PPH. Hence, there is need of a drug: effective, cheap, easy to give and easily available to minimise PPH.

Methods A randomised controlled study was conducted at BJMC and Sassoon General Hospitals from Dec 2004 to Aug 2006. A total of 500 patients were randomly distributed in 2 groups. In each group 250 patients were studied.

Group 1: In this group, injection carboprost (125 mcg) was given IM at the delivery of anterior shoulder to 250 patients. Group 2: In this group, injection methergin (0.2 mg) was given IM at the delivery of anterior shoulder to 250 patients.

Patients were between 37–42 weeks of gestation, registered or unregistered who came directly for admission to labour room. Patients suffering from heart disease, bronchial asthma, glaucoma,

polyhydramnios, severe anaemia (Hb <7 g/L) were excluded from the study. Women who required LSCS or instrumental delivery were not included.

Results Both groups were comparable for age, parity, gestational age, Hb levels, birthweight, episiotomy, 3rd stage duration, complications and incidence of PPH. Side effects were seen in only group 1 patients and this was statistically significant ($P < 0.0001$). None of the patients required blood transfusion in both groups.

Conclusion In low resource settings in India and other developing countries, methylergometrine (0.2 mg) IM at the delivery of anterior shoulder is safe, effective, cheap and has no side effects as compared to low dose carboprost IM. Methergin has no storage problems. Hence, methergin can be recommended for active management of third stage of labor in rural hospitals and PHCs routinely.

EP7.113
Case study: fatal dissection of aortic aneurysm in the third trimester

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Introduction Pregnancy is often referred to as a risk factor for aortic aneurysm, with 50% of aortic aneurysm deaths in women under the age of 40 associated with pregnancy. Other risk factors in pregnancy include connective tissue disorders and hypertension. It is a rare presentation and often misdiagnosed resulting in delayed management and potentially death. We report on the case of a women presenting in the third trimester with chest and back pain, subsequently diagnosed with a fatal dissecting aortic aneurysm.

Case A 39-year-old Estonian woman presented to a District General Hospital with 1-h history of chest pain radiating to the back. She was 35 weeks pregnant with three previous spontaneous vaginal deliveries. She booked as low risk with no medical history. She had a previous history of 'borderline' hypertension in previous pregnancy but had never been medicated. She was an ex smoker of five cigarettes a day. Her booking blood pressure was 137/83. She had a family history of hypertension and CVA. She presented with an hour long history of chest pain radiating to her back and upon presentation to the emergency department had left hemiparesis and paraesthesia. Clinical findings included right and left blood pressure discrepancy and an ejection systolic murmer. She had an a CT confirming dissection of an aortic root aneurysm extending to the aortic bifurcation. Within 150 min of presentation she arrived at a tertiary cardiothoracic centre. She had a fatal cardiorespiratory arrest within their emergency department and a perimortem section was performed with delivery of a live neonate.

Conclusion Although rare, aortic aneurysm is a potentially fatal pathology that should be considered as a differential in obstetric patients presenting with chest pain. Risk factors such as congenital connective tissue disorders, advanced maternal age, pre-existing hypertension and smoking should all raise clinical suspicion. The management of those with pre-existing aneurysms is well documented. With advancing maternal age in pregnancy in the developed world there has been an increase in concurrent hypertensive disease. In addition cardiovascular disease as a cause of maternal mortality is continuing to rise. As such, there is likely to be a subsequent increase in presentation of aortic aneurysm in pregnancy.

EP7.114
A retrospective analysis of shoulder dystocia to gestational diabetes mellitus

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Introduction Shoulder dystocia is an obstetric emergency that is poorly predicted. Incidence varies from 0.6% to 1.4% in babies weighing 2500–4000 g and higher in babies weighing more than 4000 g. This is a retrospective review to study the incidence of shoulder dystocia in Malaysian tertiary hospitals.

Methods Data was obtained from the National Obstetrics Registry and the study period was from 1st January 2011 to 31st December 2012. A total of 260 959 cases from 14 state hospitals in Malaysia were analysed. Statistical analysis was performed using IBM SPSS statistics version 20 and variables were assessed by simple logistics regression.

Results A total of 235 cases in 2011 and 225 in 2012 were reviewed. The incidence of shoulder dystocia was 0.17% to 0.18%, which was lower in comparison to other studies. 75% of the cases occurred in women with a BMI of 25 to 29.9 kg/m^2 and more in both years. 90% of women who had shoulder dystocia had Gestational Diabetes Mellitus (GDM) and more than 80% had gestational hypertension. The mean age of women was 30 years and commonly seen in women with BMI of 25.0–29.9. Genital tract trauma was not significantly associated with shoulder dystocia in 2011 but was statistically significant in 2012, OR 1.87, 95% CI (1.43–2.47) was significantly increased in those with shoulder dystocia. Almost all cases didn't have a history of previous shoulder dystocia and 75% of cases were handled by doctors.

Conclusion Women at risk of shoulder dystocia are those in their thirties, overweight, obese with underlying GDM and gestational hypertension. One third of women in this study, however, were not overweight but complicated with shoulder dystocia. Women with GDM should be counselled for good glycaemic control during pregnancy. All categories of staff handling women in labour must be adequately trained to anticipate, diagnose and manage this obstetric emergency.

