Book of Abstracts (Orals)

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RECOGNISING SEPSIS IN THE EMERGENCY ROOM

ORAL

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Sepsis remains a leading cause of maternal morbidity and mortality. According to the MBRRACE-UK study, in the UK and Ireland in 2013-2015 there were 24 women who died from sepsis. Key actions for the diagnosis and management of sepsis are - timely recognition, fast administration of IV antibiotics and involvement of senior review.

This retrospective study identified patients attending the ED in the National Maternity Hospital during a two month period, who met national criteria for sepsis. All patients with signs of sepsis were identified using the admission logbook. Charts were reviewed using MNCMS.

28 patients were identified as meeting the criteria for sepsis. 85.7% were postnatal. The presentation to diagnosis interval was <1hour in 75% and 1-2hours in 25%. Time to doctor review was <1hour in 64.3% and 1 - 2hours in 35.7%. Antimicrobials were commenced within 1hour in 68%, 1-2hours in 24%, 2-3hours in 8% and 7.4% were deemed to not require antimicrobials. 100% of patients had IV access, FBC, U&E, CRP and blood cultures performed. 21% had a lactate performed and 0% had a urine output measurement. 75% were commenced on IV fluids.

Overall, sepsis was recognised in 100% of cases. This report, however, identified a delay in diagnosis and thus a delay in medical review. There was a delay in commencement of antimicrobials with some patients not receiving antimicrobials at all. Delay in obtaining blood results from the lab exposes an inherent difficulty with prompt identification of sepsis within 1hour.

ANTENATAL DETECTION OF ABNORMAL PLACENTAL CORD INSERTION IN EACH TRIMESTER A PROSPECTIVE COHORT STUDY

ORAL

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Abnormal placental cord insertion (PCI) had been associated with adverse pregnancy outcomes. We aim to examine the use of ultrasound for antenatal detection of abnormal PCI in each trimester.

This prospective cohort study examined 277 singleton pregnancies in a tertiary centre. Scans were carried out between 10-14, 18-22 and 32-34 weeks. The shortest distance of PCI site to placental margin was identified and measured at each scan. A distance of less than 2cm from the margin was categorised as abnormal PCI. Standardised images of delivered placentas were taken, and distance of the PCI site to the placental margin was measured digitally. Sensitivity, specificity, positive predictive value and negative predictive value of the antenatal classification in each trimester with the delivered placental classification were calculated.

Abnormal PCI was confirmed in 30/277 (11%) of placentas at delivery. Figure 1 compares the percentage classified as having abnormal PCI at each scan with the percentage at delivery. Both scan 1 and 2 over-estimated the incidence of abnormal PCI. Sensitivity and specificity were highest at scan 2 (73% and 91% respectively, see Table 1) but almost half of those categorised as abnormal PCI at scan 2 had normal PCI at delivery.

It is feasible to detect abnormal PCI antenatally on ultrasound, with the optimal agreement with PCI at delivery in the second trimester. However, the incidence of abnormal PCI is over-estimated at earlier scans and PPVs are low, thus we were unable to recommend the use of ultrasound antenatally to identify abnormal PCI.

RISK FACTORS AND OUTCOME OF REPAIR OF OBSTETRIC ANAL SPHINCTER INJURIES AS FOLLOWED UP IN A DEDICATED PERINEAL CLINIC

ORAL

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Introduction

Anal incontinence affects the psychological, social and physical well-being of women.

Aim

The aim of this study was to evaluate the risk factors leading to obstetric anal sphincter damage, and the outcome for women at 6-8 months post-delivery.

Materials and Methods

A prospective cohort study was performed of all patients attending the postnatal perineal clinic at 4-12 months postpartum, from January 2016 until October 2017.

Results

A total of 436 women were referred with a mean age of 34 years (5.6), parity of 1.6 (range 1-5) and these women were followed up at 6-12 months. A total of 57 women (15.5%) were reviewed following a major tear (4thdegree, n=21, 3c, n=36) and 310 (84.5%) were reviewed following a minor tear (3a n=168, 3b, n=142).

Primiparity and instrumental delivery were found to be independent risk factors for sphincter damage ($p<0.001$). The extent of EAS and IAS damage was directly related to severity of tear. Women who sustained a major tear had worse anal tone than those who had a minor tear ($p<0.001$) and women with combined defects were more likely to have reduced anal tone ($p<0.001$). Women delivered by combined ventouse/forceps were 5 times more likely to have a severe tear than those delivered by SVD and 2.5 times more likely than those delivered by ventouse delivery.

