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Front Cover

Logo of the VIII Malta Medical School Conference
The conference logo features the seal of the Malta Medical School, commemorating the founding of the Medical School (as the School of Anatomy) in 1676. The obverse, as depicted, shows the cotton plant (in reference to the founder of the School, Grand Master Nicholas Cottoner, along with the two serpents, traditionally a symbol of medicine. The inscription reads 'SCHOLA ANATOMIAE AC CHIRURGIAE CONDITA MDCLXXVI, meaning 'School of Anatomy and Surgery - Founded 1676'.

VIII Malta Medical School Conference
29 November – 1 December 2012

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PLENARY SESSIONS
early pregnancy screening for pre-eclampsia and intrauterine growth restriction

J Aquillina

The application of ultrasound in obstetrics and gynaecology evolved rapidly from the mid-80s to the mid-90s with significant advances in the application of uterine artery (UtA) Doppler screening for the prediction of uteroplacental complications in the second half of pregnancy. Work focused initially on linking UtA Doppler screening to the mid-trimester scan, and it became apparent that women who failed to modify UtA Doppler blood flow by 24 weeks represented one of the highest risk groups in pregnancy, in particular for the development of preterm IUGR and early-onset pre-eclampsia. Once a high-risk group had been identified, studies focused on finding ways to improve their outcome. While low-dose aspirin held out some hope, large
studies could not find an overall benefit. The next logical step was to investigate the use of UtA Doppler at the end of the first trimester (by linking it to the first trimester scan) and placental biomarkers to enable early identification of a high risk group and an earlier opportunity to start prophylaxis. However several studies confirmed that both first trimester UtA Doppler and placental biomarkers on their own failed as effective early screening tests with high sensitivity but poor specificity. Combining these modalities has however been shown to be a lot more promising. A recent multivariate analyses of multi-parameter testing involving UtA Doppler, biophysical and biochemical parameters demonstrated a 90% plus detection rate for early onset pre-eclampsia, at a 5% false-positive rate. This selected group will be the ideal cohort to assess effectiveness of prophylactic therapies that could modify the natural history of uteroplacental insufficiency.
ORAL PRESENTATIONS
OP1.015

**Occupational health and safety in female commercial sex workers**

**M. W. Ross**

Professor of Public Health and of Infectious Disease, University of Texas, Health Science Center, Houston

Sex work is increasingly regarded as a profession in many parts of the world but there is little understanding of the issues of health and safety issues surrounding sex work. Such issues include violence, legal risks, organizational context of risk, STIs, drugs and alcohol, RSI, immigration and trafficking, and client health and safety. This presentation reviews the OH&S issues from medical, legal, and policy perspectives and identifies the areas that impact medical and health care of sex workers as well as epidemiological perspectives.

OP1.016

**Second look at ovarian carcinoma**

**M.C. Vassallo, D. Chetcuti, M. Refalo, A. Aquilina, J. Mamo**

Department of Obstetrics and Gynaecology, Mater Dei Hospital, Msida

**Introduction:** Different methods for the assessment of the postoperative response to treatment of ovarian epithelial carcinoma exist. Non-invasive methods include CT scan and tumour markers as opposed to invasive methods necessitating surgery either laparoscopically or open surgery - laparotomy.

**Aim:** Review of gynaecological laparotomies to assess the histological findings and to estimate the rate of patients that needed second look laparotomy after chemotherapy for ovarian carcinoma. Method: The histological findings of all gynaecological laparotomies over a twelve month period from the 1st June 2011 until 30th June 2012 were reviewed and categorised based on origin of tissue and malignancy. Ovarian epithelial carcinoma cases were considered further and treatment modalities post-surgical reduction was noted. Second look laparotomy cases post chemotherapy were assessed to see if further cyto-reduction was required.

**Results:** In total 502 gynaecological laparotomies were performed during the abovementioned period. Thirty nine cases out of 502 laparotomies had a diagnosis of ovarian carcinoma; thirty four of epithelial origin, two of sarcomatoid origin and three Krukenburg tumours with the primaries being breast and gastrointestinal in origin. There were three cases diagnosed with ovarian epithelial carcinoma which underwent second look laparotomies post chemotherapy. Two cases out of the three second look laparotomies required further re-exploration and treatment.

**Conclusion:** Second look laparotomy was initially reserved for surgical re-exploration of women diagnosed with epithelial ovarian carcinoma who were asymptomatic and had no clinical evidence of tumor following initial surgery and completion of a planned course of systemic chemotherapy. However, the term has been used to describe a second laparotomy/laparoscopy for cyto-reduction of known recurrent/residual disease to improve the response to subsequent chemotherapy or to relieve symptomatic disease. The need for a second look procedure was based on the fact that epithelial ovarian carcinoma is usually limited to the peritoneal cavity for much of its natural history, and imaging modalities are unreliable for assessing small volume disease. Measurement of the serum concentration of CA-125 also lacks sensitivity for small volume residual disease. The use of laparoscopy or laparotomy as a second look post chemotherapy can indicate which patients may benefit from further cyto-reductive procedures such as chemotherapy.

OP1.017

**Age distribution in patients with cervical intra-epithelial neoplasia and carcinoma**

**S. Grixti, A. Micallef Fava, M. Camilleri, J. Mamo**

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**Aim:** To determine the incidence of cervical carcinoma and cervical intraepithelial neoplasia in the Maltese population and to correlate age with histological findings.

**Method:** A retrospective study was carried out to analyze the histological results of large loop excision of the transformation zone (LLETZ) or cone biopsy that were carried out from 1st January 2009 to 31st December 2011 at Mater Dei Hospital. The incidence of the respective neoplastic diagnosis – cervical intraepithelial neoplasia (CIN) I, CINI, CINIII, carcinoma in situ and cervical carcinoma were calculated. Correlation between the respective pathology and patient’s age was carried out.

**Results:** The incidence of neoplastic lesions in patients who carried LLETZ/cone biopsy between 2009-2011 are as follows: 24 patients were diagnosed with CINI (14, 6, 4 patients were diagnosed in 2009, 2010, 2011 respectively), 24 patients were diagnosed with CINII (10, 9, 5 in 2009, 2010, 2011 respectively) and 10 patients were diagnosed with CINIII (5, 1, 4 in 2009, 2010, 2011 respectively). There were 2 patients with a diagnosis of carcinoma-in-situ (in 2009 and 2010) and 2 cases of cervical carcinoma (in 2010 and 2011). When correlating age with pathology, there was no statistical difference in the age groups. The average age of our cohort was 33 (SD +/- 9 years). The average age of patients diagnosed with CIN I was 33 (SD +/- 9 years), CIN II was 31 (SD +/- 7 years), CIN III was 36.9 (SD 9 +/- years), Carcinoma in situ was 32.5 (SD 12 +/- years) and Carcinoma 33 (SD 10 +/- years).

**Conclusion:** This study highlights the importance of cervical screening from a young age in order to detect cervical neoplasia at its early stages, thus implementing timely treatment, improving morbidity and mortality.

OP1.018

**Lichen sclerosus in Maltese women**

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**Introduction:** Vulval skin biopsy is an essential part of the management of cases of persistent pruritus vulvae/pain or vulval lesion to exclude vulval intraepithelial neoplasia (VIN) or vulval carcinoma. Women with lichen sclerosus have a lifetime risk of developing invasive vulval cancer in the order of 2–4%. Aim: To analyse the incidence of lichen sclerosus in Maltese women presenting for vulval biopsy.

**Method:** Patients referred to Gynaecology Outpatients Clinic at Mater Dei University Hospital, Malta with an incidental vulval lesion or complaining of vulval pruritus/pain/irritation or mass and who were scheduled for vulval biopsy between 1st January 2006 and 31st December 2010 were recruited. The pathological register was used to trace their histological diagnosis.

**Results:** A total number of 297 patients were recruited: 91 patients in 2006, 106 patients in 2009 and 100 patients in 2010. Peak age group was between 61-70years (n=85). More than half of the patients, 0.54%, (n=161) needing vulval biopsy were aged between 51-70years. The incidence of VINI, VINII, VINIII, squamous cell carcinoma (sec) and secondary malignancy was 4, 7, 6, 27 and 2 respectively. Lichen sclerosus was found in 166 patients (55.8% of all vulval biopsies); being found concomitant with other pathologies in 48 cases, 14 of which were neoplastic diagnoses. It was found in association with VINI in 2cases, VINII in 2cases, VINIII in 2cases and in sec in 8cases.

**Conclusion:** Lichen sclerosus appears to be the commonest form of vulval dystrophy. In view of the associated increased risk of lichen sclerosus to progress to vulval neoplasia, adequate surveillance of patients with lichen sclerosus is of utmost importance.
**OP1.019**  
The significance of serum progesterone level in the corpus luteal phase in assisted reproduction cycles  
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Luteal phase support with exogenous progesterone in assisted conception is a contentious issue. Serum progesterone levels following oocyte retrieval and embryo transfer fluctuate considerably with serum progesterone dropping after oocyte pick up. Various attempts have been made to connect these progesterone levels, but the necessity of doing so and their significance is very poorly understood. This study aims to investigate the effect of fluctuations in luteal phase serum progesterone levels on success of assisted conception cycles and to determine the optimal timing for commencing luteal phase support. Four groups of patients undergoing assisted conception were followed up. The first two groups had luteal phase support starting with embryo transfer. The second two groups of women had luteal phase support starting just after vaginal oocyte retrieval. A total of 85 cycles divided into the four groups were followed up with a total ongoing pregnancy rate of 35%. The progesterone levels were repeated every two days for ten days starting from the day of embryo transfer. On the tenth post embryo transfer day, serum human chorionic gonadotropin (HCG) was measured in order to assess whether the patient was pregnant or not. Luteal support was achieved by increasing the vaginal progesterone dose from 400mg pessaries twice a day up to 400mg four times a day. HCG injections administered subcutaneously were also given twice a week. Dips in serum progesterone levels and the timing of the dips were correlated with pregnancy rates. Serum progesterone levels were also correlated with number of oocytes obtained, embryos transferred and pregnancy rates. Finally the two groups were compared to each other so as to see if there was any benefit in preventing the serum progesterone drop after pick up when progesterone support was given just after vaginal oocyte retrieval as opposed to when progesterone support was started at embryo transfer.

**OP1.020**  
Dietary intolerance and gastro-intestinal symptoms in women with pelvic endometriosis – blame it on the fertile crescent?  
Y. Muscat Baron, M. Dingli, R. Camilleri Agius, N. Calleja  
A comprehensive assessment of gastrointestinal, gynaecologic, and general complaints of a group of women with laparoscopically confirmed pelvic endometriosis compared to another group of women without endometriosis was performed. The possibility of dietary intolerance in relation to the co-existence of endometriosis was also assessed.  
Methods: This was a prospective, comparative study conducted on 57 patients who had had laparoscopies for various gynaecologic complaints. These women were recruited sequentially into the study so as to avoid selection bias (age range 20 to 55). Twenty-three patients were diagnosed with endometriosis while the other 34 did not have this pathology. Prior to laparoscopy these patients were asked through a telephone questionnaire about associated long-term gastrointestinal symptoms, dietary intolerance, and general and gynaecologic symptoms.  
Results: Twenty-three women were diagnosed as having pelvic endometriosis. The remaining thirty-four patients were noted to suffer from pathology other than endometriosis. Gastro-intestinal symptoms such as dyspepsia ($p<0.01$) and diarrhoea ($p<0.05$) were significantly more common in the endometriosis group compared to the other group of women. Women with endometriosis complained of more gastrointestinal symptoms (53% vs. 31%) and food intolerance (26% vs. 14%) than the women without endometriosis. These differences between both groups did not attain statistical significance possibly because the study was not suitably powered to reveal this. No significant differences were noted for most of the other aggregated gynecologic and general symptoms except for shorter menstrual cycles ($p<0.01$) and depression ($p<0.05$) in the women diagnosed with endometriosis.  
Conclusions: Patients suffering from endometriosis in this study complained of significantly more gastrointestinal symptoms. A nonsignificant trend of dietary intolerance starch and dairy products was noted in the women shown to suffer from endometriosis. These findings may shed some light on the pathogenesis and the management of endometriosis.
Screening prior to commencement of anti-tumour necrosis factor-alpha treatment in the Maltese population

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Introduction: Currently, immunomodulator therapy plays a major role in the management of inflammatory bowel disease. There are concerns regarding Immunomodulator therapy and the possibility of acquiring opportunistic infections. The European Crohn’s and Colitis Organisation issued guidelines in 2009 regarding screening prior to commencement of immunomodulator therapy.

Aim: The aim of the study was to assess if our local Screening practice in Malta adheres to the European Crohn’s and Colitis Organisation, 2009 Guidelines.

Method: Patients were identified by obtaining access to the pharmacy database (January 2010 till May 2011). Results regarding Hepatitis B Virus status, Varicella Zoster Virus status, Quantiferon / Mantoux, Chest x-ray and Lymphocyte/ Neutrophil count where recorded. HIV status was not obtained due to failure of record of unique identification number. The results were compared to a previous audit performed the year before.

Results: A total of 37 patients were started on anti-TNF treatment, 16 of whom were males and 21 were females. Age range was 7 years to 62 years. Hepatitis B Virus status, Varicella Zoster Virus status, Quantiferon / Mantoux, Chest x-ray and Lymphocyte/ Neutrophil count where evaluated. Results were compared to a previous audit which was performed the year before. 97.3% were HBV screened, 91.9% VZV screened, 89.2% were screened for TB using either quantiferon test or the mantoux test, 78.4% had a chest X-ray and 100% had a CBC/lymphocyte count. An audit the year before, assessing
83 patients (42 female) were recruited. Their extra-intestinal symptoms were (1) to determine if the occurrence of extra-intestinal manifestations nor the presence of gallstones and the use of immunomodulator therapy (IM) and/or surgery in their CD disease were recruited and classified as non-smokers, current smokers, ex-smokers and non-smokers in the need for remission. Thus, smoking cessation should be emphasised on smokers with a positive linear trend across the 3 groups with 22.9% were smokers. 6 patients were ex-smokers and 58 (20) of patients required CD related-surgery. 19 patients consisting of azathioprine and Infliximab (18 patients). 24.1% of patients were having IM therapy. The IM therapy duration post-diagnosis of 8.98 years (12 months - 32 years). Current mean age was 39 years (7-73 years). They had a CD status. Clinical data was collected from case notes. The introduction of biologic therapy for the treatment of inflammatory autoimmune disorders including arthritis and spondyloarthropathies. Their potent suppression of the immune system has raised concern about their potential worsening heart failure. Furthermore patients who are being treated of opportunistic infections. There are several strategies for minimizing the risks associated with biologic therapies. Pre-treatment strategies include taking a proper history from the patient, immunization, minimization of concomitant drugs, and screening for TB. screening for TB prior to the start of anti-TNF-alpha treatment had demonstrated that 20.8% were screened for TB using either a quantiferon test or a mantoux test (current audit - 89.2%) and 83.3% had a CXR ( current audit 78.4%). No data was available to compare the other tests.

Conclusion: In view that the current guidelines were not totally adhered to we have developed a pro-forma which needs to completely filled in prior to starting the treatment. This will ensure total adherence to the guidelines in our next re-audit.
Conclusion: This pilot study shows that thermography does assist in visualising the location of the deepest liquor pool. Correlations were found strongly suggesting that this innovative technique may be potentially enhanced to develop a new index of measurement of amniotic fluid.

