UCL

EGA Institute for Women's Health 'Extraordinary' Conference 2020

Programme and Abstract Booklet

Friday 4th December 2020

UCL EGA Institute for Women's Health

University College London Hospitals NHS Foundation Trust

Athena SWAN Gold Award

BOOKLET CONTENT

Director's Welcome

I am delighted to welcome you to our first virtual conference - 'EGA IfWH 'Extraordinary' Conference 2020.

This year, threats to women's health have come from all directions, including gender violence, lack of choice in planning their families, and isolation. The COVID pandemic has only highlighted further the need for a coherent strategy to women's health. The Institute's unique Life-Course Approach, looking holistically and strategically at the full range of health issues that women face in every stage of their lives, has driven much-needed progress: from shaping national and international sexual health policy to developing the first successful intervention for asphyxia in newborn babies, a leading cause of newborn deaths worldwide.

This meeting is a celebration of our continued research and teaching in such an 'Extraordinary' and difficult year. When lockdown happened in March 2020, I was struck by the speed and determination that the hospital and university came together. Specialist university laboratory equipment was moved to facilities to ramp up analysis of COVID swab tests. Research staff relocated to clinical care of patients in maternity and on the medical wards at UCLH. Steadfast colleagues rapidly developed new clinical guidelines, and then changed them again the next week when more evidence emerged about the SARS-CoV-2 virus. It has been a year not only of breath-taking change, but also appreciation. I find myself enjoying the small things in life; the full moon behind silhouetted trees on my walk around our local park this evening, and finding our coffee shop has reopened on our local high street. I find myself marvelling the advantages of remote working: debating across continents with colleagues in women's health via virtual conferencing, and the convenience and opportunity to provide patient care remotely via EPIC.

I would like to thank everyone who is taking part today – those of you who submitted abstracts, made videos presentations of their posters, all of our invited speakers, our scientific review panels and session chairs, and everyone attending the meeting. My thanks go to the Conference Organising Committee and especially Sarah Mayhew, Aqsa Hjiej-Andaloussi and Ian Waller who have made this conference happen. I hope that you enjoy the day.

I wish you all a well-earned break at Christmas and I look forward to the year ahead. It will again be filled with challenges and opportunity, but through our Institute team at UCL and UCLH I know that we can make a difference to women's health together.

Professor Anna David
Director of the UCL EGA Institute for Women's Health

You can keep abreast of activities within the Institute for Women's Health on our Facebook page and our Twitter account. https://www.facebook.com/ucl.ega.ifwh @UCL_IfWH

Report from Clinical Director of WH Division, UCLH

Mr Stuart Lavery
Clinical Director

It is a real honour and a privilege to be joining the Women's Health Team as Divisional Clinical Director. I'm genuinely excited to be joining an organisation that has a worldwide reputation as a centre of excellence for clinical care, a strong academic heritage and wonderful facilities, but most of all I've come to understand that its real strength is the people that work here.

Although I've worked in the NHS continuously for 29 years, I grew up and trained in a country where there was no healthcare free at the point of delivery, so it is very easy for me to appreciate what a truly amazing institution the NHS is, and why the nation is so justly proud of it. I've spent the last 24 years ten minutes down the A40 at Imperial where I was a consultant in Reproductive Medicine and Surgery and Medical Director of IVF Hammersmith. I have honorary academic positions with Imperial and the University of Oxford, and it is my firm belief that the close collaboration between NHS clinical services and academic institutions will guarantee the future growth and success of both hospitals and universities. My experience working in the private sector of fertility provision has taught me not to be afraid of tough competition, and indeed I've seen how competition can drive quality.

We as a division have huge challenges ahead, as the hospital and the country emerge from the threat of Covid-19. Whilst we should not under-estimate this, I have every confidence that by relying on and trusting our most resilient resource- our people- we will continue to offer the very best of healthcare to our patients. I'm here to help as best I can, and I'm really looking forward to working with you all.

08.50	**Join Meeting**
09.00 – 09.15	**Welcome and Highlights of the Day** Presenters: **Professor Anna David, Director EGA IfWH**
09.15 – 09.30	**Update on Fundraising Programme for EGA IfWH** Presenters**: Sarah Medd Phillips & Simona Santonjanni, Office of The Vice Provost Advancement, UCL**
09.30 – 11.00	**SESSION 1: Moving research findings into clinical impact** Chairs**: Professor Judith Stephenson & Dr Annette Thwaites** • *How midwifery research has influenced national maternity policy* – **Meg Wilkinson**, Consultant Midwife, Maternity Department, UCLH • *What do we know? – PCOS – Transgenerational effects* – **Associate Professor Paul Hardiman,** Dept. Reproductive Health, UCL IfWH • *Gender Dysphoria in Children* – **Professor Gary Butler**, Consultant Paediatric Endocrinologist, UCLH
11.00 – 11.15	**Coffee Break**
11.15 – 11.45	**SESSION 2: DEBATE** Chair: **Associate Professor Jenny Hall** ***Should the NHS Support Social Fertility Preservation?*** Speaker FOR the motion: Speaker AGAINST the motion: **Mr Stuart Lavery** **Dr Zeynep Gurtin** Clinical Director, Women's Health Division, Lecturer in Women's Health, EGA IfWH Consultant in Gynaecology, Reproductive Medicine and Surgery, UCLH
11.45 – 12.15	**SESSION 3: Anne Boutwood Travelling Fellowship Awards – EGA Hospital Charity Presentations** Introduction by: **Dr Melanie Davies,** Consultant Gynaecologist, Chair of EGA Hospital Charity *Working as an O&G registrar at Mpilo Hospital, March 2019 – November 2020* **Dr Clare Shakespeare**, O&G Registrar, Mpilo Central Hospital/ST5 O&G, Severn Deanery, UK *Health concerns amongst women following mesh augmented prolapse surgery* **Dr Matthew Izett,** Research Fellow, Department of Urogynaecology, UCLH
12.15 – 12.45	**POSTER VIEWING** https://www.ucl.ac.uk/womens-health/ega-ifwh-extraordinary-conference-poster-abstracts

12.45 – 13.30	**LUNCH**

13.30 – 14.30   SESSION 4: Early Career Researcher Presentations (2 Parallel Sessions)

Breakout room 1 - Maternal & Fetal Medicine & Neonatology
Chairs: **Associate Professor Dimitrios Siassakos & Dr Shireen Jaufuraully**

1. *Caesarean section scar location and risk of subsequent preterm birth following full dilatation caesarean section* (**Dr Amrita Banerjee,** Maternal & Fetal Medicine)
2. *Ascending vaginal bacterial infection with bioluminescent E. coli induces perinatal neuroinflammation in mice* (**Dr Ashley Boyle**, Maternal & Fetal Medicine)
3. *Simulation of in-utero operation using virtual reality enhanced 4D ultrasound and 3D MRI* (**Dr Jing Deng**, Maternal & Fetal Medicine)
4. *Prognostic value of EEG following therapeutic hypothermia for hypoxic-ischemic encephalopathy* (**Dr Kimberley Whitehead**, Neonatology)
5. *Comparative survival analyses of births between 22 and 26 weeks of gestation in the EXPRESS, EPICURE-2 AND EPIPAGE-2 Cohorts* (**Dr Andrei Morgan**, Neonatology)