Conclusions

The perineal clinic provides a valuable resource for investigation and treatment of postpartum perineal injury. It is important to identify the full magnitude of the injury at time of primary repair.

HYSTEROSCOPIC TISSUE RETRIEVAL FOR RETAINED PRODUCTS OF CONCEPTION- A VIDEO PRESENTATION

ORAL

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Traditionally, the surgical management of retained products of conception (RPOC) involves a blind procedure of either suction curettage or dilatation and curettage; this allows for a significant risk of uterine perforation or procedure failure requiring repeat evacuation and its associated subsequent morbidity. These risks may be increased postpartum or at repeat procedures.

We present a number of cases demonstrating a hysteroscopic technique for effective removal of retained products of conception under direct vision, using the TruClear™ Hysteroscopic Tissue Removal System (Medtronic, USA), either following previous treatment failure or postpartum.

A case series of hysteroscopic tissue removal for persistently retained products of conception following failed medical management.

Removal of RPOC under direct hysteroscopic visualisation minimises endometrial damage and reduces risk of intrauterine adhesions. This procedure captures tissue for histological confirmation, and may reduce the need for additional procedures as the system demonstrated complete removal in over 94% of patients in a recent study.

Hysteroscopic visualisation of retained products of conception allows for targeted and complete removal; continuous cutting and tissue removal means only a single insertion is necessary and fewer procedural steps facilitates procedural efficiency. We present hysteroscopic tissue removal as a viable option for persistent RPOC as an alternative to blind evacuation of retained products of conception (ERPC).

IRISH BIRTH RATES AND THE IMPACT OF LOCAL NATIONAL AND INTERNATIONAL EVENTS

ORAL

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Irish birth rates appear to be trending down yet there may be some national and international events that have triggered a "baby boom".

Barcelona's birth rate was 16% higher than normal 40 weeks from FC Barcelona reaching the semi-finals of the UEFA Champion's League. A 1965 blackout in New York City resulted in a 30% increase in births at five Manhattan hospitals. When Hurricane Sandy passed through the wider New York area (October 2012) two New Jersey hospitals experienced increases in birth rates by 34% and 20% nine months later.

This was a retrospective review of monthly birth rates in relation to specific events 40 weeks prior. The high temperatures of 2017, with the peak being June 21st, resulted in a drop in deliveries in April 2018 by 87 births. Storm Ophelia in October 2017 showed an increase in births in July and August 2018 however this was not much greater than the delivery rates for the same months in 2017. In terms of sporting events, the 2016 July Olympics showed a dip in births for May 2017. This figure was 42 births lower than the same month in 2018. The Irish rugby team gripped the nation with their win over the All Blacks in Chicago in November 2016 however the birth rates for August 2017 did not appear to differ from 2018.

This is an interesting way of analysing birth rates and it gives evidence to anecdotal stories and staff experiences.

ESTABLISHING WHETHER ALL CASES OF CIN 2 NEED EXCISIONAL TREATMENT FOR FEAR OF MISSING HIGHER GRADE DISEASE

ORAL

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Around 70% of CIN2 will regress without treatment within 2 years, though as many as 24% will progress to CIN3. The treatment of CIN2 is a topic of debate. This paper aims to look at whether the grade of referral smear impacts on the incidence of underlying CIN 3 and above in patients with CIN2 on a punch biopsy.

A total of 287 women who had a punch biopsy that showed CIN2, with a known referral smear that underwent a LLETZ treatment, between 1/1/2013 to 1/1/2016 were included in the study.

When comparing the incidence of underlying CIN3 and above, in patients with a high grade smear [42.7%(n=68)] vs those with low grade smear [21.8%(n=28)] the difference was statistically significant. (RR 1.95 (CI 1.3 – 2.9), P value of 0.000193.)

The incidence of an underlying CIN3 and above in patients <30 years with a high grade smear was 46.2% (n=49) and with a low grade smear was 21.3% (n=13)
[P =0.001,RR = 2.2 (CI 1.3 – 3.9)].

The referral smear does impact the incidence of finding underlying higher grade disease when a LLETZ is performed for CIN2 and that it is not unreasonable to perform a LLETZ in a women with CIN2 with a high grade smear but much consideration must be given prior to performing a LLETZ on a woman (age <30) with a low grade smear whose histology is incidentally CIN2 because of its long term repercussion on pregnancy such as preterm labour.