OP4.094
The relevance of the IADPSG diagnostic criteria in a Mediterranean population
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Mediterranean Group for the Study of Diabetes

Background and aims: The IADPSG diagnostic cut-off criteria will significantly increase the number of cases of diagnosed GDM in any population. This will have significant cost consequences possibly directed towards individuals who are exhibiting normal physiological changes of pregnancy. The relevance of the increased cost in those women who are labeled GDM by the IADPSG criteria but normal by the ADA criteria needs to be assessed.

Method: A prospective, non-interventional, eleven-center study from around the Mediterranean recruited a total of 1368 women who underwent a 75g oGTT at 24-32 weeks of gestation. These were divided into three groups: A. women diagnosed as suffering from GDM using the ADA criteria [n=119]; B. women diagnosed as GDM using IADPSG criteria but considered normal by the ADA criteria [n=245]; and C. women diagnosed as having normal GT using the IADPSG criteria [n=1004].

Results: The Group B women were found to have statistically significant different glycemic profiles to both Group A and Group C women in regards to fasting, 1-hour and 2-hours blood glucose values, AUC, fasting insulin and HOMA-IR. In addition, Group B women had a statistically higher mean age [A=32.0 vs B=31.2 vs C=29.6 years], pre-pregnancy and third trimester BMI [26.8 vs 25.6 vs 24.2 and 30.5 vs 29.5 vs 27.6 kg/m2 respectively], and blood pressure readings [diastolic: 71.7 vs 69.1 vs 65.8 mmHg] than those with defined normal glycemic indices [Group C]. Their characteristics showed lower values than the ADA-defined GDM women [Group A]. The infants born at term showed a non-statistically significant tendency to mean high birth weights than infants born to Group C women, but lower mean age [A=32.0 vs B=31.2 vs C=29.6 years], pre-pregnancy and third trimester BMI [26.8 vs 25.6 vs 24.2 and 30.5 vs 29.5 vs 27.6 kg/m2 respectively], and blood pressure readings [diastolic: 71.7 vs 69.1 vs 65.8 mmHg] than those with defined normal glycemic indices [Group C]. Their characteristics showed lower values than the ADA-defined GDM women [Group A].

Conclusions: The study confirms that the women who are labeled abnormal by IADPSG but normal by ADA criteria do have high risk factor characteristics. Directing specific management, even if simply dietary advice, is a sound option.

Disclosure: The study was supported by a financial grant from the Mediterranean Group for the Study of Diabetes who is supported by an unrestricted educational grant from Servier.
OP4.095
Retrospective analysis of endocrine disorders in the Maltese pregnant population
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Objectives: Pregnancy in the presence of endocrine dysfunction is known to be associated with a higher risk of obstetric and neonatal complications. This study aimed to investigate the occurrence of endocrine disorders in a cohort of Maltese pregnant women.

Materials and methods: We analysed data from the National Obstetric Information System collected by the Public Health Information and Research Division, Malta for the years 1999-2009. All pregnancies delivering at a viable gestational age and occurring in women with reported endocrine dysfunction were identified and analysed in terms of maternal age, past obstetric history, gestational age at delivery, maternal body mass index (BMI), birth weight, Apgar scores and neonatal outcomes.

Results: Among 48,000 deliveries, 16 pregnancies of a viable gestational age were reported in women suffering from known endocrine disorders. Thyroid dysfunction accounted for 84.84% of such pregnancies, hypothyroidism being commoner than hyperthyroidism (84.78% vs. 7.92% of patients with thyroid pathology). There were no statistically significant differences in maternal age, BMI, birth weight and Apgar scores between these two thyroid subgroups. 8.5% of hypothyroid patients had co-existing gestational hypertension. 5% and 23% of hypothyroid patients had a history of threatened and spontaneous miscarriage respectively; the corresponding figures for hyperthyroid patients were 18% in either category. Furthermore, we identified 20 patients with hyperprolactinaemia, three patients with a known pituitary tumour, two patients with hypopituitarism and single cases of adrenal insufficiency and parathyroid adenoma.

Conclusion: To our knowledge, this is the first study investigating endocrine disorders in the Maltese pregnant population. It has shown that thyroid dysfunction is relatively common. The clinical implications of thyroid dysfunction in pregnancy warrant prevalence studies and may justify the need for screening.

OP4.096
The association between maternal glucose, lipid metabolism and fetal birthweight
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The association between maternal hyperglycaemia and fetal macrosomia is well known. This study aimed to assess the association between the maternal lipid profile and the fetal weight in relation to other maternal biochemical parameters.

Method: 309 randomly selected mothers were invited to attend for an OGTT between 24 and 32 weeks of gestation, with more than 95% being done in the third trimester (after 26 weeks). A fasting insulin, glucose and lipid profile was taken after an overnight fast of at least 8 hours, before being loaded with 75g of glucose.

Results: The results showed a positive interrelationship between all glycaemic parameters (fasting, first and second hour) and area under the glucose curve and the maternal pre-pregnancy BMI and the infant weight. The fasting insulin level and HOMA_IR were also positively correlated to the glucose parameters. There appeared to be a definite statistically significant interrelationship between maternal BMI and the eventual infant birth weight. LDL correlated negatively with all the parameters analyzed. A significant correlation between maternal BMI and infant birth weight on the one hand and triglycerides and LDL was noted though the relationship was inverse in the latter. Maternal LDL levels were inversely related to maternal pre-pregnancy BMI. A similar relationship for fasting insulin and HOMA_IR and infant birth weight was noted. It is well known that maternal obesity has been linked with macrosomia. The fact that the LDL is showing an inverse relationship with fetal weight might be partly explained by the fact that overweight/obese women have lower LDL levels than their normal weight pregnant counterparts.

OP4.097
Reducing post partum haemorrhage
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Introduction: Postpartum haemorrhage (PPH) is a major cause of maternal morbidity and mortality worldwide. In 2000, the World Health Organization (WHO) aimed for a 75% reduction by the end of 2015.

Aims: To identify specific subsets of the obstetric population who are at increased risk for PPH To set up protocols to improve the management of patients with postpartum haemorrhage Method: All the patients with a documented PPH between 1st January 2000 and 31st December 2011 were traced using National Information Obstetrics System. Correlation between PPH, mode of delivery and parity was carried out.

Results: There were forty eight thousand deliveries with 15% elective and 14% emergency caesarian deliveries. PPH was associated with 0.59% of emergency caesarian deliveries compared 0.312% in elective caesarian operations. Primigravidae had a 0.41% incidence of PPH during normal delivery, compared with the multigravidae with an incidence of 0.265%. In contrast, multigravidae undergoing emergency caesarian sections are more likely to have postpartum haemorrhage 1.034% compared with 0.428% of primigravidae women undergoing emergency caesarian sections. There is no significant difference in PPH between primigravidae and multigravidae at elective caesarian sections.

Conclusion: Identifying patients who are at an increased risk of postpartum haemorrhage increases awareness and preparedness and therefore leads to timely management. Improving doctors’ and midwives’ index of suspicion of PPH, with better preparedness, availability of a postpartum haemorrhage box with adequate emergency supplies as well as close patient surveillance of patients at risk of PPH reduces morbidity and mortality.

OP4.098
Cerclage: tie a knot around the cervix
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Introduction: Cervical cerclage is highly controversial due to contradicting results in meta-analysis and individual studies. There is also little consensus regarding cerclage technique and timing of suture placement. Yet, it remains one of the most common prophylactic interventions in pregnancy to avoid mid-trimester or spontaneous preterm birth in high risk patients.

Aim: To analyse the indications for cervical cerclage, gestational age when cerclage done and efficacy in preventing mid-trimester loss and spontaneous pre-term in the Maltese general obstetric hospital department.

Method: A two year period (between 1st June 2010 till 30th June 2012) was chosen to analyse the data of antenatal...
patients whom underwent cervical cerclage at Mater Dei hospital, Malta. Cervical cerclage cases were obtained from the theatre operation logbooks. The patients’ files were retrieved and data regarding maternal age, gravidity, parity, gestational age when cerclage done, indication for cerclage, gestational age at birth and mode of delivery were noted.

**Results:** The total number of cerclage cases registered was 91 yet only 78 patients had their medical records available at the time of study. Mean maternal age of cerclage was 32 years (range: 19–42 years) with the mean gestational age for cerclage procedure at 14 weeks (range 12–21 weeks). 76 patients had a previous miscarriage with 9 in the second trimester.

Indications for cervical cerclage included:
- Cervical incompetence (Empirical) - 21 patients
- Cervical Surgery (LLETZ/cone biopsy) - 14 patients
- Uterine abnormality - 9 patients
- Previous 2nd trimester miscarriage - 7 patients
- Multiple gestation (elective cerclage), (8 twin, 1 triplet gestation) - 9 patients
- Other - 8 patients
- No indication stated on the patient’s file - 3 patients.

Mean gestational age of birth was 36+1 weeks (39 at Term>37wks, 21 pre-term and 5 undelivered) with 39 patients undergoing caesarean section (14 emergency caesarean sections), 29 patient normal vaginal delivery, one intrauterine death, 3 undergoing premature labour before 37weeks and 5 patients have not delivered as yet. Most cerclages were removed at time of contraction onset or caesarean section.

**Conclusion:** The first use of cervical cerclage was to prevent recurrent foetal loss in women having mid-trimester miscarriage or spontaneous preterm birth suggestive of cervical incompetence. With prematurity being the leading cause of perinatal death and disability in modern times, the use of cerclage has remained the same. It is included in the management of women with multiple gestation (9.89%), history of cervical trauma/surgery (15.38%) and cervical shortening seen on ultrasound as stated by the RCOG Green-Top guideline 60. While cerclage may provide a degree of structural support, its role in maintaining the cervical length and the endocervical mucus plug as a mechanical barrier to ascending infection may be more important.

**OP4.099**

The incidence and management of hepatitis B and C in pregnant women in Malta

D. Azzopardi Micalef, A. Micalef Fava, A. Brincat, C. Vella, J. Mamo

**Introduction:** Pregnant women in Malta are offered antenatal screening for Hepatitis B and C. The prevalence of Hepatitis B in the Maltese population has been estimated at 1-2% while no such data is available for Hepatitis C.

**Aim:** To determine the incidence of Hepatitis B and C in the antenatal population. To review the literature regarding management of pregnant women who are positive for Hepatitis B or C.

**Method:** The blood results for Hepatitis B surface antigen (HBsAg) and Hepatitis C core antibody (the routine first line investigation done as screening for the respective infection) from 1st January 2009 to 31st December 2011 that were requested via the Antenatal Clinic in Mater Dei Hospital were collected. All the hepatitis B core IgM antibody and hepatitis B core antibody as well as the HCV virus blot and HCV RNA PCR tests carried out on the same population were traced. The results of these latter investigations were compared with the results of the primary screening test for Hepatitis B and Hepatitis C respectively. A review of the literature regarding management of Hepatitis B and C in pregnancy was then carried out.

**Results:** A total of 10,927 and 10,945 patients were tested for Hepatitis B and C respectively at the antenatal clinic between 2009-2011. There were 33 positive HBsAg results (0.30%), with only 7 of these (21.21%) having a Maltese ID number. 25 of the 33 patients (75.76%) received appropriate follow-up testing via antenatal clinic for HBV core IgM antibody and HBV core IgM antibody. Of the 25 HBV antibody results, 24 were negative (96.00%) and 1 (4.00%) was positive, while 24 (96.00%) HCV core antibody results were positive and only 1 (4.00%) was negative. A total of 39 positive hepatitis C antibody results (0.36%) were identified, with 31 (79.50%) of these women having a Maltese ID number. All results reported as HCV AB ‘positive’ were followed by a positive HCV virus blot, which confirmed a positive result in...
A gynaecologist looks at the Torah
C. Savona-Ventura
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The books of the Torah are a compendium of Judaism’s founding legal and ethical religious texts. They have a wealth of reflections that deal with the various human lifecycles including the reproductive cycle as perceived by human society at the time, thus looking at the issues relating to fertility/infertility and contraception; and on concepts
relating to aetiology of miscarriages and malformations. High fertility was strongly desired being viewed as an enrichment of the extended family group in both nomadic and farming societies. In spite of this, high parity was not the norm with individual women generally having less than seven offspring as a result of the “conception-pregnancy-lactation” cycles within a limited reproductive period. Infertility was considered a punishment and drastic measures such as the use of surrogacy, contributory insemination and fertility-promoters such as mandrake were resorted to. In spite of this, there were occasions when attempts were made to prevent a pregnancy using natural or surgical means – coitus interruptus and sterilization. Miscarriages were believed to be caused by physical trauma; while malformations were believed to be due to shape associations.
OP8.235

The introduction of new Caesarean Section analgesia guidelines (2010) at the obstetric delivery suite at Mater Dei hospital: preliminary data of the post-interventional audit

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Introduction: Effective post-Caesarean Section (CS) analgesia is important to ensure maternal wellbeing and allow adequate care of the newborn. A pilot study (October 2008 - January 2009) involving 58 mothers was conducted to assess the efficacy of post-operative analgesia. At the time Fentanyl was the opioid used in regional anaesthesia and on demand intramuscular Pethidine was the prevalent analgesic administered postoperatively. Results showed a high mean worst Verbal Analogue Score (VAS) of 7.54 (+/-1.75). Morphine Patient Controlled Analgesia (PCA) usage was low (3.5%) and non-opioid analgesics were underused.

Aim: New CS analgesia guidelines incorporating the National Institute of Clinical Excellence (2004) standards were introduced at Mater Dei in 2010. Namely; >90% of mothers should have a VAS of ≤3, intrathecal Diamorphine for regional anaesthesia, Phenylephrine infusion to maintain blood pressure intra-operatively, Morphine PCA postoperatively and Paracetamol and NSAIDs to be administered at the end of surgery and then prescribed regularly, mandatory hourly monitoring of parameters for the first 12 post-operative hours, and >90% of patients satisfied with the pain relief received. The aim of the audit was to measure achievement of these standards.

Methodology: Data collected included: patient demographics, use of diamorphine, morphine PCA, other analgesic, antiemetic and antipruritic agents, VAS, satisfaction scores and complications.

Results: 300 mothers were interviewed after May 2010. Spinal anaesthesia was employed in 292 (97.3%) cases of which 277 (94.9%) received intrathecal Diamorphine. An intravenous Phenylephrine infusion was used to maintain BP intra-operatively in 199 (66.6%) cases. Paracetamol was administered intra-operatively to 97.3%, and prescribed and administered regularly post-operatively to 93.4% and 90% of mothers respectively. Diclofenac was administered intra-operatively to 92%. 88% were prescribed regular NSAIDs and 84.7% received them regularly post-operatively. Morphine (PCA) was prescribed to 286 (95.3%) cases. Regular monitoring was performed in 94% of mothers. The mean worst VAS was 2.92 (+/- 2.32) vs 7.54(+/-1.75) in the pilot study (p<0.0001). Use of intrathecal diamorphine was associated with a significantly longer mean time to worst pain score (8.90 vs 4.18 hours, p=0.0001), although its use was associated with a greater incidence of pruritus (p=0.012). The mean satisfaction score was 8.67 (+/-1.28) and 95% gave a satisfaction score of ≥7.