EP7.115
Timing of delivery and fetal outcomes in pre-existing diabetes and gestational diabetes

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Ministry of Health, Malaysia

Introduction The objective of this paper is to study if the timing of delivery in women with pre-existing diabetes and gestational diabetes affects fetal outcome.
Methods This was a retrospective cohort study conducted over a 3 year period from 1 January 2010 to 31 December 2012. Data were obtained from the National Obstetric Registry which is an online database that captures obstetric data from 14 tertiary hospitals in Malaysia. There were a total of 397 521 deliveries analysed.
Results Rate of caesarean section was higher in gestation age of 37 weeks in all 3 years and birth asphyxia was seen to be more common in babies of pre-existing diabetes and gestational diabetes when delivered before 38 weeks.
Conclusion This study shows similar results from other studies that early delivery leads to higher rate of birth asphyxia which leads to increase morbidity and admissions to neonatal ICU.

EP7.116
Maternal and neonatal outcomes in the second stage: a comparison of Kielland's forceps, rotational ventouse, and primary second stage caesarean section delivery

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Introduction The outcomes of malposition in the second stage by mode or instrument of delivery have been detailed using data from tertiary/teaching hospitals. Here we present findings from a UK district general hospital with the aim of comparing the use of Kielland's forceps, rotational ventouse and primary second stage caesarean delivery in this setting.
Methods Retrospective analysis of delivery notes and computerised databases in a UK district general hospital were used to compare maternal and neonatal outcomes for women who underwent trial of rotational forceps, ventouse or primary second stage emergency caesarean section (pEMCS) delivery from April 2012 – September 2012.
Results In total, 54 rotational instrumental deliveries were attempted. (6–1 + 10 + 17 = 32) involved Kielland's forceps (KF), 21 involved ventouse and 1 involved both instruments. 44 resulted in vaginal delivery. 9 women had caesarean section at full dilatation without trial of instrumental delivery (pEMCS). The likelihood of major PPH was similar when comparing Kielland's and pEMCS, this was increased when compared to rotational ventouse (OR 2.38, 95% CI 0.56–10.01; OR 2.86, 95% CI 0.34–24.30). Compared to Kielland's and pEMCS, rotational ventouse was associated with an increase in low cord pH (OR 2.02, 95% CI 0.57–7.14; OR 3.73 95% CI 0.39–35.93), however, the likelihood of SCBU admission was increased with Kielland's compared to rotational ventouse and pEMCS (OR 2.03, 95% CI 0.47–8.68; OR 2.56, 95% CI 0.28–23.72). There was no difference in length of stay between all groups.
Conclusion The likelihood of vaginal delivery was the same comparing Kielland's to rotational ventouse (OR 1.00, 95% CI 0.25 to 4.05). Maternal short-term adverse outcomes were more likely in women who had Kielland's or pEMCS compared to rotational ventouse. The decision on instrument and mode of delivery for malposition in the second stage should take into account other factors such as the likelihood of sequential instrumentation and operator preference.

EP7.117
Comparison of efficacy of misoprostol and oxytocin for induction of labour in prelabour rupture of membranes at term gestation

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Introduction Prelabour rupture of membranes at term gestation is a challenge to the obstetrician. Expectant management increases the risk of maternal chorioamnionitis and operative intervention. Active management by induction with misoprostol has the advantage of oral administration and decreases the induction to delivery interval Objective: To compare the efficacy of misoprostol and oxytocin as labour inducing agents in patients with prelabour rupture of membranes at term.
Methods Patients with prelabour rupture of membranes at term gestation were randomised to two groups. Fifty patients were allocated to each group. One group received misoprostol in the dose of 50 μg orally every 4 h for a maximum of three doses and the other group received oxytocin according to standard protocol.
Results Misprostol resulted in faster cervical dilatation and effacement than oxytocin at the end of 4 h (4 cm vs 2 cm in primigravidae and 7 cm vs 4 cm in multigravidae). The induction to delivery interval is less with misoprostol than with oxytocin (72.5% delivered in <8 h with misoprostol as compared to 32.5% with oxytocin). Third stage duration is reduced so is bleeding after delivery. There are no differences in the caesarean section rate in both the groups. No major neonatal or maternal complications in both the groups.
Conclusion Misoprostol is an effective agent for induction of labour in prelabour rupture of membranes at term gestation. It reduces the induction to delivery interval without significant complications.

EP7.118
Case series: uterine rupture, a district general hospital experience in the UK

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Background Uterine rupture is a rare obstetric emergency associated with significant adverse fetal and maternal outcomes. In

high-income countries, the incidence is very low in women with an unscarred uterus at <2 in 10 000. However, the risk is increased in women who have had a previous caesarean section. They must be counselled during pregnancy about their options for mode of delivery, either elective repeat caesarean section or vaginal birth (VBAC). The RCOG advises that women should be informed of the risk of uterine rupture as 22–74/10 000 deliveries, and the ACOG quote a rate of 0.5–0.9%. This risk is increased by induction of labour or other uterine scars, such as inverted T or classical segment scars.