Breakout room 2 - Women's Cancer & Reproductive Health
Chair: **Professor Martin Widschwendter**

1. *Conservatively managed endometrial cancer: a single centre experience* (**Dr Radha Graham**, Women's Cancer)
2. *Investigation and Analysis of Participant Withdrawal from the Avoiding Late Diagnosis of Ovarian Cancer (ALDO) Project* (**Rimsha Khan**, Women's Cancer)
3. *Parenclitic Networks Predict Survival for Severely Ill Covid-19 Patients (Grade WHO = 7) Weeks Before Outcome with Extremely High Predictive Power* (**Tatiana Nazarenko**, Women's Cancer)
4. *Simple and complex aneuploidy in premeiotic oocytes detected by aCGH & NGS : evidence for genetic influence and effect on fertility* (**Harita Ghevaria**, Reproductive Health)
5. *Organisation of EPAUs and its impact on clinical, service and patient-centred outcomes (VESPA study)* (**Dr Maria Memtsa**, Reproductive Health)

14.30 – 14.45   SESSION 5: Medical Student Prize Talk
Chair: **Dr Melissa Whitten, Consultant in Obstetrics and Maternal Fetal Medicine**

The Neuroprotective Effects of Curcumin Following Hypoxic-Ischemic Brain Injury in the P9 Neonatal Mouse Model

Ishrat Hussain (Medical Student)

14.45 – 15.15   SESSION 6: EGA KEY NOTE LECTURE
Chairs: **Professor Howard Clark and Dr Ariel Finkielsztein**

Covid-19 and Women's Health

Dr Eleni Nastouli (Consultant Clinical Virologist and Honorary Consultant in Paediatric Infectious Diseases at Great Ormond Street Hospital)

| 15.15 – 16.00 | **SESSION 7: Hot Topics (8 mins each topic)** |
| | Chairs: **Professor Simon Waddington & Mrs Katie Gallagher** |

1. Stem cells: new perspectives for treatment of neonatal hypoxic-ischaemic brain damage", **Dr Mariya Hristova** (Dept. Maternal & Fetal Medicine)
2. NIRS in Neonatology, **Dr Subhabratra Mitra, Wellcome Trust Fellow** (Dept. Neonatology)
3. The Future of induced pluripotent stem cells, **Associate Professor Pascale Guillot** (Dept. Maternal & Fetal Medicine)
4. Surfactant Protein D and Airway viruses – to Bind or not to Bind? – **Associate Professor Jens Madsen** (Dept. Neonatology)

| 16.00 – 16.15 | **Coffee Break (and oral judging)** |

16.15 – 16.45	**SESSION 8: EGA KEY NOTE LECTURE**
	Chairs: **Associate Professor Anne Lanceley and Dr Yanyan Ni**
	Gender Equality and the relationship to Health
	Professor Sarah Hawkes (Director of Global Public Health, UCL)

| 16.45 – 17.00 | **Closing Remarks and Prizes** |

Presenter: **Mr Stuart Lavery, Clinical Director of Women's Health Division, UCLH**

Key Note Speakers

Dr Eleni Nastouli (**Consultant Clinical Virologist and Honorary Consultant in Paediatric Infectious Diseases at Great Ormond Street Hospital)**)

Eleni joined UCLH as a Consultant Clinical Virologist and Honorary Consultant in Paediatric Infectious Diseases at Great Ormond Street Hospital in 2010. Since 2015 she has been the Clinical Lead of the Department of Clinical Virology. She graduated in Medicine at the University of Athens, Greece and undertook her postgraduate clinical training first in Paediatrics in Manchester and Imperial College, and subsequently in Clinical Virology at Imperial College London Hospitals, gaining full certification in both specialities.

Optimised use of diagnostics to maximize patient benefit has been at the heart of her clinical laboratory leadership programme and she leads the UCLH Advanced Pathogen Diagnostics Unit, a late translational research unit within their diagnostics labs at HSL. They are funded by the NIHR, the UCLH Levi Fellowship scheme and the European Union via the H2020 programme. We develop whole genome sequencing methodologies for pathogens and analysis tools seeking to better understand how pathogens transmit in our hospital environment and how best to treat infections.

Her clinical activity is focused on providing care for pregnant women with viral infections like hepatitis B and C, CMV, Zika virus. She runs the antenatal infectious diseases clinic, an adult hepatitis clinic at UCLH and sees children at GOSH. She sits on national and international guideline committees and chairs the BVHG Maternal and Paediatric group. She acts as an advisor to the PHE National Screening Programme in Infectious Diseases in Pregnancy, and PADO, the WHO committee on paediatric antivirals.

Professor Sarah Hawkes (Professor of Global Public Health, UCL)

Sarah is Professor of Global Public Health at the Centre for Gender and Global Health, at IGH/UCL. She leads a research theme analysing the use of evidence in policy processes, particularly in relation to gender. She has lived and worked for much of the past 20 years in Asia, where she has gathered evidence, built capacity and helped develop policy for programmes focusing on gender, sexual health, non-communicable diseases and human rights. She works closely with national governments, civil society organisations, research partners, WHO and UNFPA in Asia and the Middle East. From 2012-1014 she was Wellcome Trust Senior Fellow in International Public Engagement, and focused on the use of public engagement in policy processes.

She is co-Director of Global Health 50/50 - the leading initiative on accountability for gender equality in global health.

Abstracts
Oral Presentations

Presenter
Amrita Banerjee
Authors
Bredaki E1, Al-Dabbach Z1, Sciacca M1, Casagrandi D1, Tetteh A1, Greenwold N1, Ojadi G1, Fox G1, Greig E1, Warner D1, Jurkovic D3, Napolitano R1,2, David AL1,2

Abstract
Introduction: Previous term full dilatation caesarean section (FDCS) associated with an increased risk of spontaneous preterm birth (SPTB). We evaluated the mechanism by assessing CS scar characteristics using transvaginal ultrasound (TVUS).
Methods: In this single centre prospective cohort study, singleton pregnant women with previous term FDCS (Mar 2017-Mar 2020, 14- 24 weeks gestation) underwent serial TVUS assessment of cervical length (CL). CS scar position was measured relative to the internal os position determined using uterine artery colour doppler. SPTB prophylactic interventions were offered for CL<=25mm or in women with a previous history of SPTB/late miscarriage after FDCS.
Results: CS scar was visualised in 154/172 (89.5%) women. Inter-and intra-observer variability of the CS scar in relation to the internal os showed good reproducibility. 15/154 (9.7%) CS scars were within the cervix, 42/154 (27.3%) were at or <5mm above the internal os; 97/154 (63.0%) were >=5mm from internal os. SPTB rate was 5.2% (8/154). SPTB was more common when the CS scar was <5mm above the internal os or within the cervix compared to >5mm above the internal os (6 of 58, 10.3% vs 2 of 96, 2.1%, RR 5.0, 95% CI 1.04-23.8; p=0.05). History or ultrasound indicated cerclage was performed in 15/154 (9.4%) women; two delivered preterm. A higher CS scar was associated with a reduced risk of CL<=25mm (aOR 0.76; 95% CI, 0.67-0.85; p=0.000005).
Conclusion: In pregnancies after FDCS, CS scar located within the cervix or <5mm above the internal os predicts short CL, risk of SPTB and the potential need for intervention.

