E-Posters

Maternal Medicine

EP8.01
Influence of awareness and attitude about anaemia and iron supplements on prediction of anaemia among pregnant women

Dorairajan, G[1]; Palanivel, C[1]; Sakthi, D[2]

[1]Jawaharlal Nehru Institute of Postgraduate Medical Education and Research (JIPMER), India; [2]Indira Gandhi Medical College and RI, Puducherry, India

Introduction Iron deficiency anaemia during pregnancy continues to be alarmingly high despite the easy accessibility and free of cost availability of iron supplements for pregnant women. This study was undertaken to study the socio-demographic factors, awareness, beliefs about anaemia and iron tablets and factors hindering intake of iron tablets among the pregnant women and their influence on anaemia.

Methods This descriptive cross-section study was conducted on consenting women in their third trimester (>28 weeks) attending the antenatal clinics of Indira Gandhi Medical College and RI, Puducherry, through a structured self administered questionnaire and open ended interview. The domains included awareness level about anaemia, its affects, diet rich in iron and awareness of their own haemoglobin level. The attitudes tested included the need to take iron and any beliefs or myths about iron intake. Finally the practices i.e. the actual intake of iron in the method prescribed was studied. The factors hindering the intake in those who did not take iron regularly was also included in the questionnaire. Mean and median are calculated for the quantitative data. The percentage of anaemia, awareness about anaemia and its effects, positive or negative attitudes and intake of iron among these women was calculated. The difference was compared by chi-square test in the anaemic and non-anaemic women groups. Multivariate analysis was carried out to predict the influence of these factors on anaemia.

Results A total of 599 women were included. 34.6% were found to be mildly anaemic, 27.2% were moderately anaemic and only 0.5% of the women studied were severely anaemic. Only 48% took the iron pills regularly and one fourth of those who were irregular discontinued due to side effects. Only 20% were aware that iron is available in the form of injections. 35% of the women had negative beliefs about iron intake. Those who were not aware of their haemoglobin levels are significantly more likely to be anaemic than those who are aware of their haemoglobin levels. (Pearson chi-square with continuity correction = 4.831, P-value = 0.027). On multivariate logistic regression analysis, women from rural areas (OR1.48, 95% CI: 1.01–2.18, P = 0.047), misbeliefs about iron intake (OR2.97, 95% CI:2.00–4.40, P = 0.001) and lack of counselling by health workers (OR2.21,

95%CI:1.49–3.28, P = 0.001), were found to be significant predictors of anaemia.

Conclusions Wrong beliefs and myths about iron intake and lack of counselling by health workers emerged as significant modifiable factors predicting anaemia during pregnancy.

EP8.02
Case report: difficulties in the management of thyroid cancer in pregnancy

Tewary, S[1]; Tewary, A[2]

[1]University Hospitals Coventry and Warwickshire, West Midlands, UK; [2]Northampton Hospital, Northamptonshire, UK

Background We present a case of a young lady with recurrent papillary thyroid cancer, presenting on both occasions during pregnancy. Changes in thyroid hormones in pregnancy are thought to have influenced the initial presentation and also the recurrence at this time. Papillary thyroid cancer is a differentiated cancer whose growth is dependent on TSH. Recurrence rate is low with modern treatment comprising of surgery with radioactive iodine. Radioactive iodine is contraindicated in pregnancy.

Case A 28-year-old lady presented with a rapidly progressive metastasising papillary thyroid carcinoma in her pregnancy 2 years ago. She remained disease free after treatment until her subsequent pregnancy when she presented with a recurrence of the same cancer. She originally presented in the second trimester of pregnancy with massive neck lymphadenopathy. The massive size and extent of the nodes suggested a lymphoma. An open biopsy surprisingly confirmed a papillary carcinoma. She underwent a total thyroidectomy, bilateral neck dissection including full clearance of superior mediastinal nodes. This was followed up by radio-iodine and TSH suppression after her delivery. Two years later, she presented, again in the second trimester with a fullness in her upper chest. A MRI confirmed a 5 cm circumscribed enhancing lesion, very likely a recurrence, despite adequate TSH suppression. Despite the recurrent cancer we made a decision to wait until 36 weeks gestation when an elective caesarean section was performed after a course of steroids for foetal lung maturation. She has since had a radioiodine scan which has not shown any metastases. She is again on TSH suppression. Due to the cancer presenting in both of her pregnancies she was sterilised.

Conclusion High levels of hCG which is structurally similar to TSH is thought to stimulate growth of thyroid cancer by acting as a surrogate TSH. This case brought about interesting challenges for diagnosis and treatment. There is almost a conflict between

treating the mother and foetal wellbeing. There were many questions to address such as prognosis of disease if treated during pregnancy or postpartum. The decision to proceed with major surgery during pregnancy or postnatally is difficult, especially with a rapidly growing tumour. This case explored the diagnostic challenges of massive neck lymphadenopathy in pregnancy and also the ethical and moral dilemmas of when and how to treat a thyroid carcinoma in pregnancy once diagnosed.

EP8.03
Case study: dengue infection during pregnancy: case series from a tertiary care hospital in India
Navakumar, N; Mayadevi, S

Kerala Institute of Medical Sciences, India

Background Dengue infection is endemic in tropical and subtropical countries including India. Dengue virus is transmitted by the bite of Aedes mosquito. The predominant dengue virus serotypes during last few years have been DENV 2 and DENV 3. Dengue infection can present as dengue fever, dengue hemorrhagic fever and dengue shock syndrome. Dengue fever is mostly treated conservatively. However complications like pre-ecclampsia, preterm labour, increased caesarean sections, fetal distress and obstetrical hemorrhage are found to be more with dengue infection during pregnancy. A retrospective analysis of clinical, laboratory findings, maternal and fetal outcomes of 29 pregnant women hospitalized with dengue infection confirmed with serology and treated was done at KIMS Hospital (tertiary centre), India from 1 January 2011 to 31 October 2013.

Cases The study included 29 pregnant women who were hospitalised with dengue fever (12), dengue hemorrhagic fever (14) and dengue shock syndrome (3). 19 were referred cases and 10 were booked cases. Most of the patients presented with fever and myalgia and diagnosis was based on Dengue NS1 Ag, IgM and IgG positivity. Bleeding manifestations (tourniquet test positive) were noted in 15 (51.7%) cases. 19 (65.5%) patients had thrombocytopenia (platelet count <1 lakh cells/mm^3 of blood) and 7(24.13%) had severe thrombocytopenia (platelet count <20 000 cells/mm^3 of blood). 7 (24%) women admitted to intensive care unit had been ventillated. Third space collections developed in 7 (24.14%), preterm labour in 12(41.4%), oligamnios in 8 (27.6%), pre-ecclampsia in 5 (17.24%), fetal distress in 13 (44.8%) and postpartum hemorrhage in 4 (13.8%) women. 13(44.82%) women underwent emergency caesarean section. 8(27.6%) women received platelet transfusion. One developed Dengue myocarditis who recovered with supportive treatment. Among 4 women with multiorgan failure, 3 had coagulopathy and one case with Dengue Shock Syndrome died. Average hospital stay was 10 days. Although 10 (34.4%) neonates required neonatal ICU admissions, none had vertical transmission.

Conclusion Dengue infection in pregnancy can predispose to poor obstetric and perinatal outcome if not referrred to a tertiary centre for early diagnosis and treatment. A high index of clinical suspicion is essential in any pregnant woman with fever during an epidemic. In this study early referral and management in our hospital resulted in good outcome for majority of the patients. Maternal death occurred in one case who was referred to us late in shock.

EP8.04
Case study- large anterior mediastinal mass as a presentation of diffuse B-cell non-Hodgkin lymphoma in pregnancy
Vallabu, S; Bhandari, H; Quenby, S

University Hospitals of Coventry and Warwickshire NHS Trust, UK; [2]University of Warwick, UK

Background Non-Hodgkin lymphoma (NHL) is distinguished by an excessive and uninhibited proliferation of lymphocytes and includes a heterogeneous group of malignancies with nearly two-dozen different subtypes recognised so far. The incidence of NHL in the UK in 2010 was expected to be 17.8 per 100 000 females, but in pregnancy the incidence appears to be lower with an estimated incidence of 0.8 cases per 100 000 women. NHL presenting as mediastinal mass in pregnancy can be a great challenge to obstetricians and an accurate diagnosis may be difficult given the limitations of imaging and interventions during pregnancy. We report a case of NHL presenting in the third trimester of pregnancy as a symptomatic large anterior mediastinal mass.

Case report A 33-year-old primigravida presented to Accident and Emergency department with acute onset of pleuritic chest pain in the upper thorax at 32 weeks gestation. She also complained of orthopnoea, but denied cough, haemoptysis and palpitations. The investigations that included blood tests, chest X-ray, ECG, 2D-Echocardiography and CTPA excluded chest infection, spontaneous pneumothorax, myocardial infarction and pulmonary thromboembolism, but revealed a large anterior mediastinal mass that measured 12 cm in transverse diameter and with well-defined margins. After number of consultations within the multidisciplinary team, the thymic mass was thought to be embryonal and a decision was made to continue the pregnancy till term gestation with close monitoring. Induction of labour was commenced at 39 weeks, and the patient underwent an emergency caesarean section for suspected fetal distress. In the immediate postoperative period, the patient had lactate acidemia with compensated metabolic acidosis which settled with conservative management. The postoperative recovery was uneventful. Further investigations were undertaken a week after delivery. CT chest and abdomen showed an increase in size of mediastinal mass with bilateral pleural effusion and possible liver metastases. Histology of mediastinal core biopsy showed diffuse large B-cell NHL. She was diagnosed to have stage IV(B) disease and is currently receiving intensive chemotherapy.

Conclusion Acute chest pain in pregnancy demands prompt exclusion of fatal conditions such as pulmonary thromboembolism, myocardial infarction and spontaneous pneumothorax, but there should be low threshold to consider rare causes of chest pain especially when presenting with anterior mediastinal mass. The case study also describes the diagnostic

dilemma in a pregnant woman diagnosed with mediastinal mass and also highlights the limitations of imaging and interventions during pregnancy which would contribute to definitive diagnosis and management.

EP8.05

Establishing cut offs for mean arterial pressure: can it be used in a resource limited setting for early prediction of pregnancy induced hypertension?
Gholkar, N[1]; Singh, C[1]; Paliwal, S[1]; Kaul, A[1]

[1]Apollo Centre for Fetal Medicine, Indraprastha Apollo Hospitals, New Delhi, India

Introduction This study was conducted to assess the utility of mean arterial pressure (MAP) measured in the first trimester as an early predictor of risk for pregnancy induced hypertension (PIH) and to see whether cut offs for MAP could be established to guide practitioners in resource limited settings to triage patients.

Methods We recruited 1510 consecutive patients with singleton pregnancies who came to us for combined first trimester screening at 11 −13 + 6 weeks. A written informed consent was taken followed by a detailed medical and obstetric history. Blood pressure was measured in both arms simultaneously using automated measuring machines as per criteria approved by the Fetal Medicine Foundation and a mean arterial pressure was calculated. All the women were followed till delivery for development of pre-eclampsia and gestational hypertension. The women were divided into two groups based on cut offs of mean arterial pressure taken as 90 and 92 mmHg. The results of women in both the groups were subsequently compared to determine the sensitivity, specificity, likelihood ratios and accuracy of MAP as a predictor of PIH. The bilateral uterine artery PI and PAPP-A were added in the group of patients with MAP above the specified cut offs to check their effect on the specificity and the likelihood ratios for detection of PIH.

Results PIH subsequently developed in 71 (4.7%) patients. There were 364 patients (24.1%) with MAP >90 mmHg and 267 patients (17.7%) with MAP >92 mmHg. For detection of PIH, the sensitivity, specificity, positive likelihood ratio (PLR), negative likelihood ratio (NLR) and accuracy for a cut off of 90 mmHg was 49%, 77.1%, 2.13, 0.66 and 75.8% respectively and for a cut off of 92 mmHg, it was 44.4%, 82.8%, 2.58, 0.67 and 81.6% respectively. On addition of second level markers such as uterine artery PI (MoMs >1.5) and PAPP-A (MoMs <0.4) in patients with MAP above cut offs, the specificity and positive likelihood ratio increased to 99.5% and 7.84% respectively for a cut off of 90 mm Hg and to 99.7% and 10.9% for a cut off of 92 mmHg.

Conclusions Mean arterial pressure as an independent predictor of PIH has moderate sensitivity and accuracy. It can be tried as a cost effective method to triage patients into risk categories and only the high risk patients can then be subjected to additional second level screening techniques to determine an accurate risk.

EP8.06

Practical strategies for anaemia prevention in registered antenatal women
Kumbhar, A; Gupta, A; Thakur, H

FOGSI, India

Introduction Anaemia in unregistered pregnancy can be due to several reasons which are justifiable. But anaemia in registered women at medical college and tertiary care center is a matter of concern. Anaemia is easily preventable disorder with regular iron replacement. Estimates from a World Health Organization report on prevalence of anaemia in pregnancy is about 46% and incidence of 40–80% in developing countries responsible for 4–16% of maternal mortality. There is 8–10 fold increase in MMR when the Hb falls below 5 g/dL.

Methods Prospective case control study conducted at Medical college, Mumbai during February 2010 to October 2011. Case group: Given iron preparation as T.Ferrous sulphate with folic acid 60 mg elemental iron twice a day with meals to avoid side effects of iron preparation and to ensure compliance. Patients were educated not to have iron preparation simultaneous with calcium preparation, not to have tea, coffee with or within 2–3 hours of iron preparation and were counselled about iron rich foods, need of intake of iron rich foods, importance of regular follow-up. First hemoglobin estimation was done at first antenatal visit. On subsequent visits hemoglobin estimation was repeated at least twice, so that we have hemoglobin value of each trimester. Anytime if there was a drop in hemoglobin, subjects were asked about their habits of intake of iron and calcium preparations, dietary habits. They were treated for anaemia, meanwhile investigations were done to find out cause. They were explained regarding need of intake of iron preparation, maternal and fetal complication and consequences of anaemia, chances of side effects, intolerance, and need of their reporting early if side effects develop. Patients of control group: Controls were taken during labour, their antenatal records were checked. All hemoglobin values were noted.

Results In this study cases and control groups were matched for age, weeks of gestation at registration at beginning of study. There was no significant difference in hemoglobin values in both the groups at time of registration but there was significant difference in hemoglobin values during labour. Simple methods like patients education, counselling and timely intervention have reduced incidence of anaemia, need of blood transfusion and complications due to anaemia during labour.

Conclusions A concentrated, multipronged effort by a health worker detects defaulters, women with refractory anaemias early in the gestation and thus allows sufficient time to take corrective action.

EP8.07

Time to discharge after elective and emergency caesarean section at the Aberdeen Maternity Hospital

Davies, E; Shetty, A

Aberdeen Maternity Hospital, Scotland, UK

Introduction It benefits both the patient and maternity services for women after lower uterine segment caesarean section (LUSCS) to be discharged in a timely manner. At the Aberdeen Maternity Hospital (AMH) women are informed the average length of stay post caesarean section (CS) is 2–3 days. This study aimed to audit actual practice to provide a better insight into the current situation and to review the reasons behind any deviation from recommended practice.