Cases This series presents seven patients with uterine rupture seen at a UK district general hospital over a 3-year period between 2010–2013. During this period, we had 6049 deliveries, 732 of whom will have had a previous caesarean section. Less than half of these women opted for elective repeat caesarean section and so 417 women chose a VBAC. This gives a local rate of term scar rupture of 1.1% in women. In these patients the rupture was not always associated with excessive pain or CTG abnormalities. The diagnoses were made prior to the onset of labour as well as in labour and postnatally. One woman who did not realise she was pregnant and presented to accident and emergency in a state of shock. An ultrasound revealed a fetus in abdomen. During labour, rupture occurred with and without syntocinon augmentation and one case presented postnatally when she had a retained placenta. In theatre, the placenta was no longer in the uterus and found in left hypochondrium. All of these patients had a previous caesarean section, most were overweight or obese and none required a hysterectomy. Five of the cases had good fetal outcomes but there was one stillbirth and one baby with HIE.

Conclusion Our case series demonstrates the range of presentations and outcomes that can be seen with the ruptured uterus. It has highlighted the increased risk associated with obesity, syntocinon and the need to be vigilant in all patients with a uterine scar. A regular medical review of women having a VBAC will ensure urgent action if concerns occur. The thorough antenatal counselling of women is of paramount importance, which should be personalised and include local accurate data.

EP7.119

Case report – intestinal obstruction in a 37 year old primigravida at 27 weeks of gestation

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Background Reporting a case of intestinal obstruction presenting in a primigravida at 27 weeks of gestation. Inteststinal obstruction in pregnancy occurs in between 1 in 2500 to 3500 pregnancies. It is now more widely recognised in pregnant women and is more common in the second and third trimesters as the uterus moves into the abdomen. Intestinal obstruction is associated with significant maternal and fetal mortality. Diagnostic delay is often due to non-specific symptom presentation, making recognition difficult.

Case A 37-year-old primigravida, conceived by ICSI treatment, presented at 27 weeks of gestation with acute upper abdominal pain, nausea and vomiting. The patient was initially treated conservatively for gastroenteritis and gastritis with IV fluids, anti-emetics and ranitidine. Initial abdominal ultrasound was unremarkable. She gradually deteriorated and developed coffee ground vomiting, worsening pain and constipation. Subsequent ultrasound revealed dilated small bowel loops with associated free fluid, suggestive of small intestinal obstruction. The patient received steroids and had an exploratory midline laparotomy. The small bowel obstruction was due to adhesion banding at the knuckle of the terminal ileum, which had developed following a previous appendicectomy at the age of 10 years. The surgeon performed a limited right hemicolectomy in view of the ischaemia of the caecum. The woman made a slow postoperative recovery, and was on total parenteral nutrition for 7 days. She was discharged 15 days later. She went into preterm labour at 34 + 3 weeks and had a vaginal delivery. The mother and baby were discharged without any complications.

Conclusion Intestinal obstruction is rare in pregnancy. A high index of suspicion is required in patients with previous abdominal surgeries. Multidisciplinary team management is essential. Prompt surgical intervention needs to be considered if patients are not responding to the conservative management to reduce the risks and maximise the chances of favourable outcomes for both mother and baby.

EP7.120

Surgical management of postpartum hemorrhage at in a tertiary hospital, karnataka – a retrospective study

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Introduction Postpartum haemorrhage (PPH) is a major cause of maternal mortality worldwide, accounting for 34% maternal deaths and 64.7% of severe maternal morbidity. This study is aimed to determine the incidence, maternal characteristics, indications and maternal outcomes of PPH managed by various surgical methods at maternity unit, JJM Medical College, Davangere, Karnataka.

Methods Retrospective observational study done from January 1st 2012 to September 30th 2013 at maternity unit of JJM Medical College, Davangere, Karnataka.

Results The incidence of PPH requiring surgical intervention was 2.4/1000 deliveries. Main indication was uterine atony in 56 cases (90.3%), traumatic PPH in 6 (9.7%), abruption placenta in 11 (17.7%), placenta accrete in 12 (19.3%), repeat caesarean delivery 30 (48.3%), twin pregnancy 5 (8%), couvelaire uterus 4 (6.4%). 46.8% of women belonged to the age group of 21–25 years and 29% belonged to 26–30 years age group. 90% of the patients had pre-existing anemia. Conservative procedures like uterine artery ligation was done in 18 cases (29%) out of which 5 (27.7%) were successful and 13 cases (72.3%) underwent additional procedure like B-Lynch. 11 cases (17.7%) underwent B-Lynch, 6 (54.5%) were successful and 5 (45.4%) cases underwent additional

procedures. Stepwise devascularisation alone was effective in 11 cases (100%). Of the 27 cases (43.5%) of peripartum hysterectomy, 19 (70.3%) cases underwent the procedure after failure of one conservative surgical procedure with 5 mortalities (26.3%). 8 patients underwent after failure of multiple conservative approach with 2 mortalities (25%) death occurred within 5 h following surgery due to cardiac arrest. All patients received blood transfusion. Morbidity rate was 69.4%, which is slightly higher then worldwide morbidity. Minimum operating time was 45 min to a maximum of 4 h. Average hospital stay of patients was 10 days. Perinatal loss was observed in 26 cases (41.9%), due to prematurity, respiratory distress syndrome and sepsis.

