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## PM.52 DIAGNOSTIC ACCURACY OF SPOT PROTEIN CREATININE RATIO(PCR) IN COMPARISON TO 24 HOUR URINE PROTEIN

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**Objective** To review the use of spot protein creatinine ratio as a diagnostic test for preeclampsia in comparison to 24 hour urine.

**Methods** This was a retrospective observational study on 100 pregnant women referred to the day assessment unit with new onset hypertension. A spot test for PCR and a 24 hour collection were commenced at the same time. Patients with renal disease, proven UTI and diabetes were excluded. Data was analysed using Microsoft Excel. Significant proteinuria was defined as a PCR value of 30 mg/mmol and 300 gms/24 hours or more with 24 hour urine. With 24 hour urine as a standard, having excluded the under and over collections, the co-relation between PCR and 24 hour urine protein was determined by Spearman co-relation coefficients. The sensitivity, specificity, NPV and PPV were calculated.

**Results** Of the 100 women, 7 were excluded due to proven UTI 43 patients were subsequently excluded as the 24 hour urine collections were incomplete as deemed by the urinary creatinine excretion. Among the rest of the 50 patients, The PCR values were found to correlate well with the 24 hour collection results. The test is found to have a sensitivity of 90% and a specificity of 84% with a positive likelihood ratio (LR) of 5.2 and a negative LR of 0.1.

**Conclusion** The 24 hr collection is cumbersome, time consuming and there can be errors in collection, while the spot PCR test compares very well to the 24 hour protein test, is easier to perform.

## PM.53 CRADLE: COMMUNITY BLOOD PRESSURE MONITORING IN RURAL AFRICA: DETECTION OF UNDERLYING PRE-ECLAMPSIA

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**Introduction** In developing countries pre-eclampsia is underdetected partly due to inadequate training in accurate blood pressure (BP) measurements and insufficient equipment. CRADLE is an international study to evaluate whether the introduction of novel, low-cost, automated BP devices into rural clinics in Tanzania, Zimbabwe and Zambia increases referrals for suspected pre-eclampsia to a central referral hospital. This will be reflected in an increased mean BP in pregnant women presenting centrally.

**Methods** Prospective longitudinal pre- and post-intervention study. BP measurements were taken from consecutive women ≥20 weeks gestation who accessed care at a referral site (N = 694). Intervention: 20 BP devices were distributed to 20 rural antenatal clinics in each country. Post-intervention data was collected the following year (N = 547).

**Results** After adjustment for confounders, there was a significant increase in our primary outcome, post-intervention mean diastolic BP, for all women, implying an increased proportion of referred hypertensive women (2.39 mmHg, p < 0.001, 95% CI 0.97–3.8) and a reduction in proportion of women (median gestation 35 weeks) who had never previously had a BP in pregnancy, (25.1% to 16.9%, OR 0.58, p = 0.001, CI 0.42–0.79). In Zimbabwe there was an additional significant increase in the proportion of women who had sustained hypertension (12.8% to 21.3%, OR 1.09, p = 0.03, CI 1.06–3.43).

**Conclusion** Equipping low-skilled community health providers with a novel BP device is feasible and widely accepted, and increased community referrals for suspected pre-eclampsia. A cluster RCT to evaluate the effect of these monitors equipped with traffic light early warning systems, on maternal and fetal outcomes is planned.

## PM.54 SUCCESSFUL TREATMENT OF TWO CASES OF SEVERE AORTIC STENOSIS IN PREGNANCY

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**Introduction** Severe aortic stenosis can result in collapse and sudden death. Cardiac morbidity during pregnancy is related to the severity of the stenosis and symptoms.

**Patient A** Patient A was 41 years old with known aortic stenosis and a dilated aortic root (5 cm). At 15 weeks gestation she developed dyspneoa and chest pain. An echocardiogram was performed, which showed an aortic valve gradient of 82 mmHg with a dilated aortic root. She was transferred to a tertiary unit and balloon valvuloplasty was performed, resulting in improvement of the aortic valve gradient from 82 mmHg to 50 mmHg and in symptoms. The pregnancy progressed well and she was delivered by Caesarean Section at 38 + 3 because of the dilated aortic root.

**Patient B** Patient B was 25 years old with a known bicuspid aortic valve and previous treatment to coarctation of the aorta. An echocardiogram at 16 weeks gestation demonstrated an aortic valve gradient of 120 mmHg. She was admitted urgently. A balloon valvuloplasty was attempted but was unsuccessful. She was counselled regarding treatment options, which included doing nothing and risking sudden death, valve replacement or termination of pregnancy. The patient opted for a valve replacement with a prosthetic valve. She had labour induced and a vaginal delivery at 37 weeks.

**Conclusion** Both women had successful treatment of aortic stenosis in pregnancy, reducing their risk of cardiac morbidity and maternal mortality. Close multidisciplinary working between specialist obstetric and cardiac teams is necessary to provide the most appropriate management.

## PM.55 DEVELOPING AND DEFINING AUDITABLE STANDARDS OF CARE FOR OBSTETRIC WOMEN ADMITTED TO ITU: COMPLETING THE AUDIT CYCLE

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There are many reports and recommendations in maternity care with some confusion and lack of clarity. Standards are available from confidential reports in maternal deaths, Clinical Negligence Scheme for Trusts, Safer Child Birth, Maternity Critical Care Working group and local trust guideline. There are local & national concerns about recognising and managing sick mothers and need for regular audit of services.

