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ORAL PRESENTATIONS

FIRST TRIMESTER MATERNAL URINARY METABOLOMIC PROFILE TO PREDICT MACROSOMIA

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Fetal macrosomia is associated with an increase in adverse obstetric outcome and also confers a future risk of childhood obesity. Metabolomics is a novel technology studying small molecule metabolite profiles in biological samples. The aim of this study was to determine if early pregnancy urinary metabolomic profile could predict macrosomia amongst mothers subjected to pregnancy dietary intervention.

Women were recruited as part of an ongoing randomized control trial of maternal low glycaemic index (GI) diet in the prevention of macrosomia. Fasting first trimester urine samples from 27 women in the intervention arm prior to commencing a low GI diet were analysed using NMR spectroscopy.

Principal component analysis of the first trimester urine showed significant separation in spectra according to birth weight. PLS-DA analysis was employed and a significant model separating subjects according to birth weight was built (9 delivered infants with birth weight >4.5 kg and 18 delivered infants with birth weight <4.5 kg). 18 spectral bin regions were found to be significantly different between the two groups.

This preliminary data shows a significant difference in the urinary metabolomic profile of the women who subsequently delivered a macrosomic baby compared to those who delivered infants with a normal birth weight. This novel technology has the potential to identify from early pregnancy women likely to respond to dietary intervention in the prevention of macrosomia. Worldwide infant and childhood obesity is a major health concern. These findings hold great potential to allow for pregnancy interventions to reduce infant obesity.

EARLY PREGNANCY ASSESSMENT UNIT AT CAVAN GENERAL HOSPITAL CAVAN

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Early pregnancy assessment unit was started in June 2007 at Cavan General Hospital. Prior to June 2007 early pregnancies were seen in casualty. Referral criteria is by GP, Accident and Emergency, self referral, ward admissions and group of patients for follow up beta HCG. Patients are seen up to 14 weeks of gestation during week days. Since 2007 the number of patients is progressively increasing. In 2007 total numbers of patients were seen 714, in 2008 total 1,023 patients, in 2009 total 1,514 patients and up to September 2010 1,329 patients were seen. Source of referral was casualty mainly in 2007 which changed to GP referral now in 2009–2010. Full complete data is available for 2009. In 2009 53% new patients attended early pregnancy assessment unit, 32%

reviews and 13.92% for follow-up bloods. The outcome in 2009 was 58% viable pregnancy, missed miscarriage 11%, incomplete miscarriage 4.8%, complete miscarriage 8.3%, inconclusive 12%, pregnancy of unknown location 3.38% and ectopic pregnancies 0.5%. In 2009 9.7% patients were admitted and 90.3% were discharged home.

ACCURACY OF PREOPERATIVE CT IN THE DETECTION OF LYMPH NODE METASTASES IN WOMEN UNDERGOING SURGERY FOR ENDOMETRIAL CANCER

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The lymph node status of a patient is a key determinate in staging, prognosis and adjuvant treatment of endometrial cancer. Despite this, the potential additional morbidity associated with lymphadenectomy makes its role controversial. The purpose of this audit was to look at the accuracy of preoperative CT in the detection of histologically confirmed lymph node metastases in women undergoing surgery for endometrial cancer.

A retrospective audit of notes of women diagnosed with endometrial cancer between April 2008 and August 2010 was carried out. Preoperative CT was compared with post operative lymph node histology.

CT was found to have a sensitivity of 26%, a specificity of 96%, a positive predictive value of 44% and a negative predictive value of 90% in the detection of lymph node metastases in women with endometrial cancer undergoing surgery. These findings are in keeping with published data [1, 2].

The sensitivity and positive predictive value of CT in detecting lymph node metastases suggest that CT is a poor predictor of nodal disease. Lymphadenopathy is defined radiologically as a lymph node diameter greater than 10 mm. Micrometastases are not seen on CT. Positron Emission Tomography-computed tomography (PET-CT) may prove a more accurate means of assessing lymph node status.

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DO CHILDREN HEAL THEIR MOTHER’S WOUNDS?

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Fetal cells persist in mothers for decades after delivery; in a phenomenon called fetal microchimerism. While persistent fetal cells were first implicated in autoimmune disease, studies now suggest instead that microchimeric fetal cells play a role in the response to tissue injury. The aim of this study was to determine whether microchimeric fetal cells improve wound healing after pregnancy.

Skin biopsies were taken from Caesarean sections scars and compared with laparotomy wounds in nulliparous women. Blinded histological analysis of scar tissue by a consultant Histopathologist in Hematoxylin and Eosin (H&E) measured differences in wound healing between the groups. XY-FISH (fluorescence in situ hybridisation) was used to locate and quantitate microchimeric male presumed-fetal cells.

H&E comparisons suggested that wound healing improves after pregnancy. There were few differences between healed scars and uninjured skin. Elastin stain showed up to 50% of positive staining in the scar tissue, confirming that the scar not only restores normal structure but almost normal function after pregnancy. XY-FISH confirmed the presence of isolated 0–9 male fetal cells per section in the epidermis of the healed CS scars. To investigate the fetal cell type responsible, combined FISH and immunostaining experiments are still in progress.

This study may demonstrate that wound healing is more fetal-like (scarless) after pregnancy and provide information on the long-term benefits of pregnancy.

ANTEPARTUM HAEMORRHAGE AND ADVERSE PREGNANCY OUTCOMES—A PROSPECTIVE AND REGISTRY BASED STUDY

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Antepartum haemorrhage is defined as bleeding from the genital tract in pregnancy which occurs after 20 completed weeks of gestation. Research surrounding APH and pregnancy outcomes has been mainly retrospective work. It suggests that APH is associated with higher rates of adverse pregnancy outcomes. The objectives of this study were to prospectively study women experiencing APH to ascertain if such pregnancies are truly high risk.

This is a prospective study conducted at CUMH, Ireland, from June 2009 to 2010. Cases were identified in the Emergency Room and controls were selected from the NPEC database. Visual blood loss charts were used to aid in assessing volume of blood lost and a datasheet was completed on each patient, together with ongoing monitoring of blood loss during inpatient stays.

84 patients were recruited to the original group. 797 patients made up the NPEC exposed group. Data from these groups was compared against 7,715 controls identified in the NPEC database. No significant difference in birthweight, mode of delivery, term induction rate or NICU admission rate was found between the groups. Statistically significant differences in rates of preterm delivery were found with a fourfold increase in preterm birth in the original exposed group when compared with controls.

This study has identified that women experiencing APH are four times more likely to experience preterm birth in that pregnancy. This information is important for both patients experiencing this pregnancy complication and clinicians involved in their care.

ECSSIT—ELECTIVE CAESAREAN SECTION SYNTOCINON® INFUSION TRIAL A MULTI-CENTRE RANDOMIZED CONTROLLED TRIAL OF OXYTOCIN (SYNTOCINON®) 5 IU BOLUS AND PLACEBO INFUSION VERSUS OXYTOCIN 5 IU BOLUS AND 40 IU INFUSION FOR THE CONTROL OF BLOOD LOSS AT ELECTIVE CAESAREAN SECTION

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As caesarean section rates escalate worldwide, the risk of maternal death from haemorrhage increases. The value of routine oxytocics in the third stage of vaginal birth has been well established, with the assumption that the benefits also apply to caesarean delivery. A slow bolus of oxytocin is recommended after delivery of the baby at caesarean section with some clinicians using an additional oxytocin infusion. We assessed the effect of an additional oxytocin infusion on the control of blood loss at elective caesarean section.

In this double-blind, placebo-controlled trial, women delivered by elective caesarean section were recruited from five centres in Ireland. 2,069 women were randomly assigned by a computer-generated web-randomization system, stratified by centre and by previous caesarean section to 5 iu oxytocin bolus and placebo infusion or 5 iu oxytocin bolus and 40 iu oxytocin infusion. Primary outcomes were rates of major obstetric haemorrhage (blood loss > 1,000ml) and need for an additional uterotonic agent. Analysis was by intention to treat.

No difference was detected between the groups in the rate of major obstetric haemorrhage (oxytocin infusion 158, 15.7%, vs. placebo 159, 16.0% $p = 0.85$). The need for an additional uterotonic agent was lower in the oxytocin group compared to the placebo group (126, 12.2%, versus 189, 18.4% $p < 0.001$). Side effects did not differ between the two groups.

The addition of an oxytocin infusion after caesarean delivery reduces the need for additional uterotonic agents but does not affect the rate of major obstetric haemorrhage. (Current Controlled Trials number ISRCTN17813715).

EFFECT OF LMWH PROPHYLAXIS ON THROMBIN GENERATION POST-CAESAREAN SECTION

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Caesarean section (CS) is a risk factor for venous thromboembolism, the leading cause of maternal mortality. Low molecular weight heparin (LMWH) is used for thromboprophylaxis in post CS delivery. Anti-Xa level is used to monitor LMWH activity. However, measures of thrombin formation may indicate the full anticoagulant activity of LMWH than anti-Xa alone.

24 h anticoagulant activity of a prophylactic dose of tinzaparin (4,500 IU/day) was measured in healthy women post caesarean section compared with women post spontaneous vaginal delivery (SVD) using anti-Xa, tissue factor pathway inhibitor (TFPI), thrombin anti-thrombin complex (TAT) and endogenous thrombin potential (ETP).

Tinzaparin produces a peak anti-Xa activity at 4 h before dropping sharply at 10–24 h. In vivo thrombin production (as measured by TAT) is significantly reduced from 4 to 24 h post treatment despite declining of anti-Xa levels ($P < 0.001$). In women post CS, peak thrombin generation and ETP were significantly reduced at 4 h post tinzaparin ($P < 0.001$; $P < 0.001$) and increased to pre-delivery levels 10–24 h post tinzaparin dose. In the post CS group, TFPI levels mirror anti-Xa levels during the 24 h following treatment. After delivery, ETP and peak thrombin production in the tinzaparin treated CS group remained below levels found in the SVD group ($P < 0.001$; $P < 0.01$). TAT levels were higher in the CS group before tinzaparin treatment but reduced to levels comparable to the SVD group following treatment.

In women post CS, anti-Xa levels do not reflect the full anticoagulant profile of tinzaparin and thrombin production is effectively reduced even when anti-Xa levels are negligible.

FOURIER TRANSFORM INFRARED MICROSCOPY CAN SEGREGATE DIFFERENT TYPES OF EXFOLIATIVE CERVICAL CYTOLOGY. A NOVEL SCREENING TECHNIQUE

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Current screening methodologies for precancer of the cervix involves, sampling exfoliated cervical cells, and then using liquid based cytology. The implementation of cervical screening programmes has been highly successful yet the PAP smear used lacks sensitivity and specificity. It has a sensitivity of 59% and a specificity of 69% [1]. Cytology is laborious and expensive. There is a need to replace it with a robust, cheap and less laborious method of screening.

Cervical cytology samples were collected in Thin Prep (Preserv CytTM). The samples were centrifuged at 1,500 rpm for 5 min and the supernatant was removed. A further three washes were done and the sediment was dried on an IR slide. Fourier Transform Infrared Microscopy (FTIR-ATR) was employed on a prepared sample of exfoliative cervical cytology. These slides were placed under a diamond crystal and exposed to IR rays. Ten readings were obtained

from each slide. The Infrared rays on the cervical cells produced a biochemical fingerprint from the absorbance and reflectance of rays from the biochemical components of the cells.

The use of these biomarkers in the IR spectral region of 1,200 cm⁻¹ -950-1 [2], namely carbohydrates, phosphate and glycogen facilitated the differentiation between different categories of cervical cytology namely normal, low grade and the high-grade variety.

Three hundred samples were collected. All samples had a cytological diagnosis. They were then examined by FTIR-ATR. Statistical analysis was done using PCA-LDA. This work demonstrates the potential of ATR micro spectroscopy coupled with multivariate analysis to be an objective alternative to the PAP smear.

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WHEN IDENTICAL TWINS ARE DIFFERENT

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Classically monozygotic (MZ) twins are considered identical. However, there are a number of cases of MZ twins concordant for genotype but not phenotype. A review of these cases was performed in our institution.

Patients who had monozygotic twin pregnancies discordant for fetal anomalies with normal karyotype were identified from the FAU database of the Rotunda Hospital between January 2006 and October 2010. A retrospective chart review was performed of all pregnancies who met this criteria.

Ten pairs of monozygotic twins who were genotypically identical but phenotypically different were identified. Average maternal age was 29.5 years. 90% were spontaneously conceived and all had ultrasound assignment of chorionicity prior to 16 weeks gestation. Discordant anomalies detected by ultrasound included two cystic hygromas, one duodenal atresia, two spinal abnormalities, one anencephaly, one mega cisterna magna with absent cerebellum, one Congenital Diaphragmatic Hernia, one Gastroschisis and one bilateral hydronephrosis. 80% confirmed normal karyotype with invasive testing. Two patients underwent laser ablation of connecting vessels in the UK and this was associated with intrauterine demise of the affected twin. Regarding outcomes of the other pregnancies, three had intrauterine death of both twins, and interestingly in two of these pregnancies the affected twin had a cystic hygroma. The twin with CDH had an early neonatal death.

This is an interesting series which highlights the non-identical nature that can occur in monozygotic twin pregnancies. Emerging data shows that there are different types of genetic/epigenetic and prenatal post-zygotic mechanisms that can cause discordance within such twins.

REVIEW OF MANAGEMENT OF POSTMENOPAUSAL BLEEDING

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Endometrial cancer is the second most common gynaecological malignancy in Ireland (National Cancer Registry Ireland 2009). The majority of women with endometrial cancer are postmenopausal and present with endometrial bleeding.

The aim of this review is to investigate the clinical pathways in Cork University Maternity Hospital for women with postmenopausal bleeding and their outcomes. We carried out retrospective review of all charts of women presenting with post-menopausal bleeding over a six-month period from 01/01/09 to 30/06/09 to the outpatient department of Cork University Maternity Hospital.

A total of 83 women presented in the audit period for assessment of postmenopausal bleeding. This represented 3.4% of all attendances to the gynaecology department. The mean age was 59 years (50–78). The average waiting time for assessment was 5 weeks (range 1–19 weeks). Transvaginal ultrasound was carried out in 63 (76%) women while 19 (23%) women had an inpatient hysteroscopy under general anesthesia as a first line investigation. A total of 26 (31.3%) women were assessed in a one stop postmenopausal bleeding clinic with transvaginal ultrasound, outpatient hysteroscopy with or without endometrial biopsy. A diagnosis of endometrial cancer was made in 5 (6%) women, which is consistent with the risk quoted in the literature.

At present in Cork University Hospital management of these women is adhoc with no agreed clinical care pathway. Thus there is varied order of investigations, length of time waiting for first assessment, and varying times to completion of assessment.

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NEONATAL OUTCOME IN PREGNANCIES COMPLICATED BY GESTATIONAL DIABETES

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The incidence of gestational diabetes increasing in Ireland. This rise has been attributed both to an epidemic of obesity and to increasing ethnic diversity. Given the exponential rise in patients identified as having gestational diabetes, we sought to evaluate neonatal morbidity in a consecutive cohort of 137 women with gestational diabetes who attended the combined Obstetric-Endocrine service from January to December 2009.

A prospective cohort study of women identified as having gestational diabetes during pregnancy was conducted. 137 women were recruited and gave informed consent for prenatal, perinatal and neonatal outcome data to be recorded. Neonatal outcome data was compared between those women who were managed with diet alone and those who required insulin therapy.

138 infants were included in the study including five sets of twins. There was one intrauterine death. No cases of shoulder dystocias either in the insulin or in the diet-treated group. Perinatal outcomes are depicted in Table 1.

Outcome	Total (n = 138)	Insulin group (n = 52)	Diet group (n = 86)
Apgar <7 at 5 min	1 (0.7%)	1 (1.9%)	0 (0%)
Admission to NICU (13.9%)	20 (14.4%)	8 (15.3%)	12
Respiratory distress requiring admission	9 (6.5%)	4 (7.6%)	5 (5.8%)
Sepsis	3 (2.1%)	2 (3.8%)	1 (1.1%)
Hypoglycaemic episode (blood glucose <2 mmol)	7 (5%)	1 (1.9%)	6 (6.9%)
Jaundice req. phototherapy	7 (5%)	3 (5.7%)	4 (4.6%)
Intraventricular haemorrhage	0 (0%)	0 (0%)	0 (0%)
Structural congenital anomalies	10 (7.2%)	5 (9.6%)	5 (5.8%)
Birthweight >4.5 kg	3 (2.1%)	3 (5.7%)	0 (0%)
Head circumference >98th centile	15 (10.8%)	8 (15.3%)	7 (8.1%)

Episodes of neonatal hypoglycaemia were recorded more commonly in the diet-treated group, likely as a consequence of more controlled intrapartum management of GDM in the insulin-treated group. Neonatal morbidity requiring NICU admission was recorded in 20 (14%) of the total cohort. In addition, the incidence of structural congenital anomalies, both in the diet- and insulin-treated groups was higher than anticipated. This data serves to highlight the persistently high perinatal morbidity associated with a prenatal diagnosis of gestational diabetes.

UMBILICAL ARTERY PH: IS IT A GOOD PREDICTOR OF HIE AND ADVERSE NEONATAL OUTCOME?

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A low blood pH in the umbilical artery and the presence of severe encephalopathy are considered to be the best predictors of a long term adverse outcome in newborn infants. Umbilical artery pH of less than 7 appears to be an important component of a definition of birth asphyxia or hypoxia to a degree of severity that might be associated with subsequent neurological dysfunction.

We did an audit to determine the relationship of umbilical cord pH for adverse neonatal outcome and to identify the risk factors contributing towards it.

In a retrospective study in CWIUH from February 2007 to August 2009 in babies born to mothers over this period were studied. Information retrieved from perinatal/neonatal database was used to obtain umbilical cord pH, incidence of adverse neonatal outcomes and patient demographics for all term. Statistical analysis of odds ratio and *p* values were used to determine significance.

Among the 76 neonates that were identified with an arterial cord pH of <7 at birth, only 18 were diagnosed with HIE 1, five with HIE 2 and one with HIE 3. All cases with HIE 1 made an uneventful recovery and had a normal neurodevelopmental outcome at 4 month of age. All except one of five cases of HIE 2 had a normal auditory

and neurodevelopmental examination at 6 months of age. HIE 3 was seen only in one case, cord pH at delivery was 6.6. The baby failed to survive. HIE 2–3 is not always associated with a cord pH <7.

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MODE OF DELIVERY AFTER PREVIOUS ANAL SPHINCTER INJURY (ASI): ROLE OF THE PERINEAL CLINIC

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ASI raises challenges regarding subsequent mode of delivery (MOD).

This retrospective study addressed the role of the perineal clinic in assessing and counselling women and reviewed actual MOD and perineal trauma outcomes.

22 patients were pregnant after ASI and attended for advice between 1/1/10 and 31/9/10. Data were obtained for 19 patients.

The mean age was 30 years (range 23–41). 84.2% of patients had only had one previous delivery (range 1–3). 7 women (36.8%) admitted to immediate postpartum complications following the last delivery [faecal incontinence 2 (10.5%), flatal incontinence 1 (5.3%), perineal pain 5 (26.3%) dyspareunia 2 (10.5%). 18 (94.7%) had attended for physiotherapy and 5 (26.3%) had seen a colorectal surgeon.

Patients were assessed between 16 and 35 weeks gestation. 1 patient unfortunately had a mid-trimester miscarriage. 3 women (15.8%) had incontinence symptoms (all had CS). When asked about preferred MOD, 8 women (44.4%) preferred vaginal delivery (VD), 8 women (44.4%) said they would prefer CS and 2 women (11.1%) were unsure. Both of these women opted to anticipate vaginal delivery following discussion.

15 women have delivered to date. 8 (53.3%) vaginally, and 7 have undergone CS (46.7%). 1 woman who delivered vaginally sustained a 3rd degree perineal tear and 1 describes flatal incontinence.

This study evaluated the role of the perineal clinic in discussing MOD with patients with previous ASI. We suggest it may be appropriate to identify the patients own preferences. Vaginal delivery is often appropriate, it is important to advise regarding repeat ASI.

“THAT WAS THEN, THIS IS NOW.” THE EFFECT OF INTRODUCTION OF AN EARLY WARNING SCORE SYSTEM: A RETROSPECTIVE COHORT STUDY OF MATERNAL MORBIDITY AT OUR LADY OF LOURDES HOSPITAL, DROGHEDA

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Objective: To assess maternal morbidity management over two 6-month periods pre- and post-introduction of Physiological Observation Track and Trigger System, to validate its use.

Study design: A retrospective cohort study for 6 months pre-POTTS (2007) and 6 months post-POTTS (2009) was undertaken at Our Lady of Lourdes Hospital (OLOLD), a unit with over 4,000 deliveries per year. Patients from 2007 were allocated POTTS scores using documented observation measurements to compare with scores from 2009. With respect to end-points, documentation of observations, timing and level of obstetric medical involvement, triggering event, actions triggered were all documented. Statistical analysis used Chi-square and Independent *t* test.

Results: 49 and 61 cases of maternal morbidity were identified in each year. Postpartum haemorrhage (PPH), pre-eclampsia (PET), HELLP syndrome, sepsis, and antepartum haemorrhage (APH) represented 99 and 87% of admissions. Observation documentation was better with POTTS. A POTTS score of 6 or more was significantly associated with higher level of medical involvement ($p < 0.05$). Most PPH cases were diagnosed at delivery and managed based on “clinical picture” not POTTS. POTTS was useful in patients with pre-eclampsia, sepsis or secondary PPH where altered trend in observations affected the management of patients.

Conclusion: POTTS scoring is a very useful screening tool in obstetric patients to detect those at risk of morbidity. The system ensures accurate documentation of observations. It is difficult to validate a test on such low numbers: we hope our prospective study will show our endeavour to improve maternal outcome to be effective.

A 10-YEAR CASE REVIEW OF CHORIOCARCINOMA

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Choriocarcinoma is a rare malignant form of gestational trophoblastic disease. We reviewed all cases presenting to a tertiary referral hospital over a 10-year period (2001–2010).

This is a retrospective case review. Information was gathered from patient charts and recorded in an electronic database. The FIGO prognostic scoring system [1] was used to correlate our findings. It grades prognosis according to various risk factors; including age, and pre-treatment β -hcg levels.

Six cases of choriocarcinoma presented over the period examined. The average age at presentation was 38 (range 25–45). The most common presentation was vaginal bleeding (66%). 2/6 followed full term pregnancies, with the remainder occurring after molar pregnancies. There was one case of cervical tumour, the remainder being uterine. β -hcg levels on presentation ranged from 35,000 to 1,800,000 iu. Pulmonary metastases were found in five cases, with no cases of brain metastases. 5/6 were high risk on presentation, according to the FIGO scoring system. 4/5 received EMA/CO chemotherapy regimen (methotrexate, dactinomycin, etoposide, cyclophosphamide and vincristine). 1/6 was referred to a peripheral hospital for treatment. 1/6 was treated with single agent methotrexate but later received EMA/CO due to disease recurrence. 2/6 (33%) had hysterectomies.

In conclusion, a total of six cases of choriocarcinoma were found in a 10-year period. 100% of cases had raised β -hcg levels on presentation, but there was no correlation between β -hcg level and disease severity. All cases had a good outcome following treatment,

with β -hcg returning to normal levels. One patient is still undergoing chemotherapy.

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CHANGING RATES OF ANTEPARTUM DEATH AND ATTITUDES TO POSTMORTEM OVER A 10-YEAR PERIOD

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Determining cause of death following an antepartum death (APD) is a vital part of understanding the clinical scenario. A post-mortem is required to clarify the diagnosis. We retrospectively examined rates of APD in all fetuses over 24 weeks in 2 large tertiary hospitals over a 10-year period, and measured rate of post-mortem in these cases of APD.

The study was carried out retrospectively looking at APDs between 1999 and 2008 in two large tertiary hospitals serving a single urban population. Both hospitals have comparable rates of perinatal morbidity and mortality. Post-mortem is offered in all cases of APD, at parent's discretion. All APDs considered were unexpected with no known congenital abnormality and all fetuses appeared structurally normal.

During the study period there were 150,574 deliveries between the two hospitals—69,741 in hospital A, 80,833 in hospital B. There were 669 APDs (4.5/1,000 deliveries), 5.1/1,000 from 1999–2003, and 3.9/1000 from 2004–2008. The rate of unexplained APDs or deaths attributed to hypoxia decreased from 42.7% of all APDs 1999–2003 to 30.1% 2004–2008. Abruptio (17.5%) was the leading documented cause of APD. Post-mortem was refused by 34.8% of parents 1999–2003 and 29.2% 2004–2008.

This study shows a decreasing rate of APD in the last 10 years among the two institutions. This may be credited to improving standards of care and fetal assessment. The number of unexplained or hypoxic APDs decreased significantly during this time which may be due in part to the improving post-mortem rate.

EXERCISE IN PREGNANCY—SHOULD WE DO MORE?

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Regular exercise is promoted for both its overall and obstetric health benefits. Both the Royal College of Obstetricians and Gynaecologists and the American College of Obstetricians and Gynaecologists recommend that 30 min of moderate intensity physical activity, on most,

if not all days of the week should be promoted. The aim of this study was to assess the level of physical activity during pregnancy in a cohort of healthy women with no contraindications to exercise in pregnancy.

This is a prospective observational study. Women were recruited at first antenatal booking consultation having had a previous healthy pregnancy and no underlying medical conditions. Women were asked to fill out a validated questionnaire at 28 weeks gestation which ascertained average weekly physical activity including walking and housework.

A total of 358 women participated. The mean body mass index of the group was 26.7 kg/m². Overall only 77 women (21.5%) met current recommendations for exercise in pregnancy. Overall 12% ($n = 42$) of participants did not report any physical activity at all during pregnancy.

Our study has shown that only a small proportion of healthy women in pregnancy are meeting current recommendations for exercise in pregnancy. Both maternal weight and birth weights in Ireland are increasing. The implications of a sedentary lifestyle in pregnancy include increasing maternal weight gain and possible fetal macrosomia. We would like to discuss the role of the obstetrician in advising women of both the safety and benefits of maintaining an active lifestyle in pregnancy and beyond.

GHRELIN CONCENTRATIONS IN MATERNAL AND CORD BLOOD OF TYPE 1 DIABETIC AND NON-DIABETIC PREGNANCIES AT TERM

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Ghrelin is a 28-amino acid peptide and is the endogenous ligand for the growth hormone secretagogue receptor. It is involved in the control of food intake, energy balance and utilization of fat during pregnancy. We have previously shown leptin to be increased in cord blood of diabetic mothers in the third trimester. Our aim was to quantify and compare ghrelin concentrations in both maternal and fetal serum of diabetic and non-diabetic pregnancies at term.

Maternal EDTA samples were obtained at 36 weeks gestation and fetal samples from the umbilical vein at delivery. Ghrelin was measured by enzyme immunoassay (Ghrelin EIA kit; RayBiotech, Norcross, GA, USA). Clinical data was recorded prospectively. Statistical analysis was performed using Spearman's correlation and t tests.

Ten women with T1DM and ten non-diabetic women consented to participate in the study. There was no difference in maternal Ghrelin levels at 36 weeks gestation in non-diabetics 42.39 pg/ml (8–125 pg/ml) and T1DM 55.91 pg/ml (4–207 pg/ml) ($p > 0.05$). Fetal ghrelin was not higher in infants of T1DM mothers (72.92 pg/ml (3–171 pg/ml) when compared of non diabetic mothers (49.72 pg/ml (9–147 pg/ml) ($p > 0.05$). There was a significant correlation between maternal ghrelin and fetal ghrelin ($p = 0.046$).

This is the first time, to our knowledge, that ghrelin levels in the fetal serum of type 1 diabetic pregnant human subjects have been recorded. Significant differences in ghrelin levels between diabetic and non-diabetic groups were not found in either maternal or fetal serum. Maternal levels of ghrelin were found to significantly correlate with fetal levels.

AN ESTIMATE OF THE FINANCIAL COST FOR TREATMENT WITH CLEXANE AS PART OF THE IMPLEMENTATION OF NEW CLINICAL GUIDELINES FOR THE REDUCTION OF THE RISK OF THROMBOSIS AND EMBOLISM DURING PREGNANCY AND THE PUERPERIUM

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A prospective study over a 2-week period was conducted to determine the number of patients with different risk factors for venous thromboembolism for each new antenatal and postnatal recommendation set out in the new Royal College of Obstetricians and Gynaecologists' clinical guidelines. The cost of implementing the recommended treatments in comparison with the older version of similar guideline for the year was then estimated.

The table below shows the cost of the various groups with different risk factors for treatment with clexane (average cost £4.30 per day) over a 2-week period. All calculations from the 2-week study period were extrapolated to give a total cost for the year.

	Two week cost	Full year cost
Antenatal group	£2,756.00	£71,656.00
Assessment unit group	£1,224.00	£31,824.00
Post natal group	£1,340.00	£34,996.00
Caesarean section group	£953.61	£24,794.00
Obesity group	£321.00	£1,927.80
TOTAL	£5,322.00	£165,073.00

Based on the older guidelines the cost of the prophylactic treatment of venous thromboembolism risk factors was £10,626.00 (calculated as all Caesarean sections receiving 3 days of clexane postnatal). The new guidelines cost estimate was nearly fifteen times that at £165,073.00. Therefore the estimated cost of the implementation of the medical treatment alone recommended in the new guideline is £154,447.00.

THE TREATMENT OF MENORRHAGIA USING A COMBINATION OF ENDOMETRIAL ABLATION AND LEVONORGESTREL INTRAUTERINE CONTRACEPTIVE DEVICE—AN AUDIT OF PATIENT SATISFACTION AND OUTCOMES

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Menorrhagia affects 1 in 5 women and accounts for 21% of GP referrals to gynaecologists. The Levonorgestrel-releasing intrauterine device (LNG-IUS) is now the first line in management, quoting

80–90% success and 20–30% amenorrhoea. Second-generation balloon thermal ablation is also widely used, quoting success rates of 80–91% and amenorrhoea rates of 7–25%.