AN ANALYSIS OF THE EFFECT OF DIFFERING PATIENT POPULATIONS ON INSTITUTIONAL CAESAREAN SECTION RATES

ORAL

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Contemporary approaches to monitoring quality of care in obstetrics often focus on comparing hospital caesarean delivery (CD) rates, with the implication being that higher CD rates are a marker of poor quality. Our group previously developed a risk prediction tool for nulliparous women who may require intrapartum CD. Five key predictors were identified (maternal age, maternal height, BMI, fetal abdominal circumference and fetal head circumference).

The purpose of this study was to ascertain if patient heterogeneity due to these factors can account for the observed variation in CD rates.

This retrospective cohort study is a secondary analysis of the GENESIS study which recruited 2,336 nulliparous singleton pregnancies across seven hospitals. A heterogeneity score was then calculated for each hospital based on the five key predictors above.

An unequal distribution of the high-risk patients across the centers was observed ($p<0.001$). The correlation between the CD rate and the center heterogeneity score was high (0.76, $p<0.05$).

Different hospitals have markedly different patient populations, as evidenced by the significantly different heterogeneity scores of high risk patients across the seven hospitals in this study. Our analysis also demonstrates a highly significant correlation between intrapartum CD rates and these heterogeneity scores, such that centres with a high heterogeneity score were more likely to have higher CD rates. We suggest that simple comparison of CD rates between different hospitals as a marker of care quality is inappropriate and that it will be necessary to allow for the marked differences in patient characteristics before interpreting such comparisons.

THE FIRST CASE OF OOPHORECTOMY FOR THE PURPOSE OF OVARIAN TISSUE CRYOPRESERVATION IN IRELAND

ORAL

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Turner syndrome (TS) is the most established genetic cause of premature ovarian insufficiency (POI). Advances in ovarian tissue cryo-preservation techniques with subsequent auto-transplantation of tissue, have given hope to many girls and women at risk of POI with regard to their future fertility. We report the first case of oophorectomy for the purpose of cryo-preservation for future fertility ever performed in Ireland. A 14 year old girl with Turner syndrome mosaic underwent this surgery in the National Maternity Hospital, Dublin 2.

As cryo-preservation of ovarian tissue is still considered experimental and is not offered in Ireland, the patient had limited fertility preservation options. A team of clinicians from the National Maternity Hospital and Merrion Fertility Clinic liaised with a paediatric oncologist in Oxford, England and plans were made for a laparoscopic oophorectomy to take place here in Ireland with subsequent immediate transportation of the ovarian tissue from Dublin to the United Kingdom for cryo-preservation.

The surgery was uncomplicated and the tissue was successfully transported to Oxford for cryo-preservation.

While still considered experimental, ovarian tissue cryo-preservation can be offered to girls with TS who are found to have adequate ovarian reserve but who cannot wait until sufficient maturity to undergo oocyte cryo-preservation. It is the authors' hope that a fertility preservation service can be developed in Ireland to allow more girls at risk of POI to avail of this procedure in this country.

A TEN YEAR STUDY OF THE IMPACT OF ON-CALL SHIFTS AND THE EUROPEAN WORKING TIME DIRECTIVE ON GROUP 1 CAESAREAN SECTION RATES

ORAL

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Caesarean Section (CS) rates have been steadily increasing in Robson Group 1. It may be assumed more CS happen at night or weekends, as physicians become fatigued and workload increases. However, the implementation of the European Working Time Directive (EWTD) in 2012 means less hours but potentially fractures continuity of care. We sought to determine the effect of nocturnal hours, weekend call and implementation of EWTD on Group 1 CS rates.

Group 1 CS rates were examined from 2008-2017 in a large tertiary referral centre. Variation in rates was examined by time of day (Day vs night) and day of the week (weekday vs weekend). Also, the rate of Group 1 CS before and after implementation of EWTD was compared. Relative frequencies were compared using Chi-squared test; statistical significance was defined as p-value<0.05.

In the 10 year period there were 18925 women in Group 1. Overall CS rate in this cohort was 14.9% (n=2835). Rates of CS in Group 1 were not statistically different between those delivering on weekdays (15%, n=2061) and weekends (14.4%, n=774, p=0.22). During daytime hours the CS rate in this cohort was 15% (n=7669) and was similar at nightime (14.9%, n=1157, p=0.72). Comparing the time periods pre and post-EWTD, there was a significant increase in CS rates in Group 1 (13% vs 15.7%, p<0.001).

In conclusion, working patterns do not appear to influence rates of CS. The temporal increase in CS rate in Group 1 has continued despite the implementation of improved working conditions with EWTD.