Methods Data from 100 elective and 100 emergency LUSCS performed at AMH between January and March 2013 were recorded from the theatre register including name, community health index(CHI) and indication. Each of these cases was then reviewed on the hospital's electronic patient data management system 'Badgernet', noting the number of days to discharge and, if this was over 3 days, any post-delivery issues that had contributed to the delay in timely discharge.

Results 77% of patients after elective LUSCS were discharged within 3 days and 90% within 5 days. The primary indication for elective LUSCS was having had a CS previously (47%) and delayed discharge numbers in this category were low (8.5%). Higher rates were found with twin births (100%) and breech presentations (57%). The most common reasons for the delay were social factors (52%); others included pyrexia and hypertension. Women after emergency LUSCS generally remained in slightly longer with 65% discharged within 3 days and 81% within 5 days. The most common reason for the CS was failure to progress and/or fetal distress (70%) with 34% of these patients remaining in after 3 days. The highest rates of delayed discharge in this group were after maternal haemorrhage (100%) and pre-eclampsia (66%).

Conclusion Women having an elective LUSCS, were mostly being discharged as per our unit postnatal guidance. Of the cases where discharge is delayed, social factors such as home circumstances and mothers' attitudes appear to play a significant role. Further studies are recommended into possible effective interventions prior to elective LUSCS to ensure that these non-medical delays are kept to a minimum. Continued good clinical care extending to the community, hospital guidelines on pyrexia and high blood pressure post-LUSCS and further auditing are also advised.

EP8.08

The good hope triage pathway: improving ambulatory obstetrics at a British District General Hospital

Castleman, J; Allchorne, K; Giri, V

Heart of England NHS Foundation Trust, UK

Introduction Good Hope Hospital is part of Heart of England NHS Foundation Trust, which has some 10 000 deliveries per annum. The Maternity Assessment Centre is the first port of call for women who need same-day obstetric care due to complications from the 16th week of their gestation until they become 6 weeks postnatal. Referrals are welcomed from general practitioners, community midwives, within the Trust and the women themselves. With the increasing number of women accessing our services and the rising complexity of the workload, the clinical team needed a new framework to help with prioritisation. A new Triage Pathway was developed and proved to be a huge success.

Methods The Triage Pathway uses a 'RAG' (Red/Amber/Green) rating system. The most urgent presentations are designated 'red' and are seen immediately. Those women who need to be seen soon, but without immediate threat to the wellbeing of themselves or their baby, are in the 'amber' category and seen by a doctor within 60 min. The 'green' group are seen within 2–4 hours. The system was piloted for a 3 month period. Its success was assessed in two ways: (i) Feedback from patients and midwives before and after the change, including the number of incident forms generated by long wait times. (ii) Audit of compliance with the target times (385 episodes).

Results The new triage system empowered midwives to treat patients in order of clinical urgency, and enabled clear communication when requesting a medical review, including escalation to the consultant obstetrician when a breach of the policy is imminent. All patients triaged in the red (most urgent) group were seen within 5 min by a midwife and transferred to the Delivery Suite for review within 30 min by the medical team. For amber patients (the most numerous group) there was 84% compliance in the pilot period. Compliance for the green group was 99%. Patient and midwifery feedback was excellent. There was a reduction in the number of incidents attributable to long wait times.

Conclusion Prioritisation of tasks within a busy shift is an important clinical skill. Ambulatory obstetrics is key to the delivery of an effective maternity service. A formal triage pathway, such as the Good Hope model, facilitates clear distinction between urgent and non-urgent presentations and empowers midwives to ensure that necessary care is provided in a safe timeframe.

EP8.09

Severity of anemia and its obstetric implications

Ganeshan, M[1]; Suharjono, H[1]; Soelar, SA[2]; Karalasingam, SD[2]; Jeganathan, R[3]

[1]Sarawak General Hospital, Kuching, Sarawak; [2]Clinical Research Center, Kuala Lumpur, Malaysia; [3]Hospital Sultanah Aminah, Johor Bahru, Malaysia

Introduction Anemia is the most common medical disorder complicating a pregnancy. Despite having significant maternal and fetal implications, it remains highly prevalent. The impact of the disease is enormous, especially in developing countries. The objective of this study is to identify the obstetric implications of various severities of anemia. This will aid in identifying specific prepregnancy and therapeutic targets of treatment with the aim of

preventing complications and in risk stratification of high risk group of patients.

Methods This is a retrospective cohort study. The study period was from 1 January 2010 till 31 December 2012 and 119 189 pregnant mothers with anemia were studied. Specific variables were extracted from the National Obstetric Registry of Malaysia (NOR) from all the participating hospitals, which totalled to 399 274 patients.

Results Anemia is highly prevalent in Malaysia with 31.5% of patients had anemia at booking. One percent of them had Thalassemia. Anemia is associated with maternal implications without any significant direct fetal implications. Even mild anemia (booking Hb >9.5 g/dL) is a significant risk factor for preterm delivery OR 1.17 (1.14–1.20, $P < 0.001$) and pre-eclampsia OR 1.17 (1.05–1.30, $P < 0.001$). Most adverse outcomes occurred for patients with haemoglobin level of between 6.5–7.9 g/dL. There is a direct correlation between severities of anemia with the severity of prematurity, up to the haemoglobin levels of 6.5 g/dL. Haemoglobin of below 6.5 g/dL is a significant risk for PPROM, OR 1.38 (0.81–2.35, $P < 0.001$). Haemoglobin levels of between 6.5–7.9 g/dL had an OR 1.97 (1.38–2.80, $P < 0.001$) to deliver below 28 weeks. The risk of pre-eclampsia was significant, OR 1.45 (0.75–2.79, $P < 0.001$) and is also the most significant range for having thalassemia, OR 25.78 (19.90–33.41, $P < 0.001$). Interestingly, anemia of various severities has no significant association with PPH, dysfunctional labour and adverse perinatal outcomes such as intrauterine growth restriction, stillbirth and birth asphyxia.

Conclusion Anemia is still highly prevalent in Malaysia and requires more aggressive intervention in terms of prevention and treatment. Booking haemoglobin is an essential predictor of adverse obstetric outcomes. Booking haemoglobin should be above 11.0 g/dL to prevent preterm delivery and pre-eclampsia. The risk is highest if the haemoglobin is between 6.5 and 7.9 g/dL and Thalassemia should be excluded in such patients. Anemia is not an independent risk factor for PPH, dysfunctional labour, caesarean section, IUGR and stillbirths.

EP8.10
Sequential organ failure assessment score for evaluating outcome in obstetric cases admitted to intensive care unit
Guleria, K; Jain, S; Ahuja, S; Suneja, A; Vaid, NB

UCMS & GTB Hospital, Delhi, India

Introduction Organ dysfunction is a continuous dynamic process in the patho-physiology of severe maternal morbidity. The SOFA score has been extensively validated as tool for quantifying the degree of organ dysfunction but not in women with severe complications of pregnancy. The objective of the study was to evaluate discriminating ability of SOFA score in prognosticating obstetric cases admitted to ICU. Long term objective of this approach is to provide evidence for use of organ dysfunction as criteria for defining near miss cases.

Methods It was a follow-up study conducted from October 2010 to December 2011 on 90 consecutive obstetric admissions to ICU enrolled as cases. Maximum SOFA score was calculated for individual organ systems using the poorest result of each variable recorded and total maximum SOFA score was also calculated at admission and daily in ICU. Total maximum and mean SOFA scores were calculated at the time of discharge or death.

Results Total SOFA score at admission (AUC = 0.949), maximum SOFA score (AUC = 0.980) and mean SOFA score (AUC = 0.997) have excellent discriminatory power for predicting maternal mortality in women admitted to ICU. Total SOFA score at admission >8 had 86.7% sensitivity and 90% specificity for prediction of mortality. Higher individual organ system SOFA score also correlated proportionally with mortality.

Conclusion Total SOFA score at admission appears to be the most relevant, simple and accurate tool that can be used in ICU for prognosticating obstetric cases. Although maximum and mean SOFA scores also predicted mortality accurately, their role is limited in prospective evaluation.

EP8.11
Pregnancy outcome in women with autoimmune diseases
Dadwal, V; Deka, D; Khoiwal, K

Aiims, New Delhi, India

Introduction In the present retrospective cohort study, assessment of the reciprocal clinical impact of SLE and pregnancy was investigated.

Methods We reviewed the clinical features, treatment, and outcomes of 25 patients with autoimmune diseases followed from 2007 to 2013 at AIIMS.

Results Out of 25 patients, 20 had SLE, 3 had Rheumatoid Arthritis, 1 had systemic sclerosis and one had Reiter's syndrome. The mean age of patients was 28 years and the disease was diagnosed at age of 24 years. Lupus nephritis was found in seven patients and secondary antiphospholipid syndrome in three patients. Twenty pregnant patients (80%) were in remission for more than 6 months at the onset of pregnancy. Three pregnancy-associated flares were documented. Four patient had oligoamnios, one patient had PROM, three had GDM, two had pre-eclampsia and six had IUGR. Three patient had premature deliveries. Two babies had congenital heart block while six patient were positive for SSA/SSB antibodies. Patients were being treated with low doses of prednisone (13), hydroxychloroquine (21), azathioprine (3), IVIG (1). No cases of maternal mortality occurred. No cases of fetal malformation were recorded. There was no intrauterine fetal death and no neonatal death.

Conclusion With improvements in diagnosis and treatment, the prognosis of patients with SLE has generally improved in recent years. However, the risk of significant morbidity to both the mother and the fetus still exists. It is essential that the maternal disease is well controlled prior to, during, and after pregnancy to ensure the best possible outcome for the mother and child.

EP8.12
Audit on intrapartum and postpartum sepsis
Tan, MY; Mastoroudes, H; Subramanian, D

King's College Hospital, London, UK

Introduction The Centre for Maternal and Child Enquiries (CMACE) in the UK reported sepsis as a leading cause of direct maternal deaths between 2006 and 2008. Survival rates improve with early recognition and treatment of sepsis.

The objectives were (i) Compare current clinical practice and adherence to RCOG guideline (Green-top 64a and 64b) and local standards (ii) Define rates of sepsis and identify sources/ risk factors for sepsis in our unit (iii) Ascertain choices and timing of administration of antimicrobials.

Methods A prospective audit of patients with suspected or confirmed intrapartum and postpartum infection, over an 8-week period (05/02/13 – 04/04/13) in a tertiary unit. Patients receiving prophylactic antibiotics (eg. for GBS, third degree tear, MROP) and patients with postpartum infection managed as outpatient were excluded.

Results The total number of deliveries during this study period was 855 with 49 patients fulfilling the inclusion criteria. The median age of these patients was 29, with a mean BMI of 24.6. The sepsis rate was highest in patients with instrumental deliveries (11.5%) as compared to normal vaginal deliveries (3.2%) and caesarean sections (8.5%). A fifth of patients had prolonged ruptured of membranes (PROM) >24 hours prior to delivery. The average number of vaginal examinations was 5.6. 53% of signs of sepsis developed during the intrapartum period, with the majority (82%) presenting with pyrexia. All patients received appropriate broad-spectrum antibiotics, with 78% of antibiotics administered within one hour of recognition of sepsis. 73% of these patients were treated for chorioamnionitis, 16% for endometritis, others sources of infection include the urinary tract, chest, breasts and wound.

Conclusions All health professionals should be highly vigilant for the symptoms and signs of maternal sepsis. Early recognition and treatment of sepsis is crucial as sepsis is often insidious in onset with a fulminating course.

EP8.13
Perinatal outcomes in women with congenital heart diseases
Agrawal, S[1,2]; Supraneni, T[3]; Vadlamani, H[3]; Nirmalan, P[3]

[1]Jaslok Hospital, Mumbai; [2]Masina Hospital, Mumbai, India; [3]Fernandez Hospital, India

Introduction Improvements in cardiac care have resulted in a larger number of women with congenital cardiac diseases surviving till childbearing age. Cardiac diseases are now recognised as a major cause for maternal mortality. The course of pregnancy as well as maternal and fetal morbidity and mortality are dependent on both the underlying defect and the functional maternal state. It is recommended that women with surgically correctable cardiac conditions should undergo repair before pregnancy to improve both maternal and fetal outcome. We designed a retrospective study to determine outcomes of pregnancy (maternal and neonatal) stratified by correction of the cardiac condition prior to delivery in women with congenital heart diseases and to identify the recurrence risk of congenital cardiac disease in the offspring.

Methods A retrospective analysis of a cohort of pregnant women with CHD and delivered at Fernandez hospital, Hyderabad, a tertiary care centre, between 2000 and 2010. Details of prior obstetric and cardiac history, associated co-morbidities, functional status at booking, delivery and perinatal outcomes were extracted. Data were compared, stratified by correction of the cardiac condition (uncorrected, corrected, corrected with residual lesion).

Results The review of case records identified 77 (0.16%) pregnancies in 59 women with congenital heart diseases during the 47 000 pregnancies at the study institute for the study period. Forty five (58.44%) of the 77 pregnancies (36 of 59 pregnant women) had surgery prior to the pregnancy. Thirty-eight (84.44%) of the previously operated 45 pregnancies had no residual lesion and 7 (15.55%) had a residual lesion. There was statistically significant difference in NYHA functional class, requirement of decongestive therapy, congestive cardiac failure, maternal ICU stay and small for gestational age babies amongst the women with corrected defect, corrected with residual lesion and uncorrected lesions. Four neonates (5.19%, 95% CI: 1.67%, 12.05%) had a CHD. Four neonates (5.19%, 95% CI: 1.67%, 12.05%) died in the early neonatal period for a neonatal mortality rate of 51.95 per 1000 live births.

Conclusions Residual cardiac lesion in a pregnant woman is associated with adverse outcomes. Prenatal counselling is recommended for all women with CHD.

EP8.14
Role of serum triglyceride levels in predicting hypertensive disorders of pregnancy
Chandi, A; Sirohiwal, D

Pt B D Sharma, PGIMS, Rohtak

Introduction Hypertensive disorders are responsible for 24% of maternal deaths in India. A screening method is still required to reduce maternal morbidity and mortality related to it. Serum triglycerides are reported to increase early in hypertensive disorders of pregnancy.

Methods It is a prospective cohort study done on 300 primigravida women with singleton pregnancy in obstetric and gynaecology department at Pt B.D.Sharma PGIMS, Rohtak over 2 years period. Two groups were formed on the basis of their serum triglyceride valves measured at 14–20 weeks of gestation.

Results Out of 300 women, 205 women were included in the study. Group I (control) group included 132 women and group II (case) included 73 women. Twelve women from group I and 45 women from group II developed hypertensive disorder of pregnancy. Incidence of hypertensive disorder was 27.80%. A week positive correlation was established between serum

triglyceride and systolic and diastolic blood pressure that was statistically significant ($r = 0.551$, $P = 0.001$). Sensitivity and specificity of serum triglyceride for hypertensive disorder of pregnancy came out to be 78.95% and 81.08%.