There is no study in the literature assessing the efficacy of a combination of the LNG-IUS (Mirena®) and endometrial ablation.

17 patients underwent hysteroscopy, dilatation and curettage, endometrial ablation and Mirena® coil insertion. Two patients were lost to follow up. One patient was excluded due to complex atypical hyperplasia requiring hysterectomy. The mean age was 42 years (range 31–47). All complained of menorrhagia. Nine patients (69%) had previously tried Mirena® coil.

The outcomes measures were amenorrhoea and side effects, each measured at 3, 6, 12 and 24 months. Overall satisfaction was also assessed.

Amenorrhoea occurred in 64% (9/14) at 3 months, 61% (8/13) at 6 months, 50% (3/6) at 12 months and 25% (1/4) at 24 months. Side effects occurred in 23% at 3 months (specifically cramping, acne and low mood). Overall satisfaction was very low in one patient who subsequently had a further endometrial ablation with no success and proceeded to vaginal hysterectomy 2 years later. Two patients were moderately satisfied and the remainder ($n = 10$) were highly satisfied with the outcome and of these, 8 had previously tried the Mirena® coil alone.

The high satisfaction rate with minimal side effects of the combined therapy merits a larger study.

ORAL METHOTREXATE FOR TREATMENT OF ECTOPIC PREGNANCY

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The use of a standard dose of 50 mg/m² intramuscular methotrexate for the treatment of ectopic pregnancy is the gold standard in medical management of ectopic pregnancy. However to deliver the volume needed with “single-dose” protocols two separate injections are frequently needed and cytotoxic drug protocols may be required. The use of a stable compound, which does not require handling precautions and can be administered without the need for multiple injections, would eliminate these problems. Methotrexate is available in an oral form that meets these requirements. Oral methotrexate has 85% bioavailability compared to intramuscular administration.

The purpose of this study was to evaluate success of treatment with a single standard dose of 100 mg of oral methotrexate tablets in the treatment of ectopic pregnancy. A retrospective review of treatment carried out over 2 years at the Early Pregnancy Unit in our hospital was carried out.

All diagnoses were confirmed by transvaginal ultrasound and serial hCG measurements. Seven had primary ectopic pregnancy and four were treated for persistent trophoblast post salpingotomy. Nine of 11 patients (82%) were treated successfully. The mean initial human chorionic gonadotrophin (hCG) titer at the time of treatment was 1,638 IU/L. The mean time for the hCG titers of treated patients to successfully fall below 2 IU/L was 29.9 days.

The results of this review suggest that a standard dose of oral methotrexate can be used successfully to treat ectopic pregnancy and persistent trophoblast disease after surgery.

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CAESAREAN BIRTHS ANALYSED BY BODY MASS INDEX (BMI), PARITY AND TYPE OF SECTION

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We studied the relationship between caesarean section (CS) rates and Body Mass Index (BMI) based on the accurate measurement rather than self-reporting of maternal weight and height.

We enrolled women between 2008 and 2010 after ultrasound confirmed an ongoing pregnancy in the first trimester.

Out of 2,000 women enrolled, 1,927 subsequently delivered a baby weighing ≥ 500 g. There were 50.4% primigravidas and 49.6% multigravidas. There were 8.2% delivered by elective CS and 13.0% delivered by emergency CS in labour giving an overall rate of 21.2%. The incidence of maternal obesity was 17.3%. The increase in CS rate in the obese women was due to an increase in emergency sections in primigravidas ($p < 0.005$) and an increase in elective sections in multigravidas ($p < 0.001$), but there was no increase in the elective sections in primigravidas or emergency sections in multigravidas. In obese primigravidas CS was required in 20.6% for fetal distress compared with 9.8% in the normal BMI category ($p = 0.005$). There was also an increase in the induction rate in obese women compared with women in the normal BMI category. The women in the obese category were more likely to require vaginal prostaglandin E₂ ($p = 0.02$) and oxytocin ($p < 0.001$) to induce labor than women in the normal BMI category.

The increased CS rate in obese women is exaggerated in previous studies where BMI is self-reported compared with our study. Our findings pinpoint the need to review induction practices in obese women.

Table 1 CS rates analysed by type, parity and BMI category ($n = 1,927$)

BMI (kg/m ²)	Primigravid emergency caesarean	Primigravid elective caesarean	Multigravid emergency caesarean	Multigravid elective caesarean	Total caesarean rate
<18.5	11.8% (4/34)	2.9% (1/34)	6.7% (1/14)	7.1% (1/14)	14.6% (7/48)
18.5–24.9	15.0% (89/592)	3.6% (21/592)	7.2% (34/468)	11.1% (52/468)	18.5% (196/1060)
25.0–29.9	19.4% (46/237)	5.1% (12/237)	8.0% (25/313)	9.9% (31/313)	20.7% (114/550)
30.0–34.9	28.1% (27/96)	4.2% (4/96)	10.1% (10/99)	17.1% (17/99)	29.7% (58/195)
>34.9	26.5% (13/49)	2.0% (1/49)	10.2% (10/98)	24.5% (24/98)	32.7% (48/147)
TOTAL	17.8% (179/1008)	3.6% (39/1008)	8.0% (80/992)	12.6% (125/992)	21.1% (423/2000)
<i>P</i> value*	0.005	NS	NS	0.006	<0.001
<i>P</i> value**	NS	NS	NS	0.004	0.002

* Comparison between BMI 18.5–24.9 and BMI >29.9 kg/m²

** Comparison between BMI 18.5–24.9 and BMI >34.9 kg/m²

INCREASED LONG-TERM RISK OF INSULIN RESISTANCE AND ADVERSE LIPID PROFILE IN WOMEN FOLLOWING PREGNANCY-INDUCED HYPERTENSION

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PIH is defined hypertension (blood pressure >140/90 mmHg) during pregnancy after 20 weeks gestation. There is an associated increased risk of gestational diabetes mellitus (GDM), however the risk of subsequent metabolic complications is unknown. We aimed to evaluate whether women were at any increased risk of adverse metabolic consequences a decade after a pregnancy complicated by PIH.

Primigravida women with a history of PIH (but no GDM) with singleton pregnancies in 1998–1999 (and an age- and BMI-matched group of controls) were identified from obstetric records. A 75 g oral glucose tolerance test with insulin measurements was performed. Insulin resistance (IR) was estimated using the homeostasis model assessment of IR (HOMA-IR). Lipid profile and C-reactive protein (CRP) were also measured. Statistical analysis was performed using JMP 8.0.1.

62 women with a history of PIH and 26 without were recruited. There were no differences in age at pregnancy (28.0 ± 0.7 vs. 29.9 ± 1.0 years, $p = 0.1$), BMI at pregnancy (26.8 ± 0.6 vs. 26.0 ± 0.8 kg/m², $p = 0.3$), current age (39.0 ± 0.6 vs. 41.4 ± 1.0 years, $p = 0.05$) or current BMI (28.9 ± 0.8 vs. 26.7 ± 1.3 kg/m², $p = 0.1$). All individuals had normal glucose tolerance. Compared to those without, women with a history of PIH had greater IR (HOMA-IR 2.2 ± 0.2 vs. 1.4 ± 0.3 , $p = 0.03$), had a higher mean waist circumference (93.8 ± 1.8 vs. 86.7 ± 2.9 cm, $p = 0.04$), and a more adverse lipid profile (total/HDL cholesterol ratio 3.5 ± 0.1 vs. 2.9 ± 0.2 , $p = 0.01$; triglycerides 1.0 ± 0.1 mmol/l vs. 0.7 ± 0.1 mmol/l, $p = 0.02$). There were no differences in blood pressure or CRP.

PIH is associated with long-term adverse metabolic consequences and patients should be observed for development of such complications.

INSULIN LIKE GROWTH FACTOR AXIS IN TYPE 1 DIABETIC PREGNANCY

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Insulin like growth factor I (IGF-I) is a major growth factor in pregnancy regulated by Insulin Like Growth Factor Binding Protein 3 (IGFBP3). The aim of this study was to investigate the action of IGF-I and IGFBP3 in non-diabetic compared to Type 1 Diabetic (T1DM) pregnancies.

Maternal samples were obtained from 25 non-diabetic controls (ND) and 25 T1DM mothers at 36 weeks gestation and cord blood after delivery. IGF-I and IGFBP3 were measured using ELISA. A western blot was performed on serum samples from non-pregnant ND, first trimester ND and T1DM, third trimester ND and T1DM third trimester and cord ND and T1DM.

There was no difference in maternal age, parity, mode of delivery, gender of infants or birth weight between the groups. Maternal IGF-I was lower in T1DM pregnancies compared to ND [ND 3.27 pg/ml (0.74–11.17 pg/ml) vs. T1DM 2.26 pg/ml (0.3–8.18 pg/ml) $p = 0.03$] though there was no difference between groups in cord IGF-I. Both maternal and cord IGFBP3 were increased in T1DM (maternal IGFBP3 ND 25.95 pg/ml (6.54–52.03 pg/ml) vs. T1DM 47.1 pg/ml (10.71–124.73 pg/ml), $p = 0.001$; cord IGFBP3 ND10 pg/ml (7–19.8 pg/ml) vs. T1 14.95 pg/ml (6.61–41.24 pg/ml) $p = 0.001$). Neither IGF-I nor IGFBP3 correlated with birth weight. On western blot, there was no difference in IGFBP3 bands in first trimester or cord serum. In third trimester T1DM serum there was a significant band at 16 kD, which was not present in ND third trimester serum.

These results suggest that the normal growth factor axis in pregnancy is abnormal in T1DM pregnancies, which are at higher risk of macrosomia.

PREDICTION OF PRETERM PRELABOUR RUPTURE OF MEMBRANES TO DELIVERY INTERVAL IN DELIVERIES LESS THAN 34 WEEKS: IDENTIFICATION OF CONTRIBUTING FACTORS

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The incidence of preterm birth (PTB) is increasing worldwide. Gestation at delivery is the largest contributing factor to infant morbidity and mortality. Our aim was to determine the contribution and characteristics of preterm prelabour rupture of membranes (PPROM) to delivery less than 34 weeks gestation. In addition to evaluate the placental and microbiological factors associated with duration of membrane rupture prelabour.

Prospective record of laboratory, labour and delivery data on all PPROM deliveries less than 34 weeks gestation between January 1st 2007 and June 30th 2008. Maternal and fetal outcome was reviewed. All cases of PPROM were subdivided into those delivering less than 24 h following PPROM, delivery between 1 and 7 days, delivery between 7 and 14 days and delivery after 14 days following PPROM.

There were 294 infants (2.25%) born less than 34 weeks gestation during the study period and 65 cases (0.5%) were complicated by PPROM. Nineteen women (29.2%) delivered less than 24 h following PPROM, 30 women (46.1%) delivered between 1 and 7 days following PPROM, 5 women (7.7%) delivered between 7 and 14 days following PPROM and 6 women (7.9%) delivered 14 days or more following PPROM. The presence of Group B *Streptococcus* (GBS) on the perineum was associated with PPROM, and those women with positive cultures from urine microscopy were more likely to deliver in the first week following PPROM ($p = 0.016$).

In 0.5% of pregnancies PPROM occurs before 34 weeks gestation and women with positive urine microscopy are statistically more likely to deliver within the first week after PPROM.

RUPTURE OF A BICORNUTE UTERUS IN A PRIMGRAVIDA

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We present a rare case of pregnancy in a non-communicating rudimentary horn at 23 weeks pregnancy.

Case: A 23-year-old primigravida presented with a history of severe abdominal pain. An ultrasound scan showed massive haemoperitonium, a dead foetus and placenta free in the abdominal cavity.

Urgent Laprotomy was done and a ruptured right horn pregnancy in a bicornute uterus was found. There were 3 l of intrabdominal blood. The foetus and the placenta were removed and the rudimentary horn excised and the remaining uterus repaired.

The patient had an 8 unit blood transfusion and after 24 h on ITU made an excellent recovery. Ruptured uterus is a life threatening obstetric condition. Rupture uterus in a primigravida during the first or second trimester generally occurs when there is a congenitally malformed uterus like unicorn ate or bicorn ate uterus with or without communicating horn.

Although a rudimentary horn pregnancy should be suspected and diagnosed early in pregnancy by ultrasound and MRI if needed, as this would save lives our patient was not diagnosed during scans in the fetal assessment unit and presented in shock. This report, like others, indicates that prompt diagnosis and immediate removal of the rudimentary horn is a lifesaving.

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OMENTAL PREGNANCY

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Confirmed Omental pregnancy is rare form of ectopic pregnancy. We present a case of 35 years old nulliparous lady who stopped taking combine contraceptive pills 3 months prior to conception and was trying for pregnancy. She presented with acute abdominal pain. Ultrasound scan confirmed suspicious mass consistent with ectopic pregnancy and free fluid. She was operated by laparoscopy and had Rt salpingectomy and partial omenectomy. Histopathology ampullary tubal pregnancy with secondary implantation to omentum.

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A CASE OF ACUTE Q FEVER IN PREGNANCY

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Coxiella burnetii is the causative organism responsible for the worldwide zoonosis known as Q fever. Acute Q fever may be

asymptomatic in half of cases, while 1.5% can develop chronic Q fever. Reactivation is possible in pregnancy. The number of cases of Q fever infection in pregnancy is probably underestimated.

We report a case of Q fever infection in pregnancy subsequently complicated by a mid-trimester miscarriage. A 44-year-old woman in her 6th pregnancy had an episode of exposure to excrement of a domestic cat in the 8th week of her pregnancy. She was found to be serologically positive for Q fever following her miscarriage at 20 weeks gestation.

In spite of a growing body of evidence which supports the causative relationship of Q fever with adverse obstetric outcomes such as spontaneous miscarriage, intrauterine death, intrauterine growth retardation and premature delivery, there is still limited evidence regarding the best management.

Awareness of the significant morbidity and mortality of Q fever in pregnancy, as well as the infectious risk posed by patients infected with *Coxiella burnetii*, should be highlighted amongst medical personnel. Q fever serology should be a routine element of the investigation of women suffering a mid-trimester miscarriage.

ATYPICAL GYNAECOLOGICAL EMERGENCY—RUPTURED CORNEAL PREGNANCY WITH FETUS IN THE PERITONEAL CAVITY

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29-year-old para one, presented at 13 weeks amenorrhoea with general abdominal pain and backache. A singleton viable pregnancy was seen on ultrasound scanning. The patient re-attended 4 days later with increasing lower abdominal pain. The patient was haemodynamically stable. An acute abdomen with cervical excitation was noted on clinical examination. Trans-vaginal scan revealed a pregnancy with CRL 14+1 weeks but no fetal heart. 5 cm depth of free fluid was noted in the Pouch of Douglas.

The provisional diagnosis was thought to be a ruptured cyst combined with a missed miscarriage. In view of the patient's ongoing pain the decision was made to perform a diagnostic laparoscopy.

Laparoscopic findings revealed a massive haemoperitoneum of 2–3 l. A well formed fetus was floating in the peritoneal cavity at approximately 13–14 weeks size. In theatre the patient became acutely haemodynamically unstable and a laparotomy was performed. A ruptured corneal ectopic was noted and this was repaired by over sewing the defect.

In this case, the diagnosis of a ruptured ectopic pregnancy was initially dismissed due to the size of the fetus on transvaginal ultrasound. This case report aims to increase awareness of the atypical clinical presentations of ectopic pregnancy. In any women of reproductive age with a positive pregnancy and abdominal pain the diagnosis of an ectopic pregnancy must be made until proven otherwise.

CONGENITAL DYSFIBRINOGENEMIA IN PREGNANCY: A CASE REPORT

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Dysfibrinogenemia, a qualitative deficiency of fibrinogen, may lead to first trimester pregnancy loss, haemorrhage, thrombosis and placental abruption. We are reporting a case of congenital dysfibrinogenemia in pregnancy managed successfully by close monitoring and peri-partum fibrinogen replacement therapy.

A 23 years old Caucasian lady in her first pregnancy was diagnosed with inherited low functional fibrinogen at the age of 8 years. She had a history of increased bleeding tendency without associated thrombotic complications. Fibrinogen levels were monitored closely during the peri-partum period and deficiencies corrected using fibrinogen concentrate aiming at a serum level of 1.5 g/l. She had an uncomplicated vaginal delivery of a healthy male infant weighing 3.1 kg. A total of 22 g fibrinogen concentrate was administered.

Multiple variations in the defect of the fibrinogen molecule have been reported in literature, and depending on the type of abnormality, defects may occur in one or more of the steps in fibrin clot formation resulting in haemorrhage, thrombosis, or both. There are no clear indications yet on which parameters should be used to decide on whether or when to start thromboprophylaxis or fibrinogen replacement, and there are little studies up-to date addressing that.

In conclusion, normal fibrinogen function is critical for successful pregnancy outcome. A better understanding of the fibrinogen defects may lead to better management in pregnancy. Until then, treatment plan needs to be individually tailored taking into account patients' past medical and obstetric history and gestation at presentation.

PELVIC ACTINOMYCOSIS WITH BILATERAL HYDRONEPHROSIS AND RENAL FAILURE ASSOCIATED WITH PROLONGED INTRAUTERINE CONTRACEPTIVE DEVICE USE—A CASE REPORT

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Pelvic actinomycosis is a rare complication of prolonged use of intrauterine contraceptive device (IUCD). Its symptoms are nonspecific and diagnosis often made after extensive surgery for a presumed pelvic malignancy.

We report a case of a 43-year-old multiparous woman who presented with left lower abdominal pains and lower abdominal swelling of 11 months duration. She had mirena coil insitu for 5 years.

On examination, she was afebrile. Her abdomen was soft, non tender with a fixed left iliac fossa mass arising from pelvis. Blood investigations showed haemoglobin of 8.4 g/dl and leucocytosis of 16,500/mm³. Her creatinine level was 138 µmol/l and urea 6.7 mmol/l. Liver profile and tumour markers including Ca125 and CEA were normal. Abdominopelvic CT and MRI suggested complex pelvic adnexal mass, bilateral hydronephrosis and paraaortic lymphadenopathy with an IUCD insitu.

The mass was biopsied under ultrasound guidance and sample sent for histology. Bilateral ureteric stents were inserted to relieve the hydronephrosis. Histology result confirmed actinomyces infection and she was commenced on intravenous benzylpenicillin for 6 weeks and had the IUCD removed. Despite stenting, her renal function deteriorated with serum creatinine rising to 412 µmol/l, urea 13.8 and Hb 5.8. She had been on non-steroidal analgesia and this was discontinued. Isotope renogram performed showed right ureteric obstruction with a suspicion of right stent blockage. However cystogram showed

bladder not distending with retrograde flow into ureter. A urethral catheter was passed for bladder drainage and a week later her creatinine had dropped to 156 $\mu\text{mol/l}$ and catheter was removed 2 weeks later. She was discharged on oral amoxicillin. Latest CT and MRI Scan confirmed complete resolution of the mass.

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ISOLATED SPONTANEOUS HEMATOSALPINX: A CASE REPORT

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While hematosalpinx is commonly described in the literature it is usually as a result of ectopic pregnancy, malignancy, torsion or infection of the fallopian tubes. Isolated spontaneous hematosalpinx is not reported in the literature and diagnosis is difficult.

A 33-year-old nulliparous woman presented with acute onset of left lower abdominal pain radiating to the groin and inner thigh with associated nausea and vomiting. After surgical assessment a pelvic ultrasound showed a mildly complex large cystic lesion adjacent to the left ovary, 9.3 cm $\times$ 4.5 cm and it was thought to be ovarian in nature. No free fluid was noted in the pelvis. Laparotomy was performed with intraoperative finding of a grossly dilated left hematosalpinx with no associated torsion. Pathology showed a hematosalpinx, the cause of which is not evident.

Isolated hematosalpinx is an uncommon event as it is usually associated with a causative factor that can be determined. It should be considered in the differential diagnosis of acute lower abdominal pain.

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NECROTIZING FASCIITIS POST LSCS A CASE REPORT

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A morbidly obese woman with gestational diabetes was delivered by elective caesarean section (CS). On the third day post surgery she developed fever, foul discharge and black discolouration above the wound. An early high index of suspicion for necrotizing fasciitis (NF), prompt antibiotic treatment and successive debridement led to full recovery with mild scarring.

A CASE OF MASSIVE OBSTETRIC HAEMORRHAGE CONTROLLED BY HYDROSTATIC RUSCH BALLOON

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A, 33-year-old, P3 + 0 came at the booking scan was noted to have an anterior placenta reaching os with a molar picture. A follow up scan at 22 weeks showed prominent plexus of veins posterior to placenta, however clear of os. Booking Beta HCG was within normal limits.

A growth scan at 35 + 4 weeks showed growth less than 3rd centile with absent end diastolic flow. Patient was induced and had a normal delivery but placenta failed to deliver. The patient was taken for manual removal of placenta. During the procedure the placenta was morbidly adherent and was removed in piecemeal and a clinical diagnosis of placenta increta was made. The patient had a PPH and lost 2,500 ml of blood due to atonicity of uterus. Initial management with uterotonic drugs failed to control blood loss and patient was transfused 4 units in of RCC. A Rusch balloon was used then, PPH was controlled. The patient was admitted in ICU for observation and discharged 24 h later with haemoglobin of 8.3. Post partum the patient was in good health and a pelvic scan showed an area of small calcified areas in anterior wall the uterus and normal endometrial thickness. Placenta histopathology showed heavy calcification.

After the initial management of PPH with the use of uterotonic drugs, to prevent uterine atony, a balloon tamponade is a useful adjuvant when all uterotonics fail. If successful, this method is simple, less morbid and avoids the complications of major surgical procedures.

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VASA PREVIA—A SERIOUS OBSTETRIC COMPLICATION: A CASE REPORT

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Introduction: Vasa Previa is defined as fetal vessels crossing or running in close proximity to the internal os. They course unsupported within the membranes and are therefore at risk of rupture. It has an incidence of approximately 1 in 3,000–6,000 deliveries (ref).

A 29 years old Para 1 booked at 17 weeks, scan confirmed gestation. At 39 weeks she attended with spontaneous rupture of membranes and pains. CTG was reactive and cervix was 2 cm dilated. On mobilising she had a heavy bleed in the toilet. Prolonged fetal bradycardia resulted in crash caesarean section. A male baby was delivered unresponsive, heart beat? at 30–40 bpm. Extensive resuscitation included CPR, ET/UVC adrenaline, IPPV and oxygen. First gasp noted at 16 min, regular respirations by 30 min. Hb was 8.7 g/dl, lactate was 16.6 mmol/l and total body cooling was commenced. Seizure activity commenced and required phenobarbitone and

midazolam. Multiorgan failure ensued, with coagulopathy requiring FFP, platelets and Vit K. After 72 h of cooling, baby was transferred to Temple Street. Cranial ultrasound and MRI were normal, but EEG showed multifocal sharp waves. He required NG feeding due to poor suck/swallow. However, he was discharged fully bottle fed & neurologically appropriate at 24 days of age.

On placental pathology, umbilical vessels run in the membranes for 4 cm.

Conclusion: Vasa Previa can imply devastating consequences as prenatal detection is virtually impossible. Expedient delivery and aggressive resuscitation in our case has resulted in an outcome which to date is better than expected.

Reference

TOG 2008; 10:4.

SEVERE HYPERLIPIDAEMIA IN PREGNANCY—A CASE REPORT

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A 30-year-old primigravida, with no significant medical or family history, presented to the emergency room at 38 weeks gestation complaining of sudden onset right upper quadrant and epigastric pain. She denied any other symptoms consistent with pre-eclampsia. Blood pressure was 132/94, 146/89, 137/82 and she had a booking BP of 90/68. Urinalysis confirmed proteinuria. A working diagnosis of PET was made and she was admitted.

Haematology and biochemistry technicians were unable to analyze bloods due to markedly raised lipid levels. The differential diagnosis was now broadened to include acute pancreatitis, acute fatty liver of pregnancy and acute myocardial infarction. ECG was normal, serum amylase was initial normal (? reliability) but urinary amylase was grossly elevated (results of which were only available 3 days later). A decision was made to perform a Caesarean section on the basis of exacerbating abdominal pain, and the increasingly encephalopathic neurological state of the patient. She was delivered of a healthy baby boy weighing 3.6 kg.

Her post operative course was complicated by acute renal failure, manifested by anuria, although biochemistry was not available to confirm. The patient was transferred to a tertiary care intensive care setting where cholesterol and triglyceride levels were found to be 46 and 186 respectively. Special analysers were used to accurately process bloods and renal failure was confirmed. The patient was commenced on plasmapheresis and haemodialysis. Two litres of lipid was extracted from her blood. She is currently making good recovery and being investigated for disorders in lipid metabolism.

VEIN OF GALEN: A CASE PRESENTATION

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Vein of Galen aneurysm is a complex arteriovenous malformation involving the vein of Galen and other cerebral vessels. This vein,

otherwise known as the great cerebral vein drains the anterior and central regions of the brain into the straight sinus of the posterior cerebral fossa and is located below the cerebral hemispheres. Low resistance and high blood flow in the lesion leads to high output cardiac failure. If the lesion is large as much as 50–60% of cardiac output may be shunted through the aneurysm, leading to cardiac dysfunction and possible fetal cardiac failure.

A vein of Galen aneurysm was diagnosed at a 32 week routine ultrasound. Further scans and fetal MRI confirmed the finding. The cerebral architecture was otherwise normal and aside from evidence of mild ventricular volume overload, there was no overt cardiovascular compromise in the prenatal period and no evidence of hydrops. Prenatal consultation with a paediatric neurosurgeon was sought. Spontaneous vaginal delivery occurred of a 4.0 kg boy at term who unfortunately decompensated rapidly with worsening tricuspid regurgitation and evolving cardiac failure in the 24 h post delivery. He was transferred to Glasgow and emergency embolisation was performed. A post procedure EEG was abnormal and prognostic of catastrophic brain injury. Baby was transferred back to the Rotunda Hospital and care withdrawn.

Prenatal diagnosis is essential especially in larger lesions to ensure prompt referral and treatment of the aneurysm to allow for the best possible outcome. However, even with prompt treatment there is an approximately 50% mortality rate.

OSTEOPETROSIS IN PREGNANCY—A CASE REPORT

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Osteopetrosis is a clinical syndrome characterised by the failure of osteoclasts to resorb bone. This leads to skeletal fragility despite increased bone mass. The incidence is estimated at 1:100,000–500,000. Two types have been described, type 1 and 2, and both are associated with genetic mutations (*LRP5*-Type 1, *CLCN7*-Type 2). We report the management of a 28-year-old primigravida with Osteopetrosis Type 2.

The patient booked at 11 + 5 weeks gestation complaining of back pain, mainly in the sacro-coccygeal region. She had been diagnosed with Osteopetrosis following multiple fractures in childhood. Genetic testing had never been performed and she had been lost to medical follow-up. Ultrasound at 21 weeks showed normal fetal anatomy. Referrals were made to Clinical Genetics, Physiotherapy and Endocrinology, and Calcium/Vitamin-D supplementation was commenced. Mobilisation became increasingly restricted and she ceased work at 24 weeks.

At 27 + 6 weeks, she presented acutely with continuous back pain and severe left hip and leg pain associated with paraesthesia and weakness. Urgent MRI showed no evidence of fracture. The pain specialist team performed a trigger point injection to the left lower sacrum and her pain was managed on simple analgesia for the remainder of the pregnancy.

She was readmitted at 36 + 5 weeks for analgesia, as well as Neonatology and Anaesthetic involvement. At 37 + 1 weeks gestation an elective Caesarean Section was performed under uncomplicated spinal anaesthesia and a baby boy was delivered. She was discharged home on day 6 and remains well. Genetic testing confirmed a mutation in *CLCN7* and therefore the suspected diagnosis of Osteopetrosis Type 2.

CASE REPORT: ACTINOMYCOSIS AND THE IUD

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Introduction: This is a case report of a 43-year-old lady who developed a tubo-ovarian abscess secondary to the prolonged use of the copper coil and infection with actinomycois. The aim of the study is to review the literature and examine the association between the IUD and actinomycois.

Case summary: The 43-year-old lady presented in May 2010 with lower abdominal pain for 3 days, a vague history of vaginal discharge and a copper coil in situ for 7 years. A MRI pelvis diagnosed the presence of a large mass— $10 \times 5.7 \times 6.3$ cm and she had a laparotomy and drainage of bilateral tubo-ovarian abscesses. She was diagnosed with actinomycois infection and commenced on Penicillin G for 1 year. Her inpatient stay was complicated by the development of a further pelvis abscess post operatively, wound dehiscence, repeat laparotomy and colostomy formation, ventricular thrombus and eventual ARDs and a protracted course in ICU. She did however make a full recovery and was discharge home well in July 2010.

Discussion: Actinomycois is a rare disease and is characterized by the development of large painful abscess e.g. in pelvis, mouth or GI tract. A review of the literature highlighted the well known association of actinomycois with IUD use. It also revealed the increased association of pelvis and abdominal actinomycois infection with increased and prolonged use of the copper coil. Recommendations for prevention include removing the IUD after 5 years and treatment involves a combination of surgery, IUD removal and long-term high-dose penicillin.

A RARE CASE OF FETAL THYROTOXICOSIS

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It has been estimated that approximately 0.2% of pregnant women have Graves' disease; however, only 1% of children born to these women are described as having hyperthyroidism. Fetal hyperthyroidism may be suspected in cases of intrauterine growth restriction, fetal tachycardia and the presence of an enlarged thyroid. Emerging evidence suggests the increased association in the presence of maternal TSH- receptor antibodies (TRAB).