We aimed to develop and define auditable standards of care for obstetric women requiring ITU admission at Queen Elizabeth Hospital Kings Lynn NHS Foundation Trust.

In our first retrospective audit of fifteen obstetric women admitted to ITU over a period of two years, services were assessed using CNST standards 2.9, 4.8, 5.10. This audit highlighted poor documentation and difficulty in identifying evidence. Recommendations were made including defined auditable standards and a named person to ensure compliance. Local guidelines were revised. From recommendations we identified twelve auditable standards. Documentation of clearly defined reason for transfer to ITU, daily multidisciplinary review, SBAR (situation, background, assessment, recommendation) handover, entry level of ITU, length of stay, discharge criteria, outreach follow up and clinical incident form were assessed.

A repeat audit of eight obstetric ITU admissions in next twelve months was completed. Retrospective case notes review was conducted by the same person. Re audit confirmed improved documentation however extracting evidence continued to be difficult.

Numerous national guidance and standards can be confusing however it is possible to identify local auditable standards to improve care and assessment of care.

## PM.56 AUDIT OF CARE OF CRITICALLY ILL PREGNANT WOMEN

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**Aim** To review series of critically ill obstetric patients admitted to ITU and to formulate a guideline for the care of these women.

**Background** The women who become critically ill during pregnancy should receive the same standard of care for both their pregnancy related and critical care needs, delivered by professionals with the same level of competences irrespective of whether these are provided in a maternity or general critical care setting.[1]

**Methods** Retrospective study of 55 women who were admitted to critical care unit from 01/01/2006 to 31/12/2011.Patients were identified by ITU database.

**Results** Average ITU stay was 1–2 days in 50% of cases. 92% of patients were admitted postpartum. Massive obstetric haemorrhage (54%), sepsis (13%), Pre eclampsia/HELLP/Eclampsia (11%) and swine flu (5.4%) were the main indications.55% of the patients were mechanically ventilated.100% compliance with MEWS chart was observed. The most common interventions were arterial line (64%) and CVP line (35%). VTE assessment on admission to ITU was observed in 65%, daltaparin (74%) and TEDS (74%) of cases. One case of group A streptococcus was seen. Maternal mortality was nil. Debriefing of the family (61%) and debriefing of patient (78%) cases. Datix completed (10%), external transfer (5.4%) cases.

**Conclusions** Massive obstetric haemorrhage, sepsis and pre eclampsia are the main reasons for admissions.

**Recommendations** Documentation of patient and family debrief needs to be improved. All these women should be seen in gynaecology follow up clinic for debriefing. Guidelines for critically ill pregnant or recently pregnant women and sepsis in pregnancy and puerperium should be formulated.

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## PM.57 REFRACTORY SVT IN THE THIRD TRIMESTER OF PREGNANCY: MANAGEMENT DILEMMAS

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The most frequently encountered arrhythmia, commonest in women of reproductive age, is paroxysmal supraventricular tachycardia (SVT). Atrio-ventricular nodal re-entry and Wolf-Parkinson-White syndrome account for the majority of these (1). Evidence for treatment during pregnancy is scarce due to the lack of research in this group of patients and limited information on the safety of anti-arrhythmic drugs in pregnancy. Much of the current evidence is based on case reports, animal studies, observational studies and clinical experience however, several methods appear to be reasonably safe for the patient and the fetus (2). There is limited evidence regarding the safety and use of DC cardioversion in pregnancy (3,4). Particular consideration is required to be given to the gestation and the risks of delivery when considering the various treatments including choice of routinely used first to third line antiarrhythmic agents and DC cardioversion for the more refractory situations. We describe a case of refractory SVT in a patient with a failed ablation for WPW syndrome presenting in the third trimester of pregnancy. This case highlights several management dilemmas including decisions regarding choice and dose of pharmacological agents, planning a Caesarean section for delivery of fetus prior to DC cardioversion that was required and particularly emphasises good practise with a multidisciplinary team approach at every stage of the management process.

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## PM.58 CLINICAL OUTCOMES IN PREGNANT WOMEN NEWLY RECLASSIFIED AS GESTATIONAL DIABETES (GDM) USING IADPSG CRITERIA

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**Background** There are widespread concerns about the potential resource implications of implementing the International Association of the Diabetes and Pregnancy Study Group (IADPSG) criteria for diagnosing GDM. However, another important consideration is the risks facing undiagnosed cases if the new criteria are not adopted. In our unit, since 2006 we have offered a 3 point OGTT [fasting, 1 & 2 hours]. Hence our projected increase in number of GDM cases is solely related to the lower IADPSG fasting threshold [5.1] and not it's addition of a 1 hr threshold.

**Aims** To identify women with 75 g OGTT fasting levels between IADSPG and WHO thresholds [5.1–5.9], and normal 1–2 hour levels. To ascertain the extent of diabetes related outcomes in these undiagnosed cases.

**Materials and Methods** Retrospective study of OGTT results for all women who delivered in our unit between 1st January 2009 and 31st December 2011. Outcome data for 129 selected cases was obtained from our Protos Maternity information system.

**Results** All deliveries ended in live births but the fetal macrosomia rate (>4 kg) was 30% [39/129]. Using a cut off of 4.5 kg the macrosomia rate was 5.4%. The caesarean section rate for macrosomic babies was 23% [9/39]. Neonatal hypoglycaemia was diagnosed in 6.2% [4/129] of the babies and 3.1% [4/129] needed immediate admission to NICU. However, none of the admissions to NICU were directly related to neonatal hypoglycaemia.