DIFFUSION WEIGHTED MRI IS A HIGHLY SENSITIVE TEST TO DETERMINE MYOMETRIAL INVASION IN LOW GRADE ENDOMETRIAL CANCER

ORAL

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Endometrial cancer is the most common gynaecological malignancy worldwide. Prognosis depends on various factors, including myometrial invasion (MI). FIGO classifies MI in two categories; 1A less than 50% invasion and 1B more than 50% invasion. Depth of myometrial invasion has both treatment and prognostic implications, as such accurate measurement of same is paramount in the work-up of endometrial adenocarcinomas (EAC).

Pre-operative staging using MRI is recommended to indicate the need for lymph node assessment. We sought to assess the accuracy of DW-MRI imaging in predicting myometrial invasion and to determine the relationship between lymphovascular space invasion (LVSI) and radiological staging.

A retrospective study of 79 EAC patients treated in a tertiary referral centre. Histological staging was assessed using the FIGO 2014 classification.

Assessment of MI demonstrated a 67% concordance between MRI and histology ($p=0.005$) with a sensitivity of 68% (95%CI 54-81%). Exclusion of grade 3 tumours (n=16) increased concordance to 75% ($p<0.001$) and sensitivity of identifying inner half myometrial invasion to 87%(95%CI-71-97%). Five tumours were upstaged to stage 3C based on sentinel lymph node biopsy. In total 20% of patients (16/79) were under-staged on MRI. These patients were over three times more likely to exhibit LVSI than patients who were over-staged (5/16: 31% Vs 1/10:10%).

DW-MRI is an excellent test to assess MI in low grade EAC, however should not be relied on for grade 3 tumours. Patients under-staged on MRI should have careful pathological assessment as they are 3 times more likely to have LVSI.

EFFECTS OF PARITY ON HUMAN MYOMETRIAL RESPONSE TO OXYTOCIN AND ERGOMETRINE IN VITRO

ORAL

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Background

Oxytocin and Ergometrine are essential uterotonic agents used for treating postpartum hemorrhage (PPH). The study objective was to examine their effects on the contractility of human uterine tissue at term, in relation to parity.

Study Design

Myometrial samples were obtained from n=12 women during planned caesarean section. Patients were divided into those delivering their first infant (P1), & multiparous women (P>1). Biopsies were dissected into 8 strips (N=96). Strips were challenged with cumulative addition of either ergometrine or oxytocin & effects on contractility measured. Results were analyzed by clinical group, P1 or P>1 & the following compared; mean contractile force (MCF) & maximum amplitude (MAMP). Statistical analysis was performed using Chi-Square and T-Test.

Results

Biopsies were obtained from n=5 P1 women (40 strips) & n=7 P>1 women(56 strips). There was a trend towards greater MAMP & greater MCF to ergometrine in the P>1 group compared to the P1 group. In the P1 group strips from only 2 tissue donors demonstrated a change in MCF to ergometrine. This lack of response was found to be significant (P=0.018). The MAMP to oxytocin in the P>1 group was significantly greater than in the P1 group (P>1=137.2±20.3nM vs P1=66.5±13.7nM), (P= 0.017) & a trend towards increased MCF to oxytocin was observed in the P>1 group.

Conclusion

Myometrium from women in their first pregnancy showed a decreased response in contractility to both ergometrine and oxytocin, compared to multiparous women. This is a novel study which may have clinical implications in the management of PPH in this group.

SPONTANEOUS MYOMETRIAL CONTRACTILITY IN THE THIRD TRIMESTER OF PREGNANCY IN WOMEN WITH A PREVIOUS CAESAREAN SECTION IN RELATION TO PAST MODE OF DELIVERY.

ORAL

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Introduction

Little is known of the biological reason why women with a previous vaginal delivery perform better in labour in the setting of vaginal birth after caesarean (VBAC). The aim of this study was to compare the contractile parameters of women with: 1. No previous delivery (P0); 2. A history of only caesarean section (CS Only); and 3. A history of both vaginal deliveries and previous CS (CS/VD) to determine if there was a difference in the inherent contractile performance determined by past mode of delivery.

Methods

Myometrial biopsies were obtained at term CS (n=71 women), with ethical approval. Biopsies were dissected into 8 uniform strips and suspended for in vitro tissue bath analysis. Parameters of spontaneous contractile performance were measured including maximal amplitude (MAMP) & mean contractile force (MCF), & compared across the 3 groups; P0, CS only & CS/VD. Statistical analysis was performed using ANOVA.

Results

The MAMP in the CS/VD group is significantly greater than both other groups ($P<0.01$). MCF increases from the P0 group 3.4±0.4mN (P0 vs CS Only $P<0.01$, P0 vs CS/VD $P<0.01$), to 4.1±0.2mN in the CS Only group (CS Only vs CS/VD, $P<0.01$) to 5.2±0.3mN in the CS/VD group.