A 27 year woman with a known diagnosis of Graves' disease booked at 17/40 gestation at the Rotunda Hospital. At presentation she was found to be thyrotoxic with Free Thyroxine (T₄) level of 31.4 pmol/L (normal range 12–22 pmol/L), Free Tri-iodothyronine (T₃) level of 8.6 pmol/L (normal range 2.8–6.5 pmol/L) and Thyroid-Stimulating Hormone (TSH) level <0.1 mU/L (normal range 0.3–4.2 mU/L). She was commenced on Propylthiouracil with a good response associated with T₄ levels dropping to normal levels. She was monitored closely in the Endocrine clinic and was also found to be TRAB positive with levels of 4.9 IU/L (normal range 0.0–1.5 IU/L). The need for paediatric assessment for neonatal hyperthyroidism was documented. Unfortunately she presented to hospital at 36/40 with pre-eclampsia and intra-uterine death. The autopsy revealed a growth restricted fetus with dysmorphic features and an enlarged congested thyroid consistent with the diagnosis of congenital hyperthyroidism.

This case highlights the necessity for risk assessment both with testing for the presence of maternal TSH- receptor antibodies in women with Graves' disease regardless of control status plus routine monitoring in the third trimester for fetal growth and the sonographic evidence of a fetal goitre.

CASE REPORT: OVARIAN MALIGNANCY IN PREGNANCY

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Mrs RM, a 33-year-old, Gravida 1 Para 0 lady, emigrated to Ireland from Germany at 28/40 gestation. A left ovarian mass was identified on a routine antenatal ultrasound in Germany. This was monitored throughout her pregnancy with imaging. She underwent an elective Caesarean Section and left salpingo-oophorectomy at 36/40 gestation. Histology identified high grade papillary serous cystadenocarcinoma. She had a staging laparotomy 3 weeks post-partum and was diagnosed as Stage 1C ovarian carcinoma. She then commenced chemotherapy, Taxol/Carboplatin.

Malignant ovarian tumours diagnosed in pregnancy are rare, with an estimated occurrence of between 1:10,000 and 1:50,000 [1]. Ovarian cancer is the second most frequent gynaecological cancer diagnosed in pregnancy. Management can be very challenging as it involves evaluation of sometimes competing maternal and foetal risks and benefits.

Management is case dependent, and multidisciplinary care plays a vital role. Management depends on a number of different factors including tumour type and stage, gestation, maternal and foetal prognosis. The current recommendation is that surgery be performed after 15 weeks gestation for ovarian masses that have certain characteristics so as to diagnose malignancy and prevent complications [2]. If chemotherapy is indicated, it is recommended to wait until after delivery or at least until after 20 weeks gestation to minimise the harmful effects on the foetus [2].

There are several case reports in the literature at present with differing treatment plans. This case would highlight the most current recommendations and management strategies for ovarian malignancies diagnosed in pregnancy.

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CASE REPORT: CONCEPTION AFTER CHEMOTHERAPY

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Introduction: This is a case report of a 25-year-old lady who successfully conceived after a history of ovarian carcinoma. She had treatment with chemotherapy and adjunct use of GnRH (gonadotrophin releasing hormone) analogue in an effort to preserve her fertility. The study aim is to review this individual case, outline the main methods for fertility preservation and review the literature regarding the use of GnRH analogues for fertility preservation.

Summary: This patient presented in 2003, aged 18 years, with abdominal distension and on ultrasound a right ovarian mass was seen. She had increased alpha fetoprotein and she went on to have a right oophorectomy and partial omentectomy. She was diagnosed with Grade 3 Immature Ovarian Teratoma and required 4 courses of chemotherapy. She was given GnRH analogues during this time in an attempt to preserve her fertility. Her follow up since had showed no evidence of tumour recurrence. In 2009 she conceived naturally and delivered at term in June 2010.

Discussion: Preserving fertility prior to cancer treatment is a complex issue as the methods available vary with the type of cancer, treatment required and patient preferences. Many of the methods are investigational and not available to all patients. Options include embryo cryopreservation, ovarian transposition, oocyte cryopreservation and ovarian suppression. In this case ovarian suppression was attempted, using GnRH analogues, with successful results. Although still being trialled, there are many reviews linking the use of GnRH analogues during chemotherapy with return to normal menses and in some cases successful pregnancies [1, 2].

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ASHERMAN'S SYNDROME: A CASE OF SUCCESSFUL TREATMENT AND PREGNANCY OUTCOME

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Aim: To highlight a case of successful treatment and pregnancy outcome in a patient with Asherman's Syndrome Grade IIIb.

Asherman's Syndrome (AS) presents a condition characterized by the presence of adhesions or fibrosis within the uterine cavity due to scars. It occurs most frequently after a D&C is performed on a recently pregnant uterus, for missed miscarriage or abortion. It may result in infertility, recurrent miscarriages or future obstetric complications such as placenta accreta, premature delivery and uterine rupture [1].

Materials and Methods: A case report with literature review.

Results: A 31-year-old patient with a history of PCOS and premature delivery of twins at 29 weeks in 1999, had 2 ERPCs following diagnosis of missed miscarriage of twins at 8 weeks in 2008. This resulted in amenorrhoea and was subsequently diagnosed with Grade IIIb AS in October 2008. She proceeded with further management which included high dose oestrogen therapy and hysteroscopic surgery to treat AS. As a result of this treatment, she successfully conceived and with intensive obstetric care and monitoring in The Rotunda, she delivered a healthy term liveborn male infant this year.

Conclusion: Maternal age and the extent of adhesion formation is critical to achieving successful pregnancy outcome after treatment of AS [2]. To minimize endometrial trauma, medical evacuation of the uterus to avoid intrauterine instrumentation, ultrasound guided D&C, immediate evacuation following fetal death and hysteroscopic surgery instead of D&C are some of the ways suggested to prevent development of AS.

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CAESAREAN SCAR PREGNANCY: A CASE REPORT

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Ectopic pregnancy in a previous uterine scar is the rarest form of ectopic pregnancies. It usually presents with painless vaginal bleeding and often misdiagnosed as spontaneous miscarriage.

We describe one of such cases in a woman who has had four previous caesarean deliveries. She presented with vaginal bleeding and positive pregnancy test. The diagnosis was suspected after a transvaginal ultrasound scan showed a gestational sac and a yolk sac within the lower anterior uterine wall. This was managed with laparoscopic aspiration of the gestational sac and intrasac methotrexate injection with an additional dose of postoperative methotrexate injection. The serum beta hCG was followed serially until it became negative.

Making a diagnosis of caesarean scar pregnancy is not always straight forward; therefore, a high degree of suspicion is required in those with risk factors and transvaginal ultrasound is a useful adjunct. Additionally, with the rising caesarean delivery rates, it is logical to expect an increase in the incidence of caesarean scar pregnancy.

INFLAMMATORY BOWEL DISEASE IN PREGNANCY: REPORT OF A CASE TREATED WITH INFLIXIMAB AND LITERATURE REVIEW

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Inflammatory Bowel Disease is commonly affects women of child-bearing age, leading to concerns about the effect of pregnancy on the disease and vice versa. Disease management during pregnancy poses a challenge to clinician because of potential risk of maternal-fetal complications. In recent years Infliximab has been shown to be safe during pregnancy, but reports in the literature are scarce. We report 1 case of severe Ulcerative Colitis treated with Infliximab to induce and maintain clinical remission in pregnancy. Literature review was performed on the use of Infliximab in pregnancy for treatment of IBD.

Infliximab is indicated for reducing signs and symptoms, inducing and maintaining clinical remission and mucosal healing, and eliminating corticosteroid use in patients with moderately to severely active ulcerative colitis who have had an inadequate response to conventional therapy.

The evidence so far suggests that infliximab poses a low risk in pregnancy in patients with IBD or other disease.

This case report, combined with other studies of use of infliximab during pregnancy, suggest that the benefit of infliximab in achieving response and maintaining remission in mothers with IBD may outweigh the risk to the fetus of exposure to the drug.

HUMIRA IN PREGNANCY FOR CROHN'S DISEASE : A CASE REPORT

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Tumor necrosis factor (TNF) is recognized as an important cytokine in the pathogenesis of Crohn's disease (CD), and TNF blockade has been effective in the treatment of patients with CD. Adalimumab (Humira) is a recombinant human immunoglobulin G1 monoclonal antibody targeting TNF that is approved to induce and maintain remission in CD. There is scanty data about its use during pregnancy. We report a successful pregnancy in a woman treated with adalimumab.

A 35-year-old woman with a history of CD was treated with multiple medications. She was commenced on Humira after having to increase the dose of Infliximab (the first anti-TNF for treatment of CD) and reduce the infusion interval. She conceived while on Humira and continued on it fortnightly throughout her pregnancy. She was carrying a monochorionic diamniotic twins which unfortunately was complicated by twin-to-twin transfusion syndrome, for which she had caesarean section at 32 weeks gestation. The babies had no congenital anomalies, and normal apgar score. One twin was small, as expected from TTS. However, both twins were doing well postnatally. At 6 months, they have normal growth development.

When evaluating medications in women who are pregnant or contemplating pregnancy, it is important to address the safety regarding the ability to conceive, teratogenicity, risk of miscarriage, and complications for the child. This decision should be made on an individual basis. In this case, adalimumab induced and maintained remission of infliximab refractory CD without any apparent side effects to the mother or children.

PERIPARTUM CARDIOMYOPATHY

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Peripartum cardiomyopathy is a disorder, first described in 1849, of unknown aetiology with potentially devastating outcomes. It is diagnosed in the absence of an identifiable cause for heart failure. This case serves to highlight the important aspects of the management of decompensated peripartum cardiomyopathy.

We report the case of a 39-year-old lady gravida-1 para-1, who was transferred to the intensive care unit 5 days post caesarean

section with acute tachypnoea, dyspnoea, eight pillow orthopnoea and bipedal oedema. Her medical history was positive for asthma which was well controlled with ventolin and seretide and a pneumonia requiring intubation and ventilation in America in 2000. Of note her Body Mass Index was 54.3 and weight 147 kg.

Initial laboratory results included a raised white cell count and hypoxia demonstrated on an arterial blood gas. BNP was markedly elevated. Chest X-ray reported interstitial and alveolar oedema. A subsequent CTPA was performed which was negative for a pulmonary embolus. A bedside transthoracic echo demonstrated a globally hypokinetic left ventricle, an ejection fraction less than 30% and mild/moderate tricuspid regurgitation. The working diagnosis at this point was decompensated peripartum cardiomyopathy with a superimposed respiratory tract infection. Initial management was aimed at optimizing haemodynamics and relieving symptoms. This included a frusemide and a glyceryl trinitrate infusion for the management of pulmonary oedema and fluid overload. Piperacillin-tazobactam was commenced for the suspected superimposed infection.

After the initial management E O'C was commenced on an ACE inhibitor and Beta-blocker for the long-term management of cardiomyopathy. A departmental ECHO repeated 4 days later revealed a dilated left ventricle with overall globally reduced left ventricular function and ejection fraction 35–40%. E O'C has been counselled that she is at high risk of recurrence in future pregnancies.

A CASE OF UTERINE PECOMA

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The perivascular epithelioid cell results in a variety of tumours characterised by a clear cytoplasmic appearance and immunopositivity for HMB-45. To our knowledge, about forty uterine PEComas have been reported in the English Language medical literature to date. After a review of the literature, it is becoming evident that these tumours should be regarded as a tumour of uncertain malignant potential.

We report the case of a 39-year-old lady gravida-1 para-1, who presented with sudden onset lower abdominal pain. An ultrasound of pelvis reported a mixed echogenic mass in the region of the fundus of the uterus in the presence of a likely haemoperitoneum. The gynaecology service proceeded to laparoscopy which revealed free blood in the abdomen associated with the appearance of a ruptured tumour/fibroid which was not biopsied at the time.

MRI pelvis reported a five centimetre mass lesion in the fundus of the uterus with cystic changes within it consistent with a degenerating fibroid or sarcomatous changes within a fibroid. A staging CT TAP described an exophytic lesion arising from the right kidney which was further evaluated with a triphasic CT which was consistent with a renal cell carcinoma. At this point it was theorized that the uterine malignancy was unlikely metastatic in nature in view of small size of renal cancer, for that reason priority was given to surgical diagnosis and treatment of uterine lesion.

Through a vertical subumbilical midline incision, a total abdominal hysterectomy and bilateral salpingectomy and left oophorectomy was performed. Findings at laparotomy revealed the uterus was expanded by an intramyometrial tumour protruding through and bleeding on minimal contact from the left cornu.

Histological and immunohistochemical analysis of the uterine lesion led to the diagnosis of a uterine pecoma. Laparoscopic partial

nephrectomy was performed with histology pending at time of submission.

PARANEOPLASTIC SENSORY NEUROPATHY IN OVARIAN CANCER

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We report the case of a 64-year-old lady gravida 2 para 2, who was referred to the gynaecology service with bilateral ovarian masses strongly suggestive of an ovarian neoplasm following investigations for a suspected paraneoplastic dorsal root ganglionopathy.

Her medical history was significant for Hepatitis C (Genotype 1b), cryoglobulinaemia, hypertension and a motor neuropathy. She was referred to the relevant hepatology and neurology clinics by her General Practitioner after moving to Ireland from Romania. It was thought in Romania that the peripheral motor neuropathy was as a direct result from cryoglobulinaemia secondary to hepatitis C. She received a 10 day course of intravenous immunoglobulin in Romania with a mild improvement in symptoms.

She was assessed by the neurology service who noted a severe sensory ataxia atypical of cryoglobulinaemia and arranged for a neuropathy screen, lumbar puncture, MRI of spine, EMG and nerve conduction studies in addition to a CT TAP and PET CT to assess the theory that it was as a result of a paraneoplastic phenomenon. Immunological studies revealed anti -yo antibodies. Nerve conduction studies demonstrated that it was a sensory neuropathy of the dorsal root ganglion. On PET CT there was intense tracer uptake in bilateral ovarian masses. OP underwent a laparoscopic bilateral salpingo-oophorectomy and infracolic omentectomy. Histology staged the tumour as IIIB papillary serous carcinoma of ovary.

She was subsequently reviewed by the oncology services. She developed pancytopenia following her first cycle of carboplatin. A slight symptomatic improvement was documented in her neurological status. In view of the decision to withhold further chemotherapy she was treated with further cycles of intravenous immunoglobulin. Following this there was a significant improvement in her neurological function.

RECURRENCE OF A SPLENIC ARTERY ANEURYSM RUPTURE IN PREGNANCY: A CASE REPORT

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We report an unusual case of recurrent splenic artery rupture in pregnancy, a rare and sometimes fatal event.

A 39-year-old woman had a past history of splenic artery rupture in her last pregnancy. A splenectomy was performed at 26 weeks. She delivered normally at 40 weeks but the infant developed cerebral palsy.

In her next pregnancy she presented to the emergency department at 36 weeks with a large haematemesis (750 ml). Her vital signs were normal initially and the cardiocotograph was normal. The haemoglobin was 7.4 g%. She was transfused with three units of blood and a lower segment caesarean section was performed shortly afterwards. No intra-peritoneal bleeding was detected during the surgery. A

female infant was born in good condition. Oesophageo-gastro-duodenoscopy was performed at the same set-up. This showed a stomach ulcer with large clot but no active bleeding. The patient was managed in the high dependency unit, where on the following day she had a massive haematemesis of about 5 l. At laparotomy, following resuscitation and transfusion, there was a tense stomach, with blood clot adherent posteriorly to a splenic artery stump aneurysm, which had ruptured and was actively bleeding through the stomach. Anterior gastrotomy and dissection of the aneurysm was carried and haemostasis was secured. She made a satisfactory recovery.

AN UNUSUAL LOCATION OF A COMMON CYST

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We present a case of an extraperitoneal dermoid cyst in a patient with Mayer-Rokitansky-Kuster-Hauser syndrome. A 29-year-old patient with known Mayer-Rokitansky-Kuster-Hauser syndrome presented to the Gynaecology service with a 2 month history of intermittent left sided abdominal pain. CT imaging showed a cyst lying in the left lower quadrant, extending posteriorly into the buttock. The cyst was resected through an oblique incision in the left lower quadrant with a complimentary incision posteriorly, superior to the left iliac crest. Histology was consistent with a dermoid cyst. This is a very unusual presentation of a common gynaecological problem in a patient with a rare gynaecological syndrome.

LICHEN SCLEROSUS: A CASE REPORT IN A YOUNG CHILD

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A 20-year-old, para 0 + 0, first presented to Paediatrics Services with recurrent vaginal inflammation with mild discharge at age 7. This was then followed by multiple admissions for severe constipation requiring bowel washouts and aggressive use of laxatives to try to alleviate her perineal excoriation problem. She was treated with oral antibiotics. A rectal biopsy was taken to exclude Hirshsprungs. Hirshsprung's disease was excluded with negative rectal biopsy.

In 2002 she was seen by a dermatologist who biopsied the area, showed atrophic epidermis with hyperkeratosis and basal layer damage characterized by vacuolization and cell necrosis with lymphocyte exocytosis. Superficial dermis showed variable pallor and oedema adjacent to areas of more eosinophilic hyaline sclerosis. Findings were consistent with lichen sclerosis.

Dermovate was commenced with no relief, however Elocon gave good relief.

She has recently been referred to our Gynaecology service with flare up of lichen sclerosis secondary to menorrhagia. Examination revealed loss of vulval architecture which warranted multiple vulval biopsies which confirmed Lichen Sclerosis without VIN.

She will be followed up by Gynae-oncology service within the region.

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COMPLETE LABIAL FUSION IN ELDERLY FEMALE: A CASE REPORT

S. Ramesh Babu, A. Das, E. Dunn, C. Murphy

Mrs E. P, an 86-year-old para 11 was referred to the A&E on 19/07/10 with complaints of inability to pass urine. She had been suffering from difficulty in passing urine, slow emptying, feeling of incomplete voiding, dysuria, etc. for the past few months. No history of vaginal bleeding. Abdominal examination revealed no abnormality. Local examination of the vulva revealed completely fused labia with no urethral or vaginal orifices, but only a pin hole for urine to escape. Manual separation was not possible. She was commenced on a course of ortho-gynest cream to treat the hypo-estrogenism and aid labial separation. She was also commenced on Nitrofurantoin for UTI. She was reviewed in clinic 3 weeks later and surgical separation was planned as there was no improvement with medical management. On 03/09/10 labial separation was done under anaesthetic. A small uterus, normal vulval and urethral orifices were revealed. Vagina was packed with Ortho-gynest cream. She began to pass urine normally and was discharged home on estrogen vaginal cream. 2 weeks later on review in out patients, the labia showed evidence of re fusion. She was not having any voiding difficulty though.

A month later labia were still found to be fused with a meatus large enough to pass a finger. There was no voiding difficulty. She was discharged on long term local estrogen support.

OVARIAN VEIN THROMBOSIS

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COB is a 26-year-old female, gravida 3, para 3 + 0 who was transferred from the CWH with persistent right iliac fossa pain. Patient day 10 postpartum having had a normal SVD. Prior to labour, patient was pyrexial with central abdominal pain which persisted post partum. She was commenced on IV Co-Amoxiclav and Metronidazole and was discharged home 4 days later on metronidazole po. She subsequently presented SJH with 1/52 history of RIF pain, 1/7 history of rigors and vomiting. No pelvic discharge, no pr bleeding, no urinary symptoms.

O/E Temp 36.7 C, HR 100 O2sats 100%RA BP110/70.

Abdomen distended, generalised abdominal pain, maximal tenderness RIF. Guarding+, positive Rovsing's sign.

Investigations

Laboratory

WCC 18.5

Hb 10.5

CRP 307

Radiology

CT Abdomen and Pelvis with contrast

CT scan discussed at Radiology MDT—left sided ovarian vein thrombosis

The Coagulation team 2/52 post partum. No previous history DVT/PE and no family history of DVT/PE or coagulopathic blood disorder. On depot provera for contraception. No plans for any further pregnancy.

Treatment options were discussed with patient LMWH versus Warfarin. Patient elected 175 IU/kg Tinzaparin 3/12 with review in Coagulation Opd post treatment.

Patient was reviewed by team on 18/10/2010 and laparoscopy and appendectomy performed. The appendix appeared uninflamed but involved in an inflammatory reaction secondary to ovarian vein thrombosis and no free fluid or abscess seen. Good post op recovery. Discharged home on 20/10/2010 with appointment for review in OPD 1/12.

A TWIN PREGNANCY COMPLICATED BY HAEMOLYTIC URAEMIC SYNDROME AND THROMBOTIC THROMBOCYTOPAENIC PURPURA

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We report a case of Haemolytic Uraemic Syndrome and Thrombotic Thrombocytopenic Purpura (HUS-TTP) in a 44-year-old pregnant woman who presented at 9 weeks gestation on her second pregnancy with a 2 day history of bloody diarrhoea following a meal where she had steak. This pregnancy was a twin IVF donor egg pregnancy. A stool culture was positive for *E. coli* 0157. Investigations showed a blood pattern consistent with HUS-TTP and she was transferred to the Mater Hospital for urgent plasma exchange. She had a prolonged stay in ICU due to multiple problems developing including *Clostridium difficile* diarrhoea and toxic megacolon, necessitating major colorectal surgery including ileostomy formation. She eventually recovered and was discharged home at 19 weeks gestation. She was delivered by elective caesarean section at 33 weeks gestation due to a non functioning stoma secondary to the effects of the gravid uterus and made a full recovery post delivery. Both babies were well.

This case is unusual in that infection with *E.coli* 0157 is a rare cause for HUS-TTP in adults. Pregnancy is a known risk factor for HUS-TTP. It is usually seen during the third trimester or in the post partum period and is difficult to distinguish from severe preeclampsia and HELLP syndrome. Studies show that 70% of patients with HUS-TTP are women and 10–25% of these are pregnant or post partum [1].

Prompt recognition allows for urgent referral to a centre where plasma exchange is available which reduces mortality from 90% to a survival rate of 80% [1].

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LYMPHOMA-THE GREAT MASQUERADER

N. Maher, Y. O'Brien, M. Milner, N. Gleeson

Primary ovarian lymphoma is rare and accounts for 0.5% of all non-Hodgkins Lymphomas and 1% of all ovarian neoplasms.

High grade lymphomas are the more usual histological subtypes-such as Burkitts and diffuse large B cell lymphoma.

Case: Mrs SB, 53 years, Para 2, presented to Our lady Of Lourdes hospital Drogheda with a 6 week history of abdominal pain on 12/08/10.

Diagnosis of diverticulitis was made and possible diverticular abscess seen on CT abdomen.

On review of both CT and pelvic ultrasound, evidence of both diverticular disease but also pelvic pathology was seen.

Bilateral ovarian cysts-left sided $3.7 \times 4.6 \times 6.4$ cm and right sided $5.5 \times 3.8 \times 4.7$ cm were present, ascites, enlarged para aortic lymph nodes and omental caking. All were consistent with bilateral ovarian carcinoma and metastatic disease. Ca 125 was elevated @248.

As an inpatient in OLOLHD the patient was experiencing daily swinging spikes in her temperature. Blood cultures were negative, and multiple antibiotic regimes attempted to resolve the pyrexia of unknown origin.

An omental biopsy first performed 25/08/10 and then repeated 27/10/10 showed evidence of malignant and aggressive disease.

Mrs SB was referred for further follow up and management to St James Hospital.

During this admission her condition deteriorated, developing neutropenic sepsis and small bowel obstruction requiring admission to ICU.

Lymph node biopsy came back positive for large B cell lymphoma.

Mrs SB is currently still an inpatient in SJH and in a critical condition, now under the primary care of medical oncology.

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OVARIOSTOMY FOR AN OVARIAN ECTOPIC PREGNANCY: A FEASIBLE OPTION

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Case report: Ms. AD presented to the early pregnancy unit with vaginal bleeding at 4 weeks and 4 days gestation. She had been treated twice for PID in the past. She had one child and one previous termination. She had a trans-vaginal ultrasound (TVS) that showed an empty uterus and no adnexal mass. Her serum b-Hcg was 307. Two days later her serum b-Hcg was 304 and on TVS a suspicious vascular lesion $2 \text{ cm} \times 1.6 \text{ cm}$ was seen adjacent to the left ovary.

Ms. AP complained of severe pain at the time of the TVS and decision to proceed to laparoscopy was made. At laparoscopy the left ovary was found to contain the ectopic pregnancy. As she was only 26 years old a decision was made to preserve the ovary. The ovary was opened at the site of the ectopic and the chorionic tissue was removed laparoscopically by blunt dissection.

Post operatively she was given methotrexate. The serum b-Hcg dropped to 296 on day 4 and was 208 on day 7. We are awaiting the histology report. She is recovering well.

Conclusion: Treatment of ovarian pregnancy usually requires oophorectomy or wedge resection of the ovary [1]. Ablative therapy such as ovariectomy or adnexectomy should be reserved for advanced

cases or vital indications only [2]. In this case we have shown that removal of ectopic tissue and diathermy to the base helps prevent removal of any normal ovarian tissue. Serial BHcgs are necessary for following up this patient to make sure this patient has an uneventful recovery.

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CASE REPORT: SURROGACY FOR A PATIENT WITH CERVICAL CANCER

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Ms SM, a 34 years old nulliparous lady was diagnosed as stage 1B squamous cell carcinoma of the cervix. She underwent bilateral lymphadenectomy and transposition of her right ovary. She then had in vitro fertilization (IVF) with subsequent embryo transfer to her sister as the surrogate mother. She completed chemotherapy, pelvic radiotherapy and brachytherapy. Her sister delivered twins with no complications.

Surrogate can be defined as a woman who carries and delivers a child on behalf of another couple. Surrogacy can be either Traditional or Gestational. In Traditional Surrogacy the ovum originates from the surrogate mother while the sperm is from the commissioning father. In Gestational Surrogacy, embryos are fertilised using IVF technique using oocytes and sperm from the commissioning couple, which is then transferred to the surrogate mother.

Surrogacy offers opportunity to some people to have children in circumstances where is otherwise impossible. Although treatment modalities for treating malignancies have advanced, clinicians have to now deal with younger cancer patients. Whether as a direct effect from the primary tumour or as a secondary effect following treatment, fertility outcome in these women are guarded. Surrogacy offers them a promising future to move on with life.

Surrogacy has no legal basis in the Irish law and is among one of the debatable areas in the medico legal ethical field. This case would hopefully help to advocate a step in the right direction towards legalisation and implementation of surrogacy in Ireland.

Reference

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PSEUDOMYXOMA PERITONEI: A CLUSTER OF CASES AND THE VALUE OF APPENDICECTOMY

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Pseudomyxoma peritonei (PMP), is a rare condition with an estimated clinical incidence of one to two per million per year. It is a progressive disease process characterised by diffuse intra-abdominal gelatinous collections with mucinous implants on peritoneal surfaces and the omentum. It presents most commonly in women of 60–70 years of age, originating predominantly in the appendix, but can arise from other organs including the ovaries.

In this case series we look at three women who presented within a 4 month period, each with abdominal distension and discomfort. Their ages ranged from 53 to 65 years old. Initial imaging showed a large multiloculated cystic mass, arising from the pelvis, consistent with ovarian pathology in each patient. The CA 125 levels ranged from 36.3 to 58.5 U/mL. A total abdominal hysterectomy, bilateral salpingo-oophorectomy, infracolic omentectomy and appendectomy were carried out, on the assumption that the tumour was of ovarian origin. However, histology reported a primary appendiceal mucinous neoplasm with extension to the ovaries and disseminated peritoneal mucinosis; pseudomyxoma peritonei.

PMP has generally is considered a benign condition. However, untreated it may progress leading to massive abdominal distension and nutritional compromise. Prognosis in most patients remains poor with 5 and 10 year survival rates of 50 and 10–30% respectively. Ct scan surveillance is advisable for up to 5 years. Appendectomy for all ovarian mucinous tumours is mandatory.

UTERINE ARTERY PSEUDOANEURYSM AS A CAUSE OF LIFE THREATENING SECONDARY POSTPARTUM HAEMORRHAGE – A CASE REPORT

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Secondary postpartum haemorrhage due to uterine artery pseudoaneurysm (UAP) is very rare with approximately 25 cases reported worldwide.

Uterine artery pseudoaneurysm can complicate various gynaecological and obstetric procedures and are most frequently reported after caesarean section. The delayed diagnosis of this condition often results in life-threatening hemorrhage. We report on one such case in the National Maternity Hospital, Dublin.

A 34-year-old woman underwent an emergency caesarean section at 2 cm for failure to advance. The procedure was complicated with bleeding from the angles requiring extra haemostatic sutures. Post operatively, she presented with massive secondary postpartum haemorrhage on day 14 requiring 4 units of red cell transfusion. She was managed with antibiotics with suspected diagnosis of endometritis. She presented again with life threatening post coital vaginal bleeding 148 days post delivery. She required resuscitation and 8 units of red blood cell. A uterine catheter was inserted to control haemorrhage and tranexamic acid was commenced. Further investigations included a pelvic ultrasound and MRI scan which were normal. However angiography revealed a uterine artery pseudoaneurysm and was treated with uterine artery embolisation.

We conclude that UAP should be considered as a differential diagnosis in patients presenting with secondary postpartum haemorrhage especially if bleeding is significant and recurrent and in cases where delivery was by caesarean section.

AN UNUSUAL CAUSE OF PV DISCHARGE

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The adolescent presents specific challenges for the clinician in the setting of the Emergency Room. This report serves to highlight these challenges.

SD, a 17-year-old attending the ER with a 5 month history of lower abdominal pain and heavy vaginal discharge. She had been seen on four occasions by her GP and treated with antifungals and antibacterials. She had also been commenced on oral contraceptive pill in an attempt to relieve discomfort. All treatment had failed and she was referred to Gynaecology.

Examination revealed a tender abdomen. Inspection of external genitalia revealed heavy, yellow, foul smelling discharge. She was not sexually active so full VE was deemed inappropriate. However with gently inserting one finger, a hard object could be felt internally. The patient did not wish to volunteer how this came to be there but stated it may have been in situ since May. She was adamant she did not wish her mother to know clinical details. She was admitted and commenced on antibiotics. Under GA a plastic aerosol lid was removed without complications.