Conclusion Major causes of PPH being uterine atony, placenta praevia and placenta accrete. Incidence of abnormal placentation was high in previous caesarean. Preexisting anemia, limited availability of blood, blood products and other emergency facilities pose higher challenge in developing countries. Good antenatal care, prompt diagnosis, effective early management are crucial in preventing fatal maternal haemorrhage. Major determinant for conservative management is based on hemodynamic status. In case of failure of conservative treatment, it was found dangerous to multiply techniques and emergency peripartum hysterectomy was the choice of treatment. Peripartum hysterectomy is mostly done in 'near- miss' cases with a high morbidity rate and a mortality rate of 27.7/100 000 live births.

EP7.121
Role of intraumblical vein oxytocin in prevention of manual removal of retained placenta and associated blood loss

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Introduction Postpartum haemorrhage (PPH) is a leading cause of maternal deaths worldwide. Retention of placenta can cause life-threatening PPH. Retained placenta is diagnosed when the placenta remains undelivered after 30 min of the third stage of labor. It occurs after 0.8–1.2% of all deliveries. Although 42% of all retained placentae deliver spontaneously in the first hour of the third stage, the risk of PPH increases significantly if placenta remains undelivered thereafter. Manual removal of placenta (MROP), the traditional treatment for retained placenta, is an invasive procedure. It can result in heavy bleeding, uterine perforation, endometritis and anemia. Incidence of MROP can be reduced by 20% by using intraumblical vein oxytocin. Previous trials have used various doses of oxytocin with variable success rates. The purpose of this study was to identify efficacy and the minimum effective dose of intraumblical vein oxytocin in delivery of retained placenta compared to placebo.

Methods After all term singleton vaginal deliveries, umblical cord was clamped and cut approximately 15 cm away from the baby. Hemodynamically stable women with retained placenta were included in this study. Umbilical vein was unclamped after 30 min and a nasogastric tube was passed along the umbilical vein until resistance was felt. It was then retracted for about 5 cm and 30 IU oxytocin in 19 mL normal saline (n = 17), 20 IU oxytocin in 21 mL normal saline (n = 19), 10 IU oxytocin in 23 mL normal saline (n = 15) or 25 mL normal saline alone (n = 21) was injected through the tube. Cord was re-clamped and left for further 30 min for spontaneous delivery of placenta. Cord traction was performed after 30 min of the injection and MROP was done under general anesthesia for undelivered placentae.

Results There was a significant reduction in the rate of MROP in the oxytocin groups (30%, 34% and 22%) compared to placebo group (68%) ($P < 0.05$). However, there was no significant difference in MROP between the three oxytocin groups. No significant difference was found in need for uterine curettage and postpartum Hb level reduction between the four groups.

Conclusion Intraumblical vein oxytocin can be used to prevent PPH secondary to retained placenta. Minimum effective dose of oxytocin remains to be determined.

EP7.122
Suffering in silence: postnatal urinary incontinence, an underreported problem?

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Introduction Urinary incontinence (UI) is a clinical condition with a negative impact on quality of life in affected women. The true prevalence of UI in the postnatal period is largely unknown and many women may not report the symptom unless directly asked.

Methods This retrospective review was carried out to determine the prevalence of urinary incontinence among women attending the postnatal perineal clinic following the repair of 3rd degree perineal lacerations.

Results A total of 122 completed clinic structured proformas were reviewed and 21% (n = 26) admitted to episodes of first onset urinary incontinence in the postnatal period.

Conclusion This finding probably represents only a small part of the problem because of the less structured postnatal questioning of vaginally delivered women without 3rd degree tears at their postnatal review, which takes place in primary care. Consideration should be given to direct questioning of vaginally delivered women at their follow-up visits regarding the symptom of UI, so that timely intervention can be offered.

EP7.123
Obstetric outcomes of pregnancies in women aged over 40 years in an inner London hospital

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Introduction Pregnancy in women aged over 40 years is becoming more common in the UK. Advanced maternal age has been

associated with higher rates of stillbirth and an increased risk of obstetric complications, as highlighted by a recent RCOG opinion paper. Local policy at our district general hospital is to offer induction of labour at term to women over 40 years of age due to the increased risk of stillbirth. The aim of this project was to document our local experience by comparing the mode of delivery and outcomes in our hospital for women aged over 40 to those of younger women, during a 1 year period.

Methods Retrospective analysis of 1 year's intrapartum data from the electronic database at Homerton University Hospital (1 November 2012 to 31 October 2013). Primary outcome of mode of delivery and secondary outcomes of maternal and fetal complications were compared for women aged over 40 years at booking, with those under 40 years.