Conclusion

This study highlights the increased force generated by uterine contractions of women with a previous CS & those with a history of vaginal delivery, which not only aides with the process of parturition but may be a factor contributing to potential uterine rupture in the setting of VBAC.

COMPLICATIONS OF MID URETHRAL SLINGS

ORAL

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Stress Urinary Incontinence (SUI) affects 4-35% women[1]. A meta analysis of 62 randomised trials demonstrated the Mid Urethral Sling (MUS) to be as effective as alternative treatments but with shorter operative duration and lower risk of complications[2]. Despite reassuring international evidence the HSE has included the MUS in a temporary suspension of all trans vaginal mesh products in Ireland.

We sought to identify the type and rates of complications associated with the MUS in our practice.

We conducted a five year retrospective chart review of all MUS procedures performed by a single urogynaecologist between 2013-2017 inclusive.

In this five year retrospective review, 680 procedures were performed of which 664 patients reported resolution of their SUI giving a subjective cure rate of 97.65%. A significant proportion of complications such as de novo overactive bladder, recurrent urinary tract infections, asymptomatic vaginal sling extrusions and mild voiding dysfunction were managed conservatively. The number of patients requiring further corrective surgery for persistent SUI, vaginal sling extrusion and voiding dysfunction respectively were; 6(0.9%), 5(0.7%) and 7(1.1%). A single patient (0.1%) complained of persistent pain at 6 weeks follow up and there were no cases of sling extrusion into the bladder or urethra (0%).

Our experience demonstrates the MUS to be a highly effective treatment with low rates of complications. This high safety profile, also reported in other studies, leads us to conclude that the MUS has a positive impact on improving the quality of life of women with SUI[3].

COMPARISON OF RATES OF INDUCTION FOR IUGR PRIOR TO AND AFTER THE INTRODUCTION OF THE GROWTH ASSESSMENT PROTOCOL IN OUR LADY OF LOURDES HOSPITAL DROGHEDA

ORAL

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Background

The Growth Assessment Protocol (GAP) was introduced in our maternity unit in January 2017 in response to concerns regarding the rate of unidentified intrauterine growth restriction (IUGR). GAP is a customised growth chart which adjusts for constitutional or physiological variation between individual women and provides growth centiles that represent each fetus' individual growth potential.

Purpose of Study

We set out to ascertain if rates of induction of labour in primiparous patients with suspected IUGR were significantly different prior to and after the introduction of GAP.

Study design and methods

Rates and indications for induction of labour in primiparous patients were collected. We compared rates of induction for IUGR in the year prior (2016) to and after (2017) the introduction of GAP. Statistical analysis was performed using SPSS.

Findings of the study

In 2016 447 primiparous women were induced. Of these, 56 were induced for IUGR (12.5%). In 2017, 422 primiparous women were induced in total. Of these, 48 were induced for IUGR (11.4%). There was no difference in the rates of induction between the groups (p=0.6).

Conclusions and Programme Implications

The introduction of the GAP did not increase the incidence of induction for IUGR in primiparous women.

ULTRASOUND ASSESSMENT OF UTERINE MORPHOLOGY IN PATIENTS WITH MENORRHAGIA: A CASE CONTROL STUDY

ORAL

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We proposed to evaluate transvaginal ultrasound measurements in investigating patients with menorrhagia through detailed morphological assessment of the uterus and ovaries.

This was a prospective study involving all referrals to gynaecology clinic in our unit of case patients with menorrhagia and control patients with complaints unrelated to their menstrual cycle as well as female hospital staff members. All patients underwent transvaginal ultrasound during which detailed measurements of the uterus and the ovaries was performed.

Ninety two women participated in the study of whom 46 had a history of menorrhagia and 46 were control cases. Mean age of participants was 34.6 years with mean BMI of 27.2. Uterine volume was significantly larger in the index group (p=0.024) with a significantly greater number of patients having reduced uterine mobility in the study group (p=0.002). Over one third (36%) of women with menorrhagia were found to have vascular flow within the inner half of the myometrium in contrast to 9% in the control group which was statistically significant (p=0.002). There was a significantly higher pain score in the study group both during menstruation (p=0.000) and during transvaginal examination (p=0.008) compared with controls. Uterine fibroids were found in 15% of women with menorrhagia, not significantly more frequently than women without menorrhagia (8.7%), (p=0.335).

The presence of vascular flow in the inner half of the myometrium and reduced uterine mobility was seen in a significantly greater number of women with menorrhagia compared with those without this complaint in our study.