Conclusions: The new guidelines were well adhered to, safe and effective, as both mean current and mean worst VAS were significantly decreased. Over 90% of mothers received intrathecal Diamorphine, Morphine PCA and simple analgesics intra-operatively. The incidence of complications was low (<2.5%).
POSTER PRESENTATIONS
P1.15  
**Maternal sinus bradycardia preceeding hypertensive disorders of pregnancy**  
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It is becoming increasingly apparent that hypertensive disorders of pregnancy may display atypical presentations. Non classical presentation of hypertensive disorders of pregnancy may lead to delay in diagnosis increasing the risk for maternal and foetal morbidity and mortality. The seventh report of the Confidential Enquiries into Maternal Deaths in the United Kingdom, issued in 2007, showed that eclampsia or pre-eclampsia was the 2nd commonest cause of direct maternal deaths. In this case-series, four cases are described whereby newly diagnosed maternal sinus bradycardia preceded maternal hypertension and also pre-eclampsia. Three of these cases occurred in the post partum period whereby maternal bradycardia preceded hypertension. In the other case, maternal sinus bradycardia was observed at 34 weeks gestation, which was followed by severe pre-eclampsia requiring premature delivery. In each of these cases, the maternal sinus bradycardia did not persist for more than two days, although the degree of bradycardia varied from 35bpm to 56bpm between patients. In three of the cases, the patients complained of dyspnoea due to pulmonary oedema. In the pathogenesis of pre-eclampsia, endothelial damage may occur and consequently lead to oedema in various parts of the body such as lungs, lower limbs, brain. The transient sinus bradycardia may be due to oedema in the cardiac tissue in the region of the sino-atrial node, thus affecting the baseline heart rate. In the nonpregnant woman myocarditis induced inflammation may lead to arrhythmias including sinus bradycardia. Alternatively sinus bradycardia may be an initial reaction to a sudden rise in blood pressure in an effort to maintain stroke volume. These cases suggest that maternal sinus bradycardia may be an early presenting sign of pregnancy induced hypertension and pre-eclampsia. If maternal sinus bradycardia in pregnancy is detected, it should prompt more in-depth investigation and observation so that timely management is instituted so as to pre-empt deterioration of hypertensive disease.

P1.16  
**The effect of valvular heart disease on outcome of pregnancy**  
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**Introduction:** Pregnancy in patients with valvular heart abnormalities poses a recognised increased risk for both maternal and foetal complications.  

**Aim:** To assess the association between valvular heart disease (VHD) and pregnancy outcomes and comparing these outcomes to those of the total pregnant population during the same period of time.  

**Methodology:** A retrospective evaluation of 86 pregnancies (over a 10 year period) in women with VHD was made and this was compared with the total population over the same period. This information was obtained from the Malta National Obstetrics Information System (NOIS).  

**Results:** Despite the recognised increased risk, local women with VHD did not have a higher incidence of obstetric complications. The only complications recorded were a single...
case of gestational diabetes and four cases of pregnancy induced hypertension. No mortality was recorded in the VHD patient group (n=0 in VHD patients vs n=4 in the general population). Moreover, VHD had no effect on fetal outcome: no increased preterm delivery (10.5% vs 7.2%, p=0.3657), no increased intrauterine growth retardation (3.5% vs 6.14%), and a similar distribution of birth weight as the general population.

**Conclusion:** Pregnancy in Maltese women with VHD is not associated with marked increase in maternal morbidity or with unfavourable effect on foetal outcome.
P2.09
Obstetric and neonatal care in the Maltese Islands
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Aims:
• To analyse the obstetric and neonatal statistics of deliveries conducted in Gozo over a ten year period (1999-2008).
• To compare the number of births, the trends of primiparous and multiparous pregnancies and to compare the trends of assisted, non-assisted and converted assisted deliveries and related complication rates.
• To compare the maternal and neonatal mortality.

Methods: The National Obstetric Information System (NOIS) is a reporting technique used to acquire information on birth events in the Maltese Islands. The data for Malta and Gozo over a ten year period (1999-2008) was acquired following ethical permission and the birth statistics for the two islands were calculated and compared. The number of deliveries, island to island transfer, primiparous and multiparous rates, assisted and non-assisted deliveries, delivery complications and mortality rates of over 40,000 births were calculated.

Results: The annual birth rate of the Maltese Islands is decreasing with an 11% drop seen during the study period; the birth rate in Gozo falling at the faster rate. There have been a consistent number of births by Maltese mothers giving birth in Gozo with percentages of total births in Gozo varying between 6.5% and 11.8%. The number of births to Gozitan women occurring in Malta has also remained stable at around 0.3% of the total births in Maltese based hospitals. The numbers of births to single mothers increasing on both islands with a five-fold increase in Gozo, double the increase in Malta. The number of neonatal and in-utero transfers from Gozo to Malta were seen to be decreasing over the study period. Elective Caesarean rates were shown to increase substantially with an increased use of spinal and epidural anaesthesia in Malta. There has not been a similar increase in Gozo. There is no epidural service during labour in Gozo but more Caesarians are performed under regional anaesthesia. There was no change in maternal or neonatal mortality over the time period.

Conclusions: Malta and Gozo are both experiencing lower birth rates with the latter experiencing the lower rates. The socio-demographics of the maternal population are changing with more unmarried and older mothers giving birth to fewer children.

P2.11
Obstetric and neonatal care in small states with less than 50,000 inhabitants
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Aims: To compare the results of obstetric and neonatal outcomes in Gozo with Gibraltar, Liechtenstein and the Faroe Islands; all of which have similar populations and health systems.

Methods: The obstetric data for Gozo over a ten year period (1999-2008) was acquired following ethical permission from the National Obstetric Information System (NOIS) and the birth statistics for the islands were compared. The number of deliveries, island to island transfer, primiparous and multiparous rates, assisted and non-assisted deliveries, delivery complications and mortality rates of these islands were compared.

Results: The data available for the four islands differs due to the different methods of data collection. The Gozitan and Liechtensteiner birth rates are comparable and both show a progressive decrease in birth rate; this is however not observed in the Faroe Islands or in Gibraltar where the rates have remained steady at c.13 births per 1000 population. The numbers of neonatal and in-utero transfers from Gozo and Gibraltar to the nearest tertiary facility remained stable over the study period. The number of Caesarean procedures in Gozo remained stable whereas the rate of operative procedures in Gibraltar have shown a gradual increase. Births to married mothers are decreasing in both Gozo (20%) and Liechtenstein (20%); with Gozo also showing a five-fold increase in unmarried mothers. The majority of births occur in the 25–34 year age group in all the islands. Constant levels of births to women aged between 15 and 19 occur in Gibraltar and Liechtenstein whereas Gozo has shown a slight increase in births in the same age group. Gibraltar and Gozo both show a gradual decrease in forceps use and a slight increase in ventouse use. The islands show a gradual increase in primiparous deliveries mirrored by a decrease in multiparous deliveries.
**Conclusions:** The healthcare centres available in Gozo require an investigation into possible reforms. Data is needed to ensure that the most effective strategies for safe motherhood are integrated into essential service packages. Obstetric care in Gozo is comparable with that of other small island communities with similar populations and health systems.
Untimed random blood glucose as a screening test for gestational diabetes

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Introduction: Based on the new IADPSG diagnostic criteria, fasting blood glucose is considered as a suitable diagnostic tool for gestational diabetes. However during the first antenatal visit, an untimed blood glucose assay is a more convenient one-stop investigation to perform. The aim of this study is to try to identify useful cut-off criteria that relate untimed blood glucose to an eventual abnormal oral glucose tolerance test reflecting gestational diabetes mellitus (GDM).

Method: A total of 312 pregnant patients who booked at hospital and who had a 75-gram oral glucose tolerance test (OGTT) because of the presence of biological or clinical risk factors were reviewed to assess their random blood glucose taken during their screening visit. The study population was divided into two groups on the basis of their OGTT results interpreted according to the IADPSG criteria: Group A [n=217] having a normal OGTT test, while Group B [n=95] were deemed to have GDM according to IADPSG criteria. The mean and standard deviation value of the random blood glucose result of both population groups was calculated to enable a statistical determination of risk cut-off values. The specificity and sensitivity of the various random blood glucose cut-off values will be determined.

Results: The means ± s.d. values of the two groups showed highly statistically significant values [GDM 5.60 ± 1.66; NGT 4.68 ± 0.89 mmol/l; p<0.00001]. Assuming cut-off points of 6.5 mmol/l [−mean±2.s.d. NGT population] and 3.9 mmol/l [−mean−1.s.d. GDM population] allows the population to be divided into three groups:
• Women with RBG >0.5 mmol/l: These women can be considered as suffering from GDM and managed accordingly without resorting to further testing. This would correctly diagnose 22 cases (23.2%) of GDM cases and wrongly diagnose 8 cases (3.7%) of NGT women – sensitivity = 96.3%, specificity = 96.3%.

• Women with a RBG 4.0-6.4 mmol/l: These women should be recalled for a FBG. This would account for 78.9% of the total population (71.6% of GDM and 82.0% of NGT women), and

• Women with a RBG <=3.9 mmol/l: These women can be considered as normal without further testing. This would correctly diagnose 31 cases (14.3%) of NGT cases and wrongly diagnose 8 cases (3.7%) as suffering from GDM – sensitivity = 61.8%, specificity = 100%.

Conclusions: A RBG at booking followed by a FBG if the RBG values equal 4.0-6.4 mmol/l has been shown to be a useful screening method identifying about two-thirds of the GDM cases without resorting to a formal OGTT.

P11.08 Obstetric obesity in the Mediterranean region
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Background and aims: The Mediterranean population appears to be particularly susceptible to being overweight or obese. The study aims to identify the obstetric consequences of an increased body mass.

Methodology: Participating centres in the Mediterranean region recruited 75-200 women per centre in the 24th-32nd week of pregnancy. The study protocol was approved by the relevant Research Ethics Committee in each participating country and informed consent was obtained from all study subjects. The subjects subsequently underwent a physical examination including height, weight and blood pressure estimation, a 75 gram OGTT with a baseline fasting blood glucose assay. By definition, none of the women with normal glucose tolerance had a FBG >5.0 mmol/l; while 42 women (61.8%) with GDM had elevated values – sensitivity = 61.8%, specificity = 100%. Combining the two tests with recall for FBG after an RBG result of 4.0-6.4 mmol/l would correctly identify 64 women (67.4%) suffering from GDM and wrongly identify 8 women (3.7%) as suffering from NGT – sensitivity = 96.3%, specificity = 67.4%.

Conclusions: The overweight-obese women were statistically more likely to be of advanced age [16.02+6.04 (570) vs 17.67+5.24 (790), p<0.00001]; and had higher blood pressure readings [systolic = 114.91+12.92 (571) vs 108.46+11.34 (794), p<0.00001; diastolic = 69.12+9.75 (571) vs 65.31+9.06 (793), p<0.00001]. Their biochemical parameters showed higher glycaemic values as reflected by the fasting blood glucose [4.65+0.89 (572) vs 4.37+0.66 (793), p<0.00001]; 1-hour [8.08+2.19 (569) vs 7.33+1.91 (792), p<0.00001]; and 2-hour post glucose load [6.74+2.00 (571) vs 6.25+1.72 (794), p<0.00001], area under the curve [826.20+159.70 (508) vs 738.18+162.78 (790), p<0.00001], Hba1c [5.15+0.63 (549) vs 4.91+0.64 (795), p<0.00001], absolute Hba1c [0.60+0.10 (538) vs 0.57+0.08 (742), p<0.00001], fasting serum insulin 8.31+11.27 (542) vs 4.61+6.35 (749), p<0.00001], and HOMA-IR values [1.76+2.31 (542) vs 0.92+1.28 (748), p<0.00001]. The infants born to overweight-obese mothers had also a statistically elevated birth weight [3290.99+532.49 (519) vs 3229.48+511.31 (722), p=0.044].

Conclusions: Obesity in the pregnant woman is attendant by definite risks of relative hyperglycaemia resulting from a greater predisposition to insulin resistance in the woman with corresponding risks of hypernutrition in utero resulting in higher birth weights.

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P11.09 Changes in the GDM diagnosis in the Maltese population as analysed by the IADPSG criteria
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Gestational diabetes mellitus (GDM) is diagnosed using varying criteria. The aim of this study was to evaluate the influence these different criteria have on the number of women diagnosed with GDM when compared to other diagnostic standards for the 75-gm glucose load in: the clinical setting using clinical high risk assessment, and on the diagnosed prevalence of GDM in the Maltese community, one that has been shown to have a high prevalence of T2DM A total of 1278 Maltese women with a clinical high risk assessment for developing GDM underwent a 75-gm load OGTTs in the third trimester between 1992-1999. The results were interpreted using the different criteria and were related to the mean BMI and infant body weight values. The IADPSG diagnostic criteria were used and compared to the previously used WHO criteria [Fasting >7.0 mmol/l or 2-hour >7.8 mmol/l] and the ADA-modified WHO diagnostic criteria [2-hour >8.6 mmol/l]. A further 309 women were in 2010 randomly selected from the total pregnant population irrespective of their clinical risk assessment to undergo OGTT testing at 24-32 weeks of gestation. In high risk individuals screened with a 75-gm OGTT, both the ADA-modified WHO and IADPSG criteria increase significantly the GDM diagnosis rate from 44.5% using the WHO diagnostic criteria to 57.0% using the ADA-modified WHO criteria and 57.5% using the IADPSG criteria.

There was very little increase in GDM diagnosis rate when using the new IADPSG criteria compared to the ADA-modified WHO criteria in high risk individuals identified by clinical factors. The prevalence rate in the Maltese population in 2010 using the IADPSG criteria was 16.8%, markedly different from the 7.2% figure noted by the ADA-modified WHO criteria but similar to the 14.2% identified by the WHO-criteria. Adoption of the recently proposed IADPSG criteria will result in a statistically significant increase in the number of women diagnosed with GDM if universal screening with a 75-g OGTT is adopted. This increase will require an augmentation or a restructuring of the available clinical resources especially if whole population rather than high risk assessment screening is adopted. If the whole pregnant population is screened using an OGTT there is a 10% increase in the GDM diagnosis from the ADA-modified WHO criteria as compared to the IADPSG criteria. A step wise approach using clinical risk screening will cause only a 0.5% increase in the GDM diagnosis.
blood pressure and raised fasting plasma glucose have to be present in an individual), 86 patients suffered from metabolic syndrome. Out of these, 18 satisfied three criteria, 22 satisfied four criteria while 45 satisfied all the criteria. From the 14 patients who did not suffer from metabolic syndrome, 9 already satisfied 2 criteria.

**Conclusion:** Metabolic syndrome is becoming a worldwide epidemic. Using the IDF definition, results obtained in this study reflect that even locally, the percentage of patients suffering from metabolic syndrome is substantial. Notwithstanding this, most individuals do not exercise frequently or follow a suitable diet plan. Co-morbidities, especially cardiovascular and respiratory complications and amputations may hinder the possibility of exercising. It is crucial to identify patients at risk of developing metabolic syndrome so as to adopt lifestyle modifications as early as possible.

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**Review: anti-Müllerian hormone levels in women with polycystic ovarian syndrome**

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**Introduction:** Anti-Müllerian hormone (AMH) is a glycoprotein which belongs to the TGFβ family. It is expressed mainly by the granulose cells of the preantral and small antral follicles in females. Its primary function is to delay recruitment of primordial follicles and diminish sensitivity of the growing follicles to follicle stimulating hormone.