Presenter
Ashley Boyle
Authors
Boyle A. K.[1], Suff N.[2], Waddington S. N.[1] and Peebles D.[1]

Abstract
BACKGROUND
Preterm birth (PTB; delivery <37 weeks) is associated with adverse neurodevelopmental outcomes and cerebral palsy. Approximately 40% of spontaneous PTBs are associated with infection. We investigated neuroinflammation in pups following in utero exposure to either a pathogenic strain of E. coli associated with clinical meningitis (K1) or a non-pathogenic E. coli strain (K12).
METHODS
On embryonic day (e)16.5, intravaginal administration of either K1 E. coli (20μl of 2x102; n=15 from 5 dams) or K12 (20μl of 1x109 CFU; n=15 from 5 dams) or PBS (20μl; n=10 from 5 dams) was performed. Dams (C57BL/6 Tyrc-2J) were imaged at 0 hours (h), 24h and 48h to monitor bioluminescent E. coli ascension. Fetal tissues were harvested 48h after infection. Neuroinflammation was assessed by qPCR and an inflammatory mediator multiplex ELISA.
RESULTS
Imaging confirmed the ascension of both E. coli strains from the vagina into the uterus. Exposure to the K1 pathogenic strain of E. coli significantly upregulated Il-1β (p=0.01), Tnfα (p=0.02) and Il-6 (p=0.036) mRNA expression in the perinatal brain in comparison to the PBS group. IL-1β (p=0.025) and TNFα (p<0.0001) protein production were also elevated in these pups. Non-pathogenic K12 E. coli exposure did not have a significant effect on cytokine gene expression. However, the secretion of the following inflammatory mediators was increased in perinatal brains from K12 E. Coli-infected dams compared to PBS-treated mice; IFNγ (p=0.007), IL-1β (p=0.017), IL-4 (p=0.018), IL-12p70 (p=0.035) and IL-5 (p=0.029).
CONCLUSION
Both strains of E. coli induced perinatal neuroinflammation; pathogenic K1 E. coli at the gene and protein level and non-pathogenic K12 E. coli at the protein level. Future studies will further characterise perinatal neuroinflammation by assessing pup neurodevelopment with molecular and behavioural studies. We are also investigating antimicrobial peptide gene therapy approaches to prevent PTB and perinatal brain damage.

Presenter
Harita Ghevaria
Authors
H. Ghevaria[1], S. SenGupta[1], R. Naja[2], R. Odia[3], P. Serhal[4], X. Viñals Gonzalez[3], X. Sun[1], J. Delhanty[1];

Abstract
BACKGROUND:
Aneuploidy (extra or missing chromosomes) is the major cause of embryonic & fetal death. Most errors arise in the final stages of oocyte maturation (meiosis) in the adult female, strongly correlated with maternal age. By the application of array comparative genomic hybridization (aCGH) and next generation sequencing (NGS) we have shown that 10-15% of oocyte aneuploidy is in fact premeiotic and present in the early embryo, leading to a risk of an aneuploid conception in adult life irrespective of age. Mosaic aneuploidy may be present in the primordial germ cells or may arise during the extensive mitotic divisions of the oogonia. There is substantial individual variation in the incidence of PM errors that is likely to be related to the genetic background of the oocyte donor.
METHODS:
Oocyte DNA was extracted, amplified and analysed using aCGH or NGS [Ion ReproSeqPGS (ThermoFisher) / VeriSeqPGS (Illumina)]. Immature oocytes (141) included germinal vesicles (GV) & metaphase I oocytes (MI). Mature oocytes (61) were metaphase II (MII) - 1st polar body (PB) complexes.
RESULTS :

Method of analysis	Total oocytes tested	Total oocytes with premeiotic errors	Oocytes with 1 or 2 errors (Simple)	Oocytes with 3 or more errors (Complex)
aCGH	91	10	6	4
NGS	111	15	7	8
Total	**202**	**25 (12.38%)**	**13**	**12**

Fifteen (19.4%) of 77 donors had oocytes with PM errors. Aneuploidy incidence was correlated with the available reproductive histories of female partners donating oocytes.

Classification of female partners based on reproductive histories	No. of donors	Total oocytes tested	Oocytes with premeiotic aneuploidy	No. of oocytes with Simple/ Complex Errors
1. Female fertility status unknown	26	74	11 (14.8%) (6 donors)	7 Simple; 4 Complex
2.Primary/secondary female factor infertility	25	50	6 (12%) (4 donors)	3 Simple; 3 Complex
3.Oocyte preservation due to social reasons	3	23	1 (4.3%) 1 (donor)	1 Simple
4.Oocyte preservation due to breast cancer	2	10	5 (50%) (2 donors)	1 Simple; 4 Complex
5.Female carriers of structural rearrangements or monogenic disorders (non-cancer related)	17	30	2 (6.66%) (2 donors)	1 Simple; 1 Complex
6.Females at increased risk of developing breast/ovarian cancer due to BRCA1/2 gene mutations	4	15	0	0
Total	77	202	25 (15 donors)	13 Simple 12 Complex

CONCLUSION:
In categories 1 & 2 most couples have fertility issues – these 2 groups have a very similar incidence of PM errors. Groups 3, 5 & 6 from couples with no known fertility issues all have lower incidences. The two cases in Group 4 stand out, with a much higher incidence which may be related to the genetic factors responsible for the onset of breast cancer in their 30s. Phenotypic & genetic variants have been identified that affect the incidence of complex errors in embryos.

Presenter
Jing Deng
Authors
Deng J[1,4], Lu G[2], Pandya P[3], Ushakov F[3], Leung T[4], Xie MX[5]
Abstract
Background
Some fetal conditions, such as isolated severe pulmonary stenosis or atresia, if untreated prenatally, will result in fetal/neonatal deaths or low quality of life. If promptly treated in utero, the babies affected would not only survive, but could also live a normal or nearly normal life. However, in-utero surgery is a highly risky procedure, requiring sophisticated training and planning.