This case raises the issues of when is it appropriate to perform VE on the non sexually active patient, the risks of foreign body in the vaginal canal and also of the right of the adolescent to confidentiality.

ISOLATED INGUINAL LYMPH NODE RECURRENCE IN ENDOMETRIAL CARCINOMA

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Background: Isolated recurrence of endometrial carcinoma in an inguinal node is not well documented. Peripheral node involvement (inguinal, axillary or supraclavicular nodes) is more commonly associated with patients who present with stage IV endometrial carcinoma and accounts for 13% of extra-pelvic tumour extension at presentation.

Case: A 64-year-old lady presented with a “dragging” sensation in her right groin and a palpable small irregular mass in the inguinal region. Four years previously she underwent total abdominal hysterectomy, bilateral salpingo-oophorectomy and infracolic omentectomy for FIGO grade II stage 1b endometrial carcinoma. Computed tomography (CT) confirmed the presence of a 3.5 cm lobulated mass in the right groin. A block dissection of the inguino-femoral lymph nodes on the right side was undertaken. Histopathology showed that one of the seven lymph nodes dissected was positive for metastatic adenocarcinoma. There was no evidence of further recurrence. She was referred for adjuvant radiotherapy.

Discussion: Although rare, isolated inguinal lymph node recurrence can occur in patients with endometrial carcinoma. Peripheral node recurrence is associated with a higher initial surgical stage and tumour grade. Inguinal and supraclavicular recurrences occur with equal frequency. Axillary recurrences are rare. Initial inguinal recurrence is associated with subsequent abdominal progression whereas initial supraclavicular recurrence appears to be associated with subsequent systemic progression. Median survival after isolated peripheral lymph

node recurrence is only 19 months. While an effective systemic adjuvant treatment is needed for these patients, aggressive local treatment after thorough re-staging has been shown to provide long-term disease-free survival.

AN UNUSUAL CASE OF POST-OPERATIVE PAIN FOLLOWING CAESAREAN SECTION

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Omental infarction is a rare cause of abdominal pain, often mimicking appendicitis, acute cholecystitis or other causes of acute abdomen. The majority of patients are young or middle-aged adults, occurring three times more commonly in males. Most cases are idiopathic however some occur following surgery, trauma or omental torsion.

The following is a case report of omental infarction as an unusual presentation of abdominal pain following Caesarean section.

A 37-year-old female attended for routine antenatal care. At 23 weeks she presented with pre-syncope and shortness of breath with oxygen saturation of 84%. Therapeutic tinzaparin was commenced however pulmonary embolus was excluded with computed tomography (CT) pulmonary angiogram. Following review by a consultant haematologist prophylactic tinzaparin was recommended until 6 weeks postnatal.

At 39 + 5 weeks an emergency Caesarean section was performed for a compound presentation in labour. On day 3 she began complaining of right upper quadrant pain and was Murphy's sign positive on examination.

A CT abdomen was performed demonstrating a $6.1 \times 5.1 \times 2.1$ cm heterogenous fatty mass was noted. Omental infarction with superimposed abscess formation was diagnosed and conservative management with intravenous antibiotics was instituted. She was discharged home well on day 9.

Omental infarction is a rare cause of abdominal pain and is not described as a cause of pain post Caesarean section in the literature. It may be diagnosed using CT and as it is usually a self-limiting disease, an unnecessary surgical intervention may be avoided.

CASE REPORT: A LARGE SOLITARY FIBROUS TUMOUR OF OMENTAL ORIGIN

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Solitary fibrous tumours (SFT) are rare, occurring predominately in the pleura. However 30–40% occurs at extra-pleural sites, most commonly the orbits and the extremities. Diagnosis is dependent on histology and immunohistochemistry. The majority of SFTs are benign (78–89%). The following is a case report of a SFT of the omentum.

A 68-year-old nulliparous woman presented with abdominal distension for several months. On examination she was emaciated with a large, irregular lower abdominal mass. Computed Tomography (CT) showed a heterogenous solid mass in the middle of the abdomen expanding to the pelvis ($14 \times 13 \times 13$ cm) with marked ascites,

likely representing ovarian malignancy. The CA125 level was 161 U/ml.

A total abdominal hysterectomy, bilateral salpingo-oophorectomy, infracolic omentectomy and appendicectomy were performed. At laparotomy a 25 cm lobulated omental mass was noted with 300 ml of ascites. The uterus, tubes, ovaries, liver, peritoneal surface and bowel were all normal.

Histology showed a normal uterus, ovaries and appendix. A 1,920 g lobulated omental mass stained strongly for CD34, with a mitotic count of 3/10HPF and no cytological atypia, the appearances were consistent with a benign extra pleural solitary fibrous tumour.

A literature review on this unusual case found only three cases of omental SFT, one in the lesser omentum and two others in male patients occurring in the greater omentum. As local recurrence and distant metastasis may occur in both benign and malignant types this patient will require long term follow up.

VAGINAL VAULT HAEMATOMA: A LATE COMPLICATION OF TOTAL ABDOMINAL HYSTERECTOMY

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Introduction: Total abdominal hysterectomy is a common gynaecological procedure. We present a curious case of vaginal vault haematoma formation, 18 months post-operatively.

The case: A 41-year-old Caucasian lady underwent total abdominal hysterectomy for menorrhagia and dysmenorrhea. She was known to have multiple fibroids, with one large 10 cm fibroid. At surgery, the uterus was taken with four pedicles each side and each was double tied. The vault was closed with vicryl. Recovery was uneventful, with one episode of vaginal pain 2 months post operatively when speculum examination and ultrasound were entirely normal. She was seen 2 years later with the complaint of intermittent vaginal bleeding; spotting with one heavy episode, abdominal pain and dyspareunia. On vaginal examination at that time a small lump was palpated at the vaginal vault. Ultrasound and MRI demonstrated a midline cystic mass, measuring 7.5 by 5.5 cm, that was difficult to relate to either ovary. MRI showed a further separate 26 mm diameter fluid collection in the right adnexa, again following fluid and invaginating on MR. The MR appearances did not correspond to blood products and it was felt that this was more consistent with a post operative fluid collection. The patient went on to have an examination under anaesthesia where speculum examination revealed a 2 cm vaginal vault haematoma. This was aspirated and left to drain.

Conclusion: Our patient illustrates an unusual late complication of hysterectomy. This could be considered when a lady presents with vaginal bleeding following hysterectomy.

BRAINSTEM ENCEPHALITIS IN PREGNANCY—A RARE BUT POTENTIALLY FATAL OCCURRENCE: A CASE REPORT

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Brainstem encephalitis is a rare occurrence in pregnancy with just one case reported worldwide. Encephalitis may be viral, autoimmune or paraneoplastic in origin. In select cases no exact pathology can be defined. This complicates the management and counselling of affected individuals.

We report a case of encephalitis in pregnancy. A 34-year-old lady, para 2 presented at 21 weeks gestation with an estimated date of delivery of December 31st 2010, complaining of general malaise with headache. She was pyrexial but no focus of infection could be identified. She was admitted for full septic screen, intravenous antibiotics and analgesia. Over the following 24 h she remained pyrexial and her Glasgow Coma Scale (GCS) deteriorated. She was transferred to St. Vincent's University Hospital (SVUH) with suspected meningitis. On arrival in SVUH she was noted to have a GCS of 8 and was admitted to HDU where she was intubated. She had an MRI which showed diffuse white matter changes consistent with brainstem encephalopathy. A lumbar puncture was performed and showed a sterile growth. Similarly the septic screen was negative. She was commenced on acyclovir, cefuroxime, steroids and intravenous immunoglobulin. The differential diagnosis included vasculitis or Bickerstaff encephalitis. She was intubated for 3 weeks but gradually regained consciousness.

She continues to make a good recovery and is now mobilising with a residual left sided lower limb hemiplegia. She was transferred to The National Rehabilitation Hospital at 29 weeks. The fetus is appropriately grown and we await events over coming weeks.

AN UNUSUAL CASE OF A PAIN IN THE BUTT!

S. Mullers, S. Froese, C. Fitzpatrick, M. P. O'Connell

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SL is a 31-year-old Para 1 + 0 who had a vacuum delivery on 27/12/2008 of a female infant, 4 kg, complicated by manual removal of placenta. She had no significant medical history and had routine antenatal care. On day 1 post delivery she complained of pain in her left vagina and groin and had an examination under anaesthesia for evacuation of a vaginal haematoma. She was discharged well on 31/12/2008.

She was brought in by ambulance on the 3/01/2009 with acute left buttock and leg pain, and examination revealed abnormal neurological signs. Her initial serology revealed an inflammatory response, with a C-reactive protein of 404, Leucocytosis of 20, and markedly deranged liver function tests with an Alkaline Phosphatase of 2629. Her APTT was prolonged and she had a thrombocythaemia. Group B Streptococcus was isolated from blood cultures and she was commenced on Penicillin and Metronidazole. She was transferred to St James' Hospital for multi-disciplinary care.

An initial CT scan of her pelvis which was normal, and the impression was that of severe muscle spasm and a possible small disc protrusion. An MRI on 06/01/2009 showing 'abnormal signalling' around the left piriformis muscle consistent with a haematoma around the adjacent sciatic nerve, the haematoma presumed secondary to a tear of the Piriformis muscle. This was presumed secondary to trauma at delivery. Her symptoms slowly improved following extensive physiotherapy. Underlying thrombophilia was ruled out. She is currently in the early stage of her second pregnancy- how might we manage her next delivery?

WHY US? TWIN PREGNANCY WITH METHADONE WITHDRAWAL FOR THE GIRL, HEPATITIS C FOR THE BOY

S. Mullers, D. Carmody, O. Phelan, M. P. O'Connell

The Coombe Women's and Infants' University Hospital Dublin 8, Dublin, Ireland

RK, a 27-year-old Para 1 + 0 booked at 11 + 3 weeks gestation to CWIUH with Dichorionic-diamnioniotic twin pregnancy. She had a history of unstable IV drug and methadone use, Hepatitis C (PCR positive) and Left deep venous thrombosis, for which she was prescribed therapeutic tinzaparin. She was also prescribed benzodiazepines and was in rehabilitation in early pregnancy. She attended the high-risk antenatal and multiple birth clinic during her antenatal care. Her DVT was secondary to an abscess that developed from a groin injection site, diagnosed only 6 months pre-pregnancy.

She had an elective lower segment caesarean section for IUGR twin 1 at 34 + 6/40. Twin 1, male infant weighed 2.510 kg and Twin 2, female infant weighed 2.240 kg, both with Apgars of 9 at 1 min, 10 at 5 min. Both babies were initially transferred to the ward. However, Twin 2 required a 19 day admission to special baby care unit, with Neonatal Abstinence Syndrome requiring morphine for 8 days. Twin 1 was only admitted for 78 h due to Jaundice of Prematurity. He had no withdrawal symptoms and did not require any medications, however he alone developed active hepatitis C.

At 10 months of age both twins were reviewed, with good gross and fine motor skills and were discharged from the developmental clinic. This was an interesting case of withdrawal in one twin and Hepatitis C infection in the other. Why and how did this happen?

SEVERE HYPERTENSION IN EARLY PREGNANCY

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A 29-year-old P1 was referred from her GP with worsening hypertension at 8 weeks gestation. She had a background history of HT for 11 years which had been well controlled on antihypertensives until the beginning of the pregnancy.

She was admitted at 10 weeks for investigation and management of severe hypertension. Ultrasound confirmed an ongoing DCDA twin pregnancy. A subsequent renal ultrasound showed a small mass on the right kidney. Biopsy suggested a possible juxtaglomerular rennin secreting tumour and she underwent a right nephrectomy at 15 weeks gestation. She recovered well but continued to require high dose antihypertensives. She was readmitted at 22 + 6 when a routine US showed absent end diastolic flow of the umbilical artery in both twins. Her hypertension improved over the following days and was controlled with a single antihypertensive medication.

At 32 + 6 reversed flow was present in twin 1 and she was delivered. Twin 1 a male infant, weighed 1.35 kg and twin 2 a female infant, weighed 1.56 kg, both are doing well. She made an uneventful recovery and was discharged home on a single antihypertensive. Juxtaglomerular tumours are a rare cause of hypertension and are

characterised by hypertension, frequently hypokalaemia and the presence of high circulating plasma rennin.

Reported cases of this rare tumour usually behave in a benign manner. Many patients remain mildly hypertensive following removal. Other causes of hypertension should always be sought in women who present in early pregnancy with significant hypertension even if this is pre-existing.

A CASE OF BORDERLINE OVARIAN TUMOUR WITH AN UNUSUALLY HIGH CA125 LEVEL

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Borderline tumors comprise approximately 15% of all epithelial ovarian tumours. The two major histological tumour subtypes are serous and mucinous. CA 125 ovarian tumour marker may be elevated and more commonly in serious cases. The mean CA 125 level is usually less than 200 IU/ml.

We present a case of borderline ovarian tumor with markedly raised CA 125 level.

38-year-old woman presenting with suprapubic discomfort had a pelvic ultrasound showing 6 cm left ovarian mass with septation with moderate amount of free fluid. Her CA 125 level was 2,740 IU/ml.

At laparoscopy a 7–8 cm left ovarian cyst was seen with normal Fallopian tubes, uterus and right ovary. The liver, omentum and peritoneal surfaces looked normal. Using bipolar diathermy left salpingo-oophorectomy, partial omentectomy and biopsy of the right ovary were performed. Ascitic fluid was sent for cytology. Post-operative recovery was uneventful.

Histology of left ovary showed a mucinous borderline ovarian tumour. The histology of right ovarian tissue biopsy and omentum were normal.

CA 125 level repeated 4 weeks post-operatively was 33.6 μ /ml.

Borderline mucinous ovarian tumours tend only to have mildly raised CA125 levels, serous types are associated with a slightly higher level. Ovarian malignancies are most commonly the cause of very high CA 125 levels. This case is unusual due to the markedly raised CA125 level in this type of tumour.

NORMAL MATERNAL BODY COMPOSITION VALUES FOR THE FIRST TRIMESTER OF PREGNANCY

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Objective: Body composition is a key determinant of fetal and maternal health. The objective of this study was to develop normal values for maternal body composition in the first trimester of pregnancy using advanced bioelectrical impedance analysis (BIA).

Methods: Women were enrolled in the first trimester after a sonogram confirmed their dates and an ongoing singleton pregnancy. Height and weight were measured digitally, and BMI calculated. Body composition was analysed using advanced BIA (Tanita, MC 180).

Results: Of the 1,000 women studied, the mean BMI was 25.7 kg/m² (SD 5.3) and the mean weight was 69.1 kg (SD 14.7). Of the mean weight, 22.7 kg was fat and 46.5 kg was fat-free. On average, the arm fat was 2.6 kg, leg fat 9.5 kg and trunk fat 10.6 kg. The mean, median, standard deviation, 10th and 90th centile for all body composition parameters are reported (Table 1). The measurements were also analysed by age and parity. In multigravidas ($n = 508$) compared with primigravidas ($n = 492$) there was an increase in fat percentage (33.0 vs. 30.7%; $p < 0.001$), fat mass (24.6 vs. 21.5 kg; $p < 0.001$); fat-free mass (47.2 vs. 45.8 kg; $p < 0.004$) and weight (71.8 vs. 67.3 kg; $p < 0.001$). Mean body composition started to change significantly after 35 years.

Conclusion: The establishment of these normal values will facilitate comparisons with other ethnic groups and will provide a baseline for longitudinal studies during pregnancy and following pregnancy. It will also facilitate comparisons between BIA and other measures of body composition as predictors of clinical outcomes.

CLINICAL VALIDATION OF ADVANCE BIOELECTRICAL IMPEDANCE ANALYSIS IN PREDICTING PREGNANCY OUTCOMES

C. Fattah, N. Farah, V. O'Dwyer, N. O'Connor, J. Hogan, M. M. Kennelly, Stuart, M. J. Turner

Objective: We compared analysis of Maternal Body composition using bioelectrical impedance analysis (BIA) with Body Mass Index (BMI) in Predicting pregnancy outcomes.

Subject and Methods: Women were enrolled in their convenience between July 2009 and June 2010? after a sonogram confirmed their dates and an ongoing singleton pregnancy in the first trimester. Written consent was obtained. Maternal Height and weight were measured digitally, and BMI calculated. Body composition was analysed using advanced BIA (Tanita, MC 180). Clinical and socio demographic details were recorded. Data was analysed using SPSS version 15

Results: Of the 1,000 women studied, 49.1% were primigravida and 19.0% were obese, based on BMI category. The 90th centile for BMI and BIA parameters was calculated. The clinical outcomes are presented in table one according to the 90th centile.

Conclusions: Bioelectrical Impedance Analysis is as good as accurately measured BMI in the first trimester in predicting pregnancy outcomes.

Table 1 Pregnancy outcomes, analysis by >90th centile parameters ($n = 1,000$)

Parameters	Miscarriage	GDM	PET	C/S	BW >4.5 kg
BMI kg/m ²	12.5%	14%	20%	16.2%	5%
Weight (kg)	12.5%	15.9%	23.6%	13.6%	5%
Fat mass (kg)	12.5%	14.4%	23.6%	15.2%	6%
Fat free mass (kg)	12.5%	14.2%	20%	11.1%	6%
Visceral fat (level)	12.5%	14.7%	20%	13.8%	6%
Bone mass (kg)	12.5%	3.6%	20%	10.6%	6%

GDM gestational diabetes mellitus, *PET* pre-eclampsia, *C/S* Caesarean section, *BW* birth weight

THE INCIDENCE OF SPONTANEOUS MISCARRIAGE IN OBESE WOMEN COMPARED TO WOMEN IN OTHER BMI CATEGORY

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Objective: We compared analysis of Maternal Body composition using bioelectrical impedance analysis (BIA) with Body Mass Index (BMI) in Predicting pregnancy outcomes.

Subject and methods: In prospective observational study conducted in a university teaching hospital, women were enrolled in their convenience between July 2009 and June 2010 after a sonogram confirmed their dates and an ongoing singleton pregnancy in the first trimester. Written consent was obtained. Maternal Height and weight were measured digitally, and BMI calculated. Body composition was analysed using advanced BIA (Tanita, MC 180). Clinical and sociodemographic details were recorded.

Results: Of the 1,200 women studied, the overall miscarriage rate was 2.8% ($n = 33$). The mean gestational age at enrolment was 9.9 weeks. In the obese category ($n = 217$), the miscarriage rate was 2.3% compared with 3.3% in overweight category ($n = 329$), and 2.3% in normal BMI group ($n = 621$). There was no difference in the mean body composition parameters, particularly fat mass parameters, between those women who miscarried and those who did not.

Conclusions: In women with sonographic evidence of fetal heart activity in the first trimester, the rate of spontaneous miscarriage is low and is not increased in women with BMI $> 29.9 \text{ kg/m}^2$ compared to women in the normal BMI category.

VAGINAL BIRTH AFTER CAESAREAN (VBAC) ANALYSED BY BODY MASS INDEX (BMI), PARITY AND TYPE OF SECTION

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The purpose of this study was to examine the influence of Body Mass Index (BMI), based on the accurate measurement rather than self-reporting of maternal weight and height, on vaginal birth after caesarean section.

We enrolled women at their convenience between July 2008 and April 2010 after ultrasound confirmed an ongoing singleton pregnancy in the first trimester. Weight and height were measured digitally in a standardised way and BMI calculated. Clinical and demographic details were recorded at the first antenatal visit and at delivery.

Out of 2,000 women enrolled, 1927 subsequently delivered in the hospital a baby weighing 500 g or more. There were 50.4% ($n = 1,008$) primigravidas and 49.6% ($n = 992$) multigravidas. There were 180 women who had a previous delivery by caesarean section. The overall VBAC rate in labour was 63.6% ($n = 107$). Of the women that attempted a vaginal birth after previous caesarean section the success rate was 56.2% in Class 1 obese women and 77.8% in Class 2–3 obese women compared with 71.1% in women in normal BMI category.

Our study showed that successful VBAC rates after one previous caesarean section are similar in obese (BMI $> 29.9 \text{ kg/m}^2$) and non-obese women.

IMPROVING THE PERINATAL MEDICINE CLINIC IN CORK UNIVERSITY MATERNITY HOSPITAL

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The Perinatal Medicine Clinic (PMC) in Cork University Maternity Hospital is a multidisciplinary, specialised high-risk antenatal clinic.

A database was created to record a sample of current attendees at the PMC between March and September 2010, aiming to show the feasibility of a permanent database to facilitate PMC organisation. Patient and staff questionnaires were distributed to assess satisfaction with the PMC, and to provide feedback to improve the antenatal experience.

Analysis of 195 attendees showed that 64.1% had a maternal referral reason and 30.3% had a fetal reason for referral. General Practitioners referred 33% of patients, whilst no referral source was documented for 11.8%. 151 patients completed the satisfaction survey; 17 staff completed the staff equivalent. 10% of patients were unable to name their consultant, and 15.2% were unaware of their reason for referral. Overall, 82.7% were satisfied with the PMC, but 28.5% were not satisfied with the clinic comfort. Waiting time dissatisfied 66.3% of respondents with the median waiting time 166 min (range 0–400). Suggestions made by patients and staff show a universal wish for decreased waiting time, and other measures to restructure the PMC.

Evidently, a computerised database is a viable and practical resource which would improve continuity of care at the PMC. While patients felt the care doctors and midwives provided was exemplary, improvements need to be made to improve waiting times, clinic comfort, and inform patients fully of their medical and obstetric needs.

THE ROLE OF HYSTEROSCOPY IN THE INVESTIGATION AND MANAGEMENT OF PATIENTS WITH RECURRENT MISCARRIAGE

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A prospective study of a population with a diagnosis of recurrent miscarriage was conducted to determine the investigations, management and outcomes of patients with normal and abnormal uteri.

All patients presenting with three or more consecutive pregnancy losses were offered screening with serum investigations and hysteroscopy. Those taking up hysteroscopy were included in the study.

40 patients were identified with a mean age of 36 years. The mean number of miscarriages was four. 93% tolerated hysteroscopy without anaesthesia, but 3/40 (7%) required general anaesthesia to complete the procedure. One patient had a unicornuate uterus. Three others had uterine septa extending to greater than 1/3 length of the cavity. All three elected to have treatment by septa resection and also received

aspirin, folate and clexane. Two of these patients have subsequently delivered (twice each by Caesarean section) and the third is currently 10 weeks pregnant. In the group with normal uteri, 30/36 (83%) became pregnant and were treated with aspirin, folate and clexane. The positive outcome rate in this group was 90% (27/30).

Hysteroscopy without general anaesthetic is a well tolerated procedure that should be included in the investigative pathway for patients with recurrent miscarriage. In this study 4/40 (10%) patients had an identified uterine abnormality of which three had their abnormality corrected with hysteroscopic resection. All subsequently became pregnant.

A CHEAP AND EFFICIENT TEST TO HELP WITH DETECTION AND MONITORING OF PATIENTS WITH PRE-ECLAMPSIA

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For over 10 years our hospital has issued every patient a prescription and guidance leaflet on self testing urine once weekly from 26 weeks gestation. Patients then contact the hospital if there is greater than + of protein on home dipstick testing.

A retrospective study of a random population of patients whose first pregnancy was complicated by pre-eclampsia was conducted to determine whether the use of home dipstick urinalysis testing is helpful in the detection, presentation and monitoring of patients of pre-eclampsia.

100 primigravida cases were reviewed of which the mean age was 28 years. The method of initial detection of pre-eclampsia varied with over 53% diagnosed at antenatal clinic. 24% of patients self referral to hospital, of which 20% self referred on discovering proteinuria on home urine dipstick. Interestingly 4% of patients already diagnosed with pre-eclampsia, self-referred to hospital for assessment after discovering proteinuria on home dipstick. All required admission to hospital.

In conclusion a subgroup of patients who developed pre-eclampsia in their first pregnancy initially presented as self referral to hospital on discovering proteinuria on home visual dipstick urinalysis. We suggest that this practical and cheap screening kit has great potential for the use in patients who then may self refer to midwifery or medical staff, both in the community and in hospital for further assessment for the diagnosis of pre-eclampsia.

INADEQUATE USE OF FETAL BLOOD SAMPLING PRIOR TO EMERGENCY CAESAREAN SECTION

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A retrospective study of a population delivered by emergency Caesarean section was conducted to determine the appropriate management of the pathological cardiotocograph (CTG) in labour with regards to the use of fetal blood sampling (FBS) prior to delivery.

Fifty cases were reviewed. In 16/50 (32%) of cases FBS was not possible as cervical dilation was less than 4 cm. 8/50 (16%) cases were fully dilated, fetal blood sampling was deemed inappropriate and delivery was attempted by way of instrumental delivery. Only

10/50 (20%) of patients had FBS attempted, 1/10 (10%) of which were unsuccessful. All the results were within the normal range (>7.25) but all cases proceeded to emergency Caesarean section regardless. On review 50% of these cases had no risk factors of obstructed labour. The general documentation of the procedure of FBS was inadequate with no explanation given for the unsuccessful attempts. The average time from decision to delivery was 45 min and umbilical cord blood was taken in 37/50 (74%) cases.

With a rising local and national Caesarean section rate, this audit recommends an increase in the use of FBS to establish fetal pH levels in cases where delivery by Caesarean section is contemplated because of a pathological CTG. If there are no other obstetric indications for delivery, labour should be allowed to continue.

A PROSPECTIVE COHORT STUDY EVALUATING BLOOD LOSS ESTIMATION AT CAESAREAN SECTION AND THE RISK FACTORS FOR MAJOR OBSTETRIC HAEMORRHAGE

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The aim of this study was to evaluate alternative methods of estimating blood loss at elective caesarean section and to identify risk factors for major obstetric haemorrhage (MOH, $>1,000$ ml).

We conducted a prospective cohort study of 1,973 women undergoing elective caesarean section nested within a randomized controlled trial. Blood loss was estimated in four ways.

Rates of MOH ranged from 12.5 to 27.5% depending on the different methods used, with only slight agreement between estimates (0.13, 0.13 and 0.14). Risk factors for MOH included maternal age ≥ 35 (OR 1.42, 95% CI 1.09–1.86), BMI ≥ 35 (OR 3.97, 95% CI 2.72–5.79), an inexperienced operator (OR 1.48, 95% CI 1.13–1.93), prolonged surgery time (OR 1.45, 95% CI 1.05, 2.00) and surgical complexity (OR 2.32, 95% CI 1.75–3.09).

In conclusion, total “measured loss” (weighing swabs and measuring suction volume) is the safest approach to identifying major obstetric haemorrhage although overestimation may occur.

MANAGEMENT OF ACQUIRED HYPOFIBRINOGENAEMIA SECONDARY TO MAJOR OBSTETRIC HAEMORRHAGE: FIBRINOGEN CONCENTRATE VERSUS CRYOPRECIPITATE

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Background: In July 2009, the Irish Blood Transfusion Service (IBTS) decided to withdraw cryoprecipitate from clinical use in

Ireland and replace it with fibrinogen concentrate. The rationale was to lower the potential risk of pathogen transmission and was supported by evidence of similar fibrinogen efficacy in treatment of major haemorrhage. This study aimed at assessing the impact of this change on use of blood products and clinical outcome in Major Obstetric Haemorrhage (MOH).

Materials and Method: Prospective detailed audit of MOH is being carried out at our institution since January 2009. Cases are defined by an estimated blood loss of 2.5 l or more, transfusion of 5 or more units of RCC or treatment of a coagulopathy. The average blood loss and the use of blood products was compared between those that sustained an MOH with associated hypofibrinogenemia before and after cryoprecipitate was replaced with fibrinogen.

Results: 53 cases of MOH were identified and 26 had treatment for hypofibrinogenemia. 14 had Cryoprecipitate and 12 had Fibrinogen concentrate. The two groups were similar in age, parity, ethnicity and gestation at delivery. The main cause of bleeding was uterine atony followed by retained placental tissue and medical management was similar. Haemostasis was achieved in all cases.

	Cryoprecipitate in use	Fibrinogen in use
Number of cases within the period	14/31	12/22
Minimum fibrinogen recorded	1.13	1.05
Average quantity used (cryo/fib)	2.2 packs	4.5 g
Estimated blood loss ^a	6.8 l	4.3 l
Octaplas ^a Mean $\pm$ SD	4.1 units (4.1 $\pm$ 2.8)	3 units (3 $\pm$ 3.5)
Red cell concentrate ^a Mean $\pm$ SD	7.1 units (7.1 $\pm$ 4.6)	6.4 units (6.4 $\pm$ 5)
Platelets ^a	1 pool	1.2 pools

^a Mean values are shown

Conclusion: There is little difference in clinical outcome and blood product use when fibrinogen concentrate is used instead of cryoprecipitate to treat hypofibrinogenemia secondary to MOH. There is a trend towards less use of Octaplas but we will continue to accrue data to validate these findings.

WHAT IS THE EFFECT OF BOOKING BMI AND WEIGHT GAIN DURING PREGNANCY ON BIRTH OUTCOME IN IRISH AND NON-IRISH WOMEN?

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This prospective study compares the effect of booking BMI and weight gain during pregnancy on birth outcome in Irish and non-Irish women.

It included all women who attended public antenatal clinics in a general hospital and delivered between 01/06/2009 and 31/01/2010.

The outcome was the BMI gain during pregnancy and its effect on the development of PET, induction of labour for postdate, mode of delivery, complications during labour: haemorrhage >1,000 ml and perineal tear.

Irish women had higher BMI at booking compared to non-Irish and gain more weight during pregnancy. Preeclampsia developed in 26 (3.7%) Irish and 2 (1.5%) non-Irish. 99 (14.2%) Irish were induced compared to 9 (6.7%) non-Irish. There were 202 (29.1%) cesarean sections for Irish and 34 (25.4%) for non-Irish. 4 (0.57%) Irish women had 3rd degree tear and one (0.14%) had a 4th degree tear versus 1 (0.74%) non-Irish had 3rd degree tear. 7 (1%) Irish women had a haemorrhage >1,000 ml versus 3 (2.23%) non-Irish.