**Aim:** To review the role of AMH in patients with polycystic ovarian syndrome (PCOS) AMH is measured using a single unified assay produced by Beckman Coulter; values are however interpreted according to reference ranges of individual laboratories. Decreased levels of AMH suggest reduced antral follicle pool and thus ovarian reserve. Both serum and follicular concentration of AMH are high in PCOS patients. A serum of AMH > 350µg/L (or >75ng/mL) appears to be a more sensitive and specific diagnostic marker than an ultrasound finding of 19 follicles per ovary. In PCOS there is an increased number of follicles and altered folliculogenesis. AMH levels are raised mainly because of greater AMH production per granulosa cell and per antral follicle rather than only due to greater antral follicle number. Several mechanisms such as excess androgen/insulin or an intrinsic dysfunction have been proposed as causing this increased AMH production but the definite cause remains elusive. Women with PCOS (who were significantly overweight and with the higher body fat and blood pressure) treated with metformin were showed to have lowered AMH levels. Laparoscopic ovarian drilling in women with PCOS also resulted in significantly reduced plasma AMH (as well as reduced ovarian stromal blood flow Doppler indices). Apart from a marker for PCOS, AMH can also help predict ovarian response to gonadotrophins in assisted reproduction technology. PCOS affects 10% of women with infertility problems. In PCOS women, high AMH levels taken on day3 of IVF stimulation cycles was associated with increased number of retrieved oocytes but lower clinical pregnancy rates.

**Conclusion:** AMH is valuable both as an independent diagnostic marker for PCOS as well as a prognostic marker for ovulation induction and fertility treatment in patients with PCOS.

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**Gestational diabetes mellitus in the Mediterranean region**

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**Background and aims:** There is little available data on the prevalence and phenotype of GDM in populations in the Mediterranean region. Risk assessment for GDM should ideally be undertaken using universal OGGT. This may not be a viable option in situations of economic restraints and clinical risk assessment may be a cheaper alternative. The aim of this study was to characterise the phenotype of Mediterranean women at 24-32 weeks of pregnancy at risk of developing Gestational Diabetes Mellitus (GDM) as diagnosed by a 75 g Oral Glucose Tolerance Test (OGTT).

**Methodology:** The study was a prospective, non-interventional, multicenter study in the Mediterranean region. A convenient sample of 1368 pregnant women was recruited. All participants underwent a 75g OGGT interpreted according to ADA criteria; 119 women (8.7%) developed GDM. The women’s anthropomorphic and biological data, together with obstetric and infant outcomes were collected. Patients diagnosed with...
and at the four quadrants of the abdomen was measured by the 4D ultrasound. The process of searching for the right methodology to carry out this study involved dedication to detail, brainstorming sessions and repeated image/data analysis. Out of 25 patients the appropriate methodology was only established after various trials with the first 7 patients. The procedure is currently less time consuming and more patient/user-friendly. Data is presently collected more efficiently and analysis is yielding positive results allowing a standardized protocol to be undertaken. The process was also a fruitful exercise in interdisciplinarity and collaboration between medical and engineering professionals.

P11.17 Exploring the relationship between bone mineral density and Charcot foot – exploratory results from a Maltese cohort J. Bigeni1, S. Vella1, Y. Muscat-Baron2, MV. Sammut3, M. Portanier-Mifsud4, M.J. Cachia1

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Background: Charcot Neuroarthropathy is a rare degenerative neuropathic arthropathy complicating type 1 diabetes (T1DM) and type 2 diabetes (T2DM). Peripheral osteopenia has been suggested as a possible contributory factor in Charcot foot. We sought to investigate the relationship between bone mineral density (BMD) and Charcot foot in a cohort of Maltese patients.

Method: T1DM and T2DM patients known to suffer from chronic Charcot foot, were recruited into this study. BMD (measured in grams per unit area) was measured at the lumbar spine, both hips and both calcanei using Norland XR 800 bone densitometer. Patients currently treated with bisphosphonates for osteoporosis of the spine and/or hip were excluded from statistical analysis. The Mann Whitney test was used to explore differences in continuous variables across categorical groups. Spearman’s correlation was used for bivariate correlation analysis. Statistical significance was defined by a two-sided p value <0.05.

Results: We analyzed data pertaining to the first 13 T2DM patients (ten males, three females) with suboptimal glycaemic control (mean [SD] HbA1c = 9.23 [2.59]%). Mean (SD) age and duration of diabetes were 60.92 (10.89) and 16.31 (8.54) years respectively. Although BMD in the affected calcaneum tended to be lower than in the unaffected leg (0.78 [0.17] g/cm² [affected] vs 0.81 [0.15] g/cm² [unaffected]), the difference did not reach statistical significance (p = 0.590). Likewise, we did not report differences in hip BMD between unaffected and unaffected legs (0.88 [0.19] g/cm² [affected] vs 0.81 [0.15] g/cm² [unaffected]), but not with calcaneal BMD (p = 0.005 [affected]).

Conclusion: Preliminary data suggests that prevalent HbA1c does not influence BMD at the calcaneum, and possibly risk for Charcot foot. BMD of the hip may predict risk for developing this neuropathic complication. Further analysis of this dataset is ongoing.

P11.16 Standardization of the methodology in foetal thermography

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A pilot study assessing thermographic images of the pregnant uterus and comparing them to 4D ultrasound images was undertaken. This study was carried out with a view of potentially developing an innovative form of assessing intrauterine temperatures as a reflection of gestational metabolic processes. The basis of the study involved accurate measurement (+/- 0.05 degrees centigrade) of superficial temperatures of the abdominal wall which were influenced by the intrauterine contents. A thermographic infra-red camera (FLIR Model SC7000) was employed to measure abdominal wall temperatures of the abdominal wall which were influenced by the intrauterine contents. A thermographic infra-red camera (FLIR Model SC7000) was employed to measure abdominal wall temperatures of the abdominal wall which were influenced by the intrauterine contents. A thermographic infra-red camera (FLIR Model SC7000) was employed to measure abdominal wall temperatures of the abdominal wall which were influenced by the intrauterine contents. A thermographic infra-red camera (FLIR Model SC7000) was employed to measure abdominal wall temperatures of the abdominal wall which were influenced by the intrauterine contents. A thermographic infra-red camera (FLIR Model SC7000) was employed to measure abdominal wall temperatures of the abdominal wall which were influenced by the intrauterine contents. A thermographic infra-red camera (FLIR Model SC7000) was employed to measure abdominal wall temperatures of the abdominal wall which were influenced by the intrauterine contents. A thermographic infra-red camera (FLIR Model SC7000) was employed to measure abdominal wall temperatures of the abdominal wall which were influenced by the intrauterine contents.
Patient satisfaction with analgesia post-Caesarean section


Introduction: More than one third of births at Mater Dei Hospital were by Caesarean section during 2011. Patient-controlled analgesia is used almost universally post-Caesarean section.

Objectives: Our aim was to assess patient satisfaction with preoperative and postoperative analgesia and to correlate satisfaction as measured with objective and subjective parameters with urgency of procedure (emergency versus elective) and type of anaesthesia used.

Method: All patients undergoing Caesarean section at Mater Dei hospital during a three-month period from April to July 2012 were included. Data was obtained from medical records and from direct patient questioning regarding methods of analgesia used, indication for Caesarean section, amount and type of postoperative analgesia required, maternal and foetal co-morbidities, and overall patient satisfaction.

Results: Of the 173 patients with an average age of 30.2 years and 38.5 weeks gestation, 54% had an emergency Caesarean section and 46% planned elective operations. The commonest method of anaesthesia was spinal (64%), followed by epidural (27%) and general anaesthesia (9%). Infiltration of the wound with bupivacaine was carried out in 2% on abdominal wound closure. The commonest modalities of post-op pain relief were morphine patient-controlled analgesia (PCA) pump (93%), paracetamol (92%), and non-steroidal anti-inflammatory drugs (88%). Average pain scores from 1 to 10 were 1.63, 1.35, and 1.03 on days 0, 1, and 2 respectively. The proportion of PCA tries in the first 6 hours post-operatively and in total were 4.25 and 7.94 respectively. Patients spent an average of 16.97 hours on PCA. 86% of new mothers stated that they would undergo another Caesarean section with the same kind of pain relief. There was no significant difference in subjective and objective pain measures between emergency and elective Caesarean sections. Patients who underwent the procedure under general anaesthesia (GA) had significantly higher pain scores on day 0 as compared to those with neuraxial block (p<0.0005 spinal and p<0.0051 epidural). This did not translate to a significant increase in PCA tries in the GA group.

Conclusion: Patients are generally satisfied with the amount of pain relief they are receiving post-Caesarean section, as measured subjectively by pain scores and directly by patient questioning, and objectively with measurement of PCA tries. The use of local anesthetic during intraoperative closure can improve the management of post-op pain in patients with general anaesthesia.

P12.01

Retrospective analysis of teenage pregnancies in Malta

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Objectives: Teenage motherhood has often been reported to be associated with adverse pregnancy outcomes, specifically with low birth weight, small for gestational age infants and prematurity. The objective of the present study was to analyse the sociodemographic data, gestational characteristics and perinatal outcomes of teenage mothers delivering in a country with easily accessible, free of charge maternity care and a population with strong family ties offering family provided psychosocial support.

Materials and methods: All teenage pregnancies delivered in Malta between January 2000 and December 2006 were identified and compared to data from pregnancies occurring in mothers aged 20 to 29 years. For the purpose of our study, a teenage pregnancy was defined as a pregnancy occurring in mothers aged 13-19 completed years at delivery. We derived mean ± SD values for continuous variables, and compared continuous and categorical variables using Mann-Whitney U and chi square tests respectively. A two-tailed p value < 0.05 was considered statistically significant.

Results: A total number of 646 pregnancies occurred in teenage girls (mean ± SD age = 17.55 ± 1.30 years), accounting for 6% of all pregnancies. 418 pregnancies occurred in women aged 20-29 years (mean ± SD age = 25.65 ± 2.60 years). Teenage mothers were more likely to smoke (9% [teenage] vs 5.6% [non-teenage]; p<0.001) and were characterised by a lower mean maternal weight (59.02 ± 11.94 [teenage] vs 63.91 ± 14.01 [non-teenage] kg; p<0.001). Although teenage pregnancies tended to result in lower mean birth weights (3177.75 ± 486.82 vs 3203.05 ± 504.39 g), the difference did not reach statistical significance. Teenage pregnancies were characterised by lower mean Appar scores at five minutes post-delivery (9.03 ± 0.62 vs 9.06 ± 0.75; p=0.017). Appar scores at five minutes were lowest among infants born to mothers aged 13-14 years (8.75 ± 0.46 vs 8.98 ± 0.77 for infants born to mothers aged 15-17 years, p=0.028; 8.75 ± 0.46 vs 9.07 ± 0.48 for infants whose mothers were 18-19 years old, p=0.02). There was no correlation between birth weight and Appar score at five minutes for teenage
pregnancies, while a statistically significant association was reported for non-teenage pregnancies (Spearman’s rho=0.056, p=0.001).

Conclusions: These findings are consistent with published data in this regard, suggesting that closer surveillance of teenage pregnancies is warranted to avert perinatal and postnatal complications.

P12.02 Advanced maternal age and pregnancy loss
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Introduction: Arrest of the embryonic or foetal development before 24 weeks of gestation marks the definition of missed miscarriage accounting for 10-20% of all clinically recognized. Advanced maternal age is associated with an increase pregnancy loss due to an increase in adverse factors affecting pregnancy.

Methodology: Data regarding ERPC procedures and Misoprostol administration was obtained over a 6 month period from January 2012 till July 2012. Old case notes were reviewed for the maternal age, gestation, parity and gravidity. Gestations of >20weeks were excluded due to lack of data. There was lack of data in mothers who did not require intervention for missed miscarriage.

Results: A total of 186 patients were recruited. Age ranged from 14 to 45 years with a mean age of 30 years. 138 patients were <35 years of age, 34 where 35-40 years and 14 were >40 years of age. Of missed miscarriages, 113 patients were <10 weeks (mean age: 90), 53 were between 10-14 weeks (mean age: 31) and 9 >14 weeks of gestation (mean age: 33). 88 patients were primiparous, whilst 98 were multiparous, of which 29 had a single previous miscarriage and 8 had 2 or more previous miscarriages. 72 had a previous normal gestation prior to current miscarriage of which 12 were at the time of previous missed miscarriage 35 years or over. There is an increased risk of missed miscarriage with greater gestational age. Factors attributed are an increased relative risk of chromosomal abnormalities (the incidence of chromosomal aberrations in miscarried foetuses is about 50%, of which 95% of genetic abnormal gestations are miscarried), BMI, smoking, medical conditions especially coagulation or inflammatory conditions as well as progesterone deficiency stimulation of cervical ripening giving reduction in cervical dilation force required. Efficacy depends on the type of miscarriage, uterine/cervical trauma and haemorrhage prevention. It also stimulates cervical ripening giving reduction in cervical dilation force required. Efficacy depends on the type of miscarriage.

Conclusion: Counselling a patient after a missed miscarriage may be challenging. Maternal age must be taken into consideration when advice is given to the patient for subsequent pregnancies.

P12.03 Medical and surgical management for missed miscarriage
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Introduction: A missed miscarriage is defined as arrest of embryonic or foetal development before 24 weeks of gestation. Repeat ultrasonographic examination shows an empty uterine sac or no cardiac activity. Misoprostol and Evacuation of Products of Conception (ERPC) are two methods used to expedite a missed miscarriage mostly in the presence of excess blood loss per vaginam and infection.

Methodology: Data regarding ERPC procedures and Misoprostol administration was obtained over a 6 month period from January 2012 till July 2012. Review of case notes showed differences in maternal age, gestation, parity and gravidity, dose of misoprostol used and whether the patient underwent ERPC. Results were compared to established recommendations and guidelines.

Results: A total of 186 patients were recruited. Age ranged from 14 to 45 years with a mean age of 30 years. 95 patients required Misoprostol administration due to a closed cervix and 13 patients required a repeat dose. 800mcg was the standard dose used in 87 patients. 32 patient did not require ERPC after misoprostol whilst 154 patients required ERPC. Of missed miscarriages, 113 patients were <10 weeks, 53 were between 10-14 weeks and 9 >14 weeks of gestation. 88 patients were primiparous, whilst 98 were multiparous, of which 29 had a single previous miscarriage and 8 had 2 or more previous miscarriages. 72 had a previous normal gestation prior to miscarriage.

Conclusion: Of 10-25% of all clinically recognized pregnancies will end in miscarriage. Historically, the majority of women who miscarried (88%) underwent ‘routine’ surgical evacuation of products of conception. In the past years, management has changed, with more usage of the synthetic PGE1 analogues such as misoprostol. Prostaglandin administration prior to ERPC offers significant reduction in uterine/cervical trauma and haemorrhage prevention. It also stimulates cervical ripening giving reduction in cervical dilation force required. Efficacy depends on the type of miscarriage, sac size and whether the follow-up is clinical or based on ultrasonographic findings. Efficacy varies between 87.5-92.9%. In for incomplete miscarriage and for early foetal demise. No statistical difference in efficacy between surgical and medical evacuation at gestations less than 10 weeks or sac diameter less than 24mm. Medical evacuation is an alternative technique that complements but does not replace surgical evacuation. Clinical indications for offering surgical evacuation include persistent excessive bleeding, haemodynamic instability, evidence of infected retained tissue and suspected gestational trophoblastic disease. Medical management is offered when 24 hour emergency room service is present.

P12.04 Uterine malformations associated with Breech presentation
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Introduction: Breech presentation always presented a challenge for the modern obstetrician. There are less than 3% of babies at term present as breech. Most of these are now delivered by Caesarian section as there is a twofold increase in perinatal mortality if allowed to deliver vaginally. It is unclear whether the baby presents as breech due to foetal abnormality or uterine anomaly or low lying placenta.

Aim: To assess the rates of uterine abnormalities which make the baby present as a breech. Assessment of Caesarian section findings indicating uterine abnormality at
time of breech delivery. To review breech births and uterine abnormalities, hormone variations, BMI of patient, weeks at delivery, placentation and weight of baby on delivery in a 6 month timespan.