Conclusion This study supports the evidence that fasting serum triglyceride levels are increased before 20 weeks who later develop hypertensive disorder of pregnancy.

EP8.15
Pregnancy following gastric banding in a national cohort; Inflate or deflate?
Jefferys, A[1]; Lenguerrand, E[2]; Siassakos, D[1]; Lynch, M[1]; Johnson, A[1]; Hyde, J[1]; Draycott, T[1]

[1]North Bristol NHS Trust, UK; [2]The University of Bristol, UK

Introduction Pregnancies in women who have undergone gastric banding are increasing but there is currently no agreed guidance for gastric band management throughout pregnancy. Inflation may limit gestational weight gain and its associated risks, but concerns have been raised over tolerability and fetal growth; therefore some favour deflation. No studies to date have compared obstetric and perinatal outcomes according to band management.

Methods In this prospective cohort study, data were collected on a nationally representative sample of pregnancies following gastric banding using the UKOSS data collection system between November 2011 and October 2012. We compared obstetric and perinatal outcomes according to band management using multivariable analyses.

Results Complete, checked and verified data were received for 111 pregnant women with a gastric band. Of these 43 (38.7%) underwent band deflation during pregnancy, 56 (50.5%) had band inflation maintained, and the remainder had unknown band management. Gestational weight gain (GWG) (7.1 kg versus 14.1 kg) and BMI change (2.2 versus 5.2) was significantly lower in women whose band was kept inflated (GWG $P < 0.008$, BMI $P < 0.001$). Incidence of gestational diabetes, and anaemia were similar in both groups, however incidence of pregnancy induced hypertension (PIH) and pre-eclampsia (PET) was significantly lower in women in whom band inflation was maintained versus the deflation group (PIH 0% versus 10.5%, $P < 0.0001$; PET 0% versus 4.9% $P < 0.0001$). There was no significant difference in rates of induction or vaginal delivery between the two groups. There was no difference in gestational age at birth or rates of preterm birth between the two groups. Median birthweight was significantly lower in pregnancies where band inflation was maintained (3310 g versus 3570 g, $P < 0.01$); there was also a higher incidence of low birthweight <2.5 kg (0% versus 12.3%, $P < 0.0001$) and Apgar score <7 at 5 min (0% versus 2.2%, $P < 0.0001$) in pregnancies where the band was kept inflated rather than deflated.

Conclusions In this national surveillance study maternal outcome was better for women in whom band inflation was maintained throughout pregnancy, whereas perinatal outcome was worse compared to women who had their band deflated at some point.

Considering that both maternal and perinatal complications might impact on long-term health for both mother and infant, it is important to weigh the benefits and risks of both options and discuss them with women.

EP8.16
Case study of choledochal cyst in twin gestation
Gothi, S[1]; Pai dhungat, N[2]

[1]Swasti Health Centre, Indore, India; [2]Bombay Hospital, Mumbai, India

Background Choledochal cyst is a congenital abnormality of biliary tract, presenting primarily in infants and young children and rarely during pregnancy. Its preferred management is excision of choledochal cyst with Roux-en-Y reconstruction. However, during pregnancy it presents a therapeutic challenge due to risk of fetal and maternal morbidity and mortality.

Case 28-year-old G2P0L0A1 twin gestation conceived with assisted reproduction was admitted in emergency at 23.1 weeks gestation with c/o acute pain in right hypochondrium. Her vitals were stable, tenderness in right hypochondrium+, uterus size corresponding to 32 weeks size and both fetal heart sounds audible. She had undergone prophylactic cervical encirclage at 18 weeks. Diagnosed as twin gestation with choledochal cyst type Ic with acute pancreatitis with acute cholangitis with left hydronephrosis and was managed conservatively, but developed IUGR. At 30.5 weeks due to worsening condition, emergency LSCS done and babies delivered prematurely. She delivered a preterm male with 1320 g and female of 1280 g both with apgar score of 9/10. On third postoperative day condition of patient worsened with her leucocyte count −27 400/cu.mm with occassoinal plasmacytoid lymphocytes, blood culture had growth of klebsiella pneumonia with sensitive to Tazobactum and piperacillin and the same antibiotic was started. X-ray s/o ARDS picture, platelet − 15 000 only, APTT-28/43, INR-2.07. Urine output <400 cc/24 hours. USG s/o increased size of choledochal cyst with features of pancreatitis. Patient was diagnosed to have gram negative septicemia and shifted to intensive care unit. Percutaneous biliary duct drain under fluoroscopic guidance was inserted under cover of fresh frozen plasma and donor platelets and approximately 400 cc of bile drained. Bile culture also revealed klebsiella pneumonia. Patient required tracheostomy and ventilatory support and gradually improved. Patient underwent choledochal cyst excision and Roux-en- Y reconstruction after her condition stabilized approximately 3 weeks later. Her post-operation recovery was uneventful and she was discharged after 10 days.

Conclusion During pregnancy the choledochal cyst presents a therapeutic challenge not only due to the physiological changes that occur during pregnancy, but also the risk of fetal and maternal morbidity and mortality that is associated with the surgical procedure. Therefore, its treatment must be carefully planned, once the diagnosis is established. A more conservative approach may be adopted to minimize the risks of surgery.

EP8.17
Screening for iron status in pregnancy using red cell indices
Muteshi, C; Obura, T

Aga Khan University, Nairobi Kenya

Introduction Iron deficiency is the commonest cause of anaemia in pregnancy. Reliance on haemoglobin estimation detects anaemia a late feature of iron deficiency. This study aims to determine the diagnostic utility of mean corpuscular volume (MCV) and mean corpuscular haemoglobin (MCH) in screening for iron status in pregnant women with normal haemoglobin.

Methods A cross-sectional study assessing iron status in 155 pregnant women before 20 weeks gestation using ferritin and correlating with MCV and MCH in women with normal haemoglobin to determine the sensitivity and specificity for these indices in predicting iron status. Data were analysed using Stata® and reported as means or median (95% CI) with differences determined by Chi square or Mann–Whitney U-tests as appropriate. Sensitivity, specificity and predictive values for MCV and MCH were calculated.

Results The mean haemoglobin was 12.4 g/dL with 32.0% women having low ferritin despite normal haemoglobin. The MCV had a specificity of 84.7 (95% CI 79.7–89.2) for determining normal iron status whereas the MCH had a sensitivity of 77.8% (95% CI66.3–86.6) in detecting low iron status whilst haemoglobin was normal.

Conclusion Red blood cell indices can reliably identify pregnant women at low risk of iron deficiency when haemoglobin is normal. This can be used in advising woman to avoid iron supplements where there might be concerns of risk with supplementation or an opportunity to determine iron status where this is thought to be low.

EP8.18
Prediction of adverse maternal and neonatal outcome by first trimester biochemical markers
Chiplunkar, VJ; Unni, J

Jehangir Hospital, Pune, India

Introduction Many biochemical markers are being evaluated for the prediction of various obstetric complications such as pre-eclampsia and IUGR. PAPP-A and free β-hCG give the earliest opportunity for predicting such adverse perinatal outcomes. The aim of our study was to assess value of first trimester biochemical markers in the prediction of adverse maternal and neonatal outcome.

Methods This was a prospective clinical study. Pregnant women of all ages between 11 weeks to 13+6 weeks of gestation (i.e. CRL of 45–84 mm) attending antenatal OPD in the study period were offered first trimester screening in the form of combined test. Maternal serum PAPP-A and free β-hCG levels from these test results were converted into Multiples of Median (MoM). These MoM values were then correlated with obstetric and neonatal complications such as pre-eclampsia, IUGR, gestational diabetes mellitus, intrauterine fetal demise, preterm labour, low birthweight and NICU admissions.

Results 296 women were included and followed up till the end of the study period. Out of these, 56 women (18.92%) developed obstetric complications. Women with low PAPP-A levels (<0.5 MoM) had significantly more obstetric complications as compared to those with normal PAPP-A (40% versus 16.98%) ($P = 0.004$). Among all obstetric complications, a statistically significant association was found between low PAPP-A and subsequent development of pre-eclampsia (20% versus 4.79%) ($P = 0.002$) and preterm labour (12% versus 2.95%) ($P = 0.02$). Similarly low β-hCG had a statistically significant association with development of IUGR and subsequent low birthweight babies. 2 out of 3 women who had an intra-uterine fetal demise, had high levels of β-hCG. However, the difference between complication rates for other adverse outcomes did not achieve statistical significance.

Conclusions PAPP-A and free β-hCG are first trimester predictors of obstetric complications. More vigilant monitoring and obstetric care can be provided right from early pregnancy to women with abnormal values of these markers. Many women with abnormal values may have uneventful pregnancies.

EP8.19
Anthropometric and skinfold thickness measurements of newborns of gestational glucose intolerant mothers: dose it indicate disproportionate growth?
Shankar, R; Ramarajan, A[2]; Rani, S[3]

[1]Church of South India Hospital, Bangalore, Karnataka, India

Introduction It is well known that Gestational Diabetes Mellitus (GDM) causes disproportionate growth and increased adiposity in their newborn whereas the effect of Gestational Glucose Intolerance (GGI) on their newborn is not well established. The aim of this study is to evaluate the effect of GGI on their newborns in our Urban South Indian population.

Methods 113 urban South Indian women underwent a single step screening and diagnostic test for diagnosing hyperglycemia in pregnancy as recommended by the DIPSI (Diabetes in Pregnancy Study Group India) at 24–28 weeks of gestation. Depending on the plasma glucose levels women were categorized into three different categories as Normal Glucose Tolerance (NGT): <120 mg/dL, GGI: 120–139 mg/dL and GDM: 140 mg/dL. These women were followed up untill delivery and anthropometrics measurements like weight, length, head circumference (HC), chest circumference (CC), abdominal circumference (AC), midarm circumference (MAC), bisacromial diameter (BAD) and skinfold thickness (SFT) were measured in their newborns within 72 hours of birth. The relation between different magnitude of plasma glucose levels and anthropometry and SFT in their newborns was studied.

Results The weight of newborns of women with GGI was significantly greater than newborns of both NGT and GDM mothers whereas, the weight of newborns of GDM mothers were comparable to the weight of newborns of NGT mothers as strict

glycemic control was maintained in GDM mothers. The anthropometric measurements which gets altered by increased adiposity like AC, MAC, BAD and SFT were significantly higher in newborns of GGI mothers followed by newborns of GDM and NGT mothers where as the anthropometric measurements which indicate the skeletal growth like length, HC and CC did not show significant difference among the three categories. Hence, the increase in weight among newborns of GGI category was mainly due to the difference in the fat body mass (adiposity) but not the lean body mass (skeletal mass) causing disproportionate growth and thereby predisposing these newborns to the adverse effects of high adiposity in the short and long run.

Conclusion GGI does cause disproportionate growth and increased adiposity in their newborns. It is essential to bring down the plasma glucose level of GGI mothers to that of NGT mothers to avoid the short and long term adverse effects of increased adiposity and disproportionate growth in their offspring.

EP8.20

Is national targeted screening for gestational diabetes fit for purpose? Experience from East of England Hospital

Hapuarachi, S[1]; Rahman, N[1]; Winter, K[1]; Pathak, S[1]; Hamilton, S[1]

[1]Hinchingbrooke Health Care NHS Trust, Huntingdon, Cambridgeshire, UK

Introduction With over 3 million people being diagnosed with diabetes in the UK, it is not surprising that Gestational Diabetes Mellitus (GDM) is becoming increasingly prevalent in ante natal clinics. The current incidence is up to 5% of the pregnant population in the UK and is rising. NICE and RCOG recommends performing GTT for the following risk factors: BMI >30, previous macrosomic baby weighing ≥4.5 kg, previous GDM, first degree relative with history of diabetes and a family origin with a high prevalence of diabetes. Some units have adopted a universal screening approach whilst others have adhered to the national screening recommendations. We analysed our local population of women diagnosed with GDM with the aim to identify the proportion of women who did not fulfil the NICE screening criteria but developed GDM. Local screening criteria follows the risk factors recommended by perinatal institute which also include polycystic ovarian syndrome (PCOS), glycosuria >+, macrosomia and polyhydramnios.

Methods Retrospective study in a district general hospital in East of England. All women with GDM that delivered between January 2013 and October 2013 were reviewed.

Results 172 women with GDM were identified using the perinatal institute criteria. In our population, as per NICE recommendations, 48% women had BMI >30, 2.3% had previous macrosomic baby, 20% had previous GDM, 25% had first degree relative with history of diabetes and 19% had a family origin with a high prevalence of diabetes. Some of these women had more than 1 risk factor. There were 30 women (17.4%) who developed GDM for whom GTT was performed for various reasons not recommended by NICE. These were PCOS (12), abdominal circumference (AC) ≥ 95th centile and polyhydramnios (9), and glycosuria (3). 6 women had GTT performed for second degree family relatives with diabetes rather than first degree. Of these 30 women, 17 (57%) required treatment for diabetes either with metformin and or insulin.

Conclusion 17.4% of women with GDM in this cohort would have been missed if the NICE guidance was adhered to. However by including the risk factors of PCOS, an increased AC on ultrasound scan, polyhydramnios and glycosuria, as per the perinatal institute recommendations, the detection rate was increased by a further 14%. We therefore recommend that NICE criteria for screening for gestational diabetes should be revisited.

EP8.21

Case study- pregnancy and budd chiari syndrome

Agrawal, S[1,2]

[1]Jaslok Hospital, Mumbai; [2]Masina Hospital, Mumbai

Background Budd Chiari Syndrome is obstruction to hepatic venous outflow. Classic triad is hepatomegaly, ascites, abdominal pain. One study published in Journal of Hepatology volume 51 showed 16 women had 24 pregnancies 9 women had undergone surgical or radiological treatment. Anticoagulation was administered during 17 pregnancies, 7 fetuses were lost before gestation week 20. Deliveries occurred between week 20 and 31 in 2 patients, week 32 and 36 in 11 and after week 37 in 4.

Case Mrs S, 32-year-old, from Kolhapur, gravida 2, termination of pregnancy 1 (G2A1), known case of Budd Chiari Syndrome initially treated with side to side porto-caval shunt in the year 2001. The shunt was patent for 3 years but in 2004 required Transjugular intrahepatic portosytemic shunt (TIPS). She was on oral anticoagulant warfarin after TIPS. She had history of multiple surgeries for incisional and appendectomy in the past. No prepregnancy counselling was done. She conceived spontaneously on warfarin. She was referred at this stage, 7–8 weeks of gestational age. Detailed counselling done regarding complications associated with pregnancy with Budd Chiari syndrome and effect of warfarin in first trimester. Patient opted for continuation of pregnancy. She was shifted to unfractioned heparin. Pregnancy was managed with regular maternal and fetal monitoring. Maternal monitoring was done in the form of Doppler for TIPS patency, APTT, platelet and regular clinical examination. Fetal monitoring was done with regular ultrasound. USG at 18 weeks showed severe fetal ascites. After counselling amniocentesis was done with adjustment of heparin dose. Infection screen (TORCH) and karyotype was normal. Multidisciplinary approach involving physician, GI Surgeon, neonatologist and anaesthetist. Emergency caesarean was done at 33.1 weeks for breech presentation in labour with blood and blood products arranged. Female baby-1665 g. Shifted to NICU for low birthweight. Heparin was started 8 hours post surgery. Warfarin was started on day 3. Overlapping with heparin done. Heparin stopped on day 5. Mother and baby both were fine and discharged.