Methods
3D fetal whole body models were formed from 3D fetal MRI datasets. 4D fetal echo datasets were segmented to create 4D cardiac models. Pulmonary atresia was re-created using the models and post-mortem data. After combining those models into a single virtual reality world, simulation of pulmonary valvuloplasty was performed using a virtual catheter.
Results
work in progress has shown it is feasible for the catheter to walk through various cardiovascular structures. The "catheter" can enter from the IVC into the right atrium, then through the tricuspid valve into the right ventricle. Then turned the catheter left-up into the RVOT, after double-checking its target, it could "punctured" through the atresic pulmonary valve into the narrow but patent pulmonary trunk. A retrograde path could also be simulated from the descending aorta through the ductus arteriosus into the main pulmonary artery, then through the atresic valve into the right ventricle.
Conclusion
Using quality multimodality 3D and 4D imaging datasets and virtual reality graphics, it is possible to simulate prenatal cardiac and other in-utero procedures, with minimal invasiveness.

Presenter
Kimberley Whitehead
Authors
Whitehead K[1], Kendall G[2], Memon S[1], Koskela T[3], Huertas-Ceballos A[2], Robertson N[2], Meek J[2]
Abstract
BACKGROUND
Hypoxic-ischemic encephalopathy (HIE) following birth asphyxia can have serious lifelong consequences. Neonatal animal models indicate that spatially patterned cortical activity following neurological compromise is an intrinsic repair mechanism to restore local functional circuits, e.g. motor, and improve outcomes. To test whether this principle holds in the infants cared for on our unit, we correlated spatial electroencephalography (EEG) features during their recovery period (≥postnatal day 3) with neurodevelopmental sequelae at median 24 months.
METHODS
This project was approved as a service evaluation by the UCLH Research and Development Directorate and therefore individual consent from parents was not required. We reviewed the records of infants born 2012-2015 (chosen because the start year of a prior service evaluation, and therefore some data mining already completed). We identified 42 infants who received therapeutic hypothermia for HIE, had clinical EEG recordings ≥day 3 and >16 hours since any seizure or anti-epileptic drug dose, and ≥12 months follow-up. We calculated mean EEG amplitudes at each electrode (overlying right and left frontal, central, temporal, occipital, and midline central cortex), and assigned neonatal structural MRI findings a score on the NICHD NRN 6-point severity scale. We correlated EEG amplitudes with Bayley-III motor, cognitive and language outcomes at median 24 months, correcting for MRI findings, using partial Pearson correlations.
RESULTS

Negative EEG amplitudes overlying bilateral frontal and central cortex predicted good motor outcome, independently of structural MRI findings, while amplitudes over temporal and occipital cortex were not associated with motor outcome. EEG amplitudes were not correlated with cognitive or language outcomes.

CONCLUSION

Our ≥3 days clinical EEG service may be providing additive prognostic information to structural MRI by indexing functional recovery. Specifically, EEG amplitudes overlying somatomotor cortex predicted motor outcome, demonstrating the value of our 9-channel EEG service, which can sample cortical activity from multiple regions.

Presenter
Andrei Morgan
Authors
Zeitlin, J, Källén, K, Draper, ES, Maršál, K, Norman, M, Serenius, F, van Buuren, S, Johnson, S, Benhammou, V, Pierrat, V, Kaminski, M, Foix L'Helias, L, Ancel, PY, Marlow, N

Abstract
Background**:**
Survival for births at 22 to 26 weeks gestational age (GA) varies internationally. We investigated the time points at which mortality differences occur using a comparative survival analysis of three population-based national cohorts.
Methods**:**
Fetuses, alive at maternal admission and the onset of labour-monitoring, from EXPRESS (Sweden, 2004-07), EPICure-2 (England, 2006) and EPIPAGE-2 (France, 2011) were included, Terminations of pregnancy and out-of-hospital births were excluded. Results of Kaplan-Meier analyses, stratified by GA (weeks) and censored at postnatal week 16, were compared using the log-rank test at landmark times of birth, 1 hour, 1, 7 and 28 days to explore critical time periods. Hierarchical Cox regression was performed to account for differences in background population and pregnancy characteristics.
Results:
Among 840 EXPRESS, 2310 EPICure-2 and 1359 EPIPAGE-2 fetuses included, 16-week survival was respectively 24.5%, 10.8% and 0.5% at 22-23 weeks' GA; 62.1%, 40.0% and 23.6% at 24 weeks; 74.3%, 64.8% and 56.9% at 25 weeks; and 83.8%, 77.1% and 74.4% at 26 weeks. Early deaths occurred in all cohorts but were most marked in EPIPAGE-2 before 1 day at 22-23 weeks and 24 weeks GA. At 25 weeks, survival varied before 28 days; differences at 26 weeks were minimal. Results from Cox regression were consistent, with survival highest in EXPRESS at all GAs.
Conclusions:
Large differences in survival occur during labour and the first hours and days after birth. Early active management is reflected in higher survival at key census points to 16 postnatal weeks in three contemporary national cohorts.

Presenter
Radha Graham
Authors
Graham R, Oxley S, Yasmin E, MacDonald N, Olaitan A
Abstract

Background
Endometrial cancer affects 9,400 women every year. 5%- 7% of cancers occur in women younger than 40 years of age and with an increasing age of first pregnancy, the rates of women desirous of conservative management is expected to increase. Standard treatment for early-stage endometrial cancer includes total abdominal hysterectomy and bilateral salpingo-oophorectomy and therefore prohibits future fertility. There is evidence that conservative management in the form of surgery (hysteroscopic resection) or hormones (oral progestogens and LNG-IUS) may induce disease regression.

Methods
All patients with endometrial cancer over an 8 year period (2012-2020) were included. Hospital records were assessed for any patients under the age of 50 and details of patients undergoing conservative management obtained.

Results
16 patients had a diagnosis of endometrial cancer and were managed conservatively for at least three months. All were discussed at the gynaecological oncology multidisciplinary team meeting and confirmed to be stage 1A radiologically. 14 were treated with progestogens and three were treated surgically. Over a median follow up time of 25 months (range 8-64 months), one patient progressed and nine (56%) patients regressed (median time to regression 4 months). Three subsequently relapsed to either complex atypical hyperplasia or endometrial cancer on stepping down treatment. Four patients subsequently had definitive surgery.

Two patients so far have successfully had children. Both had successful egg collection and pregnancies via surrogates, one in a patient who underwent total laparoscopic hysterectomy, and one in a patient who had retained her uterus.

Conclusion
Patients considering conservative management of endometrial cancer should be counselled regarding the low rates of stable regression and subsequent pregnancy. No patients so far have had a successful live birth at this centre after retaining their uterus.

Presenter
Rimsha Khan
Authors
Petrie, A. , Philpott, S., Rosenthal, A.