Method: Retrospective review of breech operative deliveries over the past two years. Assessment of elective and emergency Caesarean section rates which were performed for breech presentation. Assessment regarding the whole gestation, Caesarean section operative notes and previous uterine surgeries. Blood tests and biophysical measurements were noted. Some results were compared to previous studies relating to the individual factors which might affect for breech presentation.

Results: A total of 52 patients were identified who had a breech delivery between January 2012 and July 2012. Age ranged between 18 and 41 years with a mean maternal age of 30 years. Gestation on delivery varied from 34+5 weeks to 41+1 weeks with a mean Caesarean week age of 38+4 weeks. 28 mothers had male births whilst 24 mothers had female births. Comparing to an audit by Rietberg et al., a male prevalence is noted. 1 gestation had a fundal placenta, 29 a posterior placenta and 17 an anterior placenta on ultrasound, correlating with a study by Haruyama Y. et al. Only one birth had a lower site placenta. 5 mothers presented with spontaneous rupture of membranes, 30 mothers were primigravidae, 15 were secondigravidae and 6 had more than 2 gestations. 10 had a normal vaginal delivery, 2 mothers had 2 and 3 normal vaginal deliveries respectively whilst 3 mothers had a breech delivery prior to current gestation. 14 mothers had uterine abnormalities on Caesarean section, of which 10 had a fibroid uterus, 2 bicornuate uterus and 1 unicorncuate uterus. 7 mothers had a previous Caesarean section (Venditelli et al. showed have a risk of breech presentation at term twice that of women with previous vaginal deliveries) whilst 6 had uterine surgery. 9 mothers had a previous miscarriage with one mother having 3 recurrent miscarriages. Four mothers had a positive high vaginal swab, 2 had a positive OGTT, 2 were hypothyroid and a mother had associated cocaine and heroin abuse.

Conclusion: Over the past twelve years 2000-2011 inclusive there have only been 0.1% breech vaginal deliveries. In our retrospective review of breech presenting babies delivered by Caesarean section, 90% were elective. Uterine abnormality was noted in 0.298. In this study there does not seem to be a predominant single factor to account for breech presentation. Uterine abnormalities and previous uterine surgeries might account for such presentation.

P12.05
Reducing the incidence of brachial plexus injuries in obstetric practice - 1980-2012 - a 33 year review
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Over a ten year period 1980-1990, the incidence of brachial plexus injuries following obstetric trauma was 2.9/1000 live births in the Maltese Islands. A review of traumatic shoulder dystocia over this period of time highlighted a number of risk factors with a background macromomic population (11.8% > 4 kg, 1.5% > 4.5 kg). The body mass index of the mothers of these babies was high (short and obese) and a high incidence of abnormal glucose metabolism of 12% was noted in this group of women. Abnormal labour patterns with prolongation of all the phases of labour were noted. Thirty one percent of traumatic shoulder dystocia followed instrumental deliveries. During the latter seventeen years the incidence of traumatic shoulder dystocia has dropped significantly to 1.0/1000 live births. This may be due increased attention towards the above mentioned antenatal and intrapartum factors. During the antepartum period increased awareness and care towards dietary control was undertaken in overweight women. Widespread screening was implemented in pregnancy combined with meticulous glucose control of pregnant diabetic women. A joint antenatal clinic involving the care of a diabetologist and an obstetrician was initiated in 1996. It was also noted that whereas in the 1980-1990 the cohort of babies weighing 4.5 kg and over comprised 11.8% since 1990 this percentage has dropped to 5.6%. More attention to abnormal labour patterns especially in the presence of macromomic infants may have avoided difficult vaginal deliveries leading to traumatic shoulder dystocia. A shoulder dystocia drill has been included in the labour ward protocol. Increasingly breech presentation are being delivered by Caesarean Section. Caesarean Section is not without foetal complications as regards brachial plexus injuries. During the whole 33 year period there were four cases of brachial plexus palsy following abdominal delivery of macromomic babies.

P12.06
Initiation of aspirin in patients at risk of pre-eclampsia: a retrospective audit
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Introduction: In August 2010, NICE (National Institute for Health and Clinical Excellence) published an updated guideline on hypertension in pregnancy. One of the key priorities for implementation is the use of aspirin in pregnancy in patients at risk of pre-eclampsia.

Aim: To assess the prevalence of risk factors for pre-eclampsia and the prescribing of aspirin according to the NICE guideline ‘Hypertension in Pregnancy’ (August 2010).

Methodology: The audit was performed over 5 days during September 2011 in a district general hospital setting (Crosshouse Hospital, Kilmarnock, Scotland). 100 postnatal patients participated. Data was collected from case notes and direct questioning of the patient to complete a checklist proforma. The criteria assessed were parity, age, pregnancy interval, BMI at booking visit, family history of pre-eclampsia, multiple gestation, history of pre-eclampsia, chronic kidney disease, autoimmune diseases, diabetes and chronic hypertension, in accordance with the risk factors for pre-eclampsia stipulated in the aforementioned guideline. Patients were then stratified to assess eligibility for aspirin use, and if they were actually prescribed it. Aspirin contraindications were also accounted for.

Results: Out of 100 patients, 58 had one or more moderate risk factors and 9 had one or more high risk factors.1st pregnancy and BMI ≥35 were the most common moderate risk factors (58% and 21% respectively), whilst previous history of pre-eclampsia, hypertension and diabetes were the commonest high risk factors (45%, 22% and 22% respectively). The audit demonstrated 0% compliance with the guideline. 25 patients (25%) met the criteria for being on aspirin. Out of these, 1 patient had a contra-indication to aspirin, as she was asthmatic.

Conclusion: To implement this guideline, I designed a pilot trial in a select area of Ayrshire. I created a risk scoring proforma to ease identification of patients eligible for aspirin, which is embedded in the notes and completed at booking visit. On completing the re-audit, results are to be discussed at the forthcoming obstetrics management forum, with the intention of implementing this proforma across all Ayrshire and Arran.
P12.07
A comparison of obstetric outcome in beta-thalassaemia minor patients compared to the general obstetric population
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Introduction: The beta thalassaemias are the result of impaired and reduced production of beta globin chains. Untreated homozygous beta thalassaemia major is associated with marked symptomatology of anaemia, whilst there is delayed sexual development and fertility. The heterozygous state of thalassaemia minor results in a variable degree of clinical phenotype. The usual presentation is of asymptomatic anaemia of mild degree. Fertility is usually not impaired. During pregnancy there is no specific treatment for thalassaemia minor, except blood transfusion for the occasional severe anaemia cases. The few studies available show perinatal outcome including prematurity and birthweight comparable to the general population. However there is reported adverse outcomes secondary to the increased hypercoaguability state of these patients.

Aim: To investigate pregnancy outcome of the local Maltese beta thalassaemia minor population.

Methodology: Obtaining results from the University of Malta, Thalassaemia & genetic screening database around 300 definite beta thalassaemia minor patients were diagnosed from antenatal booking tests from the Malta and Gozo general hospitals from 2007 to 2011. Serum ferritin results were routinely tested for this latter population. Using a random 220 patients (from same previously mentioned source) not diagnosed with any haemoglobinopathy, it was calculated using an unpaired t-test if there is any statistical significance in first trimester maternal haemoglobin between both beta thalassaemia minor and general population. At this point, data collection from the files of this total of ~520 patients is ongoing to assess rates of obstetric outcomes regarding parity including miscarriages, gestational age of birth, birthweight, intrauterine growth restriction, gestational hypertensive disorders, placental abruptions and others. Exclusion criteria for this study are multiple gestations and diabetics.

Results: At this stage it has been shown that during 1st trimester (the period when the majority of antenatal booking investigations are first taken) the mean haemoglobin for the general population is 12.20g/dl (n 219, SD 0.906, SEM 0.06122) and for the beta thalassaemia minor population the mean haemoglobin is 10.83g/dl (n 301, SD 1.577, SEM 0.067). The p value is <0.0001, implying statistical significance between both latter groups.

Conclusion: This is an ongoing project were we will be able to see if the local beta thalassaemia minor population is at a higher risk of obstetric complications which would imply close monitoring and precautions during pregnancy. Data obtained in due time will be compared to local Mediterranean studies already done.

P12.08
A comparison between hysterosalpingography and 4D ultrasonography in the assessment of Müllerian anomalies within a population of patients suffering from recurrent miscarriage
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Recurrent miscarriage affects up to 1% of couples and a proportion of these are caused by abnormalities of the uterine cavity. There is debate whether 4D Ultrasound (U/S) of the uterus is equal to hysterosalpingograms (HSG) in its sensitivity to detect the presence of a Müllerian anomaly. To reduce unnecessary interventions, a screening tool with high accuracy is required, ideally one which would also cause the least discomfort and invasion.

Objective: To evaluate whether hysterosalpingograms can be replaced by 4D ultrasonography of the uterus as the optimal technique to diagnose Müllerian anomalies

Materials and methods: A retrospective comparative study was carried out comparing women in a recurrent miscarriage clinic population diagnosed with Müllerian anomalies using a 4D U/S with those diagnosed by a HSG. The rates of detection of Müllerian anomalies in the two populations were consequently compared and analysed using statistical tests. Similar populations were used. Patients were recruited from the Recurrent Miscarriage Clinic where each present patient had had at least two recurrent miscarriages. Age ranged between 20 and 45. 420 women were recruited to date. Of these, 270 had undergone an HSG with 13 of them being identified as having an abnormality of the uterine cavity. This would translate to 4.81% of the women in the chosen population. 120 cases of women who had undergone a 4D U/S of the uterus have been collected and out of these 5 had Müllerian anomalies. This would give a preliminary result of 4.17% of the women in the population. More data is currently being collected and statistical analysis was used to determine the significance of these results.

Conclusions: This work is currently still in progress but preliminary results indicate that 4D Ultrasound can be recommended as the standard routine investigation for uterine malformations. More patients are being recruited to date.

P12.09
Audit on the frequency of smear tests undertaken prior to pregnancy
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Introduction: Routine cervical screening detecting pre-invasive disease or early stage cervical cancer has shown to reduce mortality from cervical cancer. It is therefore relevant that sexually active women undertake a smear test routinely. The national cancer registry determines the incidence rate of cervical cancer in Malta is 5.5/100,000.

Aim: To investigate whether the frequency of smear tests in women who are sexually active correlates with the Royal College of Obstetrics and Gynaecologists guidelines.

Methodology: One hundred and twenty four inpatients were recruited sequentially from the Obstetric Wards at Mater Dei Hospital during the period of July 2012. Data was collected using the clerking sheets filled in by foundation doctors while histories were obtained from pregnant women. Data collection involved reviewing the clerking sheets so as to ascertain whether cervical smears were performed prior to pregnancy and if so the last one to date. Also assessed was the frequency and the length of intervals between smear tests. The patients’ social history including occupation, cigarette smoking or alcohol ingestion was also noted.

Results: One hundred and seven patients had sufficient data for the audit while seventeen had insufficient data. Sixty-seven percent (67%) of the women recruited adhered to the guidelines with screening carried out every three years, their last smear performed during the period 2010-2012. One in five (20%) patients did not abide by the guidelines. A smear test was never performed in 14% of these pregnant patients and the recommended three year time interval was exceeded in 6% of patients. Current recommendations indicate that cervical screening should initiate after five years from first sexual encounter. According to Health Information services the mean age for first sexual intercourse in Malta is 21.3 years. The age range for women in this study who had never been screened prior to the ongoing pregnancy ranged from 18 to 30 years.

Conclusion: The majority of women appear well informed on the frequency of smear testing. However a
sizable minority of patients do not have the smear test performed or are exceeding the recommended time frame when cervical screening should be undertaken. This lack of compliance to cervical screening is placing this cohort of women at an increased risk of developing pre-invasive and early stage cervical carcinoma which may go undetected. Strategies to reach this cohort of women should be evaluated and implemented so that cervical screening is also applied to this group of women.

P12.10  
Gynaecological laparoscopic surgery in the Department of Obstetrics and Gynaecology– RSM - the Russo-Serb-Maltese Alliance  
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Hysterectomy is a common gynaecological procedure and the vaginal route is considered preferable for hysterectomy. This route has become more accessible with the application of gynaecological laparoscopic surgery. Adnexal and ovarian pathology can also be treated laparoscopically. Since the recruitment of a highly specialised member (K.I.) in laparoscopic surgery, open surgery by this firm for gynaecological conditions had decreased significantly. Hysterectomies and adnexal procedures that were usually dealt with by open surgery requiring relatively large horizontal and vertical incisions are being treated in part laparoscopically (laparoscopically assisted vaginal hysterectomies) or by total laparoscopic surgery. The laparoscopic procedures performed were myomectomies, oophorectomies, ovarian cystectomies, salpingo-oophorectomies, adhesiolysis, laparoscopically assisted vaginal hysterectomies, and total laparoscopic hysterectomies. Besides the advantage of utilizing small incisions, minimal surgical intervention to the abdominal wall is incurred by the patient. In the short–term this results in less pain, less blood loss, earlier mobilisation and shorter hospital stays. In the long term there is less risk of incision-related complications and adhesion formation. The only drawback of these laparoscopic procedures is that operating time has lengthened significantly. However with decreasing frequency of gynaecological procedures due to the increased application of the levonorgestrel intra-uterine system, operating time has become more available allowing space for laparoscopic surgical procedures to be performed. Moreover the collaboration between the different members of the Firm was a highly educative experience for both Senior and Junior members of the Firm.

P12.11  
Assessing the hysterosalpingography service  
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Introduction:  Hysterosalpingography (HSG) is a radiologic procedure to investigate the shape of the uterine cavity and the shape and patency of the fallopian tubes. It is recommended by the National Institute for Health and Clinical Excellence (NICE) guidelines as the first-line investigation of tubal patency in female patients with sub-fertility. It entails the injection of a radio-opaque material into the cervical canal and the use of fluoroscopy with exposure to ionising radiation. A normal result shows filling of the uterine cavity and bilateral filling of the fallopian tubes with subsequent spillage of contrast into the peritoneal cavity.

Aim:  To assess the standard of HSG service at the Medical Imaging Department of Mater Dei Hospital, Malta and compare it to internationally recognised standards.

Methodology:  We reviewed all the Radiology Information System (RIS) and Picture Archiving and Communication System (PACS) entries of patients who underwent a HSG between January 2011 and April 2012. The radiation dose, screening time and success of cervical cannulation for each patient were recorded. These results were compared to the national diagnostic reference doses set by the National Radiological Protection Board (NRPB) of the UK and the NICE guidelines. The standards used were: a mean radiation dose of 400 cGy.cm², a mean screening time of 60 seconds and a cervical cannulation success rate of >95%.

Results:  79 patients underwent a HSG between January 2011 and April 2012. The mean radiation dose was calculated at 400 cGy.cm². The mean screening timing was 74 seconds. Cervical cannulation was successful in 97% of patients.

Conclusion: The mean radiation dose and success rate of cervical cannulation are within the reference standard limits. The mean screening time for HSGs is 23% longer than the mean duration recommended by the NRCP. Recommendations to reduce the screening time include evaluation of the techniques employed during this procedure with the aim of optimizing the technique whilst reducing unnecessary screening.

P12.12  
Hysteroscopy and endometrial biopsy for peri/post-menopausal bleeding  
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Introduction:  Hysteroscopy and endometrial biopsy is the commonest gynaecological investigation performed in peri-menopausal and post-menopausal women.

Aim:  Assessment of patients attending for hysteroscopy as an investigation of perimenopausal/postmenopausal bleeding and the histological findings.