Results During the 1 year period there were 5532 deliveries, 203 (3.7%) for women over 40 years at booking. Caesarean section (CS) rates were higher amongst older women, with 52% having a caesarean section compared to 28% of younger women. The rates were higher for both elective caesareans (24% versus 7%) and CS category 1–3 (29% versus 21%). Older women were less likely to have an uncomplicated spontaneous vaginal delivery (37% versus 57%). Labour was induced in a higher proportion of older women (28% versus 20%), however rates of instrumental delivery were lower. Among nulliparous women, more older women had raised BP or pre-eclampsia compared to younger women (18% versus 7%). There were also higher rates of pre-term birth (15% versus 9%) and low birthweight babies (27% versus 10%). There were four stillbirths in the over 40 group (2% of deliveries), all occurring before 37 weeks. In the under 40 group, there were 27 stillbirths (0.5% of deliveries).

Conclusion Data from a 1 year period at our district general hospital supports the growing body of evidence that risks associated with pregnancy in women over 40 years include higher rates of caesarean section, pre-eclampsia, pre-term birth, low birthweight and stillbirth. This should be considered during workforce planning to ensure safe outcomes for women and babies as complex interventions are more likely to be needed.

EP7.124
Oxytocin augmentation in labouring patients: less is better

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Introduction The purpose of this study was to examine the effects of a conservative and specific checklist, based on a protocol for oxytocin administration on maternal and newborn outcomes in the first Robson's class patients.

Methods This was a retrospective chart review and data extraction conducted at Sesto San Giovanni Hospital, Obstetrical Department, Milan, Italy. We divided the population in two groups: the first composed by women who delivered in first semester of 2010 (before intervention group, BI) and the second group composed by women who delivered in first semester of 2011 (after intervention group, AI). The new protocol used cervix curve progression as monitoring the effectiveness of the drug in the first stage of labor and the progression of fetal head in second stage of labor. Furthermore, in AI group the physicians would have specified the indication when they decided to use oxytocin, but not in BI group. In BI group oxytocyn was administrated at high dosage, while in AI group at low dosage. Cross-tabulations were checked by chi-square or by Fisher's exact test if needed.

Results The rate of oxytocin used for augmentation decreased significantly from 28.1% in BI (72/256 patients; 95% CI: 22.7–34.1) to 14.2% in AI (47/332 patients; 95% CI: 10.6–18.4) (Fisher's exact test: $P < 0.0001$). Oxytocin infusion during only the first stage of labour was significantly lower in AI group (11% vs 28%) ($P = 0.02$), while augmentation in both stages of labour was significantly higher in AI (30% vs 57%, $P = 0.003$). The rate of episiotomy was 55% in BI versus 41% in AI ($P = 0.002$). All the other index of maternal and newborn outcomes were improved in AI group, but the differences did not reach statistical significance. The average length of the labours' stages in BI vs AI groups does not undergo significant variations.

Conclusion Using a standardised protocol, which introduce the need to specify the indications, reduces the use and total amount of oxytocin to augmentation of labor, without changing the times of the same. Use as a sign of efficacy the cervix curve progression and the progression of fetal head, instead of the number of contractions in the unit time (frequency) allows a more selective and effective use of drug. This is the reason of the decrease in full use and the increase in use of labor in both periods. One advantage of the study is that it is focuses on a very select population (first Robson's class). The limit of this study was the small sample size.

EP7.125
Case study: an unusual cause of puerperal sepsis in a primigravida

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Background Puerperal sepsis accounts for approximately 10 deaths per year in the UK and the mortality rate increases to 60% in severe septicaemic shock. We report a case of severe puerperal sepsis that was managed surgically and histopathology confirmed a rare cause of this presentation.

Case A 38-year-old primigravida Asian woman with a BMI of 38 kg/m^2 had a planned induction of labour at 39 + 3 weeks' gestation due to oligohydramnios on her 38 + 6 weeks scan with no clinical sign of spontaneous rupture of membrane. Antenatally, she was commenced on daily aspirin from 12 weeks and had completed two doses of dexamethasone at 26 weeks. Her antenatal blood pressure and urine dipstick were unremarkable. Her obstetric scan at 14 + 5 weeks showed two masses suggestive of subserosal fundal fibroids measuring 186 mm and 60.8 mm. Her serial scans from 19 + 6 weeks till 38 + 6 weeks showed

consistent growth velocity above 50th centile, normal placenta location, changes in fibroid size to 131 mm and 120.6 mm and one episode of oligohydramnios at 38 + 6 weeks. She progressed into labour via Syntocinon augmentation and delivered a healthy baby boy with normal Apgar scores. She was discharged a day later but returned 4 days later with pyrexia of 40.6°C and rigors. Clinical examination showed a grossly distended abdomen with a palpable right-sided tender mass. Her biochemical tests were deranged, including WCC 18.1 × 109/L and CRP 616 mg/L. Her septic screen including chest radiograph, throat, genital, blood and urine cultures were all unremarkable. Her pelvic ultrasound showed a suboptimal view of a large fundal fibroid with no retained tissues of conception. However, a subsequent CT abdomen and pelvic scan revealed a fundal fibroid of 175 mm with fat stranding, a sign highly suggestive of acute torsion of fibroid. Having completed 48-h course of intravenous vancomycin and meropenem, she underwent a midline laparotomy that revealed a large, 200 × 130 mm, necrotic, degenerated fundal fibroid containing copious purulent discharge and a congested omentum adherent to it. A myomectomy and partial omentectomy was successfully performed. Postoperatively, she received 3-day supportive care from intensive care before transferring to the ward. She made progressive recovery and was then discharged 9 days later. Histopathology confirmed a leiomyoma with extensive coagulative necrosis and a necrotic omentum with widespread inflammation.