Conclusion When known and treated Budd Chiari Syndrome is well controlled, pregnancy should not be contraindicated as maternal outcome, and fetal outcome beyond gestation week 20, are good. The risk-benefit ratio of anticoagulant therapy needs to be further clarified. Patients should be fully informed of the persistent risks of such pregnancies.

EP8.22

Fetal presentation and delivery in spinal cord injury

Dawood, R[1]; Altanis, E[2]; Sundhar, S[3]; Ashworth, F[2]

[1]Oxford University Hospitals NHS Trust, UK; [2]Buckinghamshire Healthcare NHS Trust, UK; [3]Birmingham University, UK; [4]Buckinghamshire Healthcare NHS Trust, UK

Introduction Disability in spinal cord injury (SCI) correlates with the level of injury. Each dermatome (skin innervation), myotome (muscle innervation) and internal organ is supplied by a spinal nerve. Abdominal muscles are innervated by spinal nerves T6–T12. The force of labour is primarily from the uterus, an involuntary muscle regulated by neuro-hormonal mechanisms. Voluntary muscles (abdominal and diaphragm) assist in expelling the baby towards the end of the second stage of labour. Delivery was reviewed in women with SCI above and within the level of innervation of the abdominal myotomes T6–T12, to ascertain the impact of the level of SCI on presentation and delivery.

Methods A review of 57 pregnancies in 40 women with traumatic SCI above T12. Group A: SCI between C4 to T6. Group B: SCI T7 to T12.

Results There were 37 deliveries in 27 women in Group A and 20 deliveries in 14 women in group B. In Group A, presentation was non-cephalic in 8/37 (21.6%) and cephalic in 29/37 (78.3%). Rate of normal vaginal delivery (NVD) was 16/37 (43%), instrumental delivery (9/37 (24%) and caesarean section 12/37 (32%). The indication for caesarean was malpresentation in 8/12 (66%), fetal distress in 2/12 (16%), failure to progress in 1/12 (8%) and presumed CPD in 1/12 (8%). In Group B, the presentation was non-cephalic in 2/20 (10%) and cephalic in 18/20 (90%). The rate of NVD was 14/20 (70%), operative delivery 2/10 (10%), caesarean section 4/20 (20%). External cephalic version (ECV) was successful in one of two pregnancies. Caesarean section was performed for malpresentation in ¼ (25%), fetal distress in ¼ (25%) and presumed CPD in 2/4 (50%). Malpresentation was 21.6% in Group A, double that of Group B and 7 fold the rate of breech in the general obstetric population at term (3%). The rate of caesarean was also higher in Group A − 32% versus 20%. Therefore increasing the rate of ECV's may reduce the rate of caesarean section. Instrumental delivery in group A was -24% twice that of the general population (12.5%). Group B 10%. These results demonstrate that the lack of tone and power in the abdominal muscles (T6-T12) leads to an increase in malpresentation and operative delivery.

Conclusion In spite of an injury above T6, women still have a high rate of a successful vaginal delivery, demonstrating the intrinsic force of the uterus, assisted by the diaphragm.

EP8.23

Outcomes of pregnancies in women aged 40 and more: 1 year experience in multiethnic population

Cheema, D; George, S

Heart of England NHS Foundation Trust, Birmingham, UK

Introduction There is rising proportion of maternities in mothers aged 40 and more due to increasing number of women delaying childbirth towards later reproductive years. There is continuum of risk to mum and baby with increasing maternal age. With increased age, pre-existing maternal comorbidities such as obesity, hypertension and diabetes are more likely to be present, adversely affecting pregnancy outcomes. These pregnancies are also at increased risk of pregnancy related complications such as Gestational Diabetes Mellitus, pre-eclampsia, placenta praevia; abruption, malpresentation and preterm/ postdate labour. Risk of stillbirth appears to be significantly high in these women and is independent of confounding factors.

Methods All women aged 40 and more who delivered across all 3 sites of NHS Foundation Trust in England. This trust caters for multi ethnic population and three sites include busy teaching hospital, busy district general hospital and midwifery led unit. All women aged 40 and more who delivered between 1 January 2012 and 31 December 2012 were identified and data were collected retrospectively. There were 497 births from 488 pregnancies.

Results There were 480 live births (total 497 births). 14 were unregistered births that included 5 terminations for fetal anomalies or maternal disease. There were 5 early miscarriages and 1 miscarriage at 23+5 weeks of gestation. In this group there were two intrauterine deaths and one feticide for cardiac anomaly. The rate of stillbirth is 6/1000 in this group and the highest risk group is Primigravidas in whom this was 15/1000. These women have high caesarean section (CS) rates of 41% versus 27% background CS rate in this trust. The caesarean section rate in primigravidas was highest being 59%. The rate of successful vaginal birth after one previous caesarean was 56%.

Conclusions These women have significantly higher risk of caesarean delivery and stillbirth. Amongst maternities in women aged 40 and more the highest risk group is primigravid women.

EP8.24

Case report- pregnancy and primary pulmonary hypertension- multidisciplinary approach to improve survival

Deb, P; Akhtar, Z

Mediclinic City Hospital, United Arab Emirates

Background We describe the case of a 35+week pregnant woman presenting with severe primary pulmonary hypertension (PPH). She had an elective caesarean section under general anaesthesia at 36 weeks gestation. Pulmonary artery pressures (PAP) measured from a pulmonary artery catheter before anaesthesia were in excess of 100 mmHg. Intraoperative nitric oxide was used to reduce PAP. After the delivery of a healthy infant PAP was controlled with nebulized iloprost and a prostacyclin infusion.

Seven days later she was discharged from intensive care taking an oral calcium antagonist and warfarin. Despite increasing experience in the use of drugs to reduce PAP, the clinical course of pregnancy complicated by severe PPH is usually fatal.

Case We describe the case of an African woman, 35+week pregnant presenting with severe primary pulmonary hypertension (PPH). She developed intractable right heart failure and was treated in ICU. She had an elective caesarean section under regional anaesthesia at 36 weeks gestation. The mortality for primary pulmonary hypertension (PPH) complicating pregnancy is very high, and the only long term treatment is a heart lung transplant. Increased pulmonary vascular resistance combined with the normal physiological changes of pregnancy and delivery is difficult to manage.

Conclusion PPH is defined as a sustained elevation of pulmonary artery pressure (mean greater than 25 mmHg at rest) in the absence of a demonstrable cause. Pulmonary vasoconstriction, medial hypertrophy, thrombosis in situ and dysfunctional pulmonary vascular endothelium are believed to contribute. Pulmonary hypertension is tolerated poorly in the parturient. Deterioration typically occurs in the second trimester with symptoms of fatigue, dyspnoea, syncope and chest pain. This corresponds to the physiological increase in cardiac output and blood volume of 40%. During labour, uterine contractions effectively add 500 mL of blood to the circulation. The pain and expulsive effort of labour increase right atrial pressure, blood pressure and cardiac output. In early pregnancy a termination is considered. Where PPH is not diagnosed until late in pregnancy an elective delivery is preferred. This facilitates cooperation between specialities, permits monitoring to be started in advance, the pain and haemodynamic consequences of labour to be minimized and an intensive care bed arranged. Iloprost and nitric oxide therapies may have a role in controlling PAP in this condition but there is no evidence of improved survival.

EP8.25
Outcomes of pregnant women with immune thrombocytopenic purpura
Gosavi, A[1]; Kanagalingam, D[2]

[1]National University Hospital, Singapore; [2]Singapore General Hospital, Singapore

Introduction Although Immune Thrombocytopenic Purpura (ITP) is a common hematologic disorder in women of childbearing age, robust evidence regarding the management of pregnancy in ITP is lacking. The aim of our study was to report the outcome of pregnancies in patients with ITP with respect to the mode of delivery, treatment required, hemorrhagic complications and neonatal thrombocytopenia.

Methods There were 105 pregnancies in women with ITP, over an 18-year period from 1994 to 2012 managed at the Singapore General Hospital. These cases were studied retrospectively. The maternal age, lowest platelet count in pregnancy hemorrhagic complications, antenatal treatment received, mode and outcome of delivery were studied. The neonatal outcomes observed were

neonatal platelet counts, hemorrhagic complications and treatments received.

Results There were 105 pregnancies observed in 51 women. 83 pregnancies had delivery as the outcome. The mean age of women who delivered was 29.25 years (range 20–42). The mode of delivery was normal vaginal delivery in 50 (60.4%), lower segment caesarean section (LSCS) in 29 (34.9%), vacuum in 3 (3.6%) and forceps delivery in 1(1.2%). There were 12 miscarriages, 1 IUD and 9 terminations of pregnancy (TOPs). The outcomes were studied in pregnancy events beyond 24 weeks. Severe thrombocytopenia (Plt below 40000/mm3) occurred in 12/83 (14.45%) of pregnancies. Steroids were administered in 37/83 (44.5%) pregnancies, Intravenous immunoglobulin (IVIG) in 14/83 (16.86%), and platelet transfusion in 10/83 (12.04%) pregnancies. Although 39 pregnancies needed some form of treatment for ITP, only 4 (4.8%) pregnancies developed hemorrhagic complications, 3 of which had severe thrombocytopenia during pregnancy. Only 2 patients (2.4%) had LSCS due to ITP related indications (one was for refractory thrombocytopenia at 35 weeks with an unfavorable cervix and the other was for maternal request). The remaining women had LSCS for obstetric indications. Neonatal thrombocytopenia (<150 000/mm^3) occurred in 15 (18.04%) neonates. None of the neonates had hemorrhagic complications. Neonatal thrombocytopaenia did not seem to correlate with the lowest maternal platelet count during pregnancy.

Conclusion Historically the management of ITP in pregnancy was guided by concerns over risk of neonatal thrombocytopaenia and hemorrhage, our analysis shows that the vast majority of pregnancies in women with ITP patients have a favorable outcome. Neonatal thrombocytopaenia and bleeding complications are rare in offspring of ITP patients. Our results support the practice of surveillance and treatment of maternal thrombocytopaenia when necessary with LSCS for obstetric indications only.

EP8.26
Case study: mitral valve replacement in pregnancy
Hingmire, M; Murali, K; Muralidharan, S

G Kuppuswamy Naidu Memorial Hospital, Coimbatore

Background Rheumatic mitral stenosis forms 88% of heart diseases complicating pregnancy in tertiary referral centres in India. Medical management being the first line therapy followed by balloon mitral valvotomy, mitral valve replacement is rarely indicated, with very few cases reported in literature. We report a patient with severe mitral valve stenosis complicating pregnancy, who worsened despite balloon mitral valvotomy and ultimately required mitral valve replacement.

Case A 24-year-old primigravida, with severe mitral stenosis and severe pulmonary artery hypertension, NYHA class II, presented to us at 7 weeks pregnancy with a history of balloon mitral valvotomy done at 17 years of age. At 23 weeks, she deteriorated to NYHA class IV, hence a balloon mitral valvotomy was again done as a temporising measure. On account of symptomatic

deterioration at 28 weeks of gestation, a mitral valve replacement with a 27 mm TTK Chitra valve was planned, after explaining all the attendant risks. Preoperatively, she was given prophylactic steroids, a single dose of 17 hydroxyprogesterone caproate 250 mg intramuscularly. The surgery was done at 29 weeks with the necessary precautions with continuous electronic fetal heart monitoring. On cardiopulmonary bypass, the fetal heart pattern showed bradycardia upto 100 beats/min for 6 min, which subsequently reverted to normal. There were no further fetal heart changes. She tolerated the procedure well, and was discharged on oral anticoagulants, Digoxin, Frusemide, and weekly 17 hydroxyprogesterone caproate injections. The INR was maintained between 2.5–3.5 and she was on close surveillance. At 36 weeks, an elective caesarean section with concurrent sterilisation was done after switching over to Heparin. She delivered a healthy girl baby weighing 2.315 kg with good Apgar scores. Intraoperative and postoperative period was uneventful. On postnatal follow-up visits, both the mother and the baby are doing well. She is on oral anticoagulants.

Conclusion Mitral valve replacement in pregnancy is a high risk procedure, with a reported maternal mortality of upto 5% and a foetal loss of 16–33%. However, it can be successfully done in a tertiary centre with multidisciplinary care, with a good maternal and fetal outcome.

EP8.27
Maternal and fetal outcome in pregnancies complicated with hypothyroidism in Punjabi women
Juneja, SK; Singla, M; Tandon, P

Dayanand Medical College & Hospital, India

Introduction Maternal thyroid dysfunction in pregnancy may be associated with adverse obstetric and fetal outcomes. About 0.5% of all pregnant women have overt hypothyroidism. 0.25–2.5% of pregnant ladies may have subclinical hypothyroidism.

Methods A retrospective analysis of pregnant women with hypothyroidism who delivered in a tertiary care centre in Punjab (DMC&H, Ludhiana) in year 2011 and 2012 was conducted. The patients were evaluated for antenatal, intrapartum and postpartum maternal and fetal complications, period of gestation at delivery, mode of delivery and neonatal outcome.

Results During this period total number of deliveries conducted were 2201 and 76 women were found to be hypothyroid (3.45%). 21 (27.63%) had a history of miscarriage and 8 (10.52%) had PIH, 7 (9.21%) had PROM. 4 (5.26%) had GDM, 5 (6.57%) had oligohydroamnios. 34 (44.73%) underwent a caesarean section out of which 14 (18.42%) had fetal distress. 37 (48.68%) delivered between 33–37 weeks gestation. 7 (9.2%) had PPH. 34 (44.73%) babies were between 1.5–2.5 kg. 2 (2.63%) had neonatal deaths. There were 3 (3.94%) stillbirths.

Conclusion Maternal hypothyroidism is associated with increased maternal morbidity and adverse perinatal outcome.

EP8.28
Management and outcomes of diabetes in pregnancy at King's College Hospital
Modestini, C; Zinevich, Y; Jain, A; Marsh, M; Gayle, C

King's College Hospital, London, UK

Introduction Diabetes is one of the major medical conditions in pregnancy worldwide. Diabetes in pregnancy can result in poor neonatal outcome such macrosomia, preterm labour, congenital malformations, stillbirth and postnatal morbidity and hypoglycaemia. Our aim is to present the data of 100 diabetic pregnant women, their diabetes control and the outcome of their pregnancy. We provide a combined multidisciplinary service with a diabetes blood glucose target of 3.5–5.5 mmol/L pre-meals and 4.0–7.0 mmol/L 1 hour post-meals.

Methods This is an observational retrospective study done at King's College Hospital. We analysed 100 cases of diabetes in pregnancy who delivered from December 2012 to May 2013. Data were collected using two different electronic patient databases and analysed using Microsoft Excel. The parameters we focussed on were demographics, diabetes control during pregnancy, and outcome of the pregnancy.