Method:  Patients above the age of 45 years presenting with menorrhagia or intermenstrual bleeding and postmenopausal women presenting with bleeding who were admitted for day case hysteroscopy and endometrial biopsy were recruited. The histological findings were reviewed.

Results:  None of the premenopausal women presenting with menorrhagia or irregular bleeding had endometrial atypical hyperplasia or endometrial carcinoma. 7.81% of women presenting with postmenopausal bleeding were found to have endometrial carcinoma. Most patients with endometrial carcinoma present post-menopaussually with an average age of 70.6 years.

Conclusion:  Perimenopausal/postmenopausal bleeding should be investigated by hysteroscopy and endometrial biopsy. More than 80% of women with endometrial carcinoma present with early stage disease; therefore there is a better prognosis.

P12.13  
Influence of type of surgery for salpingectomy on length of in-patient’s stay post-operative  
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Aim:  To determine whether there is any correlation between the type of surgery for ectopic pregnancy – laparoscopic salpingectomy versus salpingectomy through laparotomy, on the number of days spent in hospital post-operation.

Method:  Patients who underwent surgical management for ectopic pregnancy between 1st July 2009 and 31st June 2012 at Mater Dei Hospital in Malta were included. The type
of surgery carried out was recorded and this was correlated with the post-operative length of patient’s stay in hospital.

**Results:** 41 patients had surgical management for ectopic pregnancy between 1st July 2009 and 31st June 2012. Age ranged from 21 to 42. 19 patients had laparoscopic salpingectomy while 21 had a salpingectomy done through laparotomy. The average length of stay post-operative for patients who had laparoscopic surgery is 2.5 days compared with 4.29 days for patients who had a laparotomy. Length of post operative hospital stay (2 days or less) in patients undergoing laparoscopic surgery vs open surgery was statistically significant (p<0.001).

**Conclusion:** The days spent postoperative in patients undergoing salpingectomy for ectopic pregnancy was almost half for patients undergoing laparoscopic surgery as compared to patients who had laparotomy.

**P12.14**  
Assessing and comparing pain experienced by women after insertion of the levonorgestrel- releasing intrauterine system (Mirena®)  
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**Aim:** The use of the levonorgestrel-releasing intrauterine system (LNG-IUS) (Mirena®) has been on the increase due to its high contraceptive efficacy and the additional non-contraceptive benefits. However, concerns arise with respect to the pain experienced directly after insertion of the LNG-IUS. The objective of this study was to evaluate, by means of a validated pain scoring system, the pain experienced after the insertion of the device. The study includes a group of women of different ages and with different gynaecological indications as for the requirement of the LNG-IUS. Furthermore, the study analyses and compares the pain scores obtained with respect to different modes of peri-operative analgesia / anesthesia used with/without effect by the patients.

**Methods:** The study includes all the women who had the LNG–IUS inserted at Mater Dei Hospital, Malta, during the year 2011, a number which added up to 259. A validated pain scoring system was employed to assess the discomfort / pain experienced by these patients directly (Day 0) post-procedure, on Day 3, Day 7 and one month post-procedure. Other interventions performed peri-operatively, apart from the insertion of the LNG-IUS, were also taken into account. Of the 259 women, 169 patients had the procedure done under GA, 26 under LA, 2 patients were sedated whereas 62 patients were not given any form of analgesia / anaesthesia. Consequently, the relationship between modes of analgesia / anaesthesia used peri-operatively and the possible effect on post-operative pain scores, was elicited and analyzed.

**Results:** A total 259 women had the introduction of LNG-IUS during the year 2011. 169 patients had the procedure done under GA, 26 under LA, 2 patients were sedated whereas 62 patients were not given any form of analgesia / anaesthesia. The relationship between modes of analgesia / anaesthesia used peri-operatively and the possible effect on post-operative pain scores, was assessed. The relationship between different age groups, together with multiple interventions apart from the named procedure was included in the study.

**Conclusions:** This study is a good indication of overall patient satisfaction, post LNG-IUS procedure. In light of the pain scores obtained, the study highlights the suitable analgesia / anaesthesia that is deemed to be the most appropriate for peri-operative use during the introduction of the LNG-IUS. Furthermore, it also provides an insight of pain experienced post procedure, and the further need for close follow-up and pain control optimization after the introduction of the LNG-IUS.

**P12.15**  
Synergistic effect of endometrial curettage followed by insertion of levonorgestrel system in treating menorrhagia  
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**Objective:** To evaluate the efficacy of an intrauterine system releasing levonorgestrel in the treatment of women with menorrhagia.

**Method:** This was a retrospective, non-comparative study. Ninety-two patients who had menorrhagia due to non-malignant causes were sequentially recruited into the study (age range 26 - 54 years). Patients with a uterine size more than 12 weeks were not included. A LNG-releasing-intrauterine system was inserted during the mid-cycle after an endometrial biopsy was taken.

**Results:** The most common bleeding pattern at 3-6 months after insertion was spotting however by 12 months the majority of women presented with oligomenorrhea. Following the introduction of the LNG-IUS six women required a hysterectomy for various reasons. Two of the patients who complained of persistent menorrhagia had uterine fibroids. Another three woman requested removal of the LNG-IUS because of continuous spotting and heavy menstruation even after 6 months of insertion. Another patient had an enlarging fibroid associated with abdominal pain while a hysterectomy performed on another patient revealed adenomyosis. In three women the LNG-IUS was spontaneously expelled and persisted with menorrhagia. The remaining women (87.5%) continued the use of LNG-IUS beyond one year up to a four year follow-up.

**Conclusions:** LNG-IUS is an effective treatment for menorrhagia due to benign causes and could be considered as an alternative to hysterectomy. The application of the LNG-IUS following the endometrial biopsy has the advantage of: a. “one stop shop management” - endometrial biopsy and LNG-IUS simultaneously; b. The success rate in treating menorrhagia is one of the highest quoted in the literature possibly due to: 1. removal of excess endometrium barring adequate levonorgestrel transfer and 2: the resulting inflammatory reaction may increase levonorgestrel transfer.

**P12.16**  
Unilateral versus bilateral ovarian drilling  
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**Introduction:** Laparoscopic ovarian drilling using bipolar electrocautery is a method of reducing ovarian insulin resistance in patients with polycystic ovarian disease. Electrocautery even bipolar may reduce ovarian reserve.

**Aim:** Comparing the effect unilateral versus bilateral ovarian drilling on response to ovulation induction agents.

**Method:** Review of 163 patients diagnosed by endovaginal ultrasound and hormonal assessment as having polycystic ovarian disease were admitted for laparoscopic ovarian drilling as day case surgery. They were randomly assigned to either unilateral or bilateral cautery to ovarian stroma. Post operative ovarian tracking was compared to preoperative follicular response to clomiphene citrate.

**Results:** Patients who had unilateral (n=81) as well as bilateral (n=82) ovarian drilling responded to clomiphene citrate. There was a tendency but not a significant number of patients from the unilateral drilling group needing higher dosage of clomiphene to induce follicular growth.

**Conclusion:** The use of unilateral bipolar drilling for polycystic ovarian disease is as effective as bilateral electrocautery. Therefore the use of unilateral ovarian drilling reduces damage to ovarian reserve.
P12.17
Day case laparoscopic ovarian cystectomy
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Introduction: Patients diagnosed with persistent ovarian cysts especially in cases where the cysts exhibits solid areas, are scheduled for surgery.

Aim: To compare operating time, use of antibiotics, length of hospital stay and duration of recovery of bowel function post laparoscopic ovarian cystectomy. Method: Review of 424 patients presenting with ovarian cysts operated via laparoscopy at Municipal Hospital, Krasnodar was carried out. Under general anaesthetic using three ports, the ovarian cyst is encapsulated and removed either through an endo-bag or through an incision in the posterior fornix. The remaining ovarian tissue is reconstructed. Careful investigation before surgery was performed as necessary: including serum tumours markers, transvaginal ultrasound, gastroscopy, and colonoscopy to assess risk of primary or secondary ovarian tumour.

Results: Of the ovarian cystectectomies performed laparoscopically, 92 were dermoid cysts and 187 were endometriotic cysts. 32 patients had an oophorectomy. 58 were removed via endo-bag and 34 were removed via the posterior fornix. None of the laparoscopic operations had to be converted to a laparotomy. 35 of the 92 patients with dermoid cysts were given antibiotic. Patients were allowed to eat and drink 4 hours after surgery; there were no reported bowel complications. Length of stay was less than 24 hours in 85% percent of the patients.

Conclusion: Traditionally ovarian cysts were operated via laparotomy which may be followed by adhesions which could be the cause of pain and decreased fertility. Laparoscopy reduces this risk. Excision of ovarian cysts via laparoscopy has the advantage of less post operative pain, earlier recovery of bowel function, less risk of adhesions, more acceptable cosmetic outcome and an early discharge from hospital.

P12.18
Borderline ovarian tumours
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Introduction: Borderline ovarian tumour (BOT) is a benign neoplasm of low malignant potential with no stromal invasion.

Aim: Review of borderline ovarian tumours diagnosed on histological examination of ovarian masses found at laparotomy performed over one year.

Method: The histological findings of all gynaecological laparotomies over a 12 month period starting June 2011 to the end of June 2012 were reviewed. Patients with a diagnosis of ovarian tumour were further subdivided into the various subtypes of ovarian carcinoma and borderline malignancy. The mean age, incidence, mode of presentation and treatment modalities and management were noted.

Results: There were 502 gynaecological laparotomies performed of which 34 had a diagnosis of ovarian epithelial carcinoma. Of these, five were borderline ovarian tumours of which three were serous, one was mucinous and one of the endometrioid type. The incidence is therefore 1.5 per 100,000; accounting for 14.7% of epithelial ovarian tumours. The mean age for BOT patients is 45 years compared with the mean age of 63 years for epithelial ovarian cystadenocarcinomas. There was no causal association with any of the ovulation induction agents. Although 25% were asymptomatic, abdominal distension was the commonest presenting symptom, followed by abdominal pain and vaginal bleeding. Diagnosis was by transvaginal ultrasound followed by CT scan. Tumour markers used were CA-125, CEA, CA19-9 which were not specific and only elevated in half the patients. Frozen section was used in two of the BOT patients, but diagnostic accuracy was difficult.

Conclusion: Borderline ovarian tumours account for 14.7% of ovarian epithelial carcinoma. Fertility preservation should be considered in borderline ovarian tumours.

P12.19
Medical conditions and their treatment influencing post-pelvic surgical urinary symptoms
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Objectives: To perform a retrospective evaluation of the short to medium-term effects of pelvic surgery on urinary symptoms.

Methods: 32 patients who underwent pelvic surgery over the past 4 years were contacted by telephone. Besides demographic data, past medical and drug history, the enquiry emphasized on an array of urological symptoms.

Results: Of the 32 patients, 28 were contacted of whom 4 had undergone pelvic floor repair and 24 vaginal hysterectomy. Patient ages ranged from 42 to 76 at the time of operation. Eight patients experienced significant urinary symptoms, including nocturia, stress incontinence or urinary frequency postoperatively in the short term. Out of a total of 168 urinary possible urinary events, 15 (9.4%) significant postoperative urological symptoms were recorded. No patient experienced urinary retention. Twenty of the 28 patients (71.43%) had a significant obstetric history, 9 (32%) women having delivered more than twice through the vaginal route; 2 women had Caesarean sections carried out. Ten (36%) women were hypertensive on medical treatment including diuretics. Four patients (14.28%) had inguinal / umbilical herniae, whilst 6 (21.43%) were habitually constipated. Of the 8 patients, 5 already had urinary symptoms before their operation, all of them experiencing improvement of their symptoms post-operatively. A past history of pelvic surgery (Pelvic floor repair n=2, hysterectomy n=1, colposuspension n=2) were the most common factors which may affect post-operative urinary symptoms.

Conclusions: Scientific literature is ambivalent towards the association of urological symptoms and vaginal surgery. There also lies the effect of recall bias as regards pre/ postoperative urinary symptoms. This study suggests that in a minority of patients post-operative urinary symptoms do follow pelvic floor repair. However it must be appreciated that various confounding factors exist, in particular in the medical and drug history which may affect post-operative urinary symptoms. A more rigorous and powerful study on the subject is required to deliver appropriate weighting to confounding variables which may effect post-operative urological symptomatology.
P13.12

Trochanteric cortical thickness and fat pad thickness at the hip in various groups of women-new markers for postmenopausal osteoporotic hip fracture

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**Objective:** The assessment of the greater trochanter cortical thickness and soft tissue thickness on the lateral aspect of the left hip in various groups of women.

**Methods:** One hundred and sixty-two women were recruited sequentially to have the outer cortical thickness of the left lower limb’s greater trochanter measured ultrasonically. Sixty-two women were young menstrual (under the age of 35 years) while there were 25 women in the older menstrual group (35+ years). The other groups were perimenopausal women (17) and treated (30) and untreated postmenopausal women (28). The woman would be placed on the right flank with both lower limbs extended. The greater trochanter would then be palpated and a 3.5 MHz ultrasound sector probe Aloka (SD 500) would be placed at right angles to the point where the trochanter could be felt. Under the sonolucent subcutaneous tissue, a "/\" shaped hyperechoic signal could be seen representing the greater trochanter and is consistently noted to be thinnest point of outer cortical bone in this region. The inner and outer hyperechoic edges at the obtuse angle of the trochanteric"/\" could be consistently delineated allowing the accurate measurement of the cortical thickness.

**Results:** The lowest cortical thicknesses were registered for the untreated menopausal group (0.776 +/-0.2cm) and the perimenopausal group (0.878 +/-0.15cm). The oestrogen replete group were consistently higher – young and old menstrual group (0.943+/-.19cm and 0.928 +/-0.16cm) respectively and 0.936 +/-0.18cm in the hormone treated group. The trochanteric thickness of menopausal group was significantly lower than all the other groups of women. The lowest fat pad thicknesses were registered for the untreated menopausal group (2.04 +/-0.69cm), the perimenopausal group (2.06 +/-0.86cm) and young menstrual group (2.09 +/-0.64cm). The oestrogen replete group were consistently higher – old menstrual group and 2.3 +/-0.76cm respectively and 2.33 +/-0.72cm in the hormone treated group. These differences did not reach statistical...
Intervertebral disc height in premenopausal women, treated and untreated postmenopausal women and postmenopausal women with osteoporotic vertebral fractures
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Objective: To assess Intervertebral Disc Height in premenopausal women, hormone treated and untreated postmenopausal and postmenopausal women with radiographically confirmed vertebral fractures.

Methods: Seven hundred and fourteen women were collected randomly from a large directory in a data base of a bone density unit. Every fifth woman in the directory was recruited from the DEXA directory. The image of the vertebral spine on the computer screen was sought for the women recruited. The adjustment mode was then employed allowing the horizontal cursors to be placed at the edges of the vertebral discs between the tenth thoracic vertebra.

Results: 714 Women were divided in five groups according to the menopausal/menstrual status. One hundred and eighteen (118) menopausal women were on HRT, 220 women were untreated menopausal women, 98 menopausal women were on bisphosphonates, 161 women were on calcium supplements, 79 women were premenopausal and 98 women had confirmed vertebral fractures. Age and weight differences were noted across groups and statistical. The vertebral fracture group was noted to have the lowest disc height (1.38 ± SD 0.1cm) of the 3 discs D1 - D3. The D1 - D3 disc height in the HRT and premenopausal groups were similar (1.92 ± 0.35cm) and (1.92 ± 0.3cm ) respectively. The disc heights in the other three groups (calcium 1.49 ± 0.48, untreated menopausal group 1.49 ± 0.48cm, bisphosphonates 1.41 ± 0.47cm) were significantly lower than the oestrogen replete groups but were significantly higher than the osteoporotic vertebral fractures group (p<0.001).