TRAADP IN PUH

ORAL

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PUH was the first hospital in Ireland to introduce targeted routine antenatal anti-D prophylaxis (tRAADP) in 2017. Quantitative PCR identifies cell-free fetal DNA (cffDNA) in maternal blood after 11+2 /40, establishing fetal rhesus status. RhD negative patients carrying RhD positive fetuses receive routine anti-D prophylaxis at 28 weeks, birth, and after PSEs.

The aim was to avoid the unnecessary administration of blood products to pregnant patients carrying RhD negative fetuses. We also want to measure efficacy and cost of tRAADP.

Records of RhD negative mothers from June 2017-June 2018 were analysed. cffDNA results were correlated with postnatal cord blood. The cost of tRAADP in its first year was compared to the estimated cost of RAADP for the same patient sample.

Among 273 RhD negative mothers, there were 168 (61.5%) RhD positive fetuses, and 105 (38.5%) RhD negative fetuses. The test had 100% sensitivity and specificity. The cost of the tRAADP programme was €42,443. The estimated cost of RAADP for the same patient sample was €53,886, showing the possible saving of €11,453 last year.

We avoided giving anti-D unnecessarily to 105 RhD negative patients carrying a RhD negative fetus (38.5%). This is consistent with the predicted 40% of RhD mothers to whom routine anti-D administration is unbeneficial. This is clinically and ethically significant as we avoided administration of a human blood product to these patients, and eliminated the burden of preventing HDN. Test accuracy and cost saving were important findings. We hope these findings will be considered at a national level.

DYSREGULATION OF THE IL-17A PATHWAY IN WOMEN WITH UNEXPLAINED INFERTILITY AFFECTS PREGNANCY OUTCOME FOLLOWING ASSISTED REPRODUCTIVE THERAPY

ORAL

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Background

Implantation failure is being increasingly recognised as a critical factor in unexplained infertility and may be an increasingly important component of success in ART. The objective of this study was to utilise mid-luteal endometrial scratch biopsies to identify gene expression patterns, and pathways associated with successful implantation in women with unexplained infertility using RNA-sequencing.

Methods

Using a prospective longitudinal study design, nulliparous women with unexplained infertility undergoing ART were recruited. Endometrium and matched serum samples were accurately timed and taken at the mid-luteal stage of the menstrual cycle. Patients underwent a single embryo transfer in the subsequent cycle. Next generation RNA-sequencing was performed using NextSeq550. Validation was performed on a selection of genes using TaqMan qPCR.

Results

29 women met inclusion criteria;20'gene discovery cohort' and 9'independent validation cohort'. RNA-sequencing was performed on samples from the discovery set;nine(45.0%) had a successful pregnancy and eleven(55.0%) did not. There were no differences in baseline characteristics.

204 protein-coding genes were differentially expressed(DEG) between the groups($p<0.05$);168 genes with decreased and 38 with increased expression in women with successful pregnancy. All DEG in the IL-17 signalling pathway,*MMP3,MMP1,IL1β,LCN2,S100A9* and *FOSL1* had decreased expression in the pregnant group. These findings were confirmed using qRT-PCR and an ELISA demonstrated increased IL-17 in serum and tissue in both cohorts.

Conclusions

IL-17 is a pro-inflammatory cytokine that plays a key part in inflammation and autoimmunity. Our novel findings have the potential to lead to the development of diagnostic and therapeutic strategies to improve pregnancy outcomes in women with unexplained infertility.

UMBILICAL ARTERY DOPPLER ABNORMALITIES IN MULTIPLE PREGNANCIES COMPLICATED BY TWIN TO TWIN TRANSFUSION SYNDROME

ORAL

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Ultrasound examination has a crucial role in the assessment of multiple pregnancies at a risk of Twin-To-Twin Transfusion Syndrome (TTTS). We conducted this retrospective study to describe umbilical artery Doppler findings in a cohort of patients treated with laser ablation for TTTS.

We included all cases treated for TTTS with laser ablation in our hospital during the period from 2006 to 2016. We collected data on gestation and stage of TTTS at diagnosis, umbilical artery Doppler patterns, the gestation at laser ablation treatment and delivery. The main outcome of interest was the prevalence of umbilical artery Doppler abnormalities in cases of TTTS before laser ablation treatment.