LEPTIN IN DIABETIC PREGNANCY

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Leptin is involved in the regulation of body weight. This study aimed to measure maternal and cord leptin in non-diabetic, type 1 (T1DM) and type 2 (T2DM) diabetic pregnancies.

Prospective cohort study with maternal serum samples obtained at 36 weeks gestation and cord blood at delivery. Clinical data was obtained. Leptin was measured by ELISA (Human Leptin Immunoassay, R&D Systems Ltd, Minneapolis, MN). Non-parametric data was compared using Mann–Whitney or Kruskal–Wallis tests.

Forty women with T1DM, 10 women with T2DM and 30 non-diabetic women consented to the study. There was no difference in maternal BMI between the three groups. There was no difference in maternal leptin levels. Cord leptin was higher in infants of both T1DM (223 pg/ml (25.7–810 pg/ml)) and T2DM (447.2 pg/ml (136.3–679 pg/ml)) compared to infants of non diabetic mothers (80.3 pg/ml (27.3–623.1 pg/ml)) ($p < 0.05$). Maternal BMI remained the single significant predictor of cord leptin in the entire group after controlling for birth weight and birth weight centile ($r = 0.39$, $p = 0.01$). Amongst the diabetic groups only third trimester HbA1c significantly related to cord leptin after controlling for birth weight, birth weight centile and maternal BMI ($r = 0.28$, $p = 0.04$).

This study has found that cord leptin was significantly higher in infants of diabetic mothers. It is possible that infants of diabetic mothers may have some degree of leptin resistance, which could have an important role in appetite regulation in extra-uterine life. This research reiterates the importance of tight glycaemic control in the third trimester of pregnancy in women with pre-gestational diabetes.

PLACENTAL STEREOLOGY IN DIABETIC PREGNANCY

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This study aimed to assess placental structure by stereology in type 1 (T1) and type 2 (T2) diabetic pregnancies compared to normal non diabetic controls.

Stereology is a well developed scientific method of defining three dimensional structures from two dimensional images. The placenta from each consenting woman was collected immediately after

delivery and sampled in a systematic random fashion to obtain a series of images for analysis. Stereological analysis was performed using a computerised stereology programme (Image Pro 6.2, Media Cybernetics, Inc, Silver Spring MD, USA) to assess volume and length of placental components; statistical analysis used ANOVA and *t* tests.

Ten non diabetic, eight T2 and ten T1 women consented to the study. There was no difference between the groups regarding maternal age, neonatal birth weight, or placental weight. Terminal villi volume was significantly increased in both diabetic groups compared to controls (volume: 23% ND, 33% T2, 35% T1; $p < 0.05$). Capillary volume and length was increased in T1 diabetic pregnancies compared to non diabetic controls (volume: 6% ND, 10% T1; length 46 km ND, 88.7 km in T1; $p < 0.05$ for both). When all diabetic groups were compared based on severity of glycaemia those with poor glycaemic control (HbA1c $> 7\%$) had higher placental capillary volume than those with good glycaemic control [absolute values: good glycaemic control 35.4 cm^3 ($\pm 18.1 \text{ cm}^3$) vs. poor glycaemic control 60.1 cm^3 ($\pm 23.4 \text{ cm}^3$) $p = 0.03$].

Maternal glycaemia appears to influence capillary, but not stromal, development. This suggests that factors other than glycaemia have a role in placental development in pre-gestational diabetes.

CLINICAL CORRELATION OF MATERNAL AND FETAL PLACENTAL GROWTH HORMONE IN TYPE 1 DIABETIC PREGNANCY

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Placental growth hormone (PGH) is the main growth hormone in pregnancy. The aim of this study was to investigate the level of PGH in non-diabetic compared to Type 1 Diabetic (T1DM) pregnancies.

Maternal samples were obtained from 25 non-diabetic controls (ND) and 25 T1DM mothers at 36 weeks gestation and cord blood was obtained after delivery of the baby. PGH was measured using ELISA.

There was no difference in maternal age, parity, mode of delivery, gender of infants or birth weight between the groups. There was no significant difference between groups in maternal or cord PGH. In the T1DM alone, maternal PGH significantly correlated with estimated fetal weight at 33 weeks ($r = 0.4$, $p = 0.02$) and 36 weeks ($r = 0.42$, $p = 0.03$), birth weight ($r = 0.51$, $p < 0.05$) and birth weight centile ($r = 0.41$, $p = 0.03$) but did not correlate with maternal HbA1c at any gestation.

In the T1DM group, maternal PGH correlated with both antenatal fetal weight and birth weight, suggesting a significant role for PGH in growth in diabetic pregnancies. This relationship may be independent of current conventional measures of glycemic control.

WHAT MODELS OF MATERNITY CARE DO PREGNANT WOMEN IN IRELAND WANT?

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Introduction: The introduction of new models of care in the Irish maternity services has been recommended by both advocacy groups and strategic reports. Yet there is a dearth of information about what models of care pregnant women want.

Methods: We surveyed women in early pregnancy who were attending a large Dublin maternity hospital. Demographic and clinical details were recorded from the hospital chart.

Results: Of the 501 women surveyed, 70% wanted shared antenatal care between their family doctor and either a hospital doctor or midwife. 45.5% preferred to have their baby delivered in a doctor-led unit, while 42.9% preferred a midwifery-led unit. Of those 42.9%, 55% met criteria for suitability. There was minimal demand (1.6%) for home births. Of the 8 who opted for home delivery, only 4 (0.8% overall) were suitable on clinical grounds. Choice was influenced by whether the woman was attending for private care or not. Safety is the most important factor for women when choosing the type of maternity care they want. A private room and a desire to avoid hospitals are least important. Of women surveyed, 86% believed they had enough information to allow them to choose the model of maternity care.

Conclusion: Pregnant women want a wide range of choices when it comes to models of maternity care. A key priority for women is maternal and fetal safety. Their choice is influenced by safety considerations, and will be determined in part by risk assessment.

Table 1 Type of care preferred for delivery

	<i>N</i>	%
Home birth with independent midwife	1	0.2
Home birth with hospital midwife	7	1.4
Hospital birth in midwifery-led unit	215	42.9
Hospital birth in doctor-led unit	228	45.5
Standard hospital unit	50	10.0

THE PROPORTION OF IN UTERO TRANSFERS (IUT) SIGNIFICANTLY INFLUENCES OUTCOME AMONG A PRETERM DELIVERY POPULATION

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Objective: To compare clinical details and immediate neonatal outcome among PTB in utero transfers (IUT) with the indigenous prebooked hospital population.

Study design: From January 2008 to June 2010, data on all singleton preterm deliveries (< 34 weeks) were collated prospectively for prebooked patients and for in utero transfers (IUT), including category of etiology of preterm birth, gestational age, steroid administration, mode of delivery and immediate neonatal outcome. PTB was categorized as resulting from preterm labour (PTL), premature preterm rupture of membranes (PPROM), and medically indicated preterm birth (MIPTB).

Results: Among 22,825 hospital births the incidence of PTB (< 34 weeks) was 1% (224/22,825) and 77 cases were transferred in utero. The gestational ages of the IUTs was significantly less

compared with the hospital population (42/77; 49% vs. 66/244; 27% were 28 weeks or less, $p < 0.0001$). Significantly more of IUTs received a full course (90%) or any (97%) antenatal corticosteroids compared with of prebooked hospital patients (76 and 90% respectively) ($p < ??$). There were significantly less patients in the PTL category comparing IUTs with prebooked patients (14%; 11/77 vs. 27.5%; 67/244, $p < 0.02$). The incidence of acidosis (cord pH < 7.0) was less (3.3%) among IUTs than among prebooked patients (5.4%) as was the percentage with an Apgar score of 5 or less at 1 min (24% IUT vs. 33.6% prebooked $p = 0.09$).

Conclusion: When comparing PTB outcomes among different institutions the distribution of IUTs has a significant impact on gestational age, steroid use and category of preterm birth and early neonatal outcome.

INTERVENTIONS AND OUTCOMES IN FETAL HYDROPS—A TEN YEAR EXPERIENCE

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The aim of this study was to prospectively analyse the etiology, interventions and outcomes experienced with Fetal hydrops (FH) over a 10 year period.

All cases of FH from 2000 to 2010 were studied. Ultrasound findings, neonatal outcomes and post mortems were recorded.

Among 90,155 deliveries there were 67 cases of FH. 49/67 (73.1%) resulted in stillbirth. Of 18 liveborn infants 13 (72%) survived to hospital discharge. An identifiable cause was determined in 43/67 (66%) cases including cardiac 20/67 (29.8%), cystic hygromas 9/67 (13.4%), aneuploidy 6/67 (9%), immune hydrops 3/67 (4.4%) and infective cause 1/67 (1.5%). 12/18 (64%) of liveborn infants versus 31/49 (63.3%) stillbirths had an identifiable cause ($p = 1$). Of 15 cases deemed amenable to treatment, Intrauterine transfusions were administered in 4/67 (4%), Thoraco amniotic shunts were inserted in 10/67 (14.9%) and medical treatment of cardiac dysrhythmia was administered in 1/67 (1.4%). Of those treated 8/15 (53.3%) survived versus 13/67 (19.4%) total survival rate ($p = 0.0179$).

FH is a rare and often fatal condition in the fetus with an incidence of 1 per 1,345. Cardiac cause was the most common, with immune hydrops being much less prevalent, perhaps reflecting better screening for auto-antibodies and anti-D policy. While 66% had an identifiable etiology only a minority has a treatable cause of whom 53% survived. It is important therefore to determine the etiology so that treatment can be initiated early.

SECONDARY POSTPARTUM HAEMORRHAGE—AN UNDERAPPRECIATED DANGER. A RETROSPECTIVE REVIEW OF THE INCIDENCE OF HYSTERECTOMY FOR THE PAST 37 YEARS AT HOLLES STREET HOSPITAL

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Objective: To examine the etiology of pregnancy related hysterectomy (HP) focusing on the incidence and associated morbidity of secondary post partum haemorrhage (2PPH).

Study design: Data were collated retrospectively from 37 years of hospital clinical records from 1971 to 2008 to study the incidence, trend, indication for hysterectomy and related morbidity (liters of blood transfused).

Results: Among 315,218 mothers delivered in 37 years, 82 HPs were performed (incidence = 0.03%). Although there was no significant increase in the overall rate ($p = 0.3$), there was a significant upward trend in the incidence of hysterectomy for placenta accreta and uterine rupture ($p < 0.01$). Placenta accreta (32.2%), 2PPH (20%) and uterine rupture (20%) accounted for the majority of cases of HP and the mean number of liters transfused were 9.5, 5.5 and 3.3 L respectively. Other causes were 1PPH (10.7%), placenta praevia (6%) and abruptio placentae, amniotic fluid embolism, broad ligament haematoma and uterine fibroids (9.5% altogether). 2PPH ($n = 17$) was attributed to infection ($n = 5$), retained products ($n = 4$), sub involution ($n = 3$) and no cause was identified in five cases.

Conclusion: While the main emphasis today is on management of placenta accreta, 2PPH is a significant cause of maternal morbidity and warrants serious consideration. Improvements in control of infection and disseminated intravascular coagulation should reduce the need for hysterectomy.

OLD PRIMIPS AND BIG BABIES; CHANGING THE ART OF OBSTETRICS?

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A retrospective cohort study was performed using the annual Dublin Maternity hospital reports from 1979 to 2008.

Overall there were 625,916 viable deliveries during the study period. The first significant finding was the increase in the proportion of primigravida deliveries from 35 to 44.2% ($p < 0.0000$). The proportion of grandmultiparae delivering fell from 7.9 to 0.9% ($p < 0.0000$). Overall, there was a decrease in childbearing age under 20 years from 5.6 to 4.6% ($p < 0.0002$), a marked increase in women between 35 and 40 years from 11.2 to 19.4% ($p < 0.0000$) and an increase in women delivering over the age of 40 years from 2.4 to 3.4% ($p < 0.0000$). As expected the caesarean section rate has risen significantly from 7.7 to 21% ($p < 0.0000$) however the overall forceps rate had decreased from 9.8 to 4.7%. In contrast the vacuum delivery rate has steadily risen from 1.6 to 10.4% ($p < 0.0000$) with an overall operative delivery rate increase from 17.9 to 38.4% ($p < 0.0000$). With respect to fetal weight at birth there was also a significant rise in the proportion of infants exceeding 4.5 kg from 2.3 to 2.6% ($p < 0.0002$).

Overall we found a trend towards later childbearing, greater proportions of first time mothers and increased rate of large babies over this the last three decades. There has also been a significant rise in operative intervention however there has been a decline in the use of obstetric forceps. This changing obstetric population and increased medical intervention has important implications for obstetric workloads and the training of future obstetricians.

NONINVASIVE HAEMOGLOBIN ASSESSMENT: COMPARISON WITH LABORATORY ASSESSMENT AND POTENTIAL ROLE IN AN OBSTETRIC SETTING

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Haemoglobin measurement is one of the most frequently ordered laboratory tests in a maternity setting. Traditional laboratory haemoglobin estimation assesses haemoglobin at a given time-point, and is invasive and time-consuming. Frequently serial haemoglobin measurements are required to assess blood loss, particularly in an acute setting. Recent advances in haemoglobin estimation allow for the continuous and non-invasive measurement of total haemoglobin (SpHb Pulse Co-Oximeter®) and non-invasive haemoglobin estimation has been used in acute and intraoperative settings [1, 2].

The purpose of our study was to validate continuous and non-invasive haemoglobin assessment in an obstetric setting, and to compare the values with traditional laboratory measurements of haemoglobin. A total of 125 women were recruited from the antenatal clinic at the time of laboratory haemoglobin estimation. Two women were excluded as their laboratory tests had to be repeated due to sampling error. Three non-invasive measurements of haemoglobin were taken on each participant and the mean haemoglobin recorded.

Laboratory haemoglobin values ranged from 8.8 to 15.1 g/dL with a mean of 12.11 (1.01) g/dL. The range for the SpHb Pulse Co-Oximeter® assessment was 9.1–15.8 g/dL with a mean of 12.59 (1.35) g/dL. Bland–Altman plots were used to determine acceptability of the new non-invasive test as a replacement for invasive testing in a clinical setting.

Non-invasive haemoglobin measurement from Pulse Co-Oximetry provides clinically acceptable accuracy compared to traditional haemoglobin testing and may offer a rapid cheap acceptable alternative to invasive testing in many clinical scenarios.

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A PARADOXICAL DECLINE IN THE CAESAREAN SECTION RATE

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Aim: The persistent rise in the rate of Caesarean section (CS) is a salient and controversial feature of modern obstetrics. The aim of this study was to determine which clinical subgroups contributed to a paradoxical decline in the CS rate between 2006 and 2009 and to discuss the therapeutic factors that may have been involved.

Methods: We used prospectively digitized data to classify Caesarean sections according to the Robson Classification. We compared data for the years 2006 and 2009 to determine the contributions of the discrete clinical groups to the overall CS rate. Fisher's exact test was used for statistical analysis.

Results: In 2006, there were 4,596 deliveries, of which 1,427 were Caesarean (31%); in 2009, there were 4,991 deliveries, of which 1,363 were Caesarean (27.3%), a decline of 3.7% in the three-year period ($p < 0.0001$). There was a decline in the contribution of each of Groups 1–5. The decline was statistically significant only in Group 2A (nulliparous, singleton, cephalic, ≥ 37 weeks, induced labour), where the CS rate fell from 33 to 23% ($p < 0.001$). The 10% decrease in the CS rate in Group 2A contributed one-third of the overall decline. Changes in induction and labour management policy after 2006 included the introduction of intrapartum fetal blood sampling; the replacement of prostaglandin tablets with gel; and a lower dose oxytocin regime.

Conclusion: Robson Group 2A was the biggest contributor to a 3.7% decline in the CS rate over a 3-year period.

SURVEY OF THE KNOWLEDGE OF PREGNANT WOMEN REGARDING TOXOPLASMOSIS, LISTERIOSIS AND CYTOMEGALOVIRUS

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Toxoplasmosis, cytomegalovirus and Listeriosis are the few uncommon infections acquired during pregnancy are usually asymptomatic but occasionally have detrimental effects on the newborn. The purpose of our study was to invite the pregnant women to take part in a research study on these three diseases and to assess their knowledge, and to create educational materials that may help improve the care of pregnant women and babies.

This was a voluntary nature of the study, an anonymous questionnaire was prepared in which the demographic details of the pregnant women, their knowledge regarding possible spread, symptoms and prevention regarding toxoplasmosis, Listeriosis and cytomegalovirus was included. The questionnaire was distributed in the antenatal clinics when patients were attending their booking clinics from June 2009 till November 2009.

The total number of the participants was 287. The patients' source of knowledge was primarily from magazines, information leaflets, family and friends and Internet. 51% acknowledged changing cat litter, 18% eating undercooked pork and 30% gardening without gloves as risk factor for Toxoplasmosis. Only 32% identify avoiding deli meats and soft cheese can prevent Listeriosis. For prevention of Cytomegalovirus 17% acknowledged washing hands with soap and water, 5% not kissing young children and 10% eating properly pasteurized dairy products as a preventative measure.

Although uncommon these infections can have serious effects on the developing fetus. Most primary infections during pregnancy are asymptomatic and screening for infection is problematic. Primary prevention is the most logical method to lower the risk of congenital infection by educating pregnant women.

SURVEY INTO THE MANAGEMENT OF UNCOMPLICATED TWIN PREGNANCIES IN IRELAND

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At present there is a guideline from the Royal College of Obstetricians and Gynaecologists for the management of monochorionic twin pregnancies [1]. There is also a study group consensus of the RCOG regarding the management of multiple pregnancies [2].

Our survey had the purpose to find out to what extent we follow these recommendations in Ireland.

We sent out a questionnaire to 120 consultant obstetricians in Ireland and Northern-Ireland. The survey was made up of multiple choice and a few open questions.

We were interested in where and by whom these patients were seen. We also wanted to know the common schedule of antepartum ultrasound scanning and the opinion as regards to the timing of delivery.

There was a response rate of 42% ($N = 51$). 92% ($N = 47$) of these consultants manage twin pregnancies themselves. Just eight consultants (16%) replied that in their hospital there is a twin clinic managed by a lead obstetrician following up on all twin pregnancies. A small majority follow the study group recommendations [2] as to serial scanning. The timing of delivery of dichorionic twin pregnancies is being followed up by approximately 60%. Only approximately 40% follow the recommendations for monochorionic twin pregnancies.

Our survey shows there is no clear consensus in management of twin pregnancies in Ireland. Although these pregnancies are among the most high risk. We think there is room for further investigation into common practice and the available evidence to form a basis for clear consensus in Ireland.

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AN AUDIT OF AMNIOCENTESIS AT CUMH

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Amniocentesis is the most common invasive prenatal diagnostic procedure undertaken in CUMH. Continuous audit of amniocentesis should be performed. Third-trimester amniocentesis, which reduces the risk of procedure-related pregnancy loss, may be applicable in some cases, but implications of delaying amniocentesis include delivery before the test and increased culture failure rates.

We examined the indications, operators, laboratory failure rates and results of all amniocenteses performed from 2008 to 2010 and focused on the indications for and complications of third-trimester procedures. Data was collected from ultrasound databases and supplemented by individual chart review.

We reviewed 252 pregnancies that underwent amniocentesis, 51 of whom were after 28 weeks. Median maternal age was 34 years and median gestation, 20 weeks. Indications included malformations (133/252; 52.8%), raised nuchal translucency (61/252; 24.2%), and maternal request (58/252; 23%). Two operators achieved the recommended number of annual procedures. Eight patients needed a double puncture (3%) and there were 15 blood-stained samples (6%). Fetal karyotype was abnormal in 78 cases (31%). Culture failure rate overall was 4%, but 8% (4/51) in the late group. 88.2% of late

amniocentesis were performed due to late diagnosis of fetal abnormalities and were uncomplicated; six women (6/51; 11.8%) had declined earlier amniocentesis.

This audit shows that the practice of amniocentesis in CUMH meets the criteria set out by recent RCOG guidance. Although with a culture failure rate of just 8% and few complications, third-trimester amniocentesis is an acceptable option, routine second-trimester anomaly scanning might reduce the number of late procedures performed.

ESTABLISHING TRIMESTER SPECIFIC MATERNAL THYROID FUNCTION REFERENCE RANGES

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Thyroid disorders are the commonest endocrine disorder in women of childbearing age. The diagnosis and management of thyroid disorders in pregnancy remains challenging due to physiological changes in pregnancy and the lack of pregnancy-specific reference ranges.

We aimed to establish trimester-specific thyroid function reference ranges in singleton pregnancies in our local population.

This was a prospective, cross-sectional study of low-risk pregnancies attending CUMH. Patients with known thyroid disorders, autoimmune disease, recurrent miscarriage, hyperemesis gravidarum and pre-eclampsia were excluded. First trimester samples were obtained at the booking visit (11–14 weeks), second trimester at 18–24 weeks, and third trimester at 32–40 weeks. TFTs were analysed in the CUH biochemistry laboratory using Roche Modular E170 electrochemiluminescent immunoassay. Trimester specific reference ranges (2.5th, 50th and 97.5th centiles) were calculated.

301 patients were included. Median age was 30 years (range 17–45). In the first, second and third trimesters, median freeT4, TSH and T3 were 14.45, 1.08, and 4.90; 12.80, 1.53, and 4.70; and 11.40, 1.59, and 4.20 respectively. 170 (56%) women had thyroid peroxidase antibodies (TPO) detected, 24 (8%) of which were above normal range.

This table demonstrates the calculated percentiles of TFTs in each trimester.

	Trimester 1			Trimester 2			Trimester 3		
	T4	TSH	T3	T4	TSH	T3	T4	TSH	T3
2.5th Centile	10.60	0.09	4.00	10.24	0.52	3.46	8.43	0.59	3.40
50th Centile	14.45	1.07	4.90	12.80	1.53	4.70	11.40	1.59	4.20
97.5th Centile	21.06	3.24	6.87	16.6	3.13	5.87	15.64	4.01	5.48

We have produced trimester-specific reference ranges for maternal thyroid function.

MATERNAL OBESITY AND ABNORMAL GLUCOSE TOLERANCE

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Gestational Diabetes Mellitus (GDM) affects between 1 and 14% of pregnancies. Recently-published national guidelines recommend screening for women with a Body Mass Index (BMI) > 29.9 kg/m². The purpose of this study was to determine the incidence of abnormal glucose tolerance in obese mothers based on accurate measurement, rather than self-reporting, of maternal weight and height.

We enrolled women between July 2009 and March 2010 after ultrasound confirmed an ongoing singleton pregnancy in the first trimester. Weight and height were measured digitally and BMI calculated. Based on a policy of selective screening, a 100 g oral Glucose Tolerance Test (GTT) was undertaken around 28 weeks.

Out of 2000 enrolled, 541 GTT's were performed and 7.4% were abnormal. The results are shown in Table 1. Compared with overweight women, the incidence of abnormal GTT's did not increase in the Class I category but did in the Class II–III category. Based on recently established BMI centiles for this population, the incidence of abnormal GTT's was 19.2% when BMI was >90th centile (>33.0 kg/m²), compared with 5.8% in the 10–80th centiles and 4.8% in the 80–90th centiles ($p < 0.001$).

When BMI category is based on accurate measurement, the incidence of abnormal glucose tolerance is seen to be increased if the BMI is >33.0 kg/m² but not between 30.0 and 33.0 kg/m². The appropriate cut-off for selective screening for GDM should thus be >33.0 kg/m². This has the potential to decrease the need for oral GTT's.

Table 1 Glucose Tolerance Test results analysed by BMI category

BMI category (kg/m ²)	<18.5 (n = 50)	18.5–24.9 (n = 1,059)	25.0–29.9 (n = 538)	30.0–34.9 (n = 204)	>35.0 (n = 149)
GTT	4	189	131	98	119
Impaired glucose tolerance	0% (0/4)	1.1% (2/189)	3.8% (5/131)	3.0% (3/98)	9.2% (11/119)
Gestational diabetes	0% (0/4)	1.6% (3/189)	3.8% (5/131)	3.0% (3/98)	6.7% (8/119)
Total abnormal GTT	0% (0/4)	2.6% (5/189)	7.6% (10/131)	6.1% (6/98)	16.0% (19/119)

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THROMBOPROPHYLAXIS IN PREGNANCY: THE PRACTICAL IMPLICATIONS OF GUIDELINES

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Thromboembolic Disease (TED) is the leading direct cause of maternal mortality in the UK and Northern Ireland (1.94 per 100,000 maternities). Recent guidelines produced by the RCOG advocate pregnant women be assessed for risk of TED at predetermined points antenatally and Low Molecular Weight Heparin (LMWH) administration is recommended for those deemed to be at intermediate or high risk. The aim of this study was to determine how this risk stratification would apply to our obstetric population and what number of patients would potentially receive LMWH.

The charts of the first 100 women who delivered at the CWIUH in 2010 were reviewed and risk stratification applied at the relevant time points.

Out of this population a total of 51 women were deemed to be at high or intermediate risk of TED at some point during pregnancy; 5 at booking, 7 during an antenatal admission and 39 peri-partum. Of these peri-partum cases, 14 had undergone caesarean section while the remaining 25 were deemed at intermediate risk due to having a combination of two or more of the following; parity greater than or equal to 3, smoking, BMI >30 or age >30 years.

Identification of women at high risk of TED in pregnancy remains paramount and the RCOG guidelines are excellent in this regard. However, the use of multiple risk factors cumulatively places many women into an intermediate category. The efficacy, safety and cost effectiveness of treating one out of every two women in order to prevent a complication that occurs in only one out of every 500 maternities needs greater evaluation.

PREGNANCY FOLLOWING UTERINE ARTERY EMBOLISATION

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Uterine Artery Embolisation is a minimally invasive procedure which serves as a substitute for invasive operation such as hysterectomy and myomectomy for treatment of fibroids. This technique has been found to result in an 80 to 90% improvement in menorrhagia and a 50 to 60% reduction in size of fibroids. However, it also carries some risks including ovarian dysfunction (<10%), transient (15%) or permanent (3%) amenorrhoea and hysterectomy (1–2%).

To date, myomectomy has been considered the only surgical option for women desiring future fertility. Although UAE is now an acceptable alternative for managing symptomatic uterine fibroids, its effect on future pregnancy and fertility remains unclear.

Data on pregnancy following uterine artery embolisation are scarce, with less than 300 pregnancies reported to date. The data available suggested that in these pregnancies, there is an increased risk of early miscarriage, preterm delivery, caesarean section, malpresentation and postpartum haemorrhage compared with general population.

Hence, we presented 3 cases of pregnancies following UAE. 2 women conceived spontaneously within 2 years of embolisation, and 1 had IVF 2 years after. All pregnancies were successfully carried to term. None of the pregnancies were complicated with any antenatal problems, fetal growth restriction or congenital anomaly, and the birth weights were normal. Two women had spontaneous vaginal delivery and 1 woman had elective caesarean section for previous myomectomy rather than directly caused as consequence of embolisation, and the presentation was normal vertex at delivery. No postpartum haemorrhage was reported in any of the cases.

WHY IS THERE ALWAYS AN ECTOPIC ON A FRIDAY AFTERNOON? A STUDY OF SURGICAL MANAGEMENT OF ECTOPIC PREGNANCY IN THE ROTUNDA HOSPITAL, DUBLIN

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Ectopic pregnancy (EP) occurs in about 2% of all pregnancies, and remains a major cause of maternal mortality and morbidity. The objective of this study was to review the surgical management of EP in our center, a tertiary level unit in Dublin.

A retrospective review of the theater records was performed. Data was collected over a 1-year period from October 2009 to October 2010. SPSS 18 was used for statistical analysis.

84 patients were identified as having primary surgical treatment. The mean age of the patients was 31.9 ± 5.2 years. The majority of the patients ($n = 80$) were managed laparoscopically (95.2%) with two patients undergoing immediate laparotomy and two needing conversion to laparotomy. Salpingectomy was the main procedure performed either by laparoscopy or laparotomy (88.1%). The median duration of the operation was 85 min (range 20–210 min). Specialist registrars performed 42 operations, while consultants ($n = 19$, 22.6%), and junior registrars ($n = 23$, 27.4%) performed the remainder. No significant differences in the number of the procedures performed on each of week-days were noted ($p = 0.866$). However, the number of the procedures descends significantly at the weekends compared to the rest of the week-days ($p = 0.043$).

The rate of surgical management of ectopic pregnancy does not vary throughout the working week. The impression that there are an increased number of surgical procedures for EP on a Monday or Friday was not proven statistically. The majority of operations were performed laproscopically, reflecting increasing confidence in performing the procedure competently.

GYNAECOLOGICAL REVIEW IN THE ACCIDENT AND EMERGENCY DEPARTMENT?

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The aim was to assess referral pattern and outcome of women attending A&E for gynaecological assessment. Such patients may represent a significant work-load for non-consultant hospital doctors (NCHD), who may provide an inadequate, inexperienced opinion [1]. This may lead to unnecessary admissions as well as patient dissatisfaction.

Data were collected prospectively for 1 month at the Mid Western Regional and St John's Hospitals, by the NCHD on call, using a pro forma sheet. Data collected included time, origin and reason of referral, as well as clinical findings, outcome and demographic data.

76 cases were analysed. 43.4% (33/76) were evaluated during working hours, while 56.6% (43/76) attended out of hours, including 18/76 (23.7%) at the weekends. The table below shows origin, reason for referral and outcome. On review of the cases, 35.5% of referrals were deemed inappropriate. 50% of patients who were admitted had a surgical procedure. The majority of the others only required an ultrasound scan for reassurance.