Abstract
Background
The lifetime risk of ovarian cancer (OC) for *BRCA1/2* mutation carriers is as high as 60%. For women who decline or defer risk-reducing surgery (RRS), OC surveillance (OCS) is being piloted through the Avoiding Late Diagnosis of OC (ALDO) Project. We aimed to examine predictors of participant withdrawal from ALDO and reflect upon women's surveillance experience.
Methods
Demographic and medical data, and pre-surveillance questionnaires, were available for 748 and 663 participants respectively. Comparative analyses were performed between participating and withdrawn women. Responses within 41 post-surveillance questionnaires were compared between women withdrawn for RRS (n=38) and women withdrawn for

other reasons (n=3). Descriptive analyses were performed to determine women's surveillance experience.

Results

Of 748 participants, 83 (11.1%) withdrew; 59 (71.1%) owing to RRS and 24 (28.9%) for other reasons. Statistically significant univariable predictors of withdrawal included older age, being postmenopausal, having had repeated blood tests, and having experienced 'mildly elevated' or 'moderately elevated' blood results. Statistically significant multivariable predictors of withdrawal were: lower likelihood of delaying surgery due to not wanting it, feeling less reassured about one's OC risk, and having 'other' reasons for RRS deferral. 73.2% of women felt that their genetic risk was managed better by surveillance and 78% deemed surveillance a positive experience.

Conclusion

Differences in demographic, medical, and personal factors exist between participating and withdrawn women. These likely function in concert to influence decision-making regarding risk-reduction strategies. Whilst OCS was viewed positively, its psychological impact within ALDO requires further investigation.

Presenter

Tatiana Nazarenko

Authors

Nazarenko T.1,2, Whitwell H.J.3, Blyuss O.1, Timms J.F.1, Zaikin A.1,2

Abstract

Background

COVID-19 is a huge challenge for healthcare systems around the world, primarily due to high variability of its clinical manifestation. There is critical need to find biomarkers that predict disease trajectory for patients admitted to hospital to address: what is the risk that patients with moderate severity will worsen? Will the patient require organ replacement therapy? How long will the patient stay in hospital? What is the risk of death for patients with severe disease? Predicting such trajectories would help to distribute hospital and other point-of-care resources, personalize treatment and identify the biological effects of the virus.

METHODS

Longitudinal clinical and blood-proteomics data for 139 adults hospitalized with PCR-confirmed CoVID19 at the Charité University Hospital (Berlin, Germany) were collected [1], and our team was engaged with a primary project-outcome - prediction of outcome for severely ill (grade WHO = 7) COVID-19 patients. A machine learning algorithm based on Parenclitic Networks [2,3], was trained on proteomic data sampled from patients at the earliest time point they were classified at WHO = 7 (severe disease) (n=49, survived=33, died=16).

RESULTS

Following cross-validation, the model showed excellent accuracy (AUC = 0.81) despite the median time from sampling to outcome being 39 days (IQR=16-64). Performance was validated in an independent set of 24 COVID-19 patients (survived=19, died=5) admitted to the Innsbruck Hospital, Austria, AUC=1.0.

CONCLUSION

Personal proteomics has the capacity to identify personal disease severity and predict outcome. Based on personal proteomics, up to 2 months prior to outcome, we were able to predict the COVID-19 end-point for patients with severe infection (AUC = 1.0). The publication presenting these results is currently being submitted.

[1] Messner, C. B., et al (2020). *Cell Systems*, *11*(1), 11-24.e4.

[2] Whitwell, H. J., et al (2018). *Oncotarget*, *9*(32), 22717–22726.

[3] Krivonosov, et al (2020). *BioRxiv*, 2020.03.10.986505

Presenter

Maria Memtsa

Authors

Memtsa M[1], Goodhart V[1], Ambler G[2], Brocklehurst P[3], Keeney E[4], Silverio S[1,5], Anastasiou Z[2], Round J[6], Khan N[7], Hall J[1], Barrett G[1], Bender-Atik R[8], Stephenson J[1], Jurkovic D[1]

Abstract

BACKGROUND:

Early pregnancy complications are common and account for the largest proportion of emergency work in gynaecology. Although Early Pregnancy Assessment Units (EPAUs) operate in most UK acute hospitals, there is paucity of data on the optimal configuration of these units.

METHODS:

The VESPA study was a national study that employed a multi-methods approach. We present the results of one of the study strands: the prospective cohort study of women attending EPAUs to measure clinical outcomes.

The primary aim was to test the hypothesis that in EPAUs with high consultant presence, the rate of hospital admissions for early pregnancy complications is lower than in units with low consultant presence.

The study was conducted in 44 EPAUs across the UK and pregnant women (≥16 years old) attending the EPAUs because of suspected early pregnancy complications were recruited to the study.

Demographic and routine clinical data were collected from all women attending the EPAUs and the relationship between clinical outcomes and consultant presence was investigated.

RESULTS:

Clinical data from 6606 women were collected. There was no evidence of an association between admission rate and consultant presence (p=0.497).

CONCLUSION:

Consultant presence in EPAU has no significant impact on the proportion of women admitted to hospital from EPAU as an emergency.

Abstracts
Poster Presentations

Presenter
Aimei Bor
Authors
Bor, A (student); Richens, Y (supervisor); Whitten, M (supervisor)

Abstract

Background: An estimated 9.4% of women giving birth in the United Kingdom have one or more limiting longstanding illness which may cause disability, affecting pregnancy, birth and beyond. Impairment is individual to that person alone and touches every aspect of that individual's life experience, manifesting itself in physical, emotional, psychological, environmental, educational, social, spiritual and financial dimensions. Deafness and pregnancy are two concepts rarely considered together. This service evaluation aims to explore the current provision of maternity care for pregnant women who are D/deaf.

Methods: A narrative review on deafness and pregnancy was conducted. Questionnaire responses from 113 health professionals at UCLH aimed to determine awareness of the UCLH 'Disability and Pregnancy' guideline, knowledge and confidence of staff in relation to deafness and pregnancy. Qualitative discussions with interpreters, case-loading midwives and D/deaf service-users provided narratives for quantitative data to be compared to. Quantitative data were analysed in SPSSv26 and qualitative data were analysed thematically. Preliminary findings were presented at an NHS maternity workshop which helped to develop the project.

Results: 36.3% of questionnaire respondents were aware of the UCLH 'Disability and Pregnancy' guideline. 60.6% of respondents would find a guideline specific to the needs of pregnant women with hearing loss 'very useful'. UCLH staff had limited knowledge of maternity-specific adaptations for D/deaf women in pregnancy and low confidence, 2.67/5, in caring for women with complete hearing loss. Communication, consent and booking interpreters were main concerns of participants, especially in emergencies. Improvements include more training and adapted antenatal education.

Conclusion: The communication needs of D/deaf women receiving maternity are unmet due to difficulties booking interpreters and limited staff knowledge. More specific guidelines, continuity of care and improved use to technologies in healthcare are facilitators which will help empower D/deaf women in their pregnancies.