Conclusion Prompt imaging studies including pelvic ultrasound and CT scan should be performed to exclude fibroid degeneration and pyomyoma as possible causes of puerperal sepsis.

EP7.126
Intravaginal misoprostol versus intracervical dinopristone for induction of labour

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Introduction Induction and management of labour is an integral part of modern obstetrical practice. The present study was undertaken to compare the two drugs misoprostol and dinoprostone for induction of labour with regard to: effectiveness of drugs as inducing agents deduced from instillation delivery interval, complications during labour, mode of delivery, neonatal outcome and the side effects of the drugs.

Methods 100 pregnant women admitted to labour room at 28 weeks of gestation with singleton pregnancy and cephalic presentation for induction of labour were randomly divided into two groups: Group 1–50 cases were given 50 μg of tab misoprostol intravaginally at 4 h interval and Group 2–50 cases were inserted 0.5 mg of dinoprostone gel intracervically at 6 h interval for a maximum of three doses.

Results The mean instillation delivery interval was 7.99 + 2.40 h in group 1 (8.12 + 2.61 in nulli and 7.8 + 2.25 in multi) and 12.14 + 4.07 h in group 2 (12.15 + 3.38 in nulli and 12.14 + 4.65 in multi) respectively and results were statistically significant. Uterine hypercontractility was found to occur in significantly more number of cases in group 1 as compared with group 2 (22% VS 4%). 88% patients in group I and 84% in group II delivered vaginally. No incident of uterine rupture, chorioamnionitis or cervical tears was found in either of the groups. There was no adverse effect on Apgar of the newborn at 1 min or 5 min in either of the groups. Nausea, vomiting, hyperthermia was found in 2% patients in both the groups.

Conclusion Misoprostol was more effective than dinoprostone in achieving vaginal deliveries in shorter time frame but at the cost of increased incidence of hypercontractility of the uterus.

EP7.127
Value improvement project to reduce length of stay in the postnatal ward

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Introduction In the NHS, capacity in the postnatal ward has been a long-term issue which impacts on the overall efficiency and functioning of the maternity unit. National HES data for 2011–12 suggests that across NHS trusts in England, an 82% discharge rate is achieved on day 2. Compared to this, 62% of our women were discharged home by day 2. In cases of uncontrolled hypertension and infection postnatally, the average length of stay was 6 days. As part of an initiative by NHS London, we as a unit looked at ways to reduce length of stay in the postnatal ward by shifting care into the community, to increase operational efficiency and improve patient experience.

Methods A survey of staff and patients was carried out to assess acceptability of early discharge. This showed encouraging findings with most women preferring to be at home rather than in a hospital bed. We held extensive consultation with postnatal midwifery staff to identify reasons for higher than average length of stay. The following interventions were then implemented: Introduction of a template for 'risk assessment' immediately post procedure to adjudge suitability for early discharge: low risk women after operative delivery were identified based on a set of strict criteria involving procedure related complications, blood loss, medical co-morbidities and post-operative examination by the on call obstetric registrar.

Midwife led discharge for low risk women postoperative delivery: all women adjudged suitable on the above proforma were discharged home by the midwife in postnatal ward thus obviating the need for further medical review and saving time.

Ensure availability of discharge prescriptions in advance: availability of discharge prescription is now ensured prior to transfer from labour ward saving several hours in the patient journey. A pathway has been put in place for daily consultant review of high risk women. The in hospital STARRS (short-term assessment, rehabilitation and re-ablement service) team has been involved in continuing care of these women in the community.

Results An interim review of the length of stay data at 2 months after introduction of above measures has not shown significant drop in length of stay with average stay overall static at 2.2 days, stay post-caesarean at 2.7 days, post instrumental delivery at

2.4 days and post SVD at 2 days. Similarly, length of stay in the event of a medical complication after delivery has remained stable at 5.8 days. We believe that a further period of evaluation is needed to allow the above measures to bed in properly. We will continue to prospectively audit length of stay in the postnatal ward in our unit.

EP7.128
Study of maternal and fetal outcome in second stage caesarean sections and instrumental vaginal delivery

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Introduction About 10–20% of deliveries require some form of interventions for completion. This may be in the form of second stage caesarean section or instrumental delivery. This has got a profound effect in the maternal and perinatal outcome Aims of study are; 1. to find out the incidence of second stage caesarean section and instrumental vaginal delivery; 2. to analyse the maternal complications and perinatal outcome in second stage caesarean section and instrumental vaginal delivery; 3. to find out the measures to prevent the complications in second stage of labour study design: A prospective study for a period of 1 year from November 2010–October 2011 study setting. Dept of obstetrics, IMCH Govt. Medical College, Calicut, Kerala, India

Methods All the patients admitted in the labour room who underwent CS in the second stage and instrumental delivery were taken for study. We considered 200 deliveries which required second stage interventions. Data collection was done from labour records, emergency CS register and case sheets and analysis was done using SPSS 16. Data were expressed as frequency and percentage.