Origin of referral		Outcome	
Self-referral	28(37%)	Admission	14(18.4%)
Direct GP	32(42%)	GOPD referral	28(36.8%)
Indirect GP	16(21%)	Discharge	25(32.8%)
Reason for referral		Maternity referral	9(11.8%)
Abdominal pain	38(50%)		
Heavy menstrual bleeding	10(13%)		
Assault	2(2.6%)		
Post-menopausal bleeding	1(1.3%)		
Early pregnancy complications	8(10.5%)		
Urinary retention/prolapse related issue	4(5.2%)		
Vulvo-vaginal discharge/infection	13(17%)		

A large number of these patients could have been more appropriately seen in an outpatient clinic. This would potentially reduce hospital admissions and improve patient satisfaction. Alternatively an Emergency Gynaecological Assessment Unit (EGAU) could be beneficial. EGAUs have been successfully set up, in other countries [2], with dedicated scan and theatre sessions available along with a dedicated GP referral pathway. This is on a similar basis as Early Pregnancy Units (EPAU). High GP and patient satisfaction has been reported in association with EGAUs.

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IS BLADDER EMPTYING EFFICIENCY A USEFUL TOOL IN THE IDENTIFICATION OF POSTPARTUM URINARY RETENTION?

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The aim of this study was to assess the role of emptying efficiency (EE) in the identification and management of women with postpartum urinary retention (PUR) and persistent postpartum urinary retention (PPUR). PUR is a recognised complication after childbirth. Prompt diagnosis improves prognosis. However, parameters for its clinical diagnosis are ill-defined [1] and if undiagnosed it may proceed to PPUR which may be associated with long-term bladder dysfunction. To our knowledge, EE has never been used in the diagnosis and monitoring of PUR and PPUR.

This is a prospective 2 month study comprising 130 women with vaginal deliveries. The voided volume (VV) in one void was measured and the post-void residual (PVR) was estimated by scanning the bladder to calculate the EE using the formula $VV/PVR+VV \times 100$. Women were scanned between 3 and 48 h postpartum. We defined PUR as EE <75% or PVR >200 ml at or after 6 h postpartum.

19 women were identified as having PUR (14.6%). Of these, three (2.3%) required intermittent catheterisation.

The advantage of using EE as a measure of emptying difficulty is its simplicity and clinical relevance [2]. In particular, it identifies mothers without obvious postpartum urinary symptoms with the potential to expedite their management and thus avoid PPUR and possible permanent bladder dysfunction. With further numbers we hope to define a role for bladder scanning in the routine management of selected women postpartum.

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BNA GLANDULAR—WHAT TO DO?

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The incidence of Borderline Nuclear Abnormality (glandular) appears to be rising and presents a diagnostic dilemma. The aim of our study was to assess the impact of age on disease distribution and management options.

All patients presenting with BNA glandular on smear from September 2007 to August 2010 were analysed. All these smears were Liquid Based Cytology. We analysed the histopathological outcomes in patients with reference to age. Two groups were taken (a) Patients ≤35 years old; (b) Patients >36 years old.

A total of 136 women were referred, 77 women >36 years old, 56 women were ≤35 years old. Three women were excluded since colposcopy was normal and no further investigation performed. Both age groups showed same percentage of CIN and CGIN. There's higher percentage of cervical cancer in >36 years old, which 2 out of 3 were adenocarcinoma. In women ≤35 years old no endometrial pathology was seen. While in >36 year old group, there was 2.59% incidence of endometrial hyperplasia with atypia.

This study suggests that ladies >36 years old should have investigations to exclude extracervical pathology whereas in ladies ≤35 years old may not require these as cervical lesions only were identified in this group.

OUTCOMES OF WOMEN UNDER 25 YEARS OF AGE REFERRED FOR COLPOSCOPY CLINIC AT MID-WESTERN REGIONAL HOSPITAL, LIMERICK (PERIOD FROM JANUARY 2004 TO SEPTEMBER 2009)

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Cervical screening age was raised from 20 to 25 years, that raised a concern among women. The aim of this study to determine the colposcopic findings, management, and follow-up of women below twenty-five years of age referred to the colposcopy clinic at Mid-Western Regional Hospital Limerick.

This was a retrospective review of the colposcopy data-base over 5 year's period from October 2004 to September 2009.

795 women under 25 years were referred to our unit. Referral smears were high-grade squamous lesions (HGSL) in 35.4% and low grade squamous lesions (LGSL) or atypical squamous cells of uncertain significance (ASCUS) in 46.1% of cases. Following colposcopy 43% had biopsy-proven high grade abnormalities, 24.1% of them had grade three cervical intraepithelial neoplasia (CIN3). Those with LGSL or ASCUS smears, 25.1% of them had a histology-proven HGSL, while those with HGSL smear 51.1% had HGSL on histology. 447 women (56.1%) had treatment [LLETZ (29.3%) and cold coagulation (70.7%)]. In the LLETZ group 93 (71%) women had histology results of high grade abnormalities. 51% of LGSL smears resolved spontaneously and 6% had persistent disease following treatment that required further treatment (59.3 were CIN2, 22.2% CIN3 and 18.5 CIN1).

The high number of high grade cervical lesion detected in our colposcopy unit among young women raises concern about the lower screening age threshold of 25 year of age.

DIAGNOSIS OF MISSED MISCARRIAGE AT CORK UNIVERSITY MATERNITY HOSPITAL

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Miscarriage occurs in up to 20% of clinical pregnancies. A 'missed miscarriage' is one in which there is an intact gestational sac without visible fetal heart activity, the cervix is closed and no products of conception have passed. CUMH has a dedicated early pregnancy clinic (EPC) where ultrasound scans are performed by midwife sonographers. The criteria used in the diagnosis of missed miscarriage are gestational sac >25 mm with no fetal pole or yolk sac, or a fetal pole >6 mm without fetal heart activity.

The aim of this audit was to review the criteria used to diagnose missed miscarriage at CUMH. It was performed prospectively by chart reviews of women attending the EPC.

Details were collected from 58 women, ranging in age from 17 to 45 years. Of the multiparous patients, 42% had previously experienced a miscarriage. The diagnosis of missed miscarriage was made on a single ultrasound scan in 62% of women. The maximum number of scans performed prior to diagnosis was 4 (range 1–4, median 1). All diagnoses of missed miscarriage were made by midwife/sonographers. In 26% of cases, diagnosis was based on GS only, with size ranging from 0.43 to 3.15 cm. Crown-rump length (CRL) ranged

from 0.19 to 5.9 cm. In those patients diagnosed at repeat ultrasound, 27% had documentation of fetal heart activity previously, while the others showed no growth in GS size or CRL over subsequent scans.

In 100% of cases of missed miscarriage diagnosed, the criteria of local guidelines were met and all cases were diagnosed by midwife sonographers.

ASSESSMENT OF MOBILISATION, ENCOURAGEMENT AND PATIENT EDUCATION IN RECENTLY DELIVERED MOTHERS: A CROSS-SECTIONAL STUDY

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Pregnancy and postpartum are high risk periods for venous thromboembolism (VTE) and pulmonary embolism (PE). Early mobilisation during the postpartum period can decrease the risk of both complications [1].

This study aims to investigate levels of mobility and degrees of 'mobility encouragement' in recently delivered mothers. We also aimed to assess knowledge of VTE among recently delivered mothers.

A cross-sectional study of 47 recently delivered mothers was performed by interviewing each patient prior to discharge. Patients were subjectively questioned on 'encouragement to mobilise' by completing a daily numerical Likert scale during their inpatient stay. Subjective levels of mobility post delivery and knowledge of VTE were also assessed on a daily basis using the same scale.

Subjective Activity Levels	Delivery day (n = 47)	1 day post delivery (n = 43)	2 days post delivery (n = 29)
Low	51.1%	58.1%	41.4%
Moderate	34.0%	32.6%	48.3%
Normal	14.9%	9.3%	10.3%

In total, 51% (n = 24/47) received no encouragement to mobilise postpartum. Thirty percent (n = 3/47) felt somewhat encouraged and 19.1% (n = 10/47) were strongly encouraged. Some 34% had no knowledge of VTE or PE and 52% had some knowledge of both complications. Only 14.9% claimed a good understanding of VTE or PE. Table 1 illustrates the results for subjective activity levels.

Recently delivered mothers report poor mobility levels, poor knowledge of VTE and perceive a concurrent low level of encouragement to mobilise post delivery. Patient education in addition to direct encouragement may play a future role for improving clinical outcomes in this cohort group.

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POST NATAL GLUCOSE TOLERANCE TESTING IN GESTATIONAL DIABETES

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Diabetes complicates 5% of all pregnancies. 87.5% are due to Gestational Diabetes (GDM). These women are at a high risk of developing Type 2 Diabetes Mellitus and up to 50% will be diagnosed in the following 10 years. Current recommendations are that we carry out an Oral Glucose Tolerance Test (OGTT) at 6 weeks post partum and yearly thereafter. The aim of the audit is to determine the uptake of OGTT postnatally and to analyse the results found.

We performed an audit on women presenting to the Diabetic Obstetric High Risk Clinic at Cork University Maternity Hospital with a diagnosis of GDM between March 2009 and March 2010. Information collected included OGTT values at referral, risk factors for the development of GDM, referrals to Endocrinology services and post natal OGTT values.

Details were collected from 197 women. The uptake of screening in the post partum period was 58%. Of those who had a post natal OGTT, 3.5% (4/115) had a confirmed diagnosis. The higher the antenatal OGTT, the more likely a positive postnatal OGTT. 42% did not have a post natal OGTT. 18% had inappropriate investigations instead. 69% of patients were referred to the Endocrinology services. 42% had a documented risk factor for the development of Gestational Diabetes.

A 6 week post partum OGTT is crucial in preventing untreated Type 2 Diabetes Mellitus. Our data suggests that measures need to be taken to ensure this test is performed.

PRESSURE ON BEDS... TOTAL LAPAROSCOPIC HYSTERECTOMY—A SOLUTION FOR REDUCING HOSPITAL STAY

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This is a study of the 54 patients who have undergone Total Laparoscopic Hysterectomy at our institution since September 2009 for a range of gynaecological conditions including early endometrial and cervical cancer. We reviewed the length of hospital stay and incidence of post operative complications as well as analgesia requirements in the immediate post operative period. Total abdominal hysterectomy is the gold standard for some gynaecological conditions. However it can be associated with tissue trauma, blood loss and a significant risk of wound infection, and results in a hospital stay of approximately 5–7 days.

This study is a retrospective cohort study. 54 patients have undergone TLH in MMUH since September 2009. Individual charts were reviewed and we recorded their age, BMI, indication for surgery, pre and post op haemoglobin, duration of post-operative stay, and any post-operative complications.

Our results show a mean age of 51.1 years, BMI 31.1, a mean hospital stay of 1.85 days, and a mean drop in haemoglobin of 1.2 g/L. Two patients had their procedure converted to open surgery due to difficulty secondary to extensive adhesions.

Total Laparoscopic Hysterectomy is a surgical option for many of our patients. Our study shows it results in a shorter post operative hospital stay, minimal intra-operative blood loss and reduced analgesia requirements compared to total abdominal hysterectomy. This is in keeping with results from other international studies [1, 2]. In anticipation of worsening budgetary restraints we should consider this surgery for any suitable patients in an effort to maximise patient numbers and reduce morbidity and hospital stay.

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REVIEW OF AGE AT DIAGNOSIS OF CERVICAL CANCER IN ST JAMES HOSPITAL 2005–2010

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The objective of our study was to review cases of cervical cancer in St. James Hospital from January 2005 to September 2010 with respect to age at diagnosis and histological cell type.

Cancer of the cervix is the second most common cancer of women worldwide. Each year there are approximately 437,000 new cases of invasive cervical cancer diagnosed. The incidence of invasive cancer of the cervix in most populations is very low below 20 years of age, peaking in frequency between the ages of 45 and 60 [1].

The study was retrospective. 361 cases of cervical cancer in the defined study period were identified from the computer database.

In relation to the histological cell type, approximately 80% were classified as squamous cell carcinoma and the remainder were classified as adenocarcinoma. The range of age at diagnosis was between 24 and 98 years. The results may be of significance in relation to screen programmes in Ireland.

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OBSTETRIC OUTCOME IN PREGNANCIES COMPLICATED BY GESTATIONAL DIABETES

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The rising incidence of obesity, increasing ethnic diversity and more comprehensive screening criteria have led to a greater number of antenatal patients being diagnosed with gestational diabetes. This diagnosis is known to confer an increased risk for adverse maternal and neonatal outcome and for increased obstetric intervention. We investigated the obstetric outcomes of a consecutive cohort of 137 gestational diabetics that attended our combined Obstetric-Endocrine service in 2009.

This was a prospective cohort study that recruited patients with a diagnosis of gestational diabetes based on a positive 100 g-oral glu-

cose tolerance test in the index pregnancy or who were diagnosed with recurrent GDM on the basis of a positive OGTT in a prior pregnancy, combined with elevated blood-glucose series in the index pregnancy. Peripartum and obstetric outcomes were compared between those who required insulin therapy and the group managed with diet-therapy alone.

137 patients were enrolled. 52 were treated with insulin and 85 were managed with dietary modification alone. There were five twin pregnancies. There was one stillbirth which occurred in the diet managed group. Two patients in the diet group and one in the insulin group returned to country of origin to deliver. Therefore maternal outcomes available in 51 in insulin treated group and 83 in diet managed group.

Outcome	Total <i>n</i> = 134	Insulin treated <i>n</i> = 51	Dietary modification <i>n</i> = 83
Mean age at delivery	32.52 (range 22–41)	32.4 years (range 22–39 years)	32.01 (range 22–41)
Elective Caesarean section	42 (31.3%)	20 (39%)	22 (26%)
Emergency Caesarean section	14 (10.4%)	5 (9.8%)	9 (10.8%)
Vacuum delivery	13 (9.7%)	9 (17.6%)	4 (4.8%)
Forceps delivery	6 (4.4%)	1 (1.9%)	5 (6%)
Spontaneous vaginal delivery	60 (44.7%)	14 (27.4%)	46 (55.4%)
Vaginal breech	1 (0.7%)	0	1 (second twin) (1.2%)
Induction of labour	36 (26%)	19 (37.2%) (7 of whom went on to SVD. 36.8%)	17 (20.4%) (12 of whom went on to SVD. 70.5%)
Spontaneous onset of labour	54 (39.1%)	11 (21.5%) 4 of whom went on to SVD (25%)	43 (51.8%) 16 of whom went on to SVD (37%)
Third degree tear	3 (2.1%)	0 (0%)	3 (3.6%)
Shoulder dystocia	0 (0%)	0 (0%)	0 (0%)

There is a high level of obstetric intervention in the perinatal management of patients with gestational diabetes. This data serves to highlight the inherent differences in delivery-outcome between those GDM patients who are diet-controlled and those who require therapy beyond diet.

VAGINAL BIRTH AFTER CAESAREAN SECTION AND ITS SUCCESS—CAN WE DO BETTER?

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The objective was to analyse the management of vaginal birth after caesarean section in women with one previous caesarean section and mode of delivery, with the aim of improving patient care and informed choice.

Individual case analysis of women with one previous caesarean section who delivered in the month of October 2010 was undertaken. In addition to retrospective chart review, women were surveyed regarding antenatal counselling, awareness and risk involved for or against VBAC. Patient views regarding the eventual outcome and future pregnancy were noted.

Of the women recruited 50% spontaneously laboured, 43% of these achieving a vaginal delivery and 57% had an emergency caesarean section. 50% of total women had an elective repeat caesarean section. Of these 57% had opted for VBAC. 36% had counselling post their first caesarean section regarding future mode delivery. In the current pregnancy 21% were given no information regarding risks associated with VBAC, a further 14% prompting explanation through their own research. 21% achieved vaginal birth after 1 previous caesarean. All deliveries were uncomplicated and women generally satisfied with the outcome. 57% stated their family was complete.

Conclusion: VBAC is still a grey area in many obstetric practises regarding counselling and success rates, as well as the management of women as they approach their expected date of delivery. Clearer protocols need to be established regarding these issues and be less subjective. The possibility of having written information in an outpatient setting should be considered. A holistic approach should be taken when considering VBAC.

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FOLLOW UP OF OBSTETRIC ANAL SPHINCTER INJURY, PERINEAL TRAUMA CLINIC EXPERIENCE

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The incidence of obstetric anal sphincter injury (OASI) is 1–3% of all vaginal deliveries. Risk increased at first delivery and with instrumental delivery, midline episiotomy and shoulder dystocia. Follow up of OASI at a dedicated multidisciplinary clinic with endoanal ultrasound and anal manometry is the gold standard of care which allows appropriate counseling and risk assessment for future deliveries.

The aim of this study was to evaluate our service, assess some of the risk factors for OASI and to examine the relationship between persistent bowel symptoms and endoanal test results. We carried out a retrospective chart review of 82 women with OASI attending the Perineal Trauma Clinic 4–8 months postnatal.

71 (87%) of OASI occurred during first delivery. 54 (66%) women had assisted delivery, 35 (65%) had forceps while 19 (35%) had vacuum. Total

of 27 (33%) women had persistent symptoms ranging from flatal urgency to fecal incontinence. 19 (70%) symptomatic women had evidence of an anal sphincter defect at endoanal ultrasound, while 8 (30%) had intact sphincters. 55 (67%) women were asymptomatic at follow up, 40 (73%) of those women had evidence of sphincter defect, whereas 15 (27%) had intact internal and external anal sphincters at endoanal ultrasound.

Birth related sphincter injury is more common at first delivery especially with use of forceps. The majority (76%) of asymptomatic and most (70%) symptomatic women had evidence of sphincter defect at endoanal ultrasound. Symptomatic women and asymptomatic women with sphincter defects should be counseled properly about future deliveries as they have increased risk of recurrence and worsening incontinence symptoms.

CAN SHOULDER DYSTOCIA BE PREDICTED?

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Introduction: Shoulder dystocia (SD) is an unpredictable and unpreventable event, majority of cases occur in the children of women without any risk factors. Conventional risk factors predict only 16% of SD that results in infant morbidity [1]. The Confidential Enquiries into Stillbirths and Deaths in Infancy's (CESDI) 5th annual report recommended 'a high level of awareness and training for all birth attendants' [2].

Study design: A retrospective audit was performed on all SD between January and September 2010. A total of 6,342 women delivered in the Rotunda Hospital during the audited period.

Aim and objective: To revisit the risk factors and maternal and perinatal outcome of SD.

Results: SD occurred in 68 pregnancies during our study period, incidence of SD was 68/6,342 (1.07%). Primigravida represented the majority of cases (59%), Para 1 (26%), Para 2 (13%) and less than 2% occurred in para 3 and above. 48% of SD occurred in female infants with a mean birth weight of 4.07 kg, the mean birth weight for the male infant was 4.17 kg. Ventouse delivery preceded SD in 51%, spontaneous delivery in 38%, forceps in 3% and combined instrumental delivery in 8% of cases. Induction of labor was associated with 47/68 (69%) of SD making the strongest predictor for SD. Nine women (13%) had PPH and 13/68 (19%) had third degree tears.

Conclusion: Our study supports the risk factors for SD are primigravida, induction of labor, instrumental delivery and babies over 4 kg. We recommend presence of senior obstetrician or senior registrar at delivery when multiple risk factors are present.

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THE AWARENESS AND KNOWLEDGE OF WOMEN IN IRELAND ABOUT CERVICAL SCREENING AND THE CERVICAL CANCER VACCINE: A QUESTIONNAIRE BASED STUDY

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Cervical cancer is the second most common cancer in women world wide. In Ireland about 78 women die and 200 new cases are detected annually. Following the introduction of the National Cervical Screening Programme (NCSP) and as a follow up from an Irish study in 1999 by Turner, Greene et al. we decided to assess the awareness and knowledge of women in Ireland about cervical screening and the new HPV (Human Papilloma Virus) Vaccination programme.

This was a prospective questionnaire based study among women who were attending and also working in the University College Hospital, Galway in June 2010. Outcome measures included the knowledge of cervical screening, the new Vaccine and current recommendations.

200 women responded to the survey aged between 17 and 76 years. 20% of women had never had a smear. 61% of those who never had a smear were over 25 years old. Majority of women cited smoking, HPV, multiple partners and early age of sexual intercourse as causes cervical cancer. 11% of women had no knowledge of its aetiology. 84% of women were aware the NCSP has been rolled out and 59% were aware that the HPV vaccination programme has started and 60% women were aware that it will not eliminate the need for screening.

Awareness regarding cervical screening is present in majority of women in Ireland today but their knowledge is limited. We strongly recommend the need for more public information and education especially with regard to the new HPV Vaccination Programme and enrolment onto the NCSP.

POLYCYSTIC OVARY SYNDROME PCOS0 AND THE PERIPHERAL BLOOD WHITE CELL COUNT

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This retrospective study examined if the white cell count (WCC) is increased in women with polycystic ovary syndrome (PCOS) and if so, is it due to PCOS or to the associated obesity?

Body Mass Index was calculated and body composition was measured using bioelectrical impedance analysis.

Of the 113 women studied, 36 had PCOS and 77 did not. The mean WCC was higher in the PCOS group compared with the non-PCOS group ($8.9 \times 10^9/l$ vs. $7.4 \times 10^9/l$ $p = 0.002$). This increase was due to a higher neutrophil count ($5.6 \times 10^9/l$ vs. $4.3 \times 10^9/l$; $p = 0.003$). There was a leucocytosis (WCC $>11 \times 10^9/l$) present in 19% of the PCOS group compared with 1% in the non-PCOS group ($p < 0.001$). The neutrophil count was abnormally high ($>7.7 \times 10^9/l$) in 14% of the PCOS group compared with 4% in the non-PCOS group ($p < 0.001$). On regression analysis, however, the only independent variable which explained both the increased WCC and the increased neutrophil count was PCOS.

We found that PCOS is associated with an increased WCC due to increased neutrophils, which supports the evidence that PCOS is associated with low-grade inflammation. The increase appears to be due to the underlying PCOS, and not to the increased adiposity associated with PCOS.

ACCURACY IN MEASURING BLOOD PRESSURE AND SIGNIFICANCE OF MID-ARM CIRCUMFERENCE IN A DIABETIC CLINIC

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Objective: Gestational Diabetes Mellitus complicates 2–9% of pregnancies and is associated with obesity and hypertension. Accurate measurement of blood pressure requires the use of an arm cuff customised to the mid-arm circumference (MAC). A large cuff should be used for a MAC >33.0 cm.

Method: We compared the Mid-Arm Circumference (MAC) between women attending our Diabetic and standard antenatal clinics. After the blood pressure was measured, the MAC was measured. The Body Mass Index (BMI) was calculated at the first antenatal visit.

Results: In the standard clinic ($n = 101$), the mean BMI was 25.1 kg/m^2 and the mean MAC was 28.7 cm. In the Diabetic Clinic ($n = 39$), the mean BMI was 29.2 kg/m^2 and the mean MAC was 31.5 cm. The number of women with a MAC >33.0 cm was 23% in the Diabetic Clinic compared with 12% in the standard clinic ($p < 0.001$). In the BMI $30.0\text{--}34.9 \text{ kg/m}^2$ category, 29.4% had a MAC >33.0 cm while in the BMI $>35.0 \text{ kg/m}^2$ category, 92% had a MAC >33.0 cm.

Conclusion: Ideally, all women should have a MAC measurement at their initial antenatal visit. Based on this study, 1 in 4 women attending the Diabetic Clinic and 1 in 8 women attending standard antenatal clinics should have their blood pressure measured using a large cuff.

Table 1 : Number of women with MAC >33.0 cm in antenatal clinics (ANC)

BMI category (kg/m ²)	Standard ANC (n = 101)	Diabetic ANC (n = 39)	Total (n = 140)
<25.0 (n = 58)	1	0	1 (1.7%)
25.0–29.9 (n = 40)	2	1	3 (7.5%)
30.0–34.9 (n = 17)	4	1	5 (29.4%)
>35.0 (n = 13)	5	7	12 (92.3%)
Total (n = 140)	12 (12%)	9 (23%)	21 (15%)

BODY MASS INDEX AND SPONTANEOUS MISCARRIAGE

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Objective: Reports have highlighted the increased reproductive challenges in women who are obese, based on the WHO categorisation if a Body Mass Index (BMI) $>29.9 \text{ kg/m}^2$. The objective of the study was to compare the risk of miscarriage in obese women with the risk in women in other BMI categories once a first trimester ultrasound has identified the fetal heart rate. We also compared maternal body composition in women who miscarried with those who did not.

Methods: In prospective observational study conducted in a university teaching hospital, women were enrolled between July 2009 and June 2010 after a sonogram confirmed their dates and an ongoing singleton pregnancy in the first trimester. Maternal height and weight were measured, and BMI calculated. Body composition was also analysed using advanced Bioelectrical Impedance Analysis.

Results: Of the 1,200 women, the overall miscarriage rate was 2.8% ($n = 33$). The mean gestational age at enrolment was 9.9 weeks. In

the obese category ($n = 217$), the miscarriage rate was 2.3% compared with 3.3% in overweight category ($n = 329$), and 2.3% in normal BMI group ($n = 621$). There was no difference in the mean body composition parameters, particularly fat mass parameters, between those women who miscarried and those who did not.

Conclusion: In women with sonographic evidence of fetal heart activity in the first trimester, the rate of spontaneous miscarriage is low and is not increased in women with BMI >29.9 kg/m² compared to women in the normal BMI category. On direct measurement on fat mass using BIA, there was no association between miscarriage and adiposity.

CLINICAL VALIDATION OF ADVANCED BIOELECTRICAL IMPEDANCE ANALYSIS IN PREDICTING PREGNANCY OUTCOMES

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Objective: We compared analysis of Maternal Body composition using bioelectrical impedance analysis (BIA) with Body Mass Index (BMI) in predicting pregnancy outcomes.

Methods: Women were enrolled in their convenience between July 2009 and June 2010 after a sonogram confirmed their dates and an ongoing singleton pregnancy in the first trimester. Written consent was obtained. Maternal height and weight were measured digitally, and BMI calculated. Body composition was analysed using advanced BIA (Tanita, MC 180). Clinical and socio demographic details were recorded. Data was analysed using SPSS version 15.

Results: Of the 1,000 women studied, 49.1% were primigravid and 19.0% were obese, based on BMI category. The 90th centile for BMI and BIA parameters were calculated. The clinical outcomes are presented in Table 1 according to the 90th centile.

Conclusion: Bioelectrical Impedance Analysis was as good as accurately measured BMI in the first trimester in predicting pregnancy outcomes. These findings provide clinical validity for the use of advanced BIA in obesity research in obstetrics.

Table 1 Pregnancy outcomes analysed by >90 th centile parameters ($n = 1,000$)

Parameters	Miscarriage	Gestational diabetes mellitus	Pre-eclampsia	Caesarean section	Birth weight >4.5 kg
BMI (kg/m ²)	12.5%	14.0%	20.0%	16.2%	5.0%
Weight (kg)	12.5%	15.9%	23.6%	13.6%	5.0%
Fat mass (kg)	12.5%	14.4%	23.6%	15.2%	6.0%
Fat free mass (kg)	12.5%	14.2%	20.0%	11.1%	6.0%
Visceral fat (level)	12.5%	14.7%	20.0%	13.8%	6.0%
Bone mass (kg)	12.5%	13.6%	20.0%	10.6%	6.0%

AN EVALUATION OF THE SIMULTANEOUS USE OF THE LEVONORGESTREL-RELEASING INTRAUTERINE SYSTEM (LNG-IUS, MIRENA®) COMBINED WITH ENDOMETRIAL ABLATION IN THE MANAGEMENT OF MENORRHAGIA

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Background: Endometrial ablation and the levonorgestrel-releasing intrauterine system (LNG-IUS, Mirena®) are recognised as effective treatments for menorrhagia [1, 2]. There is limited data in the literature evaluating their combined use.

Aim of study: To document the efficacy and possible complications in women using these combined therapeutic modalities.

Study design: A qualitative questionnaire was sent to women who had undergone simultaneous endometrial ablation combined with LNG-IUS insertion between 2006 and 2009.

Results: The response rate was 71% (86/120). 67 (78%) had endometrial ablation using Thermachoice® and 19 (22%) using Thermablate®. Mean age was 43 years (range 33–54) and mean parity was 2.3 (range 0–4).

Following treatment, 33 (38.3%) women were amenorrhoeic and 50 (58.1%) were hypomenorrhoeic. Two (2.32%) women said that their periods were unchanged and one woman (1.66%) reported heavier periods following treatment. No woman required a hysterectomy for persistent menorrhagia. Two (2.32%) women had the procedure repeated. Of the 30 women who reported dysmenorrhoea prior to treatment, 24 (79.9%) reported that their pain had either gone or improved after treatment. Following treatment six (6.9%) reported breast tenderness as a new symptom while 13 (15%) stated that they had an improvement in pre-treatment breast tenderness after the procedure. 82 women (95.3%) stated that they were satisfied with the treatment.

Conclusion: The use of endometrial ablation combined with the levonorgestrel-releasing intrauterine system is an effective treatment for the management of women with menorrhagia.

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MASSIVE POSTPARTUM HAEMORRHAGE AFTER VBAC: A RED HERRING WITH A RED FLAG

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We describe the management of a patient with massive postpartum haemorrhage immediately following VBAC. The patient was para 1, with a previous Caesarean delivery for fetal distress in labour. She

presented in spontaneous labour, did not require augmentation and progressed to the second stage with reassuring continuous electronic fetal monitoring. Following an easy vacuum delivery that was indicated by new-onset early decelerations on CTG and blood-stained liquor, placenta was delivered with a massive retro-placental clot. Cord pHs were 6.8 and 6.9. Maternal collapse ensued and management included transfusion of 25 U RCC, almost 25 U of other blood products, oxytocic medical management, uterine balloon tamponade, laparotomy (which showed no free blood in the abdomen), internal iliac vessel ligation, and finally, hysterectomy. We discuss the difficulty in correcting DIC, in making the correct diagnosis, and in performing hysterectomy in this clinical scenario. Final diagnosis was scar dehiscence into the broad ligament.

HAEMOCHROMATOSIS IN PREGNANCY—IS IT COMMON AND IS IT HELPFUL?