Presenter
Azelle Egbe
Authors
Egbe, A1, Cornish, E2, Wisentaner, A 1, Siassakos, D 2

Abstract

BACKGROUND

The prevalence of obesity in pregnant women in the UK is rising, and is associated with numerous maternal and fetal complications. Obstetric complications include increased risk of preeclampsia, gestational diabetes, venous thromboembolism and requirement for Caesarean section. Fetal risks of maternal obesity include macrosomia and stillbirth. This study aims to assess the prevalence of such complications in a cohort of pregnant women with class III obesity, defined as body mass index (BMI) >40kg/m2 at booking.

METHODS

Observational cohort study using routinely collected data to identify all women booking with a BMI >40 at a tertiary London maternity unit between 1 January 2018 and 8 July 2020. Electronic medical records were used to ascertain a series of outcomes, including: diagnosis of gestational diabetes (according to modified NICE criteria); gestational age at delivery; mode of delivery; birth weight; and estimated blood loss. These data were stored in an anonymised spreadsheet and analysed using standard Microsoft Excel functions.

RESULTS

126 women were eligible for inclusion in the study. Over half (58.7%) delivered by Caesarean section, with 23.8% delivering by elective Caesarean and 34.9% delivering by emergency Caesarean. The rate of fetal macrosomia, defined as birth weight over the 95th centile by INTERGROWTH-21st Consortium standards, was 17.4%. The rate of gestational diabetes was 37.3%. The prevalence of major postpartum haemorrhage, defined as estimated blood loss over 1,000mL, was 19.0%. 8.7% delivered preterm and preeclampsia was diagnosed in 4% of cases. There were no stillbirths.

CONCLUSION

These results demonstrate a higher rate of gestational diabetes than that reported in previously published studies from other cohorts. Our findings reinforce rapidly emerging evidence detailing the significant obstetric and perinatal risks associated with class III obesity. They emphasise the need for comprehensive multidisciplinary care pathways for this population, to optimise prevention, detection and management of these complications..

Presenter
Brian Dromey
Authors
Brian P Dromey 1, Francisco Vasconcelos 2, Sebastien Ourselin4, Anna L David1,3, Danail Stoyanov2, Donald M Peebles1,3

Abstract

Background

Ultrasound is a dynamic, real-time imaging modality that is widely used in clinical obstetrics. Widely accepted, validated and objective measures of ultrasound competency have not been established for clinical practice. Simulation has been proposed as a training method, but how learners performance translates from the simulator to the clinic is poorly understood. We have previously described an objective metric, Dimensionless Jerk (DJ), which can differentiate between novice and experienced operators when scanning a

commercially available phantom of a 23 week fetus. We test DJ in the clinical setting.

Methods

We undertook a prospective, observational study of medical practitioners who work at a UK University Hospital. We recruited both experienced and less experienced ultrasound operators. Participants were empirically divided between either experienced in fetal ultrasound (n=31, >200 fetal ultrasound examinations) or novice operators (n=18, <25 ultrasound examinations). We tracked probe movement during biometry performed as part of the 20 weeks fetal anomoly examination. We measured Dimensionless Jerk, an assessment of deliberate hand movements, independent of movement duration, extent, spurious peaks and dimension.

Results

The mean DJ for experienced operators was 18.34 SD 3.42 and 20.11

	Expert ±SD	Novice ± SD	P
Dimensionless Jerk	18.34 ± 3.42	20.11 ± 2.37	0.0009
Time to Completion	86.57± 11322.74	158.76 ± 8269.55	0.0016

SD 2.37 (p=0.0009). The time to completion was also significantly shorter. Time to completion was 86.57 SD 11322.74 and 158.76 SD 8269.55 (p=0.016) for experienced and novice operators respectively
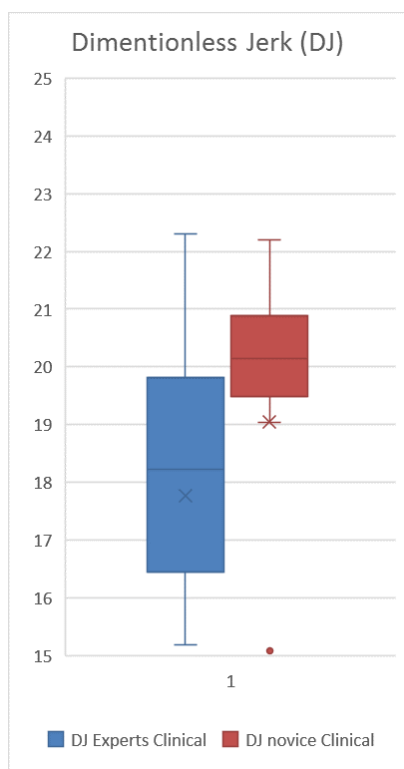
Conclusions

Our results indicate that metrics such as time to completion and dimensionless jerk show significant difference between novice and experienced ultrasonographers in the clinical environment, this mirrors our findings using the phantom. We can conclude that DJ is a metric which can differentiate between expert and novice operators, but in isolation is unlikely to represent overall clinical competence. DJ could be used as a waypoint for trainees, signifying the transition from simulated learning to supervised practice.

Presenter
Chloe Shaw
Authors
Dr Chloe Shaw1, Dr Breidge Boyle2, Dr Julia Petty3, Alexandra Mancini4, Dr Katie Gallagher1

Abstract
Background:
During the first wave of COVID-19, global neonatal policies changed considerably, with significant implications to the nurses caring for babies and their families in the neonatal unit. The aim of this study was to explore the impact of these changes on neonatal nurses around the world through analysis of global nurses' personal reflections.
Methods:
We conducted a thematic analysis on written reflections submitted by neonatal nurses worldwide, to a reflective writing series in the Journal of Neonatal Nursing exploring the impact of COVID-19. A total of 22 reflections were analysed from 24 neonatal nurses, from 11 countries across the world.
Results:
Thematic analysis revealed 4 main themes relating to the nurses' role: 1) protector (2) challenges to human quality of care (3) vulnerability (4) resilience. The measures taken to protect the babies, colleagues and the nurses' own families were described as compromising the human qualities of care fundamental to their role. This tension, together with the new challenges imposed on nurses, heightened feelings of nursing vulnerability. Concurrently, nurses identified role resilience, including resourcefulness and peer support, which allowed them to navigate through the global pandemic.
Conclusion:
By identifying the global challenges and the strategies used to overcome these, neonatal nurses may be better equipped as the pandemic continues into a second wave. The reflections also underscored the importance of family centred care highlighting the tension created when it is compromised. New ways of working developed during the pandemic may ultimately lead to on-going improvements in neonatal nursing care.

Presenter
Deborah Obeng-Tuudah
Authors
Obeng-Tuudah D1,2,3, Epstein A1, Ben Amor I4, Thomas W5, El Ekiaby M6, Nwagha T7, Hossain N8, Núñez Payamps MZ9, Castaman G10, Mumford A11, Gomez K1,3, Kadir RA1,2,3

Abstract
Background
The presentations and management of women with inherited platelet function disorders (IPFD) in the gynaecology setting can be varied. Clinical experience in this area is limited due to the rarity and variety of these disorders. This registry aims to collate knowledge and experience of different obstetrics and

gynaecological presentations and management approaches in women with IPFD.