Conclusion: Postmenopausal women with vertebral fractures have significantly low disc heights. The disc heights are significantly lower than HRT treated and premenopausal women. The disc heights of the calcium and bisphosphonate groups were also significantly lower than the HRT treated and premenopausal women. These results suggests that the discoid shape and viscoelastic properties of the intervertebral discs may be relevant to the genesis of osteoporotic vertebral fractures and nonhormonally treated menopausal women also have significantly low disc heights.
CASE REPORTS AND REVIEWS
CR16  
Pyrexia of unknown origin in pregnancy – think of Listeriosis  
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Listeriosis, an infection caused by Listeria monocytogenes, is rare in Malta. In fact no record of any reported cases of Listeriosis has been documented since 1997 till present date. Pregnant women are at increased risk of infection. Although in most cases, it is benign, correct diagnosis is important because it can lead to both maternal complications and neonatal listeriosis (early-onset or late-onset). We report a case of a 31 year old secundigravida who presented at 34 weeks gestation with pyrexia of unknown origin and flu-like illness. Baseline investigations showed a high C reactive protein (CRP). Listeria monocytogenes was cultivated from blood sample. The patient was treated with high dose antibiotics: intravenous amoxicillin 2g four times a day was started then decreased to three times daily. After 17 days of intravenous amoxicillin, treatment was changes to the oral formulation to complete a 4 week course in total. Follow-up with serial CRP’s and repeat blood cultures was carried out. A multidisciplinary team was involved in her care, including the consultant obstetrician, infectious disease physician and infectious disease paediatrician. She was induced at term and a male infant was delivered by normal vaginal delivery. There were no neonatal or maternal complications/morbidities. The case illustrates the importance of blood cultures in a pregnant patient with pyrexia of unknown origin. Blood cultures
are essential in making a diagnosis of Listeria thus aiding the correct management and preventing potentially fatal maternal/foetal complications.

CR17

Digital thermographic imaging – a novel monitoring approach in Charcot neuroarthropathy with potential clinical usefulness

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Charcot neuroarthropathy is a chronic disabling arthropathy complicating peripheral neuropathy, often in the setting of diabetes. Establishing a definitive diagnosis is challenging and largely clinical. Recovery is often protracted, and difficult to monitor clinically, given paucity of clinical signs and symptoms, and non-specific data borne out of established investigative tools. Strict off-loading of the affected joint(s) (commonly the ankle and/or foot) constitutes the cornerstone of clinical management, although there is currently mounting clinical evidence supporting a role for adjunct bisphosphonate and calcitonin therapy. Asymmetric temperature differences secondary to inflammation within the affected joint(s) is a hallmark of this disease entity, classically presenting with a temperature difference of over 2°C compared with the unaffected contralateral joint. Temperature differences correlate highly with radiographic changes and with markers of bone turnover, and may antedate clinical presentation and foot ulceration. Infrared thermography potentially offers a relatively simple, non-contact, non-ionizing, relatively inexpensive and rapid, method of monitoring healing (foot cooling) and recurrence (foot warming) in the same or contralateral foot. We report serial dorsal and plantar thermographic images from a 58 year old lady known to suffer from type 1 diabetes, who presented to our diabetes foot services clinic with acute Charcot foot, illustrating response to treatment with off-loading and intravenous pamidronate.

using the tracer 18F fluorodeoxyglucose and this revealed inflammation of the arch of the aorta, the thoracic aorta, a number of its major branches as well as the femoral arteries. This case demonstrates the usefulness of a PET CT scan both in confirming the presence of a large vessel vasculitis as well as indicating its precise anatomical distribution. This would not have been possible with standard diagnostic modalities such as biopsy, angiography, ultrasound and MRI. The PET CT scan can achieve this by providing intrinsically fused morphologies and functional data in a single examination.
Anterior low-lying placenta in the second trimester - a risk factor for uterine dehiscence/rupture in a VBAC (vaginal birth after caesarean section)?

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A significant proportion (approx: 40%) of caesarean sections are elective repeat caesarean sections. Uterine rupture is an important cause for concern frequently inducing obstetricians to opt for an elective repeat caesarean section. Uterine rupture is associated with maternal and neonatal morbidity and mortality. The risk of uterine rupture is 35/10,000 in women attempting a vaginal birth after Caesarean Section, however 12/10,000 of uterine ruptures occur in women planned for elective caesarean section. This suggests that antenatal precedents may have a role in uterine rupture. Uterine rupture is a cause of significant maternal/neonatal morbidity and mortality. A case report reviews a pregnancy of a 34 year of woman in her second pregnancy, whereby the first pregnancy was delivered by elective caesarean section for an oblique lie at term. Throughout the second pregnancy, the placental site was observed ultrasonically to be anterior and low in both the late first and second trimester. The placenta did not reach the cervix. In the third trimester the placenta was noted to have remained anterior but to have entered the upper segment, leaving the lower segment completely clear. At 37 weeks gestation the patient developed acute cholestasis of pregnancy. Bile acid levels rose to 40 iu/l necessitating delivery. Since the foetal...
head was noted to remain 5/5 above the pubis and the cervix unfavourable for an elective Caesarean Section was decided upon. At caesarean section the lower segment of the uterus was not noted to be transparent, with the foetal hair and meconium visible. Following delivery of the fetus, the placenta was noted to be sited anteriorly, just superior to the dehiscent previous uterine section scar. In cases where anteriorly sited placentae do not succeed in migrating superiorly in women with previous caesarean section, morbid adherence to the uterine scar and significant weakening of the lower uterine segment is noted. In this case although the placenta did migrate superiorly, the resultant dehiscence may suggest that its previous low location may have weakened the uterine lower segment significantly leading to uterine dehiscence. Anteriorly sited placentae which migrate from the lower segment in the third trimester in women with previous Caesarean sections may be at greater risk of uterine dehiscence and rupture. 

Conclusion: Thermographic imaging aids in differentiating abdominal regions between the underlying foetus and liquor pool. This differentiation may assist in cases of oligohydramnios due to insidious spontaneous rupture of membranes and intra-uterine growth retardation.

CR30
Atypical presentation of pre-eclampsia

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Aim: To increase awareness of this protein disorder.

Case: 30 year old, primagravida, normotensive woman, presents at 34 weeks of gestation with brown discharge per vagina. Postal monitoring showed a persistent bradycardia and the baby was delivered by an emergency lower segment caesarean section. Peri-operatively a placental abruption was diagnosed. 24 hours post-operatively, the patient became jaundiced, hypertensive, and her renal and liver profile were abnormal. The patient needed intensive supportive management.

Conclusion: Pre-eclampsia with its complications can present without obvious increase in blood pressure and without proteinuria. Therefore clinicians should include pre-eclampsia in their differential diagnosis when dealing with similar cases.

CR31
Bleeding cervical fibroid necessitating internal iliac artery ligation – a case report

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Introduction: The prevalence of clinically evident cervical fibroids in pregnancy is less than 1%. Complications include bleeding and delivery by caesarean section. Uterine artery ligation during caesarean section is reportedly successful in reducing postpartum blood loss and eventually reducing fibroid size, thus minimizing the need for future surgery. We report a case of one such complicated cervical fibroid presenting at our obstetric unit.

Case report: A 31 year old Caucasian gravid female presented with vaginal bleeding at 19 weeks of gestation. A speculum examination revealed a large fibroid occupying the upper vagina and obstructing views of the cervix, while an ultrasound confirmed the presence of a viable pregnancy with a 9.5cm by 8.8cm cervical fibroid. Vaginal bleeding settled with conservative management. However at 26 weeks of gestation, she was re-admitted with heavy vaginal bleeding. Ultrasound showed a viable 27 week pregnancy and two cervical fibroids measuring 11.21cm by 12.32cm and 5.14cm by 4.71cm respectively. The patient was initially managed conservatively, but at the 28th week of gestation she suffered heavy vaginal bleeding. On examination, the fibroid was noted to be occupying virtually the entire pelvic cavity. In view of persistent heavy blood loss and severe prematurity, a classical Caesarean section was carried out and a healthy male infant was delivered. In spite of aggressive medical therapy, heavy peripartum vaginal bleeding persisted and bilateral internal iliac artery ligation was performed. Bleeding was successfully reduced to a trickle which further responded to misoprostol and a vaginal pack. Our patient had an uneventful recovery and was discharged home on the ninth post operative day. A magnetic resonance imaging (MRI) scan of the pelvis carried out five days after surgery revealed a 12cm by 11cm by 11cm...
cervical fibroid demonstrating areas of degeneration and necrosis. During a routine postnatal check nine weeks post surgery, the cervix was noted to be bulky albeit visible, with no obvious fibroids. A six month follow up MRI revealed significant improvement with only residual small intramural fibroids in the anterior wall and in the lower part of the uterine body and cervix. Both ovaries were normal in size and showed normal signal intensity.

**Conclusion:** Ligation of uterine blood supply is relatively safe and effective in reducing blood loss and fibroid size.

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**CR32**

A rare case of single cord insertion with two branches in uniovular twins

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The incidence of monochorionic monoamniotic twins (MCMA) is one in 10,000 pregnancies. MCMA twins belong to a high risk group for perinatal mortality and morbidity. The most common complications occur due to the vascular placental anastomoses that connect the circulations of the two twins: twin-twin transfusion syndrome (TTTS), as well as congenital malformations and prematurity. Their survival rate is approximately 50%. Mrs. AB was diagnosed as having uniovular twins early on in pregnancy. The twins were in the same sac and it was evident that they were physically very close together. A detailed scan was carried out at 14 weeks indicated that the twins shared the same cord which then branched very close to the twins’ umbilical insertion. The branches only had one artery and one vein each. The twins were followed up to 17 weeks and were growing normally with no significant growth discrepancy between them, when on a routine visit it was noted that both twins had an absent foetal heart. Attempts at vaginal delivery failed and a hysterotomy was carried out after two days. Post mortem on the twins confirmed the ultrasound findings. A differentiation of this rare form of uniovular twins will indicate the different types of monochorionic twins. The time when the original embryo splits determines the form of twinning. In this case the splitting of the embryo occurred late, judging by the presence of a single cord that has branched distally to its insertion, whilst had it occurred even later - a case of the conjoined twins: twin-twin transfusion syndrome (TTTS), as well as congenital malformations and prematurity. The most common complications occur due to the vascular placental anastomoses that connect the circulations of the two twins: twin-twin transfusion syndrome (TTTS), as well as congenital malformations and prematurity. Their survival rate is approximately 50%. Mrs. AB was diagnosed as having uniovular twins early on in pregnancy. The twins were in the same sac and it was evident that they were physically very close together. A detailed scan was carried out at 14 weeks indicated that the twins shared the same cord which then branched very close to the twins’ umbilical insertion. The branches only had one artery and one vein each. The twins were followed up to 17 weeks and were growing normally with no significant growth discrepancy between them, when on a routine visit it was noted that both twins had an absent foetal heart. Attempts at vaginal delivery failed and a hysterotomy was carried out after two days. Post mortem on the twins confirmed the ultrasound findings. A differentiation of this rare form of uniovular twins will indicate the different types of monochorionic twins. The time when the original embryo splits determines the form of twinning. In this case the splitting of the embryo occurred late, judging by the presence of a single cord that has branched distally to its insertion, whilst had it occurred even later - a case of the conjoined twins would have arisen.

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**CR33**

A case of non immune hydrops due to an arteriovenous fistula malformation in the vein of Galen


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**Background:** Hydrops is a condition characterised by the abnormal accumulation of oedema involving two or more foetal compartments. Hydrops can have an immune or non immune aetiology. We present the case of a rare, non immune type of hydrops caused by high output cardiac failure secondary to a vein of Galen aneurysm.

**Case report:** A 30 year old healthy gravid woman was noted to have foetal cardiomegaly at 24 weeks of gestation. At the time, there was no skin oedema, pleural effusions or ascites. Routine blood investigations were normal. Screening for Parvovirus, Toxoplasma, Rubella, Cytomegalovirus, Herpes and rhesus antibody were all negative. As the pregnancy progressed, foetal cardiomegaly worsened and at 27 weeks of gestation, following a detailed anomaly scan, the patient was referred to the Fetal Medicine Foundation (FMF) at King’s College Hospital with a diagnosis of a congenital cardiac malformation. At FMF, the foetus was diagnosed as having an aneurysm in the vein of Galen, thereby subjecting cardiac function to a vastly increased circulating volume. The patient was subsequently referred to the Neurosurgery Unit at Great Ormond Street Hospital, where it was recommended that the pregnancy should be allowed to proceed as far as possible and a glue type plug inserted into the fistula postnatally if the gestation’s gestational age and weight permitted. Back in Malta, at 30 weeks of gestation, the fetus developed hydrops and high output cardiac failure. Attempts to digitalise the mother and baby did not prevent the situation deteriorating and the cardiotocograph became pathological. Following the administration of desamethasone so as to attempt to lessen the impact of respiratory distress, an emergency caesarean section was carried out. A hydroptic baby that cried at birth, but only survived a few hours was delivered.

**Discussion:** The case represents a rare case of non-immune hydrops due to an anatomical abnormality that deteriorated very rapidly. Vein of Galen aneurysm is a rare congenital anomaly of the intracranial circulation constituting 1% of intracranial vascular malformations, in which blood shunts from cerebral arteries into a dilated vein of Galen (an internal cerebral vein). This develops between the 6th to 11th week of gestation. Only a few cases are diagnosed in utero. Approximately 40% of cases are diagnosed in neonates while the rest are diagnosed later in life. Antenatal diagnosis is usually made after the 30th week of gestation because the malformation grows as pregnancy advances.

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**CR34**

Two cases of diaphragmatic hernia corrected by intra uterine surgery - the FETO procedure

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The birth prevalence of congenital diaphragmatic hernia (CDH) is approximately 1:4000. It is associated with high rates of neonatal mortality as a result of pulmonary hypoplasia, pulmonary hypertension. The outcome of foetuses with severe diaphragmatic hernia may be improved by reversible foetal endoscopic tracheal occlusion (FETO) with a balloon. The literature reports a cumulative survival rate of FETO in the first ten years of around 60%. During pregnancy, foetal lung secretions are drained into the amniotic cavity during foetal breathing movements. FETO is an intra uterine procedure whereby an endotracheal balloon is inserted and inflated in the trachea endoscopically and under local anaesthesia, thus causing an obstruction of the trachea. Studies have shown that such tracheal obstruction results in expansion of the foetal lungs by retaining pulmonary secretions and is therefore associated with improved lung growth and development. Foetuses undergoing FETO are followed with regular ultrasound examinations to confirm the endotracheal presence of the inflated balloon and to monitor lung growth. The balloon is electively deflated and removed at approximately 34 weeks of gestation by foetoscopy or ultrasound-guided puncture. We present two cases of congenital diaphragmatic hernia treated with foetoscopic tracheal occlusion. The first case was picked up at the 21st week and was transferred to the Foetal Medicine Foundation at the Harris Birthright Unit, King’s College Hospital, London. The second case (Case B) was diagnosed at the 22nd week of gestation and similarly sent to King’s College Hospital but was noted to have a very large...
diaphragmatic hernia. Incidentally both cases had left sided diaphragmatic hernia which is the commonest site. In the first case the baby survived and definitive corrective surgery was carried out shortly after delivery. The pregnancy of the second case is still ongoing but the results post surgery at 31 weeks look satisfactory. Foetal endoscopic tracheal occlusion in severe congenital diaphragmatic hernia is minimally invasive and associated with a substantial improvement in postnatal survival.