Results 100 women were included in our study. Mean age was 35 years (SD 6). 73 women developed GDM, 17 women had Type 2 Diabetes Mellitus (T2DM) and 10 women had Type 1 Diabetes Mellitus (T1DM). 97% of women who developed GDM had at least 1 risk factor. Mean BMI in GDM = 30, in T2DM = 32 and in T1DM = 26. 64% of T1DM women were Caucasian, whilst the most common ethnicities in T2DM and GDM were African-Caribbean (74% of T2DM and 53% of GDM) and Asian (12% of T2DM and 20% of GDM). Diabetes was well controlled in most women, with 2 (20%) T1DM, 3 (17.6%) T2DM and 5 (6.8%) GDM having HbA1c >6.5% DCCT (48 mmol/mol IFCC) in the third trimester. 80% of women delivered at term; 91% T1DM, 71% T2DM and 88% GDM. 43% women delivered by spontaneous vaginal delivery; 1% T1DM, 47% T2DM and 47% GDM. 47% women had a caesarean section; 55% T1DM, 47% T2DM and 45% GDM. There were no stillbirths. Overall Infant macrosomia (birthweight >4000 g) was low $N = 3$, 3%; 1 T1DM (10%), 0 T2DM (0%) and 2 GDM (2.7%). 15 (15%) infants needed admission to SCBU postnatally; 3 T1DM mothers (30%), 3 T2DM (17.6%) and 9 GDM (12.3%). Foetal hypoglycaemia accounted for 5 admissions; 0 T1DM (0%), 2 T2DM (11.8%) and 2 GDM (2.7%).

Conclusion The strict blood glucose control of the diabetic pregnant women managed at King's College Hospital resulted in well controlled diabetes, good maternal outcomes and good neonatal outcomes. This was true independent on whether the women had T1DM, T2DM or GDM.

EP8.29
Two hours glucose tolerance test value of 7.7 mmol/L: is it worth monitoring this cohort? Experience from East of England Hospital

Winter, K; Rahman, N; Hapuarachi, S; Hamilton, S; Pathak, S

Hinchingbrooke Healthcare NHS Trust, Huntingdon, Cambridgeshire, UK

Introduction Screening and diagnosis of Gestational Diabetes Mellitus (GDM) remains controversial with WHO/NICE recommending targeted biochemical screening of women with risk factors. However the definition of GDM used by NICE uses different diagnostic values from the Association of Diabetes and Pregnancy Study Groups (IADPSG) which recommends a reconsideration of diagnosis and screening of GDM. Are women with 2 hour blood glucose level of 7.7mmol at equal risk of developing GDM as women with glucose of 7.8 mmol/L? We extrapolated that these women required daily blood glucose assessment, regular growth scans and antenatal review. The data collected from this study will determine if local guidance requires review and if this treatment is cost effective in this group. The objective was to determine the incidence of GDM requiring treatment in these women. Whether monitoring of pregnancies for blood glucose levels, regular ultrasounds for fetal growth and frequent antenatal visits in such cohort is cost effective.

Methods Retrospective study in a district general hospital in East of England. All women delivered between January 2012 to October 2013 with 2 hours post GTT of 7.7 mmol/L were reviewed.

Results 20 women were identified with a 2 hour GTT result of 7.7 mmol/L. The BMI of these women ranged from 19 to 38. The majority of these women were Caucasian (89.5%). The risk factors for these women were increased BMI (9), 1st degree relative (6), a history of polycystic ovarian syndrome (PCOS) (2), previous large baby (2) and ethnicity (1). 8 of 20 (40%) required Metformin, of which 2 were also commenced on insulin for their glycemic control. The characteristics of women requiring treatment were BMI (3), first degree relative (3), previous big baby (1) and PCOS (1). In 13 (65%) patients, labour was induced. 64% women had a normal delivery. Rate of emergency (18%), elective (9%) caesarean section and instrumental delivery (9%) was similar to the non-diabetic population. Incidence of major PPH, shoulder dystocia, 3rd degree tear, fetal macrosmia, still birth or the admission to the neonatal unit was similar to the rest of the population.

Conclusion A significant number of women (40%) developed diabetes requiring treatment with metformin and or insulin. We feel that this cohort is worth monitoring, however further studies with a larger cohort are required to determine the benefit.

EP8.30
Eisenmenger syndrome- a rare case of successful pregnancy outcome

Suresh, U; Yashovardini; Padmaja, J

Modern Government Maternity Hospital, India

Case A 22-year-old primigravida with a history of congenital heart disease came for her first antenatal visit at 18 weeks of gestation. She underwent a cardiac evaluation and was diagnosed to have large VSD with Eisenmenger syndrome with severe Pulmonary arterial hypertension. She was counselled regarding the high risk of maternal mortality during pregnancy and was advised termination, but the patient refused and expressed her desire to continue pregnancy despite the risks explained. She was advised tab sildenafil 12.5 mg BD. Iron and folate supplementation, rest. At 26 weeks she had 3 episodes of massive hemoptysis when she was shifted to ICU and conservatively managed with oxygen bed rest and sildenefil 25 mg BD. At 32 weeks of gestation she was given two doses of betamethasone prophylaxis 24 hours apart. At 34 weeks of gestation on examination the patient was coherent, temperature 98.4F, there was mild pallor, grade 3 clubbing, cyanosis of finger and toe nail beds, raised JVP, pulse rate 106/min regular normal volume equally felt on both wrists, B.P 140/90 mm of Hg, spO2 74%, CVS examination revealed displaced apical impulse, loud single P2, Ejection diastolic murmur, respiratory system showed a rate of 32/min, bilateral vesicular breath sounds and no abnormality. Per abdomen the height of uterus was about 34 weeks, cephalic presentation, liquor clinically adequate. The patient was posted for elective LSCS on 24/10/2013. After infective endocarditis prophylaxis an elective LSCS was done under epidural anesthesia and she delivered an alive 1.9 kg female baby with good APGARscore. With O2 inhalation of 6-8lit/min and sildenafil 25 mg TID, thromboprophylaxsis with low molecular weight heparin 40 mg s.c for 3 days, and antibiotics the patient was closely monitored in ICCU. She maintained an oxygen saturation of around 70–75% with on and off episodes of dyspnea. She was discharged in a stable condition after 3 weeks.

Conclusion Eisenmenger syndrome complicating pregnancy is associated with high risk of maternal mortality upto 30-50%.The risk with vaginal delivery is about 34% and caesarean section is about 75%. The incidence of fetal wastage is about 75%. This is a rare case of successful pregnancy outcome.

EP8.31
Maternal Vitamin D deficiency correlation with neonatal Vitamin D deficiency

Vadeyar, S; Shetye, S; Somani, S; Shah, P

Kokilaben Dhirubhai Ambani Hospital, India

Introduction Vitamin D deficiency has been associated with a wide spectrum of diseases in both mothers (gestational diabetes, pre-eclampsia and increased morbidity) and neonates (SGA, rickets, hypocalcemia, hypoglycemia and neurocognitive disorders, including autism). There is a correlation between circulating maternal serum Vitamin D levels and neonatal serum Vitamin D

levels. The aim of the study was to determine the incidence of Vitamin D deficiency in pregnant women at our hospital and correlate it with their neonatal serum Vitamin D levels. Currently there are no recommendations for routinely checking antenatal serum Vitamin D levels.

Methods The study was conducted at an urban hospital (Kokilaben Dhirubhai Ambani Hospital, Mumbai) from July 2012 to September 2013. Serum Vitamin D level was done in 100 antenatal patients at the booking visit. Vitamin D deficiency/insufficiency was treated with oral cholecalciferol granules 60 000 IU/week and then serum Vitamin D levels were repeated in second trimester. Treatment was continued for women who persisted to be deficient. Day 3 neonatal serum Vitamin D levels were done and compared with a control group (neonates delivered in same set up wherein antenatal maternal Vitamin D levels had not been checked).

Results Sixty percent of the mothers were Vitamin D deficient (<15 ng/mL) and 19% were Vitamin D insufficient (15–30 ng/mL) at booking visit. The mean first trimester serum Vitamin D level was 14.02 ng/mL. The mean second trimester serum Vitamin D level (post treatment) was 34.34 ng/mL (sufficient). Of the women who were Vitamin D deficient in first trimester and treated with Vitamin D supplementation, 83% achieved normal levels by second trimester. However, 17% women despite treatment had levels in the deficient or insufficient range. The mean neonatal serum Vitamin D in the study group (born to mothers treated for Vitamin D deficiency) was 27.58 ng/mL (sufficient neonatal range) and the same in the control group was 10.55 ng/mL (deficient).

Conclusion There is a high incidence of Vitamin D deficiency in the pregnant population in an urban setting. Nearly 80% of the pregnant women were either Vitamin D deficient or insufficient. Vitamin D levels improved with oral therapy. The neonatal values of Vitamin D in treated group were in the normal range as compared to the control group. If maternal Vitamin D levels are not checked routinely, there is a high risk of Vitamin D deficiency remaining undiagnosed in mothers leading to neonatal Vitamin D deficiency.

EP8.32

A case report of steroid-sensitive childhood onset nephrotic syndrome with pregnancy

Vinod, V[1]; Bhat, S[1]; Bhat, P[1]; Aletty, S[1]; Zahoor, N[1]; Umakanth, S[1]; Prabhu, R[2]

[1]Dr. TMA Pai Hospital, UDUPI, Manipal University, India; [2]Department of Nephrology, Kasturba Hospital, Manipal University, Manipal, India

Introduction Nephrotic syndrome occurs very rarely in about 0.012–0.025% of all pregnancies. Very few reports of pregnancy in women with childhood onset steroid sensitive nephrotic syndrome are available. We hereby report a rare case of childhood onset steroid sensitive nephrotic syndrome in pregnancy successfully managed by multi disciplinary team approach. This is probably the first reported case in India to the best of our knowledge.

Case Mrs. S, 25-year-old, a case of nephrotic syndrome (minimal lesion glomerulopathy) since the age of 3, presented at 16 weeks of gestation. She was in remission for the past 1 year. She had pedal edema with gross albuminuria (++++) and hypoalbuminemia. She was started on oral prednisolone 80 mg/day in joint consultation with physician and nephrologist of our institution. She was on regular antenatal care. Her renal function was monitored fortnightly by measuring blood urea, creatinine, serum electrolyte, total protein and albumin along with monitoring of urinary albumin. She responded well to prednisolone and it was gradually tapered. Oral labetalol was started at 29 weeks of gestation to maintain a target blood pressure of <140/90 mmHg. Her obstetric course was uneventful until 35 weeks of gestation when she developed pre-eclampsia and IUGR. Patient was posted for LSCS at 36 weeks in view of pre-eclampsia and progressive IUGR. Post LSCS, the patient was started on nitroglycerine infusion for the first 24 hours to achieve adequate BP control. Later she was started on amlodipine 10 mg, labetalol 400 mg and extended release prazosin 5 mg/day. She was also on thromboprophylaxis with enoxaparine in the postoperative period. Baby weighed 1.9 kg and required NICU care in view of hypoglycemia.

Conclusion Maternal hypertension is the most significant complication affecting fetal outcome. Fetal complications are minimal if the mother remains stable. A multi disciplinary approach to the patient may allow the patient to have a viable fetus.

EP8.33

Late postpartum eclampsia- a case report and literature review

Alleemudder, D[1]; Horton, J[2]; Davies, S[3]; Fountain, S[3]

[1]Southampton University Hospital Trust, UK; [2]Basingstoke and North Hampshire Hospital, UK; [3]Salisbury NHS Foundation Trust, UK

Background Late postpartum eclampsia (LPPE) is a rare obstetric complication. It is a variant of the classic eclampsia that can develop from pre-eclampsia. It can manifest without the preceding triad of hypertension, oedema and proteinuria.

Case A 31-year-old primigravida developed postpartum eclampsia without any pre-eclamptic signs until shortly before seizure onset. She was readmitted 8 days postpartum with a severe global headache and oedema. The antenatal course was uneventful, although she had undergone an emergency caesarean section for failure to progress. There was no history of any pre-existing or family history of hypertension. 3 episodes of tonic-clonic seizures lasting 1 min each were witnessed. The blood pressure was 220/130 mmHg, the knee reflexes brisk and 3 beats of clonus noted upon examination. Within the setting of a high dependency unit, a loading dose of 4 g magnesium sulphate intravenously was administered and maintained at a rate of 1 g/hour. A labetalol infusion was commenced and 80 ml/hr fluid restriction applied. Vital signs and fluid balance measurements were closely monitored. Cerebral vein thrombosis and any possibility of an

intracranial bleed were excluded by magnetic resonance imaging. The haematological and biochemical indices showed no evidence of pre-eclampsia or HELLP (Hb 115, platelets 446, creatinine 107, urea 5.1, ALT 43, WCC 15.1, CRP 38). The patient eventually made a full recovery with normalisation of her blood pressure a few days afterwards.

Conclusion LPPE has an incidence of 1.0/10 000. It occurs between 48 hours and 4 weeks of delivery. Predictive factors for LPPE include BMI >30, antenatal hypertensive disease, caesarean delivery, low neonatal birthweight and African American race. MRI has been proposed as a highly sensitive adjunctive test for LPPE. Reversible white matter hyper-intensities on T2 weighted images appear characteristic of LPPE.[1] Airway management, seizure control and blood pressure stabilisation in this sequence are the mainstay of treatment. Further research is needed to understand the aetiology and management of this rare but important condition.

References:

1 Veltkamp R et al. Late onset postpartum eclampsia without pre-eclamptic prodromi: clinical and neuroradiological presentation in two patients. *J Neurol Neurosurg Psychiatry* 2000; 69: 824-827.

EP8.34
Audit of thyroid function tests after perinatal loss
Anne, S; Anupama, ????; Chan, S

Birmingham Womens Hospital, Birmingham, UK

Background The RCOG Green top guideline 55 (Oct 2010) on late intrauterine fetal death and stillbirth, recommends testing of thyroid function after perinatal loss to detect maternal occult thyroid disease.

Methods We conducted a retrospective audit of women who had a mid-trimester miscarriage, stillbirth or early neonatal death between April 2011 and June 2013.

Results Of the 400 cases in total 206 women were tested. Four (2%) had a low thyrotropin (TSH) and 26 (12.5%) had an elevated TSH. Of those with a low TSH, only one patient was overtly hyperthyroid (low TSH with elevated free thyroxine [FT4]) with a TSH of 0.06 mU/L (0.51–3.28) and FT4 of 19.7 pmol/L (5.4–9.9). She was not known to have thyroid disease and had a stillbirth at 31 weeks gestation. Two had pre-existing thyroid disease (one non-compliant with anti-thyroidal medication and the other took too much levothyroxine) and one had subclinical hyperthyroidism (low TSH with normal FT4). The women with TSH elevations [with normal FT4] all had subclinical hypothyroidism and 70% spontaneously normalised by 8 weeks postpartum.

Conclusions The incidence of overt hyperthyroidism is similar to that reported in the general pregnant population. However, the incidence of an elevated TSH immediately post-pregnancy loss is about twice as high as that (5.9%) reported amongst women tested at 11–13 weeks gestation who subsequently experienced a loss. This suggest that pregnancy loss itself caused transient thyroid dysfunction. Further research is required to determine the optimal time to test for thyroid dysfunction and whether timely treatment could reduce the risk of perinatal loss.