Methods

Worldwide data were captured through the ISTH Registry completed by healthcare professionals using their patients' clinical records. Registry data was anonymized and statistics are observational.

Results

Data from 38 women, with a mean age 26 years, was analyzed. Mean age at diagnosis of IPFD was 16yrs. Heavy menstrual bleeding (HMB) was the commonest main presenting symptom leading to diagnosis in 53%. Average age at menarche was 13yrs with 64% of women experiencing HMB from the start of menarche and 28% presented acutely to emergency departments for management. Prior to treatment, mean pictorial blood loss assessment chart (PBAC) score was 459 and mean ISTH score was 6.

Medical management of HMB included tranexamic acid, oral combined pill, progestogens, levonorgestrel-releasing intrauterine system and/or desmopressin (DDAVP, second/third-line only). A single type of treatment was used as first-line management in 62% with an effective treatment rate of only 14%. The proportion of women receiving two or more combination medical therapy increased at second- line, then third-line. At third-line therapy, endometrial ablation was also used in women who had completed their family. Rate of effective treatment increased with line of therapy, reaching 97% in the third-line. In acute HMB, 30% of women needed additional platelet transfusion and/or rFVIIa.

Conclusions

Data from this international registry show that women with IPFD usually present with HMB from menarche. Medical management can be challenging, necessitating a combination of antifibrinolytic, hormonal and haemostatic therapy. In retractable cases, endometrial ablation is an option for those who have completed their family.

Presenter

Faith Miller

Authors

Miller F, Sacco A, David A, Boyle AK

Abstract

Background:

Preterm birth (PTB; <37 weeks gestation) affects approximately 11% of all births worldwide and is associated with adverse neonatal outcomes. Approximately 40% of spontaneous PTBs are associated with infection. Current treatment options are limited. Animal models are essential for the development and testing of new therapeutic interventions. This systematic review summarises treatments for infection/inflammation-induced PTB applied in preclinical models of PTB.

Methods:

Searches using MeSH and keywords were performed in PubMed, EMBASE and Web of Science, in accordance with PRISMA guidance. MeSH and keyword themes included "animal models", "preterm birth", "inflammation" and "therapeutics". Two independent researchers screened studies and extracted data. The inclusion criteria were formulated using the PICO framework. Participants: animals with infection/inflammation-induced PTB. Intervention: prenatal interventions to prevent PTB. Comparison: an appropriate vehicle control for the intervention. Outcome: effect of the intervention on gestational length and maternal inflammation. The presence of bias in methodological design was also determined.

Results:

Our searches identified 3,759 studies. Twenty-three studies met our inclusion criteria. All studies utilised mouse models and PTB was most commonly induced by lipopolysaccharide (LPS) or Escherichia coli (E. coli). However, the doses, serotypes and routes of delivery varied. No two interventions were the same. Gestational length was significantly prolonged in 19 of the 23 studies and markers of maternal inflammation reduced in 20 studies. All studies were assigned an unclear risk of bias.

Conclusion:

We identified several treatments that successfully target maternal inflammation and hold promise as therapeutic agents of PTB. However, we were unable to perform a meta-analysis due to the heterogeneous nature of the data. Importantly, this systematic review highlights the poor methodological reporting of preclinical studies. Better standardisation of animal models of PTB is urgently required to improve the reproducibility of preclinical studies, allow meaningful comparison of the intervention efficacy and aid clinical translation.

Presenter

Hannah Forsyth

Authors

Forsyth, H, Gardner, M, Usmani, A, Whitten, SM

Abstract

Background

Domestic violence or abuse (DVA) is associated with many adverse health outcomes yet the clinical response is reported to be inadequate. This work aims to examine intersections between DVA and a variety of healthcare settings, the role of HCPs in identifying

and tackling DVA as a health issue, and the opportunities to use training to improve HCPs' awareness and skills in this role.

Methods

Questionnaires were distributed in December 2019-February 2020 to 104 healthcare professionals from a range of specialties before and after domestic violence training sessions, enquiring about views and knowledge around DVA in the healthcare setting, perceived abilities to address it, and reviewing the impact of training upon supporting knowledge and abilities.

Results

Before training, over 90% of healthcare professionals consistently agreed with all questions assessing whether they viewed domestic abuse as a health issue and whether it was relevant to them as healthcare professionals. However, only 50% of practitioners agreed that they knew how to ask a patient about domestic abuse, and only 58% agreed that they knew how to help and refer a patient to a specialist service if a disclosure was made. These proportions increased to 93% and 95% respectively after the training. Before training, 74%

of participants recognised that mental or emotional health could be affected by abuse, but few reported knowledge of physical presentations known to be associated with abuse; after training, 98% agreed that training had improved their knowledge of DVA.

Conclusion

Healthcare practitioners want to help patients experiencing domestic abuse, but they are hindered by limited understanding of how it affects health, difficulties in broaching it with patients and insufficient skills to make referrals to specialist services. These barriers can be reduced through effective domestic abuse training; staff across all healthcare professions should be supported to access such training.

Presenter

Harita Ghevaria

Authors

H. Ghevaria1, S. SenGupta1, R. Naja2, R. Odia3, P. Serhal4, X. Viñals Gonzalez3, X. Sun1, J. Delhanty1

Abstract

BACKGROUND:

Aneuploidy (extra or missing chromosomes) is the major cause of embryonic & fetal death. Most errors arise in the final stages of oocyte maturation (meiosis) in the adult female, strongly correlated with maternal age. By the application of array comparative genomic hybridization (aCGH) and next generation sequencing (NGS) we have shown that 10-15% of oocyte aneuploidy is in fact premeiotic and present in the early embryo, leading to a risk of an aneuploid conception in adult life irrespective of age. Mosaic aneuploidy may be present in the primordial germ cells or may arise during the extensive mitotic divisions of the oogonia. There is substantial individual variation in the incidence of PM errors that is likely to be related to the genetic background of the oocyte donor.

METHODS:

Oocyte DNA was extracted, amplified and analysed using aCGH or NGS [Ion ReproSeqPGS (ThermoFisher) / VeriSeqPGS (Illumina)]. Immature oocytes (141) included germinal vesicles (GV) & metaphase I oocytes (MI). Mature oocytes (61) were metaphase II (MII) - 1st polar body (PB) complexes.

RESULTS :

Method of analysis	Total oocytes tested	Total oocytes with premeiotic errors	Oocytes with 1 or 2 errors (Simple)	Oocytes with 3 or more errors (Complex)
aCGH	91	10	6	4
NGS	111	15	7	8
Total	202	25 (12.38%)	13	12

Fifteen (19.4%) of 77 donors had oocytes with PM errors. Aneuploidy incidence was correlated with the available reproductive histories of female partners donating oocytes.