Results Total number of deliveries during this period was 14842. Total number of caesarean section was 4898 with an incidence of 33.1%.

Total number of second stage caesarean section was 107 (2.18%).

Total number of instrumental delivery was 93 with 69 cases of vacuum delivery (34.5%) and 24 cases of forceps delivery (12%).

Both second stage CS and instrumental delivery was more in the age group of 19–25 years. 79.4% in CS group and 71% in instrumental delivery group were primigravida. In both groups labour was induced in 64.5%.

The main indication for second stage CS were arrest of descent (83.21%) fetal distress (15.38%) and failed vacuum (36.5%). The complications of second stage CS were difficulty in delivering the baby (37.4%) extension of incision (4.7%), bladder injury (5.6%), PPH (1.9%), paralytic ileus (3.7%), febrile illness 3.7%) and prolonged hospital stay (66.4%).

The neonatal complications in CS group were sepsis (46%), MSAF (24%), neonatal sezuires (16%), subgaleal haematoma (4%), hyper bilirubinaemia (6%) and intracranial haemmorrhage (2%).

The main complications of instrumental delivery was extension of episiotomy (3.2%), cervical tear (34.4%), vaginal lacerations (23.7%) traumatic PPH (2.2%), vaginal haematomaan (7.5%) and 3 degree LP (23.7%) which were more with forceps delivery. 34.6% of second stage CS and 72% of instrumental delivery babies required NICU admissions.

Conclusion Second stage caesarean sections were associated with increased maternal morbidty compared to instrumental delivery but neonatal complications were higher in instrumental delivery group. These complications can be reduced by proper assessment of progress of labour and involvement of senior obstetrician in decision making and management. The outcome of this study point out and suggests the need of proper training of junior staff and residents for conduct of instrumental delivery.

EP7.129
An overview of eclampsia: incidence and seasonal variations

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Introduction Eclampsia is a major public health concern in developing countries like India because of its higher maternal and perinatal mortality rates. Though the cause of convulsions is not yet confirmed the role of vasogenic edema is proven neurologically. In patients primed with preeclampsia, lower temperatures higher rainfalls, humidity and low barometric pressures are known to trigger seizures. This study was carried out to evaluate the incidence of eclampsia and its seasonal variations.

Methods It is a retrospective data analysis study carried out in MGM Medical College Hospital, a tertiary care teaching hospital in Aurangabad district. The labour room data records from January 2003 to October 2013 were analysed. All the cases of imminent eclampsia and eclampsia were included in the study. Seasonal variations in India with respect to three main seasons were considered as follows- summer (March, April, May and June), rainy (July, August September, October), winter (November, December, January and February).

Results There were 12646 deliveries in this period, out of which 201 cases were of eclampsia and imminent eclamsia overall incidence of 1.5%. Monsoon season had maximum number of cases i.e 44.7%. 33.8% cases were admitted in summer and 23.36% cases in winter season. Caesarean section was the preferred method of termination of pregnancy in 68.6% cases and vaginal deliveries were in 31.3% cases which was mainly in preterm termination done due to imminent eclampsia. Maternal mortality was 0% and perinatal mortality was 11.4% mainly contrubuted by prematurity.

Conclusion Timely management of imminent eclampsia and eclampsia with anticonvulsant therapy and termination of pregnancy at the earliest with ceaserean section must have contributed to decrease the maternal mortality to 0%. The evidence that there is seasonal variation in incidence of eclampsia with more number of cases seen in monsoon and winter season

points towards some of the triggering factors for convulsion like peripheral vaso-constriction, lowered neuronal thresholds, hyponatremia and over hydration in these seasons. Future research is indicated in this direction so that necessary preventive actions can be taken during antenatal checkups like frequent follow-ups, early admissions and timely interventions to decrease the morbidity and mortality due to eclampsia.

EP7.130
Evaluation of second stage partogram – fetal and obstetric outcome in low risk pregnant women

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Introduction The first stage of labour is monitored by the WHO partogram. Once second stage of labour is reached, WHO partogram stops and information is not graphically represented, thus losing its advantages. Hence, second stage is monitored by arbitrary time limits rather than true measures of progress of labour like descent and position.
Methods A prospective observational study was done at St. Philomena's Hospital during August 2009 to July 2011. 1000 cases of low-risk pregnant women with singleton, cephalic presentations were monitored with second stage partogram. The maternal and fetal outcome were recorded. From onset of second stage of labour, vaginal examinations were done after 30 min followed by every 15 min till delivery in primigravida and every 15 min in multi. A scoring system based on station and position of fetal head which was developed by Sizer et al was used to plot on a second stage partogram. The outcomes were noted.
Results Among 1000 cases, 853 delivered vaginally, 124 had instrumental delivery and 23 underwent caesarean section when we waited for 1 h in multigravidas and 1 h 30 min in primigravida. The median duration of second stage of labour for primigravidas and multigravida were 29.7 min and 22.3 min respectively. The median Sizer's partgram score at onset of second stage was 4. There was a significant association between scores at onset of second stage, second stage duration and outcome in labour. There was no significant maternal and neonatal morbidity.
Conclusion The score at onset of second stage can predict the duration of second stage and aids in decision making in the second stage of labour. A second stage onset score of <3 is associated with poor outcome and scores more than 3 with favourable outcome of labour.