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The aim of this study was to determine the prevalence of the Haemochromatosis mutations C282Y and H63D in the pregnant population and to determine their effect on iron physiology in pregnancy.

This was a prospective observational study of 478 healthy primigravid women who attended the ante-natal clinic in the Rotunda Hospital. Irish caucasian women with a singleton pregnancy, aged between 18 and 40 years old, with no chronic conditions were recruited. Analysis looking for the incidence of the two Haemochromatosis gene mutations 282Y and H63D was subsequently preformed using DNA extraction. Effects on iron physiology and on a variety of pregnancy outcomes were analysed.

DNA was extracted and amplified from all 457 patients. Results were available for C282Y and H63D mutations on 454 and 455 pregnant patients respectively (99 and 99.5% respectively) of the study group.

9 patients (2%) were found to be homozygous for the C282Y mutation.

71 patients (15.6%) were found to be heterozygous for the C282Y mutation, and 16 patients (3.5%) were compound heterozygous for both C282Y and H63D.

12 patients (2.6%) were found to be homozygous for the H63D mutation while 119 patients (26%) were found to be heterozygous for the H63D mutation.

The effect on iron physiology in pregnancy was then assessed. See Table 1.

Table 1 Mean values of all haematological indices measured at 24 weeks gestation

	Normal	Hetero- zygous H63D	Hetero- zygous C282Y	Compound Hetero- zygous	Homo- zygous C282Y	Homo- zygous H63D
Number	228	119	71	16	9	12
HB (g/L)	115	117	114.	116.	120***	117.
MCH (pg)	30.8	30.8	31	31.6	32	31
MCV fl	90	89.5	91	92 ^c	91.5	89.6

Table 1 continued

	Normal	Hetero- zygous H63D	Hetero- zygous C282Y	Compound Hetero- zygous	Homo- zygous C282Y	Homo- zygous H63D
Ferritin (µg/L)	17	19	22.*	24	77 ^b	21****
ZPP µmol/ mole Haem	46.	43 ^a	43 ^c	34 ^e	32 ⁱ	41.
STfr nmol/L	15.7	14 ^b	15.1 ^d	12.6 ^g	11.5 ^j	13.3

Mann–Whitney Test significance when compared with normal genotype

^a $p < 0.036$, ^b $p < 0.0001$, ^c $p < 0.017$, ^d $p < 0.019$, ^e $p < 0.039$, ^f $p < 0.001$, ^g $p < 0.007$, ^h $p < 0.009$, ⁱ $p < 0.003$, ^j $p < 0.003$

* $p < 0.054$, ** $p < 0.058$, *** $p < 0.052$, **** $p < 0.051$

In the study population of 457 women the extrapolated C282Y homozygote frequency was 1/72 while the extrapolated H63D frequency was 1/33. Statistically significant changes in iron physiology was noted both at booking and at 24 weeks gestation.

ACCURACY OF SONOGRAPHIC DETERMINATION OF PLACENTAL CORD INSERTION SITE IN TWIN PREGNANCIES

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Marginal or velamentous insertion of the umbilical cord is associated with an increased risk of adverse perinatal outcome. The incidence of abnormal cord insertions is higher in twin pregnancies than in singleton pregnancies. The aim of the study was to assess the reliability of prenatal ultrasound in determining placental cord insertion site in twin pregnancies.

A prospective observational trial evaluating growth in twin pregnancies was carried out in 8 tertiary referral centres in Ireland. All participants had serial sonographic evaluation throughout pregnancy. A targeted assessment of placental cord insertion (CI) site for each twin was performed at each sonogram. Following delivery all placentas were examined according to a defined protocol. Sonographic and pathological CI findings were compared.

1,200 fetuses of 616 twin pairs had successfully documented CI on ultrasound and placental pathological data available for comparison. Of the 1,200 cord insertions placental examination confirmed an abnormal CI, either marginal or velamentous, in 22.9% ($n = 275$) of cases. Prenatal sonographic assessment correctly delineated CI site in 75.8% of cases (910/1,200). There was significant inter-centre variability, with accuracy ranging from 64 to 84%.

Overall positive and negative predictive values were 47 and 83% respectively.

Sonographic determination of umbilical cord insertion site in twin pregnancies correlates well with pathological findings overall. There is a notable degree of operator-dependent variability, but in expert hands it provides a safe, inexpensive and accurate tool in the diagnosis of abnormal CI in twin pregnancy.

AUDIT OF PELVIC FLOOR REPAIR WITH MESH

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The use of synthetic mesh in pelvic reconstructive surgery is increasing. Pelvic floor surgery with mesh is associated with complications such as mesh exposure, dyspareunia, granulation tissue and recurrence of prolapse. Concerns have been raised in the literature about high complication rates with mesh, lack of prospective studies with controls and lack of long term follow up studies. Mesh erosion is the most commonly reported complication with an estimated frequency of between 4 and 10%. We retrospectively analysed 70 charts of pelvic floor reconstructive operations with mesh use—either Polyform® or Gynemesh® types. We looked at the demographics of the women, their previous operations, the number of women with mesh exposure postoperatively who required either medical or surgical management, those with dyspareunia and recurrence of their prolapse at review. Seventy women from age 45–76 years were operated on—25 Gynemesh® and 46 Polyform® mesh types were used. 32 women had anterior repair with mesh, 28 had posterior repair with mesh and 11 had combined anterior and posterior repair with mesh. Five (4/70) percent were lost to follow up. There was a 15.7% (11/70) mesh erosion rate. However only 4.2% (3/70) of women needed surgery to remove their mesh erosion. (There was a 25% mesh erosion rate with Gynemesh® compared to 10% with Polyform®). We conclude that pelvic floor reconstructive surgery with mesh has a high success rate which outweighs any small risk of mesh exposure needing excision.

THE ROLE OF SENTINEL NODE BIOPSY IN VULVAR CARCINOMA

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Reviewing the role of sentinel node biopsy in the management of vulvar carcinoma.

Retrospective cohort study of patients diagnosed with vulvar carcinoma in a tertiary gynaecological oncology referral centre from the period January 1996 to January 2010. Data was obtained using patient case notes. Primary site and size of tumour, sentinel node biopsy, subsequent treatment, postoperative morbidity and 5-year survival were all included. Staging was performed using the FIGO system for vulvar carcinoma.

A total of 65 patients were identified with vulvar carcinoma. A total of 15 sentinel node biopsies (SNB) were performed. Of these 73.3% ($n = 11$) had a tumour size <2 cm. 40% ($n = 6$) negative for malignancy. Of these 40%, 50% ($n = 3$) patients are currently disease free. One patient had new primary tumour diagnosed in 2010. 33.3% ($n = 2$) had primary tumours >2 cm both these patients had recurrence and deceased within 5 years of diagnosis. 20% ($n = 3$) were

positive for malignancy. All were treated with radical vulvectomy and bilateral lymph node dissection followed by radiotherapy. 40% ($n = 6$) of lymphoscintigrams performed all proceeded directly to bilateral lymphadenectomy at time of operation. 100% of these patients had node negative disease confirmed on histology. Three of these patients had subsequent recurrence.

Lymph node pathological status is the most important prognostic factor in vulvar carcinoma but inguinofemoral node dissection is associated with significant morbidity. This study shows that SNB is an affective modality for nodal status for those who have tumour size <2 cm located laterally and is associated with decrease in postoperative morbidity.

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REVIEW OF HDU ADMISSIONS IN A TERTIARY REFERRAL OBSTETRIC/GYNAECOLOGY UNIT

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Critical care and invasive monitoring for healthy obstetric and gynaecology patients is rarely required. However, a small cohort of patients will require a higher level of care than is provided in standard wards. This reduces the chance of “near miss” incidences as one to one nursing care and regular monitoring can anticipate the worsening condition early and hence decreases the chance of ICU admissions and serious morbidity/mortality.

This retrospective study aims to establish the utilization of HDU beds in a busy tertiary referral obstetric/gynaecology unit. It looked at the HDU admissions in Rotunda Hospital Dublin between Jan 2007 and Dec 2009. Information on age, parity, indication for admission to HDU, average length of stay, need for invasive monitoring and further transfer to general wards or ICU care was obtained from medical records. Majority women were discharged from HDU to routine wards but a few were transferred to ICU care.

The total admissions in HDU were 128, 130, and 163 in 2007, 2008 and 2009 respectively. The average length of stay was 2 days and the commonest reason for admission was preeclamptic toxemia.

This study establishes the important role of HDU in acute obstetrics/gynaecology hospitals. The availability of such a unit leads to a safety culture allowing any complications to be picked up early. Also there is a dedicated 24 h anaesthetic team in the hospital who can closely monitor the woman similar to an ICU setting.

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FETAL HYDRONEPHROSIS: OPTIMAL RENAL PELVIC MEASUREMENTS TO INCREASE THE DETECTION RATE FOR RENAL PATHOLOGY

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There is a lack of consensus or robust data to clarify the cut off measurement of renal pelvic dilatation (RPD) in fetal hydronephrosis. The cut-off value should be one with a high diagnostic rate for renal pathology and a low false positive rate. This would help to minimise parental anxiety, reduce unnecessary investigations and provide a cost efficient service without missing significant pathology.

The aims of this study were to review the outcome of fetal hydronephrosis with a RPD of 4–7 mm before 28 weeks gestation and to assess whether a measurement of >7 mm had a higher positive predictive value for renal pathology.

A total of 373 fetuses were diagnosed with hydronephrosis giving a prevalence of 0.022%. There was a male to female ratio of 1.8:1. Trisomy 21 was present in 1.34% of cases. The resolution rate for a RPD of 4–7 mm was 92.2% and >7 mm was 32%.

Our data highlights the natural history of hydronephrosis (4–7 mm) is predominantly of resolution. However, without follow up, 7.8% cases of possible pathology would be missed. Our data suggest that a RPD of 6 mm would increase the detection rate for renal pathology with a lower false positive rate than 4 mm. However, management may be better informed by trends and not on single estimates. The male preponderance was also reflected in the resolution rate, which indicates that female fetuses have a higher probability of non resolution and underlying pathology.

Table 1 Postnatal outcomes of RPD diagnosed at 20–22 weeks

RPD at 20–22 weeks	Resolved <i>n</i> (%)	Pathology <i>n</i> (%)	Total
4–7 mm <i>n</i> = 345	318 (92.2)	27 (7.8)	345
>7 mm <i>n</i> = 28	9 (32)	19 (68)	28

RPD renal pelvic dilatation

BABIES BORN BEFORE ARRIVAL AT THE ROTUNDA HOSPITAL: A 5 YEAR AUDIT

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Born before arrival (BBA) births have been linked to adverse perinatal outcome. The aims of this audit were to establish the incidence of BBA births and the associated maternal and neonatal morbidity.

Medical records of women who had a BBA birth in the Rotunda Hospital between 1 January 2005 and 31 December 2009 were reviewed retrospectively and demographic and outcome data were collected.

During the study period, 142/39,895 (0.36%) of babies were born before arrival. The incidence of BBA births has nearly doubled from 0.26% in 2005 to 0.49% in 2009. Planned homebirths and babies weighing ≤500 g were excluded from the study. 92% were multiparous; 3 women (2.1%) had a previous BBA birth and 11 (7.8%) had a previous Caesarean delivery. Maternal morbidity included: 3rd degree perineal tear (*n* = 2), manual removal of placenta (*n* = 3), postpartum haemorrhage (*n* = 2). Eight of 13 unbooked women had a concealed pregnancy. There were 6 stillbirths (4.2%). Of the 136 liveborn babies, 11 (8.1%) required admission to NICU for following reasons: neonatal abstinence syndrome (*n* = 4), observation (*n* = 4), prematurity (*n* = 2) and hypothermia (*n* = 1). The mean birthweight was 3,159 g (range 680–4,270 g). Most deliveries (54.5%) occurred during daytime. The mean distance to the hospital was 12 km.

This study demonstrates that there is an increase in BBA births which raises concern given the easy accessibility of antenatal care in

Dublin. The significant perinatal morbidity in this cohort highlights the necessity for optimising parental education.

SINGLE VERSUS DOUBLE LAYER CLOSURE AT CAESAREAN DELIVERY—AN ONGOING DEBATE

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Many obstetricians in Europe and the United States routinely perform single layer closure at CS, whereas it is more common practice in Ireland, the UK and Australia to perform double layer closure. We sought to evaluate the current technique of uterine closure employed by Irish obstetricians for the purpose of designing an RCT protocol on this subject.

An anonymous online survey emailed to approximately 140 doctors working in OBGYN in Ireland received 91 responses (65%). Eighty percent of participants had over 5 years experience; 34 (38%) were consultants, 28 (31%) were SpRs, 20 (22%) were registrars and 8 (9%) were SHOs. Currently, 65% of doctors close the uterus with a double layer continuous locking (1st layer) and continuous non-locking (2nd layer) technique. 27% employ a continuous non-locking technique on both layers. Only 3 consultants use a single layer closure with one of them using single layer for repeat CS and double layer for primary CS. 58% of clinicians think that an RCT of single versus double layer closure would be beneficial, 67% expressed enthusiasm to participate and 53% stated that the outcome of such trial would change their practice.

None of the studies published to date are sufficiently powered or designed to answer the important question: Do patients who have had a single layer closure have a higher incidence of uterine scar rupture in a subsequent pregnancy? Due to an impractical large number of patients needed for an adequately powered multicentre trial (over 6,000), this controversial question will likely remain unanswered but continually debated.

USE OF OXYTOCIN IN MULTIPAROUS WOMEN IN LABOUR

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Use of oxytocin to accelerate labour in multiparous women is an uncommon event (5%) because the parous uterus is highly efficient.

This is a prospective cohort study performed at the National Maternity Hospital, between January 2009 and July 2010 to document the outcome of multiparous women in spontaneous labour who required oxytocin to accelerate labour. The study population included those with previous caesarean scar.

There were 200 patients. Most patients, 161 (80.5%) had a vaginal delivery following acceleration of labour with oxytocin. Of these, 132 (82%) delivered spontaneously while 29 (18%) required instrumental delivery. There were 140 (70%) with no previous caesarean scar and 123 (87.9%) of them had a vaginal delivery. Sixty (30%) patients had a previous scar and 38 (63.3%) delivered vaginally. Majority, 117 (72.6%) of patients who had a vaginal delivery, delivered within 2.5 h of starting oxytocin. A further 36 (22.4%) delivered vaginally within the subsequent 2 h. Sixty-seven (41.6%) vaginal deliveries occurred

with a maximum oxytocin infusion rate of 0.6 μ /h, 32 (19.9%) required a maximum dose of 0.3 μ /h and 39 (24.2%) required a maximum infusion rate of 0.9 μ /h. There were no cases of uterine rupture.

This study shows that a parous woman requiring oxytocin to accelerate labour has 80% chance of achieving a vaginal delivery. We recommend that a multiparous patient on oxytocin to accelerate labour should be reviewed after 2.5 h of starting the infusion. Finally, we would advise that the rate of infusion does not exceed a maximum of 0.9 μ /h.

REVIEW OF THE USE OF BLOOD PRODUCTS IN THE OBSTETRIC POPULATION IN CORK UNIVERSITY MATERNITY HOSPITAL

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We undertook a review of the use of blood products in Cork University Maternity Hospital in 2010. We retrospectively reviewed the haemovigilance records of all obstetric patients in receipt of a blood product from 1st January to 30th June. Products included red cell concentrate (RCC), platelets, fresh frozen plasma (FFP), cryoprecipitate, and albumin.

Seventy-two patients were transfused. Sixty-four (88.9%) were transfused in the post-natal period. Eight (11.1%) were transfused due to early pregnancy complications. One hundred and eighty-eight units of RCC, six pools of platelets, six units of FFP, and one unit of cryoprecipitate were transfused. The mean number of RCC transfused was 2.57 units per patient; ranging from one unit to twelve units per patient. The average age of the patient was 33.5 years.

The majority of patients were delivered by caesarean section, 37.5%. Forceps was the second most commonly seen mode of delivery, 23.4%. Placental abruption and placenta praevia/accreta accounted for the majority of massive obstetric haemorrhage cases. Estimated blood loss (EBL) ranged from 200 to over 5,000 ml. Average EBL was 1,179 ml. Records of pre-transfusion haemoglobin ranged from 4.8 to 12.6 g/dL. Average pre-transfusion haemoglobin was 7.1 g/dL. One transfusion reaction was documented. There were no serious adverse reactions. Nine episodes of non-conformance were identified.

Documentation and conformance were of a high level. Transfusion reactions were rare. Transfusion rates were comparable to similar-sized institutions.

MULTIPLE PREGNANCIES—A 25 YEAR REVIEW IN A TERTIARY REFERRAL CENTRE

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Background: Twinning occurs in approximately 1:80 pregnancies and, therefore, is an important biologic event. Because of the frequency with which obstetric and neonatal hazards accompany multiple pregnancies, it is recognised as having considerable medical importance. With the advancement of assisted reproductive techniques, and advancing maternal age, it is increasing in frequency and more relevant to modern obstetric practice.

Aim: To analyse the trends in multiple pregnancies over the preceding 25 years focusing specifically on incidence, caesarean sections rates, perinatal death and neurological complications in both nulliparous and multiparous women.

Methods: It was a retrospective review of the annual reports from 1983 to 2008 focusing on the multiple pregnancy cohorts.

Results: There were a total of 2,770 multiple birth deliveries between 1983 and 2008. This gave a mean of 106.5 deliveries per year (range 69–161 deliveries). The caesarean section rate was 31.37% in the primiparous and 17.11% in the multiparous group. There was no difference in neurological outcome between groups (3 being affected in each). The perinatal death rate was 6.9% in the primiparous group versus 5.8% in the latter.

Conclusion: Multiple births are increasing. The incidence of LSCS and perinatal death is higher in primiparous women in our review. The commonest cause of perinatal death remains to be those associated with TTTS, IUGR, congenital anomaly and those related with prematurity.

THE EVOLVING PATIENT POPULATION AT EUROPE'S BUSIEST MATERNITY UNIT

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Irish society has undergone unprecedented change in recent times. During this time economic opportunity brought various nationalities to Ireland. The majority of women arriving to Ireland were of childbearing age which placed on additional demands on maternity services. The National Maternity Hospital (NMH) at Holles St, is Europe's busiest maternity unit with circa 9,000 deliveries per annum. We set out to examine the various nationalities of women who have delivered at our Hospital from 2002 to 2009.

Since 2002 women have been required to declare their nationality on booking with the hospital. We sought the nationality of every patient who delivered a fetus at greater than 24 weeks gestation weighing more than 500 g. Hospital computer records were reviewed and results generated.

There were 66,750 deliveries at the hospital in the period 2002–2009. 98.7% of patients declared their nationality at booking with the hospital. A total of 116 nationalities delivered during the 8 year period. This number increased from 89 nationalities in 2002 to 105 in 2009. In total 14,804 (22.17%) deliveries were to non-Irish nationalities. The portion of Irish deliveries fell from 77.53% of total deliveries in 2002 to 71.66% in 2009.

The patient population at the NMH has changed considerably over the 8 years this study examines. The number of deliveries has increased significantly, with the majority of this increase being accounted for by foreign nationals. Future work may examine the effect of the current economic recession on the patient population at the hospital.

Top 5 Nationalities	Total 2002–2009
Irish	51,084 (77.83%)
Nigerian	2,092 (3.13%)
British	1,497 (2.24%)
Polish	1,122 (1.68%)
Chinese	1,063 (1.59%)

THE EFFECT OF THE TERM BREECH TRIAL ON VAGINAL BREECH DELIVERY 8 YEARS ON

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The term breech trial was published in 2000 demonstrating benefit to caesarean delivery of term breeches. It has had widespread impact on breech delivery over the subsequent 8 years. Our aim was to examine the rate of vaginal delivery of breeches in the 8 years before and after publication of the term breech trial.

We retrospectively examined vaginal delivery rates of breech presentations, over a 16 year period (1993–2008) in 3 large tertiary hospitals serving a single urban population. All three hospitals are of similar size and serve a population with similar risk profile. All three hospitals have comparable rates of perinatal morbidity and mortality.

During the study period there were 344,259 deliveries between the three hospitals. Over the 16 year period there were 11,769 breech deliveries between the three institutions. There were 5,511 breech deliveries in the 8 years prior to the study and 6,258 breech deliveries in the 8 years following the study. The rate of caesarean delivery was 76.1% prior to the study publication and 89.7% afterward. Vaginal delivery rate in nulliparous was 15.5% in the 8 years before the study and 7.7% in the 8 years after publication ($p = 0.023$). Vaginal delivery in multiparous was 34.1% before the study and 13.7% afterward ($p = 0.01$).

These results show the results of the term breech trial have had a significant effect on attitudes towards breech delivery, and that caesarean delivery is now the preferred method of delivery of a breech presentation in an appropriate clinical setting.

COCAINE AND AMPHETAMINE-REGULATED TRANSCRIPT (CART) CONCENTRATION IN MATERNAL AND CORD BLOOD IN TYPE 1 DIABETIC AND NON-DIABETIC PREGNANCIES AT TERM

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Cocaine and amphetamine-regulated transcript (CART) been shown to play a role in feeding, potentially through an interaction with leptin. We have previously shown leptin to be increased in cord blood of diabetic mothers in the third trimester. We set out to quantify and compare maternal and fetal levels of CART in diabetic and non-diabetic pregnancy.

Maternal EDTA samples were obtained at 36 weeks gestation and cord samples from the umbilical vein at delivery ($n = 20$). CART was measured by enzyme immunoassay (CART EIA kit; RayBiotech, Norcross, GA, USA). Clinical data was recorded prospectively. Statistical analysis was performed using Spearmans correlation and t tests.

There was no difference in maternal CART levels at 36 weeks gestation between T1DM 331.13 pg/ml (17–1,295 pg/ml) and non-diabetic pregnancy 195.01 (25–336 pg/ml) ($p > 0.05$). Similarly fetal CART showed no difference between T1DM (199.27 pg/ml (77–438) and non-diabetic pregnancy 149.76 pg/ml (7–270 pg/ml) ($p > 0.05$). Maternal CART levels did not correlate with fetal CART levels ($p > 0.05$). There was a significant correlation between maternal CART and maternal BMI ($p = 0.001$).

This is the first time, to our knowledge, that serum CART levels in human pregnancy have been recorded, either diabetic or non-diabetic. No significant differences in CART levels between diabetic and non-diabetic groups were found. Of note maternal CART correlated significantly with maternal BMI. CART may play a role in appetite regulation, and hence it is possible that some form of CART resistance may be present in women of high BMI, similar to that of leptin.

MATERNAL CHOLESTEROL LEVELS ARE ELEVATED IN NORMAL PREGNANCY

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Cholesterol levels increase in pregnancy; the significance of which is poorly understood. Maternal hypercholesterolemia is associated with increased fatty streak formation in human fetal arteries and accelerated progression of atherosclerosis in children. Fasting cholesterol levels in healthy non-pregnant adults are 3.5–5.0 mmol/L (total cholesterol), 0.9–2.2 mmol/L (HDL) and 2.1–3.0 mmol/L (LDL), but there are no established normal values for cholesterol in pregnancy. We aimed to investigate cholesterol levels in healthy pregnant women.

This was a cross-sectional analysis of serum cholesterol in women with a singleton pregnancy. We excluded women with a history of liver, cardiovascular disease, or hypercholesterolemia. Women attending for routine antenatal care were recruited at 12, 20, 28 and 36 weeks gestation and day 1–2 postnatal.

Two hundred and nineteen women were recruited. Median age was 30 (range 17–46) and 95% were Caucasian. Median BMI was 25 (range 18–38) and 16.4% were current smokers. Seventy-one women (32.4%) had one parent with hypercholesterolemia.

Cholesterol levels were elevated in all trimesters. HDL levels ranged from 0.9 to 2.7 mmol/L. LDL levels ranged from 1.3 to 6.1 mmol/L, with 57.8% of values >3.0 mmol/L. There was no significant difference in cholesterol levels between current or non-smokers and in those with a positive family history. Total and LDL Cholesterol levels were significantly raised throughout pregnancy. The implications of this on fetus and mother are still undetermined.

Total cholesterol (mmol/L)

Gestational week	12	20	28	36	Postnatal
Number of samples	48	49	32	44	46
Range	3.8–6.7	4.0–8.5	5.3–10.7	4.5–9.2	3.3–8.5
Mean	5.1	5.9	6.8	6.9	5.9
SD	0.8	0.9	1.3	1.2	1.3

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DOES ULTRASONIC ALTERATION OF THE ESTIMATED DATE OF DELIVERY INCREASE PERINATAL MORTALITY?

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The aim of the study is to record the frequency of reassignment of the estimated date of delivery (EDD) at routine 20–22 week ultrasonic examination and to assess the effect of this on perinatal mortality rates.

This was a consecutive observational cohort study of singleton cephalic nulliparas after 41 weeks gestation. A dating scan was performed around 20 weeks gestation and EDD was reassigned if there was a potential indication for alteration of the EDD (e.g. uncertain LMP, on hormonal contraception). Labour was induced at 42 weeks if spontaneous onset has not ensued.

We looked at 1,405 primiparas in total. We had a control group of 500 women and found the incidence of EDD reassigned by ultrasound was 48%. Among our study group 40% had their EDD reassigned by ultrasound. We found a perinatal mortality rate of 11 per 1,000 among the group whose dates were reassigned by ultrasound. There were 359 women in this group. There was also one case of hypoxic ischaemic encephalopathy. The perinatal mortality rate among the group whose dates were unchanged was 3.6 per 1,000. There were 546 women in this group and there was also one case of hypoxic ischaemic encephalopathy. The results were not statistically significant ($p = 0.22$).

This study suggests that perinatal mortality may be increased when the EDD is assigned by ultrasound but a much larger study would be needed to confirm this.

AUDIT OF INDUCTION OF LABOUR AND ANTIBIOTIC USE IN SPONTANEOUS RUPTURE OF MEMBRANES AT TERM IN CORK UNIVERSITY MATERNITY HOSPITAL

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Spontaneous rupture of membranes prior to labour occurs in approximately 10% of all pregnancies. The NICE guideline [1] for induction of labour states that induction in this setting is appropriate 24 h after rupture of membranes. Local guidelines [2] recommend the administration of antibiotics after 18 h to prevent chorio-amnionitis.

Seventy-five patients who presented to the hospital over a 10 week period with spontaneous rupture of membranes were identified

through the admission book and their clinical course was followed. The timing and choice of antibiotics was considered as was the timing of transfer to the labour ward for induction.

Twelve of the seventy-five (16%) patients required induction of labour for prolonged rupture of membranes. The average time taken from rupture of membranes to commencing induction was 25.75 h, in keeping with the recommendation of 24 h in the guideline. Thirty of the seventy-five (40%) required antibiotics. 37% of these had delayed antibiotic administration due to the policy of first dose intravenous medication being given by medical staff. Subsequent doses, which were administered by midwifery staff, were administered at the correct time in 97% of cases. The correct antibiotic was administered in 93% of cases.

The audit shows that current hospital practice with regards to the induction of labour in this setting is in keeping with recommended guidelines. Furthermore antibiotic administration by medical staff is often delayed whereas that by midwifery staff being nearly always to time supports the possibility of midwifery staff administering first dose antibiotics.

1. Induction of labour, National Collaborating Centre for Women's and Children's Health, July 2008
2. Antibiotic Guidelines Cork University Maternity Hospital February 2010

POST NATAL GLUCOSE TOLERANCE TESTING IN GESTATIONAL DIABETES

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Diabetes complicates 5% of all pregnancies. 87.5% are due to Gestational Diabetes. These women are at a high risk of developing Type 2 Diabetes Mellitus and up to 50% will be diagnosed in the following 10 years. Current recommendations are that we carry out an Oral Glucose Tolerance Test at 6 weeks post partum and yearly thereafter. The aim of the audit is to determine the uptake of Oral Glucose Tolerance Testing in the post natal period and to analyse the results found.

We performed an audit on women presenting to the Diabetic Obstetric High Risk Clinic at Cork University Maternity Hospital with a diagnosis of Gestational Diabetes between March 2009 and March 2010. Information collected included OGTT values at referral, risk factors for the development of Gestational Diabetes, referrals to Endocrinology services and post natal OGTT values.

Details were collected from 197 women. The uptake of screening in the post partum period was 58%. Of those who had a post natal OGTT, 3.5% (4/115) had a confirmed diagnosis. The higher the antenatal OGTT, the more likely the patient was to have a positive postnatal OGTT. 42% did not have a post natal OGTT. 18% had inappropriate investigations instead. 69% of patients were referred to the Endocrinology services. 42% had a documented risk factor for the development of Gestational Diabetes.

A 6 week post partum Glucose Tolerance Test is crucial in preventing untreated Type 2 Diabetes Mellitus. Our data suggests that measures need to be taken to ensure this test is performed.

LARGE LOOP EXCISION OF THE TRANSFORMATION ZONE (LLETZ) AND PREGNANCY OUTCOME

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There is good evidence that LLETZ increases risk of pre-term delivery and low birth weight.

We reviewed all singleton pregnancies in primigravidas who previously had a LLETZ performed, in a large Dublin teaching hospital. We obtained information from an electronic database which is kept in the hospital. The study period was 3 and half years from 01/01/2007 to 30/06/2010.

There were 241 women who delivered babies weighing more than 500 g. The mean age of our cohort was 33.5 years (range 23–44 years). There were a total of 22 deliveries under 37 weeks gestation (9.1%), and this compares to 9.3% for primigravidas during the study period NS. The average weight at delivery was 3,355 g (STD deviation 670) with a range 640–4,570. In 16 cases (6.6%) the birth weight was less than 2,500 g. The hospital population over that period averaged 6.2%.

In conclusion, women who have had a LLETZ performed in our institution are not statistically more likely to deliver a baby less than 2,500 g. We also plan to investigate if having a term delivery after a LLETZ procedure reduces the risk of a pre-term delivery when compared to the general population.

COMPLEX ATYPICAL ENDOMETRIAL HYPERPLASIA—CAN WE PREDICT PROGRESSION TO INVASIVE DISEASE?