Over the 10-year period, 96 patients had selective laser ablation for TTTS. The average gestational age at diagnosis of TTTS was 19+3 weeks. The average gestational age at delivery was 30+1 weeks. This gives a laser-to-delivery interval of 10+2 weeks. The most common stage at diagnosis was Stage 3 (35.4%, 34/96), followed by Stage 2 (33.3%, 32/96), Stage 1 (27.1%, 26/96) and Stage 4 (4.2%, 4/96). While 53% of pregnancies had normal umbilical artery Doppler (UAD), the remaining 47% had some abnormal Doppler findings. Of these abnormalities, absent end-diastolic flow (AEDF) was the most common one (40 %, 38/96). Reversed end diastolic flow (REDF) was seen in 5%, while 2% had a raised SD ratio.

In conclusion, UAD was abnormal in 47% of cases of TTTS who required laser ablation treatment. The commonest abnormality was AEDF in the donor fetus

PILOT STUDY THE EFFECTS OF MIRENA ON THE MYOMETRIAL VASCULAR BED IN PATIENTS WITH MENORRHAGIA

ORAL

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The Mirena intrauterine system (IUS) has greatly improved treatment options for women with menorrhagia. Although the effects of locally administered progesterone on the endometrium have been thoroughly investigated, its effects on the myometrium have not been explored.

This study aims to quantify the vasculature of non-gravid myometrium and determine any morphological changes within the myometrial vascular bed after IUS exposure in patients with menorrhagia.

Myometrial tissue was obtained from women with menorrhagia undergoing elective hysterectomy. Study participants were divided into two study arms; patients with an IUS inserted 6-10 weeks prior to surgery (n=4), and patients never exposed to an IUS (n=4). Fluorescent and Masson's Trichrome staining techniques were applied for light microscopy imaging. Stereological techniques were employed to provide unbiased estimations of tissue morphology.

This study measured significant change in myometrial vasculature after exposure to IUS treatment. Patients given IUS treatment showed a greater proportion of 15-19µm diameter vessels ($p<0.001$) and lower proportion of larger (20-39µm) diameter vessels ($p=0.05$). An increased radial diffusion distance per blood vessel ($p<0.05$) and trend towards decreased numbers of blood vessels per mm^2 ($p=0.055$) and decreased length density ($p=0.055$) was also found. We measured no change to the ratio of smooth muscle cells and extracellular matrix within the myometrium ($p>0.05$).

Overall, this study has shown that locally administered progesterone causes alterations within the myometrium. This provides a novel insight into the effect of progesterone on myometrial vasculature and further study may lead to a better understanding of hormonal adenomyosis treatment and breakthrough bleeding.

TO MEASURE OR NOT TO MEASURE NCHD CURRENT PRACTICE OF ABDOMINAL CIRCUMFERENCE AC MEASUREMENT IN ANTENATAL CLINIC ANC IN CORK UNIVERSITY MATERNITY HOSPITAL CUMH AND THE LEVEL OF TRAINING REQUIRED IN ACHIEVING INTERNATIONAL BEST PRACTICE

ORAL

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Accurate AC measurement is the cornerstone of assessing foetal growth, with growth restriction contributing to 50% of stillbirths. The accuracy of ultrasonography is dependent primarily on the skill of the operator.

The aim of this audit was to investigate the current standard of NCHD AC measurement in the ANC setting.

AC measurements were accumulated over a month from NCHDs in CUMH ANC. These images were reviewed and critiqued by a senior consultant in Maternal and Foetal Medicine.

Of all images collected; 3% of SHO, 12% of junior registrar and 6% of SPR's had all 4 features. Most had only 2 of the 4 features required of an accurate AC image. The majority of AC sizes were being underestimated with only 16-23% of NCHDs having acceptable cursor placement.

NCHDs were surveyed on their knowledge of AC measurements; between 69%-92% of NCHDs knew which features to include in an AC image. 77% of NCHD's regularly performed AC measurement in clinic with 62% of patient's often requesting it. However, 69% of NCHD's had low satisfaction rates in their own AC measurement. The majority (92%) of NCHDs believed that high competency in ultrasound was essential for their day-to-day practice. 100% of NCHDs surveyed had a desire for more formal ultrasound training and a recognised ultrasound qualification to be encompassed into HST training. 77% of NCHDs described their current level of training in ultrasound to be inadequate.
NCHDs are regularly asked to perform biometry in ANC and require more formal training.

THE RISK OF THROMBOEMBOLIC EVENTS (VTES) FOLLOWING PERIOPERATIVE BLOOD TRANSFUSION IN GYNAECOLOGICAL ONCOLOGY PATIENTS.

ORAL

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Blood transfusion (BT), although often life-saving, has been associated with multiple adverse events, one of them being a VTE (DVT or PE). Cancer patients are particularly vulnerable – malignancy is a procoaguable state and the cancer treatment often results in anaemia requiring BT. Perioperative BT (PBT) has been previously described to be associated with VTEs.