EP8.35
Case study: factor VII deficiency in pregnancy and labour
Das, D[1]; Ciantar, E[2]

[1]Calderdale & Huddersfield Foundation Trust, UK; [2]Leeds Teaching Hospitals Trust, UK

Background Factor VII deficiency is a rare autosomal recessive inherited coagulation disorder with an incidence varying between 1:500 000 and 1:2 000 000. Less than 200 cases of true Factor VII deficiency have been reported in the literature. Morbidity and mortality rates vary with the severity of Factor VII deficiency. Severe factor VII deficiencies with levels <1%, result in bleeding disorders similar to severe Haemophilia. Factor VII levels are seen to increase in normal pregnancy and this increase is noted in women with heterozygous Factor VII deficiency.

Case We present a case of Factor VII deficiency in a primigravida. She was managed antenatally in a combined obstetric haematology clinic within a tertiary unit. The multidisciplinary team included the obstetrician, haematologist, obstetric anaesthetist and paediatric haematologist. Her Factor VII levels were monitored closely during pregnancy (see table) and a detailed delivery plan was formaulated. She had a normal delivery followed by repair of third degree tear. She was managed with multidisciplinary input, and was given prophylactic Recombinant Factor VIIa in labour and for 24 hours postpartum followed by oral tranexamic acid. Blood loss was within normal limits. Cord Factor VII assay was normal and both mother and baby had uneventful recoveries. Patient's Factor VII levels in the pregnancy (Normal range: 50–150 iu/dL) 28 weeks 37 weeks 39 weeks Prior to IOL* Postpartum 2 iu/dL 1 iu/dL 2 iu/dL 2 iu/dL 118 iu/dL *IOL = Induction of Labour.

Conclusion This was most likely a case of heterozygous Factor VII deficiency. Monitoring of Factor VII levels during pregnancy, a predefined labour plan, and intrapartum and postpartum recombinant Factor VIIa helped in optimising outcome. It emphasises the importance of managing such complex and rare cases through a thorough multidisciplinary approach involving the obstetrician, haematologist, laboratory services, midwife and GP. It is also imperative that the patient is well informed of the proposed management plans and is encouraged to get involved in the decision-making process.

EP8.36
Domestic violence in Indian women- Tip of the iceberg
Devineni, K; K, Arunakumari; Shirisha

Osmania Medical College, FOGSI, India

Aim Domestic violence is omnipresent and not many efforts are made to assess its prevalence and impact on women. A prospective ongoing study in the pregnant patient population and

women attending emergency ward with specific complaints of violence to assess the overall impact of violence on pregnancy outcome and women's health at MGMH, Osmania Medical College, Department of Obstetrics and Gynecology, Hyderabad from August to December 2013.

Methods 300 Women attending OPD for antenatal care, postnatal women, women admitted in emergency for delivery in 2013 were screened for physical, emotional, sexual abuse and also reproductive coercion through a detailed empathetic and confidential interview and divided into group A with violence and group B with no violence Pregnancy outcome in both groups was assessed. Also a note was made about the number of rape, sexual abuse and pediatric rape cases examined at our institute in the year 2012–2013. A special note on the type of injuries, clinical and some deceptive presentations of intimate partner violence was made.

Results The prevalence of domestic violence was as high as 35%. Two maternal deaths were directly linked to brutal form of domestic violence. There were 130 women reported and examined for sexual assault.

Conclusions Domestic violence is a long neglected mostly indirect and sometimes a direct cause of poor maternal and neonatal outcome. In its extreme form it has even lead to maternal mortality, sex selective abortions and many complications of pregnancy in our study.

EP8.37
Paroxysmal extreme pain disorder- an obstetrics perspective
Esmyot, MLI; Katimada-Annaiah, T; Grosu, L

Bedford Hospital NHS Trust, UK

Background Paroxysmal Extreme Pain Disorder (PEPD) is an autosomal dominant condition which is extremely rare. It has been described in only 77 patients worldwide. PEPD can present as painful attacks with flushing, non-epileptic seizures and cardiovascular abnormalities such as bradycardia and asystole. Recognised triggers to these manifestations include defecation, pain, micturition, coitus, gynaecological examinations and emotional upsets.

Case C.S. is a 25-year-old primigravida patient with a known history of PEPD. She reported mainly rectal pain with secondary reflex seizures following severe constipation. During her antenatal care, the neurologist's and anaesthetist's advice were sought. It was agreed that it would be safest for C.S. to have an elective caesarean section at 39 weeks with a combined spinal and epidural anaesthesia.

Conclusion Although being rare, the presentation of a patient suffering from PEPD in an obstetrics setting is extremely relevant in view of the potential triggering factors. Adopting a multidisciplinary approach is vital to anticipate any potential complications and formulate an adequate plan of care for the patient.

EP8.38
Severe pancytopenia and oral ulceration secondary to folic acid deficiency in second trimester of pregnancy in Caucasian patient
Gumma, A[1]; Jiang, H[2]; Mehta, J[1]

[1]Peterborough and Stamford NHS Trust, UK; [2]Colchester Genaral Hospital NHS Trust, UK

Introduction Current available literature suggests the folic acid deficiency in pregnant women causing pancytopenia is a rare occurrence. There are only a few case reports in the literature so far. Improved nutrition, better socioeconomic status in the western population and routine prophylactic folic acid supplementation in pregnancy makes this even more unlikely in current times. We report a recently diagnosed case of severe pancytopenia secondary to folic acid deficiency in a 27-year-old pregnant woman in second trimester. She made a slow recovery and had a normal progression of her pregnancy after the folic acid supplementation.

Case 27-year-old woman in her third pregnancy presented at 22 weeks gestation with two weeks history of lethargy, oral ulcers, pyrexia and symptoms suggestive of chest infection. Full blood count revealed severe pancytopenia with Hb of 5.4 g/dL, neutrophil count 0.4 and low platelet count. She was managed by the obstetric, medical and hematology teams.

Conclusion Pancytopenia is compatible with a severe hematological disorder including aplastic anemia, acute viral infection leukemia and paroxysmal hemoglobinuria. Folic acid deficiency should be suspected in pancytopenia in pregnancy. Deficiency of folic acid in pregnancy can cause fetal defects in first trimester. In the second trimester, folic acid deficiency can cause low birthweight and growth problems in infants. Multidisciplinary approach and timely restoration of folic acid levels are the mainstay of management of this condition.

EP8.39
Management of gestational diabetes at Walsall Healthcare NHS Trust
Ram, R; Fisher, M; Karri, K

Walsall Healthcare NHS Trust, UK

Introduction Diabetes is a disorder of carbohydrate metabolism that requires immediate changes in lifestyle. Approximately 87.5% of pregnancies complicated by diabetes are estimated to be due to gestational diabetes. The aim of our study was to look into the management and outcome of Gestational Diabetes at Walsall Healthcare NHS Trust.

Methods Retrospective analysis of 85 notes of newly diagnosed Gestational Diabetes over a period of 12 months between June 2012 to May 2013 was done. Maternal data included age, ethnicity, BMI at booking, treatment for GDM and mode of delivery. Neonatal data collected included weight at birth compared to estimated weight prenatally and any admission to neonatal unit.

Results Out of the study population 35 (41.1%) were of Asian origin compared to 41 (48.2%) of white European ethnic background. 37 women (43.6%) had high BMI more than 30 and 5 (5.8%) with BMI of 40 or above. In 37 (43.5%) of women, diet alone was used and 45 (52.9%) had metformin added, of which 10 (11.7%) needed insulin in addition and 3 (3.5%) were on insulin only. With ultrasound weight estimation in the antenatal period, 16 (18.8%) had estimated fetal weight on or above the 90th centile, 59 (69.4%) within centiles, and 10 (11.7%) were on or below 10th centile. 35 (41.1%) had a caesarean section of which 20 were done as emergency. On plotting birthweight on customised growth chart 16 (18.8%) were on or above the 90th centile, 46 (54.1%) were within centile and 18 (21.0%) were below the 10th centile. 2 patients had shoulder dystocia. There were 13 (15.3%) admissions to neonatal unit.

Conclusions Majority of the women were from white ethnic background but 41% were from Asian origin. Nearly half of the patients had a high BMI. Majority required Metformin for management. Nearly a fifth was on or above 90th centile. Nearly a fifth was below 10th centile and half of this group was on treatment with Metformin. Although large for date babies are known outcome of gestational diabetes, we need to be aware of the small for gestional babies with gestational diabetes. There was no perinatal mortality in the study group.

EP8.40

Gestational diabetes mellitus: a comparison of outcomes between Asian and Caucasian ethnic groups

Fisher, M; Ram, R; Karri, K

Walsall Healthcare NHS Trust, UK

Introduction Gestational diabetes is known to have implications for both maternal and foetal health. Ethnic origin is likely to play a role in the impact that gestational diabetes has on pregnancy. The aim of the study was to compare and contrast gestational diabetes in women of Caucasian origin and of Asian origin.

Methods A retrospective analysis of all newly diagnosed gestational diabetic patients who attended antenatal clinic within a single centre over a 12 month period (from June 2012 to May 2013) was conducted.

Results A total of 85 eligible patients with gestational diabetes were identified within this time period. We had a cohort of Caucasian patients ($n = 41$) and a cohort of Asian patients ($n = 33$). The patient numbers are representative of the local patient population. The proportion of Asian patients with a BMI > 30 (18%) was lower than that of the Caucasian patients (51%). This was emulated with patients with a BMI > 40 (Asian cohort = 0%, Caucasian cohort = 10%). 48% of women in both the cohorts were treated with diet alone. Metformin was an added treatment in 52% of Asian and 44% of Caucasian patients. The total proportion of Insulin users in the Asian cohort was 9%, compared with 20% of the Caucasian cohort. Caesarean section rates in the Asian and Caucasian groups were 48% and 44% respectively. There were a greater number of instrumental

deliveries amongst Asian patients (15%) compared to Caucasian patients (5%). Comparing postnatal birthweights plotted on customised growth charts, 36% of babies born to Asian mothers were plotted on or below the 10th centile compared to 20% of babies born to Caucasian mothers. 9% of babies in the Asian cohort and 20% in the Caucasian cohort plotted on or above the 90th centile. Neonatal Unit admission in the Asian cohort (18%) when compared to the Caucasian cohort (12%).

Conclusions Greater numbers of Asian mothers are of normal weight, managed with Metformin and at significant risk of small for gestational age babies, including increased Neonatal admission risks. Caucasian mothers are more likely to be of a high BMI, be treated with Metformin and insulin, and are at risk of babies with weights above the 90th centile. It may be necessary to take these ethnic differences into account when considering the management of women with gestational diabetes mellitus and this gives opportunities to optimize patient care.

EP8.41

Changing characteristics of GDM in an urban Indian population

Ram, U; Mahadevan, S; Gopal, J; Karthik, A; Subramhanyam, N; Anuradhai, A

Seethapathy Clinic and Hospital, India

Introduction Gestational diabetes is increasing worldwide. Most guidelines currently suggest universal screening for GDM at first antenatal contact. With increasing and earlier screening we sought to determine the characteristics of GDM diagnosed in an urban Indian population.

Methods We did a retrospective chart review looking at the data of 1626 antenatal patients seen in a single obstetric center (Seethapathy Clinic and Nursing Home) between Jan 2011 and December 2012. A t test was done to determine P values and odds ratios were generated using a 2×2 table.

Results 1389 of these pregnancies which resulted in singleton deliveries were analysed. Of these, 248 women developed gestational diabetes. This gives an incidence of GDM of 17.8%, which corresponds to earlier published data on incidence in an urban south indian population. The baseline demographics of the women developing GDM showed that age (27 ± 3.7 in non-GDM versus 28.4 ± 3.87, $P = 0.0002$) and baseline weight (62 ± 11 kg in non-GDM versus 66 ± 12 kg, $P < 0.001$) was more in the GDM as compared with the non-GDM group. 63% of women with GDM were obese (BMI >25) as compared to 46% in the non GDM group. The odds ratio for an obese women developing GDM over someone of normal BMI was 2.60. 23.7% of obese women were on medication for control of sugars when compared to 5.3% in normal BMI with an odds ratio of 4.75. Interestingly, the women diagnosed with GDM gained less weight in pregnancy (11 ± 10 versus 8.98 ± 4.4 kg, $P \leq 0.0001$). The birthweight and gestational age at delivery did not vary significantly between the 2 groups. The birthweight was 3.06 ± 0.47 in the non-GDM, and 3.07 ± 0.47 in the GDM group ($P = 0.80$). The gestational age at delivery was 38.23 ± 3.56 weeks in the non-GDM and

37.55 ± 5.16 weeks in the GDM group. This difference did not reach significance levels ($P = 0.18$). 32% of the non-GDM group underwent caesarean section as compared to 54% in the GDM group. This difference in section rates was despite no difference in birthweight and have to be analysed further.

Conclusions GDM is a significant problem in our country and BMI seems to be a significant factor influencing the incidence and management of these patients. We do not see much macrosomia but have higher section rates the reason for which has to be further analysed.

EP8.42
Maternal outcome of pregnancies complicated by pre-eclampsia
Roshini, N; Chandrika, CV; Mekkattukunnel, A

Government Medical College, Thrissur, India

Introduction The objective of the study was to determine the incidence and maternal outcome of pre-eclampsia (PE) in women delivered at Government Medical College Hospital and a Tertiary care centre in Kerala. Design: A retrospective observational study of 2615 women who had delivery at Medical College Trichur from January 2007 to December 2007 was included in the study.

Methods Data of all the women who had delivered at Medical College from January 2007 to December 2007 was collected from the Parturition Register of the Obstetrics & Gynecology Department. Hypertensive women were categorized into gestational hypertension, pre-existing hypertension, pre-eclampsia (mild and severe), superimposed pre-eclampsia.

Results Pre-eclampsia was more common in primigravida, women aged more than 35 and in pregnancies complicated by gestational diabetes. Pre-eclampsia was seen in 152 (15.77%) of primigravida and 137 (8.3%) of multigravida (Odds ratio 2.069). Among pre-eclampsia patients 52.60% were primigravida and 47.40% were multigravida ($P < 0.0001$). Among 289 pre-eclampsia women, 16 were below 20 years (6.25%) and 262 (90.65%) were between 20 and 35 years and 11 (3.80%) were above 35 years (odds ratio for PE in age group above 35 is 0.89 (OR 0.89 95% CI 0.41–1.69 $P < 0.74$). Postpartum hemorrhage was present in 12 women (4.15%) with pre-eclampsia, while the incidence in non hypertensive's was 2.22% (51 women) (OR 2.99, $P < 0.0005$). Incidence of abruption was 7.27% (21 women) in pre-eclampsia group while that in non hypertensive patient it was 1.78% (41 women). Total caesarean section rate in women excluding hypertensive disorders is 39.65% ($n = 912$) while in preeclampsia it was 59.44% ($n = 166$) (Odds ratio 2.83). The primary caesarean section rate in women excluding hypertension is 18.61% while in pre-eclampsia it is 50.87%. Severe pre-eclampsia was significantly associated with lack of regular antenatal check up.