EP7.131
Prostaglandin E2, intravaginal misoprostol and intracervical balloon catheter for induction of labour at term, a randomised controlled trial

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Introduction Induction of labour is a common procedure in obstetrics practice. Approximately 20% of pregnant women undergo induction of labour. The most common method of labour induction in an unfavorable cervix involves intravaginal or intracervical insertion of prostaglandin E2 vaginal tablets or gel. Transcervical insertion of a balloon catheter is another method used through direct mechanical dilatation of the cervix and also by stimulating endogenous release of prostaglandins. It is inexpensive and effective method. Misoprostol is also used for the induction of labour with different dosage and administration regimens. Vaginal misoprostol is more effective than the oral. The doses range from 25 to 100 μg. Misoprostol is inexpensive and easily stored but have been associated with a higher risk of uterine hyperstimulation and fetal heart rate changes. Prostaglandin E2 vaginal tablets are agent of choice in most maternity units worldwide but are relatively expensive and require refrigeration. The objective of our study was to compare the efficacy and safety of intravaginal prostaglandin E2, Misoprostol (50 μg intravaginal), and intracervical balloon catheter (60 mL). in induction of labour. Primary outcome measure was induction to delivery interval. Secondary outcome measures mode of delivery, meconium staining, CTG abnormalities, admission in NICU, low APGAR score.
Methods Randomised controlled trial setting. Ziauddin University Hospital, Karachi, Pakistan. A total 304 full term pregnant women requiring induction of labour for common routine indications with no previous caesarean delivery were assigned to three different methods for induction. Group 1: induction with prostaglandin E2 intravaginal tablets 2 mg, 6 hourly (maximum 4 doses) 100 patients. Group2: intravaginal misoprostol 50 μg 6 hourly 4 doses,104 patients Group 3: transcervical balloon catheter filled with 60 mL saline.100 patients.
Results There was a significant difference in primary outcome measure i.e. induction to delivery interval in three groups, with group 1 having a significantly shorter induction to delivery interval (15.18 ± 9.57 h as compared to 21.06 ± 14 in group 2 and 17.73 ± 9.33 h in group 3 $P = 0.011$. The secondary outcome measures in all three groups showed that prostaglandin E2 group was better as compared to misoprostol and intracervical balloon in terms of mode of delivery, meconium staining, CTG abnormalities, admission in NICU, low Apgar score.
Conclusion Induction of labour with prostin E2 is effective and safe and can be recommended as the first choice. The intracervical balloon catheter and misoprostol, were shown to be equally effective regarding their efficacy with a few more cases of meconium staining and CTG abnormalities in misoprostol. Both costs significantly less and are easier to store.

EP7.132
Developing a service and providing gold standard care for critically ill pregnant and recently pregnant women in a large district general hospital in the UK

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Introduction Physiological reserves increase in pregnancy and conceal the development of serious pathology. Recognition of life

threatening illness is challenging and detection alone is of little value; it is the immediate management that alters the outcome.[1,2] 5% of pregnant women need admission to a maternity critical care unit (MCCU).[3] There are many advantages of an MCCU over high dependency units (HDU) and intensive care units (ICU). These include fetal monitoring in antenatal patients, keeping mother, and baby together, concurrent availability of obstetric and anesthetic teams, avoiding hazards of transfer, and reducing ICU admissions by training maternity staff in prompt recognition of complications.

Methods The aim of the project was to establish a service, provide equitable and standardised critical and obstetric care. The following were reviewed:

Structure – Models of care, staff training and competencies, equipment

Process – Antenatal and postnatal care factors, care pathways, guidelines, documentation

Outcome – Admission, readmission rates, length of stay, patient satisfaction

Value for money – Appropriate funding for provision of critical care

Results This review identified major deficiencies and the following were therefore undertaken:

Gold Standards identified from the Department of Health[4] and RCOG[3]

Multi-disciplinary team leads identified from midwifery, obstetric and anaesthetic groups.

Models of care devised ensuring maternal and critical care pathways were delivered equitably irrespective of whether these were provided in MCCU, HDU or ICU.

Education and training initiated amongst staff which included providing critical care, team-working and human factors

Data collected as per Critical Care Minimum Data Set 5

Critical Care Tariff negotiated with clinical commissioning groups in addition to base tariff

Links established with regional maternity critical care network implementing action plans and re-auditing showed significant improvements in all the above areas. Not only was compliance with national standards achieved, but we also generated additional income.

Conclusion We increasingly see conceptions at an older age and a proportionate rise in complex diseases, causing a rise in critical care interventions. Establishing our MCCU increased patient safety and satisfaction and reduced HDU/ICU admissions.

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