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Complex atypical hyperplasia progresses to endometrial adenocarcinoma in one-fifth of cases if left untreated [1]. We identified cases of 'Atypical Hyperplasia' from endometrial sampling from computerised records in CWIUH and SJH from 2004 to 2010 and case-note analysis was performed.

Twenty-five cases were initially reviewed. 44% presented with postmenopausal bleeding and 3 were taking HRT. Eleven patients had a transvaginal ultrasound scan, which revealed increased endometrial thickness in all cases. All 25 women had a hysteroscopy, dilation and curettage. An endometrial 'lesion' was reported in 24 cases, and further subdivided into single polyp (7), multiple polyps (3), diffuse lesion (7), or endometrial curetings not specified (7).

We have details on 11 cases known to have had a hysterectomy at the time of submission of this abstract. Endometrial carcinoma was present in 28% of hysterectomy specimens. One of seven patients with a single polyp had well differentiated adenocarcinoma. Four of the seven with diffuse lesions had adenocarcinoma confirmed after hysterectomy. Further results will be discussed.

Endometrial atypical hyperplasia with diffuse proliferation of the endometrium at hysteroscopy is more likely to have already progressed to adenocarcinoma than those with polypoid lesions. Attention to the morphology of the endometrial lesions contributes to the further management of women with atypical hyperplasia.

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AUDIT FOR THIRD AND FOURTH DEGREE TEARS IN 2009 AT CAVAN GENERAL HOSPITAL

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This audit aims to address the Number of third and fourth degree tears as percentage of vaginal deliveries.

The percentage following normal and instrumental vaginal deliveries.

Documentation of the anatomical structures involved prior to suturing.

Proportion repaired in theatre, type of analgesia, suture material, and grade of operator.

Documentation of counselling on risk of anal incontinence, worsening symptoms, implications for subsequent birth.

The number of women referred to physiotherapy.

In 2009

Total number of deliveries 1945.

Number of 3rd and 4th degree tear: 19

Data available for 16 patients.

Documented systematic examination prior to suturing: 16.

USE OF THE LEVONORGESTREL RELEASING INTRAUTERINE SYSTEM IN RENAL TRANSPLANT RECIPIENTS: A RETROSPECTIVE CASE REVIEW

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Our objective was to report on the use of the levonorgestrel-releasing intrauterine system (LNG-IUS, Mirena[®]) in renal transplant recipients.

A retrospective case review was done to identify renal transplant recipients for whom a LNG-IUS had been inserted. All of the women had been seen in the Gynaecology Department, Beaumont Hospital during the period 2000–2010. Parameters including age, year of transplantation, indication for insertion, duration of use, discontinuation and complications were documented.

The main outcome measure was discontinuation of the LNG-IUS due to pelvic infection.

Eleven women were identified who had undergone renal transplantation and were using the LNG-IUS. The mean duration of use was 38 (range 1–84) months. Four women were using the LNG-IUS for contraception and seven were using it for the treatment of menorrhagia, either alone or in conjunction with endometrial ablative procedures. One woman discontinued use in order to conceive. There were no unplanned pregnancies. There were no documented cases of pelvic infection in women using the device.

Renal transplant recipients have a critical need for safe and effective contraception. The use of the LNG-IUS has been avoided in the patients due to the theoretical risk of intrauterine device-related pelvic infection in immune-suppressed patients. However, on the basis of our results, we believe that it is acceptable to use the LNG-IUS in renal transplant recipients for both contraception and for the

treatment of menorrhagia as the theoretical risk of infection in these immune-suppressed patients does not appear to be increased.

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AUDIT OF THE TIMING OF ELECTIVE CAESAREAN SECTIONS AT TERM

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The Royal College of Obstetrics and Gynaecology (RCOG) recommends that planned Caesarean sections be carried out after 39 weeks completed gestation as they are associated with significantly increased risks of neonatal complications [1]. This audit aims to compare practice in the Mid-Western Regional Maternity Hospital (MWRMH) to the guidelines.

Methodology: This is a retrospective study of a consecutive cohort of all singleton pregnancies in the MWRMH between the 1st of October and the 31st of December 2009. Maternal pathology affecting pregnancy outcome and pregnancies with known fetal pathology were excluded.

Results: Of 153 deliveries, the most common indication for Caesarean delivery was a previous Caesarean section. Most operative deliveries took place at 39 weeks or later in accordance with the RCOG guidelines. Of the 47 babies delivered between 38 and 39 weeks 72.3% were born at 38 + 4 weeks or greater.

Discussion: This study shows that to a large extent the guidelines were being followed and that rates of planned operative deliveries at the MWRMH compare favourably with recent data from the United States [2]. Scheduling difficulties around public holidays and weekends may contribute to guideline breaches.

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ASSESSMENT OF OBSTETRIC EMERGENCY TRAINING UNDERTAKEN BY THE CUMH STAFF

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This study addressed the extent of training clinical staff have undertaken in obstetric emergency and their attitude towards further development of emergency training.

Confidential and anonymous questionnaires asking about position held, type of training courses completed, major obstetric emergencies encountered, confidence in dealing with those emergencies, and interest in attending emergency courses, were distributed among midwives and doctors in CUMH.

106 people were asked to fill out the questionnaire: 57% ($n = 60$) midwives, 33% ($n = 35$) Obs and Gynae doctors and 10% ($n = 11$) Anaesthetists. The most popular course over the past 2 years was BLS undertaken by 45% midwives, 40% Obs and Gynae doctors and 27% Anaesthetists. Over the 4 weeks prior to completing the questionnaire 43% of staff dealt with some kind of obstetric emergencies. Most common was PPH which accounted for 45% ($n = 48$) of cases followed by shoulder dystocia 12% ($n = 13$). 91% of staff was either confident or very confident in dealing with PPH (58 and 33% respectively), while 47% of staff was confident and only 15% very confident in dealing with shoulder dystocia. More than 82% of CUMH staff was definitely interested in attending emergency courses if provided by hospital. Nearly half of the staff (48%) would like to do it every year compared to 40% of staff who would prefer to do it every 2 years. Almost all of staff (97%) agreed that Emergency Training should be mandatory.

Unlike other countries Ireland has no mandatory requirements for obstetric emergency training to be taken every few years by clinical staff. It would be beneficial to have training guidelines in this area to ensure staff is properly trained.

Table 1 Emergency training obtained by CUMH staff in last 5 years

	BLS	ACLS	ALSO	MOET	NRP	OTHER	Time
Midwives ($n = 60$)	45% (27)	7% (4)	17% (10)	22% (13)	40% (24)	17% (10)	>2008
Obs& Gynae	28% (17)	7% (4)	22% (13)	5% (3)	30% (18)	3% (2)	2007–2005
Doctors ($n = 35$)	40% (14)	14% (5)	20% (7)	6% (2)	17% (6)	9% (3)	>2008
Anaesthetists ($n = 11$)	23% (8)	14% (5)	14% (5)	9% (3)	9% (3)	3% (1)	2007–2005
	27% (3)	55% (6)	0	0	9% (1)	27% (3)	>2008
	45% (5)	18% (2)	0	0	0	18% (2)	2007–2005

A REVIEW OF DOCUMENTATION OF CONSENT FOR CAESAREAN SECTIONS IN CUMH

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The aim of this audit was to compare the standard of documentation of consent for a Caesarean section to that recommended by the RCOG Consent Guideline¹.

A manual review of a random selection of patient charts of 50 women who had undergone a Caesarean section in September 2010 in CUMH was performed. The consent forms were inspected to compare the actual documentation of each aspect of the form to that recommended by the RCOG [1]. This included the documentation of the name of the procedure, its risks, its timing and grade of the doctor performing the consent.

Of the 50 cases, the operation was an emergency in 26/50 women (52%). The consent form was completed by the operating surgeon/assistant in 26/50 cases (52%), 16/26 (62%) of emergency procedures; 10/24 (42%) of elective procedures. The consent form was not signed by the doctor in one emergency case (2%).

There was no documentation of any risks in 25/50 cases (50%); 14/26 (54%) of emergency cases; 11/24 (46%) of elective cases. The documentation of the serious, frequent and potential risks of further procedures is demonstrated in Table 1.

Documentation of serious and frequently occurring risks of a Caesarean section and the potential risks of further procedures following a Caesarean section

Risk to be documented as defined by RCOG ¹	Number (%) of consent forms with this risk documented in emergency cases <i>n</i> = 26	Number (%) of consent forms with this risk documented in elective cases <i>n</i> = 24	Number (%) of consent forms with this risk documented overall <i>n</i> = 50
Bladder Injury	8 (31%)	8 (33%)	16 (32%)
Ureteric Injury	6 (23%)	1 (4%)	7 (14%)
Thromboembolic disease	4 (15%)	9 (37%)	13 (26%)
ICU admission	0	0	0
Death	0	0	0
Infection	12 (46%)	13 (54%)	25 (50%)
Haemorrhage	12 (46%)	13 (54%)	25 (50%)
Discomfort	0	1 (4%)	1 (2%)
Laceration of fetal skin	0	0	0
Future C Section	3 (12%)	2 (8%)	5 (10%)
Readmission	0	0	0
Blood transfusion	3 (12%)	7 (29%)	10 (20%)
Repair of intraoperative damage	0	0	0
Curretage	0	0	0
Hysterectomy	2 (8%)	4 (17%)	6 (12%)

NEONATAL RESPIRATORY MORBIDITY IN OBSTETRIC CHOLESTASIS—A CONTINUING IATROGENIC PROBLEM?

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Background: Obstetric cholestasis (OC) is associated with adverse pregnancy outcome, including stillbirth. In an earlier study, we reported a high rate of neonatal respiratory morbidity in our unit and suggested that much of this was caused by inappropriately early elective delivery. This is a new study of the perinatal outcome of cases of OC occurring between February 2007 and December 2009. **Method:** A retrospective chart review of all patients with a clinical diagnosis of (OC) during the above period was performed. The main outcome measures were obstetric interventions and neonatal morbidity. The diagnosis of OC was made on the basis of elevated serum bile salts. **Results:** Ninety-four patients with raised serum bile salts were identified. Five patients were excluded, leaving 89 mothers in the study. The mean gestational age at presentation was 34 weeks. Labour was induced in 46 women (52%) and 27 (30%) had a pre-labour Caesarean section. Nineteen (21%) were delivered before 37 weeks, eleven of them electively. The mean gestational age at delivery was 37 weeks (range 33–41). Ninety-five infants were delivered. There were no perinatal deaths. Admission to the neonatal unit was required for 44 infants (46%). Eight babies (8.4%) needed ventilatory assistance, including three who needed full ventilation (3.1%), one of whom had 4 days of full ventilation (at 35 weeks).

Conclusions: There is to be a continuing tendency towards early delivery in cases of OC in our unit. This continues to lead to high rates of neonatal ventilatory support.

ARE WE ALL REALLY MEASURING THE SAME THING? A SURVEY OF METHODS USED TO MEASURE SYMPHISIO-FUNDAL HEIGHT (SFH) IN THE ROTUNDA HOSPITAL, DUBLIN.

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One of the main aims of antenatal care is to screen for intrauterine growth restriction. The most commonly used method is to measure the SFH. This study aimed to survey how obstetricians and midwives measure SFH.

Obstetricians and midwives were invited to complete a questionnaire on different methods of measuring SFH.

Sixty people were invited to complete the questionnaire. Forty-eight full responses were received, giving a response rate of 80%. Fifty-one (87.9%) routinely use SFH in the antenatal clinic. 56.9% (*n* = 33) considered ethnicity in measuring SFH and 80.7% (*n* = 43) check gestation before measuring SFH. The majority 93.1% (*n* = 46) used the uterine fundus as an upper land mark for measurement with two using the fetal pole and two considering both. 74.1% (*n* = 43) used the upper border of the symphysis pubis (SP) as the lower land mark for measurement, 19% (*n* = 11) used the middle of the SP and 6.0% (*n* = 4) used the lower border of the SP. 70.1% (*n* = 41) measured SFH blindly (i.e. used the tape blank side up).

SFH is commonly used in screening for IUGR. In clinics where patients may be in clinics where patients may be seen by many midwives or obstetricians, it is important that there is consistency in measurement in order to maximise pick up. The results of this study may be used in order to establish consistent criteria for measurement of SFH in our unit.

MANAGEMENT OF ECTOPIC PREGNANCY: THE MIDLAND REGIONAL HOSPITAL EXPERIENCE

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Ectopic Pregnancy once diagnosed, is managed by laparotomy, laparoscopy (salpingectomy or salpingotomy), medically, and occasionally by observation [1].

We aimed to document the experiences of ectopic pregnancy management at Midland Regional Hospital Mullingar and compare with international standards. All women diagnosed with ectopic pregnancy between January 2008 and December 2009 was identified from the unit database and a review of the medical records was done. Information was collected on age, history of ectopics, type of treatment performed, number of dosing for medical treatment, time to hCG level of <20, diagnosed persistent trophoblast.

66 women with a firm ectopic diagnosis were identified, based on clinical examination, ultrasound and hCG results. Average age at diagnosis is 31 years. Of the 66 women, 7 (10%) had previous history of ectopic. For initial treatment, 23 (35%) had laparoscopic salpingectomy, 20 (30%) had laparoscopic salpingotomy, 10 (15%) had open (laparotomy) salpingectomy, 3 (5%) had open salpingotomy, 10 (15%) had medical treatment. 7 surgical patients had persistent trophoblast requiring medical treatment, all following initial salpingotomy, 6 (30%) following laparoscopic salpingotomy, and 1

(33%) following open salpingotomy. 2 (20%) of total medically treated patients had failed treatment after 2 doses of methotrexate and had further surgical treatment. All salpingotomies and medical treatment had hCG follow up according to local protocol with an average time of hCG fall to <20 of 21 days.

The management of ectopic adhered to local protocol, which are in keeping with RCOG guidance, however the persistent trophoblast rates are higher than described in pooled reviews [1, 2]. This is often a factor of the local criteria for defining persistent trophoblast, which affects both reported incidence and effectiveness of its treatment [1].

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TRENDS IN THE OBSTETRIC FEATURES OF PAROUS WOMEN OVER A 17 YEAR PERIOD

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To investigate the obstetric features pertaining to all parous women with a singleton gestation, in a cephalic presentation, at or after 36 weeks gestation.

The study was conducted in University College Hospital Galway, and included 38,050 parous women who delivered between 1989 and 2005. There was a significant increase in the proportion of births occurring to women in the 30–34 year and 35–39 year age groups, with a concomitant reduction observed in the proportions for the 20–24 (13.7–11.7%) and 25–29 (31.1–21.1%) year age groups ($P < 0.001$). For maternal age <20, and for maternal age >40, no difference was observed. There was a significant increase over time in the use of epidural analgesia from rate of 49.4% in 1989, to 66.8% in 2005. ($P < 0.001$). For mode of delivery, the emergency caesarean section increased progressively from 4.9 to 11.2%, over time period of the study ($P < 0.001$). The corresponding results for instrumental vaginal delivery were 19.1 and 18.2%. The SVD rate 76.0 to 70.6%. In relation to birthweight, the proportion of infants born weighing <2.5 kg was decreased over the time period of the study, while the proportion for larger infants delivered increased.

From the time period 1989–2005, there was a significant increase in maternal age, with increased emergency caesarean section rates, and larger infants delivered.

LABORATORY ASSESSMENT OF IRON STATUS IN PREGNANCY

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Concerns regarding the effective maintenance and monitoring of iron status during pregnancy prompted an observational study of maternal iron status and its laboratory evaluation.

In this longitudinal study of the biochemical and haematological iron indices of women attending a pre-clinic in a Dublin maternity hospital, patients ($n = 495$) were assessed at first booking (approx. 16 weeks), at 24 weeks, and at 36 weeks. Full blood counts, serum ferritins (SF) and zinc protoporphyrins (ZPP) were assayed. Transferrin receptor (sTfR) and transferrin receptor index (sTfR-Index) levels were determined.

The occurrence of anaemia (ID and IDA) increased over six fold from booking to 24 weeks with all biochemical iron indices reflecting progressive iron depletion right up to term. The WHO recommended anaemia “cut off” ($Hb < 11$ g/dl) was insensitive to low iron stores ($SF \leq 12$ μ g/L) at booking missing over 90% of low SF values which were mostly associated with normal Hb levels ($Hb > 12$ g/dL).

The inclusion of a biochemical index of iron status in the routine screen was of paramount importance.

SF, as the best indicator of biochemical ID overall, should always be measured at first booking. sTfR insensitivity to iron deficiency in early pregnancy improved later and sTfR-Index, as a ratio, has the potential to distinguish between ID and physiological anaemia offering stability in the assessment of iron stores from first booking to full term.

The adoption of a policy of early screening of both Hb and SF concentrations is recommended as the minimum requirement for surveillance of maternal iron status in pregnancy.

ASCERTAINMENT OF PATIENT KNOWLEDGE, BELIEFS AND PREFERENCES REGARDING FOLIC ACID SUPPLEMENTATION, AND FORTIFICATION, IN AN IRISH PREGNANT POPULATION

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A deficiency of folic acid among women has long been implicated as a major cause of neural tube defects (NTDs). Several previous studies have shown the intake of the vitamin during the crucial periconceptional period has remained disappointingly low.

The main aim of this study was to examine the current knowledge and usage pattern of folic acid supplementation and opinions on mandatory fortification. An observational, cross-sectional survey was conducted at Cork University Maternity Hospital. A total of 200 questionnaires with a 95% response rate. Essentially all women in the study had heard of folic acid and 91.5% knew that folic acid should be commenced before pregnancy. However, only 61.3% of women had begun taking folic acid before pregnancy. Periconceptional use was significantly correlated with age 30+, planned pregnancy, steady relationship status (married/engaged/co-habiting) and relative affluence $p < 0.0005$. Overall, 76.2% of women intimated that they would be in support of the introduction of a mandatory fortification scheme in Ireland.

The majority of women have an awareness of folic acid and understand its purpose and when it should be used. However, with regard to taking folic acid there appears to be a void between older, more affluent, more educated women and younger, more disadvantaged women who are less likely to plan their pregnancies. Mandatory food fortification with folic acid would be a very attractive and viable option to address this issue of poor peri-conceptional uptake and this research shows clear support for this initiative.

TO INVESTIGATE THE ASSOCIATION BETWEEN SUBOPTIMAL VITAMIN D LEVELS AND GESTATIONAL DIABETES IN A CORK COHORT

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Hill et al¹ have reported a high prevalence of suboptimal vitamin D status in the Irish population. We have previously reported a high prevalence in the Irish pregnant population. In a review of international studies [2] of vitamin D status in pregnancy, most have shown a lower vitamin D status in patients with GDM or impaired fasting glucose than without. No research has been published to date in Ireland on this association. The primary aim of this study was to assess the vitamin D status of a cohort of pregnant women with diabetes attending Cork University Maternity Hospital for antenatal care.

Serum 25-hydroxy vitamin D (25(OH)D) of 30 pregnant women with a diagnosis of diabetes was measured via radioimmunoassay in addition to analysis of participant characteristics, pregnancy outcomes and obstetric history.

Baseline, mean unadjusted serum 25(OH)D concentration in our diabetic cohort was 32.77 ($\pm$ 12.65) nmol/L. 100% of participants had suboptimal Vitamin D status (80 nmol/L), 90% had insufficient levels ($<$ 50 nmol/L) and 33.33% were deficient ($<$ 25nmol/L). Our previously collected database of 25 (OH) D levels of non-diabetic pregnant women calculated their mean 25 (OH) D as 48.2 ($\pm$ 22.68).

We may have identified a previously unrecognised cohort at particular risk of suboptimal vitamin D status. This is important given that diabetic pregnancies are high risk and the evidence that suboptimal vitamin D is associated with adverse outcomes in both mothers and infants. Awareness of the possible implications of suboptimal vitamin D in pregnancy must be raised. Supplementation of pregnant women with diabetes with Vitamin D may be justified.

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HYSTERCTOMY CAMPS: INTENSIVE SURGICAL TRAINING CAMPS ABROAD

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Introduction: The introduction of third generation ablative techniques has reduced the number of hysterectomy's performed. As a result of this the number of hysterectomy's performed by Gynaecological trainees has greatly reduced.

Simulated surgical training will help improve trainees surgical skills but it will not replace 'hands on surgery'. The aim of the hysterectomy camp is to provide an operative gynaecological service to the less privileged rural women of the Bidada province in Gujrat, India; as well as to encourage trainees to operate on numerous cases under supervision.

Methods: Gynaecological camps are conducted at the Bidada Sarvodaya Hospital in rural Gujrat in India. The camp lasts 4 days. On the

first day there is a 8–10 h day long out patients service where approximately 100 patients are seen followed by 3 days of intensive theatre time. Patients are jointly seen by a registrar and a consultant and posted for surgery where appropriate.

At each camp there are two anaesthetic teams, three Consultant Gynaecologists and three or four trainee registrars. Three surgical tables run simultaneously.

Conclusion: Over two hysterectomy camps 70 hysterectomies were performed. Each trainee performed between 6 and 18 hysterectomies. Most of the hysterectomies were for procidentia which is not commonly operated on in Ireland as a lot of women are treated with ring pessaries. Attending a hysterectomy camp is a unique opportunity to gain valuable surgical skills.

PREDICTION OF PRETERM PRELABOUR RUPTURE OF MEMBRANES TO DELIVERY INTERVAL IN DELIVERIES LESS THAN 34 WEEKS: IDENTIFICATION OF CONTRIBUTING FACTORS

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The incidence of preterm birth (PTB) is increasing worldwide. Gestation at delivery is the largest contributing factor to infant morbidity and mortality. Our aim was to determine the contribution and characteristics of preterm prelabour rupture of membranes (PPROM) to delivery less than 34 weeks gestation. In addition to evaluate the placental and microbiological factors associated with duration of membrane rupture prelabour.

Prospective record of laboratory, labour and delivery data on all PPRM deliveries less than 34 weeks gestation between January 1st 2007 and June 30th 2008. Maternal and fetal outcome was reviewed. All cases of PPRM were subdivided into those delivering less than 24 h following PPRM, delivery between 1 and 7 days, delivery between 7 and 14 days and delivery after 14 days following PPRM.

There were 294 infants (2.25%) born less than 34 weeks gestation during the study period and 65 cases (0.5%) were complicated by PPRM. Nineteen women (29.2%) delivered less than 24 h following PPRM, 30 women (46.1%) delivered between 1 and 7 days following PPRM, 5 women (7.7%) delivered between 7 and 14 days following PPRM and 6 women (7.9%) delivered 14 days or more following PPRM. The presence of Group B *Streptococcus* (GBS) on the perineum was associated with PPRM, and those women with positive cultures from urine microscopy were more likely to deliver in the first week following PPRM ($p = 0.016$).

In 0.5% of pregnancies PPRM occurs before 34 weeks gestation and women with positive urine microscopy are statistically more likely to deliver within the first week after PPRM.

CASE REPORT: SURROGACY FOR A PATIENT WITH CERVICAL CANCER

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Ms. SM, a 34 years old nulliparous lady was diagnosed as stage 1B squamous cell carcinoma of the cervix. She underwent bilateral lymphadenectomy and transposition of her right ovary. She then had

in vitro fertilization (IVF) with subsequent embryo transfer to her sister as the surrogate mother. She completed chemotherapy, pelvic radiotherapy and brachytherapy. Her sister delivered twins with no complications.

Surrogate can be defined as a woman who carries and delivers a child on behalf of another couple. Surrogacy can be either Traditional or Gestational. In Traditional Surrogacy the ovum originates from the surrogate mother while the sperm is from the commissioning father. In Gestational Surrogacy, embryos are fertilised using IVF technique using oocytes and sperm from the commissioning couple, which is then transferred to the surrogate mother.

Surrogacy offers opportunity to some people to have children in circumstances where is otherwise impossible. Although treatment modalities for treating malignancies have advanced, clinicians have to now deal with younger cancer patients. Whether as a direct effect from the primary tumour or as a secondary effect following treatment, fertility outcome in these women are guarded. Surrogacy offers them a promising future to move on with life.

Surrogacy has no legal basis in the Irish law and is among one of the debatable areas in the medico legal ethical field. This case would hopefully help to advocate a step in the right direction towards legalisation and implementation of surrogacy in Ireland.

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MATERNAL MIRROR SYNDROME: A RARE DISEASE

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Introduction: Mirror syndrome (MS) is a condition where mother “mirrors” her hydropic fetus and/or hydropic placenta. Features of MS include generalized edema, hypertension and proteinuria similar to preeclampsia. However, unlike pre-eclampsia, MS is associated with hemodilutional anemia and fluid overload, which may progress to pulmonary edema (21%). MS may persist after delivery. Incidence of MS is very low; only 56 true cases have been reported in the literature. Awareness of this syndrome is important for its increased risk of fetal mortality (56%) and maternal morbidity [1].

Case report A 39-year-old, para 3 + 3 women self referred at 25 weeks gestation to the Rotunda hospital with limb oedema, Hypertension (159/101) and +4 proteinuria. She was rhesus positive and her antenatal course prior to this was uneventful. She was admitted to the hospital for management of pre-eclampsia. Ultrasound of fetus revealed a grossly hydropic fetus with large placenta and a high PSV on MCA Doppler indicating severe fetal anemia. Further investigation confirmed recent maternal Parvovirus B19 infection. An intrauterine fetal blood transfusion was performed, unfortunately baby demised on the same day. Maternal condition worsened even after fetal death, decision for delivery was made. Mother received 3 units of RCC to correct her anaemia and increasing dosage of anti-hypertensives required to control her BP. She was discharged home with outpatient follow up of her hypertension which took some weeks to resolve.

Conclusion: Our case high lights risks association with MS. When specific cause of fetal hydrops cannot be identified and corrected, immediate delivery is necessary to avoid fetal death and maternal complications.

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THE DEMISE OF THE OBSTETRIC FLYING SQUAD IN BELFAST

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A retrospective study of all the obstetric flying squad requests over a 10 year period was conducted to determine the current role of the obstetric flying squad in the greater Belfast area.

86 requests for the flying squad were officially lodged over the 10 year period. In the majority of cases, 46/86 (54%) the baby was born before arrival (BBA). The second most common request, 14/86 (16%) was due to minor vaginal bleeding. No patient bled heavily, nil were clinically shocked, nil required resuscitation and nil patients required a blood transfusion. 30/86 (35%) of patients required no treatment whatsoever and were simply transported to hospital. Of note the average time taken for the obstetric flying squad to reach the patient was longer than the standard ambulance.

The original function of the obstetric flying squad was to provide primary resuscitation for women with life-threatening complications of pregnancy. However, over the past 10 years in Belfast it has increasingly been used as a means of transport to hospital. In this present day climate of budget cuts we suggest that the Belfast trust are no longer able to justify the provision of the obstetric flying squad service.

CAN ULTRASOUND AT THIRTY-TWO WEEKS GESTATION PREDICT PRESENTATION OF TWINS AT TIME OF DELIVERY?

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Malpresentation occurs ten times more frequently in twin pregnancies than in singletons. Mode of delivery is dictated by presentation of the first twin with vaginal delivery possible when the first twin is vertex. In our multiple pregnancy clinic all twins are routinely scanned at around 32 weeks gestation. This study compares presentation at 32 weeks with that at birth to determine whether this can aid in counselling women regarding mode of delivery.

All twin pregnancies from March to September 2010 were studied ($n = 47$). Presentation at the 32 week scan and at birth, parity and mode of delivery were recorded.

Forty-four per cent (21/47) were primigravidas. Sixty-six per cent ($n = 31$) were delivered vaginally and 34% ($n = 16$) by caesarean section (CS), there was one emergency CS for delivery of a second twin with transverse lie. Median gestational age at time of scan was 32 + 0 weeks (range 31 + 0 to 33 + 0) and at delivery was 37 + 0 (range 32 + 4 to 38 + 3). At 32 weeks 80% (38/47) of first twins were vertex presenting. In 4% of cases (2/47) there was spontaneous version of the first twin, both women were multiparous. Thirty-eight per cent of second twins had changed presentation at time of delivery (18/47) of these 77% (14/18) were in multiparous women.

There are few contemporary studies regarding spontaneous version in twin pregnancies during the third trimester. This study shows there is excellent correlation between presentation of the first twin at 32 weeks and delivery. Multiparity is a significant factor in risk of spontaneous version of both twins.

TAILOR THE NEEDS: OUTCOMES OF TEENAGE PREGNANCIES AT THE ROTUNDA HOSPITAL 2005–2009

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Teenage pregnancies are associated with increased maternal and neonatal morbidity. Five years ago, the Rotunda Hospital has established a consultant-led antenatal clinic for teenagers, which addresses specific needs for these pregnancies.

The prospectively collated data was analysed retrospectively over a 5 year period from 1 January 2005 to 31 December 2009.

During the study period, 626 teenagers attended for antenatal care. The majority of patients were nulliparous (96%). Chlamydia screening was performed on 477 patients yielding a positive result in 12% ($n = 57$) of cases. Sixty-three percent ($n = 398$) had a spontaneous vaginal delivery, 24% ($n = 148$) required an operative vaginal delivery and 13% ($n = 80$) had a Caesarean Section. The induction rate was 27%; the most common indications were: post dates pregnancy (56%), prolonged rupture of membranes (13%) and pre-eclampsia (10%). The overall rate of prematurity in this population was 4.5% ($n = 28$) with 5 patients (0.8%) delivering before 32 weeks' gestation and 23 patients (3.7%) delivering between 32 and 36 + 6 weeks' gestation. The incidence of low birth weight babies ($<2,500$ g) was 4.6% ($n = 29$), when adjusted for gestational age the rate was 2.5% ($n = 15$).

The outcomes of teenage pregnancies are favourable and comparable to the adult population attending for antenatal care in the Rotunda. Nevertheless these pregnancies require tailored care, such as social work involvement, screening for STDs and postnatal follow-up which is best provided in a dedicated teenage clinic.