Conclusion Maternal complications were significantly high in women with pre-eclampsia and those without proper antenatal care. Rising cesarean section is a concern in modern obstetrics. Incidence of caesarean section is high in pre-eclampsia. Increased incidence of pre-eclampsia may be a cause for overall increased rate of cesarean section. Future large-scale studies are needed to confirm our results and to identify factors influencing higher PE in Kerala.

EP8.43
A 10-year audit of the management of HIV-positive pregnant women: the complete audit loop
Watson, H; Shah, A; Krishna-Moorthy, P; Bijral, N; Khan, N; Shah, S; Wijeweera, R

Medway NHS Foundation Hospitals Trust, Gillingham, Kent, UK

Introduction The prevalence of HIV in pregnancy is 2.2 per 1000 women giving birth (1 in every 449). Prevalence in England, about 1 in 3500 women giving birth was HIV positive in 2000, rising to 1 in 700 by 2006, and remaining stable since then. In April 2012 the British HIV Association (BHIVA) issued revised guidelines for the management of HIV-positive women in pregnancy and their babies following birth. The purpose of this review was to determine whether adherence to the guidelines was consistent, and to identify areas where changes in practice may be required.

Methods The audit included forty-four HIV-positive women and their babies, delivered between 2002 to 2013. Data were collected retrospectively from patient notes and compiled on to a spreadsheet. The data were presented in 2006, 2008 and 2013 at the clinical audit department and as a virtue of this a complete audit loop was achieved.

Results Mean age of the women was 35 years (range:16–42 years). Eighty-nine percent of the women were African-Carribean in origin with seven percent asian and four percent caucasian. Fifty percent of the women ($n = 22$) were diagnosed with HIV infection in pre-pregnancy period. Majority of women were delivered by caesarean section with only 4.5% of women delivered vaginally. Fifteen percent of the women had plasma viral load more than 50 copies/ml. Seven percent of babies born to HIV positive women were not administered anti-retroviral therapy. In terms of neonatal antiretroviral prophylaxis, 99% received zidovudine mono-therapy or triple therapy as appropriate depending on maternal viral load, and in 84% of cases this was started within 4 hours of birth in line with the 2012 guidelines. One baby (0.2%) was found to be HIV positive at the follow-up appointment. The 2012 BHIVA guidelines was demonstrated in most aspects of the maternal and neonatal care examined. Plans for appropriate mode of delivery were made for all women.

Conclusions The care provided to HIV-positive women and their babies managed at our unit between 2002 to 2013 is largely of the standard set in the 2012 BHIVA guidelines. Areas for improvement identified by the audit include increasing the proportion of neonates receiving prophylaxis within 4 hours of birth.

EP8.44
Pregnancy in corrected single ventricle of left ventricle morphology
Vijaya Selvi, R; Lakshmi, L

CMC Vellore, India

Background 1% of pregnant women suffer from heart disease, of which congenital heart disease is one of the commonest. This abstract reports a patient with corrected single ventricle who had undergone uneventful pregnancy.

Case This patient was diagnosed to have heart disease at childhood, but undergone evaluation at 23-years-old due to her cardiac symptoms. An angiogram revealed congenital cyanotic heart disease with single ventricle LV morphology, malposed great vessels, severe pulmonary. Artery Stenosis and PS gradiant gdt is 84 mm of Hg. She underwent bidirectional Glenn Shunt in 2009. She was advised Digoxin, Amifru and warfarin. Postoperatively the shunt functioned well. At 27-years-old the patient got pregnant in 2013, and booked at 9 weeks. Pregnancy care continued after clearance from Cardiologist. Morphology scan and fetal Echo showed normal findings. Antenatal visits were planned as for high risk mother. She remained NYHA I throughout her antenatal period. She had spontaneous rupture of membrane at 35+3 weeks. Induction of labour is done with low volume high dose Oxytocin. IE prophylaxis with Ampicillin and Gentamycin and epidural analgesia was given. She delivered a 2.41 kg healthy baby by low forceps to cut short second stage. Postnatal monitoring continued for 24 hours in the labour room and discharged after 5 days from ward in good condition. In 1971, Fontan described the surgery to separate the systemic from pulmonary circulations and reduce or abolish cyanosis in patients with a single ventricle. The maternal complications include thromboembolism, atrial arrhythmias, low cardiac output and systemic ventricular dysfunction, increase in pulmonary vascular resistance and hepatic failure. Bidirectional Glenn surgery is the modified Fontan which involves connecting the SVC to Pulmonary artery to reduce the severity of cyanosis where as classic Fontan involves anastamosing the right auricle to right pulmonary artery. Management issues include prepregnancy counseling by congenital heart specialist, and counselling for possible fetal risk like miscarriage, prematurity, congenital heart disease in the fetus, PPROM, growth restricted fetus etc. In a patient who had undergone corrective surgery, obstetric management include fetal surveillance for IUGR, anticoagulant, epidural analgesia, infective endocarditis prophylaxis during labour. LSCS is recommended for obstetric complications.

Conclusion Fontan procedure results in a unique and tenous balance between systemic venous hypertension and pulmonary artery hypotension that may be perturbed during pregnancy and childbirth.

EP8.45
Audit on severe pre-eclampsia
Bangari, R; Das, M; Sharma, B

Lewisham and Greenwich NHS Trust, London

Objectives Despite advances in medical practice, pre-eclampsia/ eclampsia has remained a leading cause of maternal mortality throughout the world. The Confidential Enquiries into Maternal Deaths persistently show substandard care in a significant percentage of women. The audit aims to evaluate the management of women presenting with severe pre-eclampsia, to monitor any maternal and fetal complications and to improve overall care.

Methods Cases of severe pre-eclampsia were identified retrospectively over 1 year period (January 2012 to December 2012). Notes were reviewed and data analysed. A total of 12 case notes were retrieved reviewed.

Results The mean age of the women involved was 30 years. There were 9 nulliparous and 3 primiparous women. 33% developed pre-eclampsia between 28–30 weeks of geatation, 25% between 31 and 35 weeks and another 25% between 35 and 37 weeks. Severe, life-threatening, hypertension must be treated effectively and Labetalol was the main antihypertensive used. Hydralazine was used in 15% of women as there was no response to Labetalol. So overall 66% of women required intravenous antihypertensives for effective control of blood pressure and 75% of them were treated with magnesium sulphate as a prophylaxis for eclampsia. The main indication for delivery was uncontrolled hypertension although other indications were intrauterine growth restriction with abnormal dopplers and abnormal blood results. Gestation at delivery varied and majority of women (66%) with severe pre-eclampsia were delivered before 36 weeks. There were no maternal or fetal complications.

Conclusions The number of deaths from pre-eclampsia/eclampsia has not changed significantly. The most pressing need is to treat hypertension quickly and effectively to prevent complications. There should be a low threshold for magnesium sulphate for the prevention of eclampsia. Consultant and multidisciplinary input at senior level is essential in all cases. Ideally, both consultant obstetricians and anaesthetists should be present for such emergencies and consideration should be given to manage them in high-dependency setting.

EP8.46
Pregnancy in women with Wilson's Disease: the copper connect
Mehta, P; Vishwanath, U; Agarwal, P

Sriramachandra Medical College, Chennai, India

Background Wilson's disease is a rare autosomal recessive disorder of copper metabolism characterised by liver cirrhosis and neurological disorders. This is a report of two patients with Wilson's disease and their successful journey through pregnancy and lactation. There are only a few reports regarding the outcome of pregnancy in Wilson's disease (WD) from India. The authors in this study emphasise that pregnancy in Wilson's disease is safe

and successful when treatment with a chelating agent is continued uninterruptedly.

Case Case one was a 30 year old G4P1L1A2 known case of Wilson disease since 7 years of age. She had two miscarriages and one caesarean section in the past. She had been on d-penicillamine since 7 years of age which was changed to zinc sulphate as advised by neurophysician during pregnancy. She delivered by elective caesarean section and continued zinc sulphate postnatally. Case two was a 24-year-old G2A1 who was diagnosed to have Wilson's disease at 13 years of age. She had been on d-penicillamine and continued the same during pregnancy. She had discontinued penicillamine therapy on her own 1 year before her pregnancy and had developed severe psychotic symptoms, mood disturbances and poor memory. She was restarted on d-penicillamine with rapid improvement of symptoms. She had a healthy baby by normal vaginal delivery.

Conclusion Successful pregnancies and uneventful full-term delivery may occur in mothers of WD on treatment.These women require anti copper therapy during their pregnancy. The major goal of treatment is to protect the mother from copper toxicity while protecting the fetus from possible teratogenesis due to low copper levels. A regimen of d-penicillamine during pregnancy can control the disease without harming the fetus. Treatment should not be stopped during pregnancy and zinc therapy should be considered. Patients with Wilson's disease contemplating pregnancy should have their hepatic function and copper status assessed.

EP8.47
Management of pregnancy in women with type I and type II diabetes at Lister Hospital, Stevenage 2012–2013
Padmagirison, R; Gangoo, C; Kaplan, F

Lister Hospital, Stevenage, UK

Introduction To examine the quality of antenatal care and outcome of diabetic women delivering at Lister Hospital 2012–2013 against national figures.[1]

Methods Retrospective audit by review of 15 case notes over 1 year period, further 5 notes to be reviewed.

Results Notes of 15/20 (75%) of the cases found and reviewed. 7 cases of women with pre-existing type I and 8 cases of Type II diabetes were identified at the Lister Hospital during the 1 year period. HbA1c was tested in 100% of mothers (37% nationally), 93% of cases had pre-conception folic acid (34% nationally). First trimester scans were performed in 100% of cases (73% nationally) and 20 weeks detailed scans were performed in 100% of cases (97% nationally). Steroids were provided in 100% of cases delivered before 34 weeks (70% nationally). Glycaemic control (both HbA1c level and percentage of patients with a level of less than 7%/53 mmol/L) was better at Lister Hospital in the pre-conception, first and second trimesters compared with national figures. 20% of cases were delivered by elective caesarean section (30% nationally) and 47% had emergency caesarean section (38% nationally). There were no still births during this

year (national figures were 25.8 per thousand for Type I and 29.2 for Type II). 34% of babies were admitted to special care baby unit.

Conclusion Lister Hospital seemed to provide higher standards of care and better fetal outcomes compared to national figures. Availability of a multi-disciplinary diabetic antenatal clinic with 24 hours access to the diabetic midwives helps in achieving better glycaemic control. We aim to improve the service further by establishing pre-conceptional counselling service.

Reference:
1. CEMACH. Pregnancy in women with type 1 and type 2 diabetes in 2002-2003, England, Wales and Northern Ireland, October 2005.

EP8.48
Pregnancy related acute kidney injury aetiology management, prospective study at care institute of medical sciences
Vindhya, G; Pratibha, D; Rajasekara, C; Saraschandrika, PV; Maljini, ????

Care Institute of Medical Sciences, India

Introduction Acute kidney injury in pregnancy is a life threatening complication of certain pregnancy disorders. The incidence has decreased from 0.5 per 1000 pregnancies to 1 in 20 000 pregnancy disorders. Theications account for 15–20% of acute kidney injury. In India it has reduced to 4.5% from 14.5%. Patients with pregnancy related acute kidney injury should be managed in high dependency unit with multi disciplinary approach with ventilator support and renal replacement therapy, if required. This study is conducted to evaluate clinical condition, aetiology and management prospectively between May 2012 to November 2013 over a period of 18 months in a tertiary care hospital.

Methods L- 30 patients of acute kidney injury in pregnancy and postpartum are discussed. Serum creatinine cut off 0.7 mg% was taken as normal. Following details are studied in this group AKIN staging of acute kidney injury, mode of delivery, evaluation for confirming the etiology of acute kidney injury, management including renal replacement theraphy and recovery, maternal and perinatal outcome.

Results Pre renal-5 cases: Ectopic-1, Antepartum hemorrhage-2, Postpartum hemorrhage-1, Gastro enteritis-1 Renal-25 cases: Pre-eclampsia-10, Bowel volvulus and gangrene-1, Sepsis-6, Acute fatty liver disease of pregnancy-1, Hemolytic Uremic Syndrome-4, Disseminated intravascular coagulation-3. The most common etiology was pregnancy associated pre-eclampsia, sepsis, Hemolytic Uremic Syndrome, all leading to disseminated intravascular coagulation. Age group-22 to 36 years. These patients were admitted in critical care unit and managed by nephrologist and obstetrician in high dependacy units. Among them 20 patients had renal replacement therapy and the rest of them were managed conservatively. Stage of Acute kidney injury: Stage one- 5 patients, Stage two- 5 patients, Stage three- 20 patients. Renal biopsy was done on 4 patients after delivery and histopathology showed

diffuse cortical necrosisin in one patient and patchy cortical necrosis in 3 patients. Recovery was complete in 13 patients, with 4 patients requiring renal replacement therapy and 9 patients not requiring renal replacement therapy. Recovery was partial in 8 patients, with 7 patients requiring renal replacement therapy and one patient not requiring renal replacement therapy. Renal transplantion was advised in one patient as patient was not recovered. Maternal mortalilty was in 8/30 patients, foetal mortalilty: 11 patients, and termination of pregnancy in 2 patients.

Conclusions In these 30 patients studied between May 2012 to November 2013, the commonest cause of acute kidney injury in pregnancy was pre-eclampsia (10/30), sepsis (6 /30), hemolytic uremic syndrome (4/30). Requirement of dialysis and ventilation were independently associated with mortality. Maternal mortality was 26%, foetal mortality was 10.4%. Prompt diagnosis and institution of early treatment are necessary to reduce maternal mortality, pernatal mortality, pregnancy wastage and morbidity. Pregnancy related AKI is a improtant cause of chronic kidney disease, not on dialysis (5/30), end stage renal disease in (1/30).

EP8.49
How should we manage a case of *Pseudoxanthema elasticum* (PXE) in pregnancy?
Appiahanna, R[1]; Nitin, A[2]; Gumma, A[2]

[1]James Paget University Hospital, UK; [2]Peterborough & Stamford NHS Trust, UK

Background PXE also known as Grönblad-Strandberg syndrome has a prevalence of 1:75 000. It is a metabolic disorder with secondary connective tissue manifestations. Lesions are primarily noted in the connective tissue of skin, retina, and arterial walls; and is characterized by fragmentation of elastin and calcification of the extracellular matrix. Inheritance is autosomal recessive, with mutations mapped to ABCC6 gene on chromosome 16p13.1.

Case We report the case of a 37-year-old paediatric nurse who presented during her second pregnancy. Striking features of marked skin wrinkling with cobblestone appearance were noted in the neck, anticubital fossa and upper part of the thighs. She reported no visual problems or bleeding diathesis. Blood pressure was stable around 130/80 thoughout the pregnancy. Cardiovascular examination revealed an ejection systolic murmur at the left sternal edge and apex. Angioid streaks in both eyes, with no evidence of any choroidal neovascular membrane were noted on fundoscopy; with normal visual acuity and intraocular pressure noted in both eyes. Investigations including urinalysis, resting ECG, echocardiogram were essentially normal. Also a detailed anomaly scan at 20/40, serial growth scans and uterine artery Doppler at 28 and 32 weeks were normal. She delivered a healthy baby boy, weighing 3660 g, vaginally at term, with no concerns postnatally. She was diagnosed with PXE at the age of 18

and also had a sibling known to suffer from this condition. In her first pregnancy in 2008, she had a normal vaginal delivery at term; baby weight at birth was 3200 g. She was hypertensive in the immediate postpartum requiring beta blockers.