Purpose of Study

To assess the risk of VTE in gynaecological oncology patients receiving PBT in St James's Hospital (SJH).

Study Design and Methods

Patients undergoing surgery in SJH between June 2013-June 2018 were analysed. Records of BT were obtained from the hospital blood bank; surgeries and VTE from the HIPE office & EPR database. PBT was considered if transfused within 72h before, during, or 30 days after a surgery. Postoperative VTE was classified if developed within 6 weeks of a surgery.

Findings

2932 patients underwent operations in SJH. 249 patients received PBT totalling of 454 iu RBC. Out of these patients, 11 developed VTE (4.4%, OR 1.4, p=0.3); DVT (n=2, 0.8%, OR 0.55, p=0.4.) or PE (n=9, 3.6%, p=0.04) postoperatively. To compare, 79 patients (3.19%) developed VTE not associated with PBT, 43 PEs (1.74%) & 36 DVTs (1.45%).

Conclusion

We found that PBT in gynaecological malignancy patients significantly increases the risk of developing PE. This is consistent with previous research: surgery, BT & malignancy are well-recognised prothrombotic stimuli, and may act in synergistic effect leading to VTE. This highlights the importance of rigorous perioperative blood management, as VTE is a significant contributor to cancer patients mortality.

CHANGES IN FETAL PULMONARY ARTERY DOPPLER INDICES IN RESPONSE TO MATERNAL HYPEROXYGENATION

ORAL

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Objective

The reactivity of the pulmonary vascular bed to the administration of oxygen is well established in the post-natal circulation. We sought to evaluate changes in the pulmonary artery (PA) doppler following maternal hyperoxygenation (MH) in utero.

Study Design

Forty six women with a singleton gestation greater than or equal to 31 weeks gestational age were prospectively recruited to the study. A fetal echocardiogram was performed on all subjects. Pulsatility index (PI), Resistance index (RI), Peak systolic (PSV), acceleration time (AT), and ejection time (ET) were taken within the proximal portion of the fetal main PA. AT:ET was used to assess pulmonary vascular resistance (PVR). Doppler measurements were taken at baseline and repeated immediately following MH for 10 minutes.

Results

The median gestational age was 35 [33 – 37] weeks. There was a decrease in fetal PA PI following MH (from 2.37 [2.04 – 2.70] to 2.05 [1.69 – 2.41], p=0.001). The RI of the PA decreased from (0.86 [0.81-0.91] to 0.78 [0.69-0.87]. There was an increase in PA AT (57 [42-71] to 66 [49 – 82] ms, leading to an increase in AT:ET following maternal hyperoxygenation (0.32 to 0.34], p=0.001) (Table 1).

Conclusion

MH offers the opportunity to assess the reactivity of the pulmonary vasculature before birth. Our findings would indicate a reduction in fetal PVR with secondary increased fetal pulmonary blood flow. The hyperoxygenation test can inform us of functional rather than anatomical information in relation to the PAs and this warrants further exploration in a larger cohort.

ROBOT ASSISTED URETHROLYSIS AND FISTULA REPAIR POST INCONTINENCE SURGERY

ORAL

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Anal incontinence Robotic surgery is central in management of complex urogynaecological cases as outlined by this video.

We present the case of a 35-year old referred from another institution. She previously underwent insertion of a TVT, complicated by vaginal mesh exposure. The vaginal portion of the tape was removed. Following removal, she developed de novo OAB symptoms and recurrence of stress incontinence. A second TVT was inserted, but removed one month later due to severe pain and exposure into the urethra. Three months later, she underwent insertion of a rectus fascia sling, but due to pain, continuous vaginal bleeding, abdominal wound breakdown and urinary retention this sling was also removed after six weeks. Her OAB symptoms and stress incontinence worsened and she required intermittent self-catherisation. The patient deteriorated and found ISC very difficult to perform.

Intraoperatively the retro-pubic portions of both tapes were removed with robotic approach. Subsequently the urethra was released bilaterally. The subsequent vaginal approach involved identifying extent of the fistula. The fistulous tract was dissected and the defect closed in layers, a martius flap was placed under the midurethra and reduce the risk of recurrence.

Post op recovery was uneventful. An MCUG showed no extravasation of the dye. The patient reported marked improvement in her OAB symptoms, and resolution of her pain.

With the increasing number of complex urogynaecology cases in the clinical setting, the robot-assisted approach allows for meticulous dissection, and excellent access to retropubic space. And at the same time, reducing hospital stay, and quicker recovery.