CR35
Placental hormones: steroid production and excretion
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Introduction: The placenta in pregnancy is an organ capable to produce hormones and growth promoting substances independently from maternal organs. The case below describes a terminated molar pregnancy placental analysis of hormones produced by such organ.

Case report: A mother in her twenties presented to the obstetric department with vaginal bleeding in the second trimester of pregnancy in the early 1980s. On examination she was found to be larger than dates. Foetal heart sounds were absent. An ultrasound scan showed the typical snow-storm appearance without the presence of a foetus confirming a complete hydatidiform mole. Urinary BHCG was markedly elevated. The pregnancy was medically terminated and followed up with suction and curette evacuation of the uterine cavity. The delivered placenta had the gross appearance of multiple grape-like vesicles. Histology confirmed a hydatidiform mole with throphoblastic hyperplasia. The patient was eventually followed up. Her BHCG levels settled down within three weeks. Follow-up with no BHCG presence was uneventful for a period of one year. Biochemical hormone assays were taken from the placental vesical fluid and maternal serum samples.

Results showed:
Vesical fluid vs Maternal Serum (Normal Levels)
• T4 <1.93 pmol/L vs 14.6 pmol/L (8 – 25 pmol/L)
• TSH 2.9 mU/L vs 5.0 mU/L (0 – 6 mU/L)
• Cortisol <28 nmol/L vs 832 nmol/L (138-690 nmol/L [morning])
• Prolactin 1212 mU/L vs 867 mU/L (<480 mU/L)
• FSH 8.4 U/L vs 8.2 U/L (<20 U/L [Follicular])
• LH 126.7 U/L vs 125.3 U/L (<40 U/L [Follicular])
• Progesterone >127.2 nmol/L vs 45.8 nmol/L (>30 nmol/L [Pregnancy])
• Testosterone <1.0 nmol/L vs 1.5 nmol/L (0.28-1.84 nmol/L)
• Oestradiol 17β 4.74 nmol/L vs 2.11 nmol/L (0.1 – 0.4 nmol/L [Follicular])

Discussion: As an endocrine organ, the placenta produces a wide range of hormones that affect both mother and foetus as well as the development of the placenta itself. Complete molar pregnancy placenta provides an opportunity to study the placental hormone contribution without the possible contribution by foetal endocrine glands. However, placental endocrine function can be disrupted by abnormal gene expression and androgenic chromosomal aetiology for the development of moles has been suggested. The villous swelling has been shown to be the result of continued secretion by the trophoblast in the presence of an inability to transport the fluid away due to deficient vasculature. The present study suggests a marked rise in progesterone [>3] and oestradiol [x4] production that exceeds serum levels. It has been shown that progesterone, together with 17α-hydroxyprogesterone and androstenedione and their metabolites, is the main steroid hormones found in vesical molar fluid. In humans, the placenta does not express 17α-hydroxylase. Placental oestrogen synthesis depends upon a source of androgen precursor from the foetal adrenal glands, thus explaining the low testosterone levels in the case report. While thyrotoxicosis is sometimes observed as a complication of throphoblastic disease, the simulator for this appears to be a hormone other than TSH [e.g. HCG], since the levels observed are actually lower [x-1.7] in vesical fluid than in serum. The other pituitary gonadotrophins showed equivalent values in vesicle fluid and serum. Prolactin was only slightly elevated in vesical fluid [x1.4].

Conclusion: The placenta in a underappreaciated organ essential for pregnancy maintenance, foetal development and maturation. More studies into placental hormone production are required so as to understand the endocrine pathways regulating a viable and a non-viable gestation.

CR36
Latent syphilis in pregnancy
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Introduction: Syphilis, a disease caused by Treponema pallidum is very rare in Malta. Only 4 cases have been diagnosed in the antenatal population since 2009.

Case report: A 26 year old irregular migrant in her second pregnancy presented for her booking visit at 13 weeks gestation. She had no past medical history of note and was asymptomatic. Initial syphilis testing resulted in negative Treponema pallidum Particle Agglutination test (TPPA) and negative Veneral Disease Research Laboratory Test (VDRL) but positive Treponema pallidum IgG/IgM antibodies. Syphilis IgM immunoblot testing was negative (IgM TP47, TMPA, TP17, TP 15, TP 257M, TP 453). Repeat testing showed a TPPA positive titer 1:1280+; VDRL was however negative <1:1. A confirmatory sample was sent to a tertiary centre. Results were as follows: TPPA positive titre of 1:1280+, Treponema pallidum antibodies (IgG, IgM) positive, Treponema pallidum antibodies (IgM/EIA) <20, VDRL <1:1. The patient was diagnosed with a latent syphilis infection. Testing for other infections - HIV and Hepatitis were negative. A multidisciplinary team was involved including the obstetric consultant, genitourinary consultant and infectious disease paediatrician. The patient was thoroughly counselled on the effects of syphilis, including foetal complications. The patient was treated with two doses of 2.4 MU of benzathine penicillin G intramuscular injection given at weekly interval. Prednisolone 10mg three times daily was given for three days, including the day of treatment, and the days before and after treatment, in order to prevent the Jarisch-Herxheimer reaction. Anomaly and serial growth scans were performed and these were all within normal limits. Screening was also offered testing to her one year old daughter. Results: The patient was admitted at 40+1 gestation for induction of labour. A healthy female baby weighing 3.59kg was born by normal vaginal delivery. The neonate’s titres showed the presence of maternal antibodies but no evidence of congenital syphilis syndrome (VDRL: negative; TPHA: 1:1280+; IgM negative). No further treatment was necessary. The neonate will continue to be followed up by the pediatricians until all the maternal antibodies have cleared.

Conclusion: The importance of antenatal screening for syphilis is highlighted by this case. Timely treatment prevents congenital syphilis with its potentially serious complications.
Introduction: Appendicular non-inflammatory tumours are rare and often clinically misdiagnosed with ovarian tumours. Appendiceal mucocoeles account for only about 0.3% of appendiceal specimens of which 63% may be simple mucinous cystadenoma, 25% mucosal hyperplasia and 12% mucinous cystadenocarcinoma.

Case report: A 63yr old women with a previous history of surgical resection and oncology management for grade II ductal invasive adenocarcinoma of the breast, presented to the urology outpatient with right loin pain and heavy microhaematuria. An ultrasound examination revealed left sided hydronephrosis of severe, colicky, left sided abdominal pain requiring opiates. Accidents and Emergency department with a three day history was admitted to hospital and an atrophic uterus and adnexa whilst sections from the right hemicolecotomy and a TAH &BSO were performed. The post-operative period was uneventful and the patient was discharged home seven days after surgery. Histology evidenced an atrophic uterus and adnexa whilst sections from the right hemicolecotomy evidenced a well differentiated (grade 1) mucinous adenocarcinoma of the appendix with perforation (pT4a,N0,Mx). She will be referred to the oncological department for possible adjuvant therapy.

Discussion: Appendicular mucinous malignant tumours are a rare occurrence and often misdiagnosed as ovarian lesions. As in the case reported here, these may actually present after rupture of the mucocyst predisposing these patients to developing pseudomyxoma peritonei (PMP). PMP may arise in association with the benign mucinous adenoma, the malignant mucinous adenocarcinoma, or a hybrid variety. PMP means false mucinous tumour of the peritoneum, commonly called the “jelly belly” syndrome. It is a disease of MUC2-expressing goblet cells which accounts for the voluminous intraperitoneal mucin which has no place to drain since it resides in a closed cavity resulting in compression and loss of function of visceral organs. Commonly it arises from mucinous tumour of the appendix and occasionally from the ovary, gastrointestinal tract, gall bladder, urinary bladder, lung, breast, pancreas, fallopian tube. Histopathological type usually determines the prognosis in terms of recurrence and survival with a 6.7% 5 year survival for mucinous adenocarcinoma. Current evidence shows that cytoreductive surgical debulking and post-operative intraperitoneal chemotherapy play a vital role in the management of the tumour. Adjunctive radiotherapy and intraperitoneal isotopes might also play a role in long term survival.

Conclusion: PMP is a rare clinical condition, and an incidental finding at laparotomy for suspected ovarian masses. Undeniably, care must be taken so as not to fail to identify it due to inexperience at surgery.

A successful pregnancy in a case of foetal thrombophilia.

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Introduction: Thrombophilias can either be acquired (e.g. Antiphospholipid Syndrome) or inherited (e.g. Protein S deficiency and Methylenetetrahydrofolate reductase (MTHFR) mutation). All thrombophilias lead to a hypercoaguable state which can compromise the circulation at the utero-placental interface and lead to utero-placental insufficiency. This would in turn lead to miscarriages, intra-uterine growth restriction or pre-eclampsia. MTHFR mutations can occur at two gene loci, C677T or A1298C. Homozygous mutations at position C677T occur in 5-10% of the population and homozygous mutations at position A1298C occur in 9%. Compound heterozygous mutations involving the 2 loci are also relevant. The enzyme 5,10-methylenetetrahydrofolate reductase catalyzes the conversion of 5,10-methylenetetrahydrofolate in 5-methyltetrahydrofolate. Folate is then used in many biochemical pathways including methylation of homocysteine and synthesis of nucleotides. Patients who are homozygous for the defect can develop hyperhomocysteinemia which is associated with increased risk of thrombotic diseases and spontaneous miscarriages. Another possible implication is that in cases where both parents are MTHFR homozgyote, the foetus will also be homozgyote resulting in a thrombotic tendency in the foetus itself. However, the role of MTHFR in recurrent miscarriages is still a matter for discussion.

Case summary: 33 year old lady was investigated at the recurrent miscarriage clinic after she had 2 recurrent miscarriages. The patient gave a history of hyperthyroidism and was on carbimazole and propylthioracil. She had her menarche at 13 years and her cycles were 4/8. She had a miscarriage at 5 weeks in February 2007 and another one at 8 weeks in June 2007. She smoked 5 cigarettes daily. She had an office job and lived with her husband. The patient was found to suffer from both Protein S deficiency and a homozygote MTHFR mutation at the C677T locus. She also had a positive Antinuclear factor (ANF) titre at 1/640. Her husband was also found to carry the same MTHFR mutation. The couple had the same homozygote mutation for the MTHFR C677T locus. The patient was started on the following treatment as per protocol:

- Folic acid 5mg daily
- Aspirin 75mg daily
- Duphaston 10mg tds
- Clecane 20mg daily

Outcome: his couple had a baby girl in 2008 and a baby boy in 2011. She had an ectopic pregnancy in 2010. She is being followed-up for the positive ANF with regular ds-DNA and ANF assays, complement levels and lymphocyte counts. Conclusion: This case where both parents exhibited a congenital thrombophilia highlights the relevance of thrombophilia as a cause of recurrent miscarriage and the important role of aspirin and heparin in the treatment protocol for such cases.
was initially admitted to urology with the provisional diagnosis of renal colic. However, the following day, she was referred to the gynaecology department where a repeat ultrasound pelvis confirmed the presence of an enlarged left ovary. This was now measuring approximately 7cm by 5cm with a 1.7cm central cystic structure and absent Doppler flow. Appearance was suggestive of ovarian torsion. The patient underwent an emergency laparotomy. Operative findings included a torted, enlarged and oedematous left ovary containing viable looking ovarian tissue. There were no ovarian cysts or tumours. Detorsion of the affected ovary was carried out and cautery applied to cystic structures on the ovarian capsule.

**Results:** The patient had an uneventful postoperative recovery. A repeat ultrasound scan carried out seven days after surgery revealed a healthy looking 3.5cm by 2.7cm left ovary. She has remained well ever since.

**Conclusion:** Although uncommon, ovarian torsion may still occur in the absence of lesions such as tumours or cysts. Surgical management of ovarian torsion should attempt to salvage the affected ovary. Detorsion of an ischaemic ovary is a safe procedure with minimal post-op morbidity and a potential for ovarian salvage. To maximize the potential success of conservative therapy, torsion must always be included in the differential diagnosis of abdominal pain.
Beam me out Scotty! – an alternative to Caesarean section
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In the majority of cases, the natural tendency in foetal development is to produce a child that can pass through the mother’s birth canal without problems – a child that is proportionate in size to the maternal pelvic dimensions. However, instances do occur where the foetus in utero has bigger dimensions that the optimum either because the child is too big or because of a congenital anomaly or because the mother’s pelvis is exceedingly small. This leads to cephalopelvic disproportion (CPD) which if unmanaged would result in foetal and maternal death. The complication of obstructed labour has been a problem faced by parturient mother and their carers throughout the ages. In antiquity, destructive instruments were designed to help reduce the size of the foetal head to allow for delivery. Soranus of Ephesus (AD 98-138) described seven different types of embryotomy instruments. The use and availability of such instruments continued well into the early 20th century. Borderline CPD was managed by rotational and traction instruments that were introduced in obstetric practice in the 17th century - these gave rise to modern forceps and ventouse forming part of modern-day obstetric armamentarium. The only modern safe for foetus and mother resort to absolute CPD is however Caesarean section. Abdominal delivery of the foetus from a recently deceased mother has a long history and is even mentioned in Greek mythology (size the abdominal birth of Asclepius performed by the deity Apollo while the mother Coronis was being burned on the funeral pyre). The first documented Caesarean section of a live woman in Europe appears to have been performed around 1500 by Jakob Nufer, a Swiss pig-gelder. Caesarean section in the 21st century has become the mainstream management for many obstetric problems. Alternative delivery methods to overcome the problem of CPD may become available with time. In a 24th century setting, a Star Trek member of the crew Ensign Wildman delivering her infant interspecies Human-Ktarian child experiences difficulties related to obstructed labour. The Emergency Medical Hologram (EMH) managing the delivery decides that immediate delivery was necessary and locks onto the baby’s coordinates, initiates umbilical separation and energises foetal transport. The female Human-Ktarian child materialises in the bio-crib suffering from the minor complication of slight haemocytethmic imbalance managed by stabilising the cell membranes with osmotic pressure therapy.
Why did *Homo sapiens* develop a large brain? The gravitational vascular hypothesis.

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Bipedalism and a high encephalisation quotient are unique characteristics of the human species. It is plausible that these characteristics are connected through the evolutionary process of the homo genus and may have influenced each other’s development. The connection between bipedalism and a high encephalisation quotient may have been conferred through to gravity’s effect on the blood supply to the brain, both *in utero* and in the first year of life. The enlarged human brain initiates at birth whereby the neonatal brain weighs 350-400g compared to *P. troglodytes* (chimpanzee) neonatal brain weight of 155g. After a progressive reduction in breech presentation throughout pregnancy, more than 97% of human fetuses present cephalically at the end of pregnancy. Adverse outcomes for the fetus are known to occur for breech presentation, prematurity and post-dates delivery. The appropriately adjusted gestational age in the homo genus, possibly under evolutionary pressures, encouraged cephalic presentation. Gravity would have assisted blood supply, nutrition and cerebral metabolism of the growing brain. Another obstetric surrogate is that both body weight and brain volume in multiple pregnancies are significantly larger in the lower, first born twin, compared to the higher second born twin. The gravitational effect of brain blood supply persists beyond birth. Human babies only become fully bipedal at the age of 1-1.3 years. During the first year the greatest growth in brain weight is registered when it increases to 900g-1kg. The combination of obstetric and paediatric surrogates suggest that gravity’s influence, through the evolution of human bipedalism, on blood supply may be responsible for the high encephalization quotient in the *Homo sapiens* species.