Conclusion It is essential to distinguish PXE from other connective tissue disorders including Ehler-Danlos and Marfan's syndrome, that have also been reported in pregnant women. Multidisciplinary approach in rare presentation like our case is important. Effective communication between the multidisciplinary teams including maternal medicine, obstetric, ophthalmology, cardiology, dermatology, plastic surgical, gastroenterology teams ensured the normal outcome of this pregnancy. Though risk factors for pre-eclampsia were identified, which included previous history of pre-eclampsia and Hypertension due to PXE, use of aspirin was deferred in view of increased risk of gastric bleeds. Aspirin should be considered in view of risk of IUGR, however it should be weighed against the increased risk of bleeding, especially GI bleeding, in these patients. Patient education and awareness is essential to ensure safer pregnancy outcome.

EP8.50
Successful pregnancy outcome in a woman with Aplastic anemia
Haneefa, Z

Vinayaka Missions Medical College, India

Background Aplastic anemia is a syndrome of bonemarrow failure that is defined by pancytopenia and bonemarrow hypocellularity. Normal haematopoitic system is replaced by fat. Pregnancy following aplastic anaemia is rare and difficult to manage because of threatening episodes of bleeding and infections. The present report describes a patient with severe aplastic anemia who conceived and she was managed with intensive hematological support and delivered a healthy infant.

Case 26-year-old primigravida who was diagnosed to have idiopathic aplastic anemia 2 years back. She was on tab. danazol 200 mg tds, she stopped taking danazol on her own after marriage. Five months later she concieved spontaneously and came to us at 12 weeks gestation. Hematologist consultation was made and pregnancy was continued. Her blood counts were within normal limits till 36 weeks gestation, suddenly her platelet count dropped to 35 000; total leucocyte count 3400 and haemoglobin was 8 g/dL. She was admitted and transfused 4 units of platelets and 2 units of whole blood and labour was induced. She was taken up for emergency caesarean section in view of fetal distress, she delivered a male baby 2.6 kg. Postoperatively she was transfused 2 units of platelets. She was discharged on postoperative day 6 after suture removal. Babies blood counts and peripheral smear were normal.

Conclusion Pregnancy in a women with aplastic anemia needs careful haemotolical monitoring and blood products needs to be transfused appropriately to avoid complications.

EP8.51
A belly-dancing womb
Herbert, J; Hassanaien, M

James Paget University Hospital, Norfolk, UK

Background A rare condition with an exotic name; it is no surprise that knowledge of the painful myoclonic condition known as 'Belly Dancer's Dyskinesia' is limited. A literature search yields few case studies, and none where the condition manifests in pregnancy.

Case Miss A is 24-years-old, gravida 5, para 3+1 (early miscarriage), currently in the second trimester. Her partner is 40-years-old and has a deletion of 11q22.3, which her third child has inherited; the clinical significance of this is unknown. All her pregnancies (excepting the miscarriage) have been complicated by Belly Dancer's Dyskinesia, manifesting between the 26th and 30th week of pregnancy, and resolving after delivery. Unfortunately all her children suffer with conditions requiring full-time care; all three suffer with deafness, the first-born also has cerebral palsy and periventricular leucomalacia (PVL), the second has sleep apnoea as well as PVL, and her third child has sleep apnoea and an inherited chromosomal abnormality. Abdominal spasms have been a feature of all her pregnancies, and in her third was one of the indications (as well as obstetric cholestasis and fetal tachycardia) for her delivery by emergency caesarean section at 32 weeks gestation. It cannot be assumed that there is a link between the Dyskinesia and her obstetric complications, but her case prompts thought about the impact of such a condition on the course of pregnancy. The name stems from the physical manifestation of involuntary, rhythmic jerks of the hemidiaphragms, causing rhythmical contractions and uncontrollable abdominal wall movements. The proposed aetiology is wide, and options for management vague. The scope of potential impact on pregnancy is extensive and likely to be variable between cases; in our case there were no problems with antenatal screening, including chorionic villus sampling, and fetal growth monitoring was not affected. However, controlling her periodic pain proved difficult; she required complex analgesia, and advice from Neurologists and Physiotherapists was sought. The pain had a profound impact upon the patient's wishes during pregnancy and requests for expediting delivery.

Conclusion The dilemmas facing the obstetrician caring for this patient during her current pregnancy highlight questions that need answering by further research. Are the congenital abnormalities or brain insults in-utero related to the dyskinesia? If so, how do we monitor, manage, and when is the optimum time to stop the dance and deliver a healthy baby?

EP8.52
Singleton pregnancy complicated by cystinuria, chronic pseudomonas infection and Mitrofanoff diversion
Jones, I[1]; Bennett, S[2]; Moore, J[1]; Ali, O[2]

[1]Royal Devon & Exeter Hospital, UK; [2]North Devon District Hospital, UK

Background There is limited data on pregnancies complicated by cystinuria. The most comprehensive study, published in 1983, showed that careful management and high fluid intake were key to safely conducting women through pregnancy. Very little has been published to further knowledge in this area since. There is also limited data on managing delivery in women with urinary tract reconstruction including Mitrofanoff procedures. Those studies that have been published suggest elective caesarean section with antibiotic cover offers the safest mode of delivery.

Case We describe a case of a 27-year-old woman in her first pregnancy, with a background of cystinuria, chronic vesico-ureteric reflux, dysfunctional bladder with Mitrofanoff diversion, hypertension and ocular albinism. The patient presented at 8 weeks into her first pregnancy. She had previously been taking Captopril but stopped prior to conception. Aspirin was started due to the risk of pre-eclampsia. A joint nephrologist/ obstetrician plan was put in place for fortnightly antenatal clinic appointments with urine dip, mid-stream urine cultures, and urea and electrolyte testing. She also commenced nitrofurantoin prophylactically with a plan to continue through the first and second trimesters, then switch to trimethoprim for the third. This strategy led to prompt detection of a multi-drug resistant pseudomonas urinary tract infection which was treated with repeated courses of intravenous meropenem. Right sided hydronephrosis was also discovered on renal tract ultrasound which was caused by compression of the gravid uterus at 24 weeks rather than a stone, and was treated with a planned nephrostomy a week later. The patient remained normotensive throughout the pregnancy. A plan was put in place for delivery at a major regional centre with a consultant urologist present at elective caesarean section at 37 weeks. Two doses of dexamethasone were given prior, and meropenem cover was given peri-operatively. A successful outcome was achieved for patient and infant.

Conclusion This case shows that patients with a complex urological history and significant antenatal problems of new multi-drug resistant infection and hydronephrosis can still have a successful pregnancy outcome if managed with frequent monitoring and timely caesarean delivery as a jointly managed procedure with obstetrician and urologist present.

EP8.53

Maternal and perinatal prognosis in cardiac patients at care institute of medical sciences

Manchala, S; Lavanya, B; Devabaktuni, P; Menon, R; Kapadia, A; Sridevi; Somaraju, B

Care Institute of Medical Sciences, India

Introduction The aims were to study the maternal and fetal outcome in pregnant women with different types of heart disease and methods of termination of pregnancy adopted.

Methods In 2011 to 2013 there were 50 cases of cardiac disease complicating pregnancy in our hospital. Sub categories included rheumatic heart disease (19), congenital heart disease (CHD) (18), peripartum cardiomyopathy (PPCM) (9), arrhythmias (2), pulmonary hypertension (2). Among these 4 cases of congenital heart disease and 5 cases of chronic rheumatic heart disease (CRHD) are corrected lesions.

Results Carciac interventions-2 cases of CRHD underwent PBMV during pregnancy and 1 case of arrhythmias underwent pacemaker implantation i/v/o complete heart block. Delivered cases are CRHD (16), CHD (12), PPCM (8), PAH (1), Arrhythmias (2). MTP done in CHD (4), CRHD (2), PPCM (1), PAH (1).

Conclusions Rheumatic, congenital acyanotic, corrected congenital heart disease and NYHA class 1 and 2 carry good prognosis for pregnant women. Termination required in Eisenmenger's syndrome, NYHA class 3–4, and cyanotic heart disease. In house cardiac backup helped in the early treatment of arrhythmias and severely symptomatic women. All delivered babies (39) survived. There is a need to increase awareness among prepregnant women with cardiac disease regarding contraception,drugs,and side effects and prepregnancy correction of lesion.

EP8.54

Severe acute maternal morbidity: demography of intensive care unit admission in pregnancy

Dias, T[1]; Shanmugaraja, V[1]; Bower, G[2]; Croften, H[2]; Liyanage, G[1]; Gunawardena, C[1]; Padeniya, T[1]

[1]Department of Obstetrics and Gynaecology, District General Hospital, Ampara, Sri Lanka; [2]St George's University of London, UK

Introduction Since decreasing numbers of maternal deaths precludes meaningful conclusions from maternal mortality reviews the emphasis has recently been shifted to severe acute maternal morbidity (SAMM). World Health Organization has recently formulated audit criteria for SAMM including an intensive care unit (ICU) admission during pregnancy as one of the inclusion criteria. The aim of this study was to determine the epidemiology of severe acute maternal morbidity in the intensive care unit at a tertiary care hospital in Sri Lanka with a view to assessing the quality of obstetric care delivered by the institution.

Methods This was a retrospective analytical study performed between August 2010 and May 2013 at District General Hospital Ampara, Sri Lanka. All ICU patient records were retrieved in order to review all pregnancy related admissions to ICU.

Results There were total of 9,608 live births during the study period with 114 pregnancy related admissions to ICU were included. A maternal mortality rate was 42 per 100 000 (4 maternal deaths). The commonest reasons for ICU admission were hypertensive disorders (40.4%) and severe postpartum haemorrhage (20.2%). Sepsis (12.3%) and cardiovascular disease (12.3%) were also common reasons for admission to ICU. The most common intervention was blood transfusion, with 42.5% receiving blood products and 9.6% meeting the criteria for massive blood transfusion. Surgical interventions (excluding caesarean section) were made in 16.7% of cases. Uterine tamponade was performed in 34.8% of cases of PPH. A total of 40 patients (35.1%) met the criteria for a single organ dysfunction, and 11 patients (9.6%) had multiple organ dysfunction. Cardiovascular, respiratory and coagulation dysfunction were the commonest types of organ dysfunction.

Conclusions Maternal near-miss mortality ratio of our study remains high and this indicates better care. WHO near-miss criteria provides a standardised template for clinical audit of SAMM which has the potential to provide easily comparable data on obstetric near-misses.

EP8.55

Optimising glycaemic control in diabetic women who require antenatal corticosteroids- Comparison of two regimes

Sindagi, P[1]; Momin, S[2]; Pinto, A[1]; Pinto, L[1]

[1]Nevill Hall Hospital, UK; [2]Royal Gwent Hospital, UK

Introduction Antenatal corticosteroids are often necessary to facilitate fetal lung maturation. However in women with diabetes, corticosteroid administration leads to significant worsening of glycaemic control. We compared the blood glucose control between the traditional regime of IV insulin titrated against the hourly blood sugar readings (sliding scale) versus IV supplemental insulin in addition to basal bolus insulin regime (Kaushal et al, 2003).

Methods We collected data from diabetic women over a period of 1 year (in the 2 hospitals in our health board) where the above 2 regimes were used. We excluded women with gestational diabetes. Data were collected on the type and duration of diabetes, type of steroid use (betamethasone or Dexamethasone) and antenatal dose of insulin and the recordings of hourly blood glucose levels from the hospital records.

Results There were 4 women who had the traditional IV insulin only regime and 8 women who had the supplemental intravenous insulin in addition to basal bolus regime. There were a total of 174 blood glucose recordings in the IV Insulin only group and these were compared with 351 glucose recordings in the supplemental intravenous insulin in addition to basal bolus regime. Recordings in the target range (4–7 mmol/L) were 25% in the IV insulin only group compared to 42% in the women who continued with their usual insulin and received supplemental IV insulin. The percentage of hypoglycaemic episodes in the IV insulin only group was higher i.e 6.8% versus 2.56%. There were

no episodes of severe hypoglycaemia requiring third party assistance in either group. Hyperglycaemia was recorded in 67% compared to 54% and the degree of hyperglycaemia was much greater in the former i.e. range between 10 and 14.9 mmol (19.5% versus 16.5%) and readings greater than 15 mmol/L was 12.6% versus 3.1%. Comparison of the 2 insulin regimes show that the mean blood glucose level was higher in the IV insulin only regime.

Conclusions From this study comparing the 2 regimes, it is clear that continuing regular basal bolus insulin and adding supplemental iv insulin to counteract the hyperglycaemic effect of corticosteroids is a better strategy in optimising glycaemic control instead of relying on IV insulin only.

EP8.56
Maternal and fetal outcome in connective tissue disorders

Venugopal, S[1]; John, ER[2]

[1]Pushpagiri Medical College, Kerala, India; [2]Baby Memorial Hospital, Kerala, India

Introduction Connective tissue disorders (CTD) like Systemic Lupus Erythematosus (SLE) limited systemic sclerosis, rheumatoid arthritis and many others affect women during child bearing period. Every pregnancy in a patient with CTD should be regarded as a high risk one. The study aimed at finding out the effect of CTD on pregnancy, the maternal and fetal outcome, early diagnosis of complications and prevention of adverse outcome.

Methods An observational study of pregnant women attending outpatient and inpatient department of obstetrics and rheumatology over a period of 26 months. A total of 26 patients were enrolled.

Results Out of 26 cases, 15 were having SLE, 8 were antiphospholipid antibody syndrome, 1 was polymyositis/dermatomyositis. 50% had a live birth, 38.5% had a termination of pregnancy, 11.5% had MTP, 3.85% had neonatal death. Of the total live births, 84.6% had to be delivered by caesarean section. 19.5% had IUGR. HEELP syndrome in 19.2%, flare in 15.4%, pre-eclampsia in 11.5%. Of the total SLE patients, 40% ended in a termination of pregnancy, 26.7% had flareup, 20% had hypertension. The live birth rate of SLE was 40%, 20% of them were premature and needed NICU admission. 20% of the neonates had IUGR. 8 of the mothers with SLE had active disease at the time of conception. 62.5% of those with active disease had a terminaton of pregnancy and 37.5% had a flare in the disease activity. Out of 8 cases of primary APLAS 50% had a termination of pregnancy, 50% had hypertension and its complications. Live birth rate in primary APLAS was 25%. Two mothers had to get the pregnancy terminated in primary APLAS. Only one neonatal death in the study group.

Conclusions Women with CTD and pregnancy require an interdisciplinary setting addressing all aspects of rheumatology, obstetrics and neonatology. This includes particular diagnostic tools and lab parameters prior to and during pregnancy and postnatal period. Strict monitoring during all trimesters need to be performed.