Classification of female partners based on reproductive histories	No. of donors	Total oocytes tested	Oocytes with premeiotic aneuploidy	No. of oocytes with Simple/ Complex Errors
1. Female fertility status unknown	26	74	11 (14.8%) (6 donors)	7 Simple ; 4 Complex
2.Primary/secondary female factor infertility	25	50	6 (12%) (4 donors)	3 Simple ; 3 Complex
3.Oocyte preservation due to social reasons	3	23	1 (4.3%) 1 (donor)	1 Simple
4.Oocyte preservation due to breast cancer	2	10	5 (50%) (2 donors)	1 Simple ; 4 Complex
5.Female carriers of structural rearrangements or monogenic disorders (non-cancer related)	17	30	2 (6.66%) (2 donors)	1 Simple ; 1 Complex
6.Females at increased risk of developing breast/ovarian cancer due to BRCA1/2 gene mutations	4	15	0	0
Total	77	202	25 (15 donors)	13 Simple 12 Complex

CONCLUSION:

In categories 1 & 2 most couples have fertility issues – these 2 groups have a very similar incidence of PM errors. Groups 3, 5 & 6 from couples with no known fertility issues all have lower incidences. The two cases in Group 4 stand out, with a much higher incidence which may be related to the genetic factors responsible for the onset of breast cancer in their 30s. Phenotypic & genetic variants have been identified that affect the incidence of complex errors in embryos.

Presenter

Isabella Bourne

Authors

Siassakos D1,2,3,4 , Bourne I1(joint first author), Whitten M2 , Battaglino C2, Sebire N5

Abstract

Background:

Around 1 in 250 births end in stillbirth in the UK. Abnormal placental villous maturation is a risk factor for stillbirth and various studies have demonstrated a link between GDM and abnormal placental villous maturation. There is an anecdotally frequent diagnosis of villous dysmaturity in placentas from otherwise unexplained stillbirths in women without formal diagnosis of diabetes but either clinical characteristics (e.g. fetal macrosomia) or risk factors for diabetes (e.g. high BMI).

Methods:

We reviewed placental histopathology reports and pregnancy outcomes for University College London Hospital patients delivering between July 2018 to March 2020. Analysis of the maternal characteristics and pregnancy outcomes of women with abnormal villous maturation and how they compare to other related placental lesions.

Results:

Most women with abnormal villous maturation have some abnormal glucose readings or risk factors for diabetes without a formal diagnosis of diabetes. 70% with distal villous immaturity (DVI) had abnormal glucose readings when including borderline values. 1:5 babies with DMI were stillbirths. The only common warning sign was an isolated abnormal glucose test without a formal diagnosis of diabetes. Placental dysfunction in these women likely starts after the first two trimesters and can lead to stillbirth.

Conclusion:

The results suggest that women with abnormal placental villous maturation have underlying dysregulated glucose metabolism and/or insulin resistance. It is likely that these pregnancies start with normal placentation, but villi dysfunction occurs acutely due to glucose dysmetabolism not sufficient for routine diabetes criteria. Research is needed to confirm these findings and to determine methods for identification of risk and prevention of harm.

Presenter

Ishrat Hussain

Authors

Hussain, Ishrat

Abstract

Background

Neonatal hypoxia-ischaemia (HI) is caused by a shortage of oxygen and inadequate perfusion of the brain. It is associated with neurological morbidities such as cerebral palsy and epilepsy and greatly contributes to infant mortality rates. Currently, gold-standard treatment is controlled therapeutic hypothermia. However, this therapy has a narrow therapeutic window, is largely inaccessible in developing countries and is not always effective. Therefore, the development of new therapies is vital. Curcumin is a natural phenol which has been widely studied for its antioxidant, anti-inflammatory and free-radical scavenging properties making it a strong contender as a pharmaceutical intervention against HI. Previous study into the neuroprotective effects of curcumin in postnatal day 7 (P7) mice determined that a dose of 200μg/g body-weight (BW) significantly reduced levels of neuronal tissue loss following HI. However, neurodevelopment in P7 mice is only comparable to slightly pre-term infants.

Methods

This study aimed to investigate whether a 200μg/g BW intraperitoneal injection of curcumin following HI is neuroprotective in the P9 mouse model which is more neurodevelopmentally similar to a full-term infant. Nissl staining for tissue loss was carried out in 37 mice subjected to HI: 13 mice received curcumin, 12 received DMSO and 12 received no treatment.

Results

Our results demonstrated that a 200μg/g BW dose of intraperitoneal curcumin immediately following induced HI significantly reduced tissue loss in the cortex, pyriform cortex, thalamus and hippocampus compared to HI control littermates. Our results also show that DMSO had no effect in producing this outcome.

Conclusion

Overall this study demonstrates that curcumin is a strong candidate as a new treatment following HI in full-term infants and supports further testing.

Presenter

Kasia M. Maksym

Authors

On behalf of EVERREST Consortium

Abstract

BACKGROUND:

Early onset Fetal Growth Restriction (FGR) is rare condition but carries high risk of perinatal loss. Our previous analysis showed significantly reduced volume flow for both maternal and fetal circulation. Aim of the study was to evaluate predictive value of Doppler studies acquired at diagnosis.

METHODS:

We analysed data of women (n=62) prospectively recruited into the EVERREST study: structurally and chromosomally normal singleton pregnancy, estimated fetal weight<3 percentile, <600g, 20 -26 weeks at four European centres. After excluding TOP we analysed 58 complete datasets of Uterine artery (UtA) PI and total volume flow rate (TVFR), Umbilical artery PI and Umbilical volume flow rate (UVFR).

RESULTS:

Fetal and maternal Dopplers assessment showed high sensitivity and low specificity for all four tests performed. We noted low positive predictive value (PPV) for all tests. Best performing remains UtA PI >95th centile followed by UAPI>95th centile. Predictably, all above tests are characterised by high negative predictive value (NPV) ranging from 87% (95%CI 75-99%) for UVFR to 96% (95%CI 87-100%) for UtA PI >95th centile. In about 10% cases (6 out of 58) all four tests were negative at diagnosis and all these pregnancies proceeded to livebirth, thus giving NPV of 100%. We noted that only 1 of these pregnancies were delivered before 34 weeks (82% deliveries in analysed cohort happened before 34 weeks gestation) and there was no neonatal death (NND) noted (total of 5 NND and 1 late death in analysed cohort).

CONCLUSION:

Prediction of outcome in early onset FGR poses great challenge for clinicians. UtAPI >95th centile remains single best test in this cohort. By combining different Doppler studies, very high NPV can be achieved. This can be useful in counselling patients and planning subsequent management of pregnancy affected by early onset FGR. Further analysis on larger cohort are needed.

Presenter

Keeley Howard

Authors

Howard, K; Singh, J; Donadono, V; Sara, P, Brookes, S; Attilakos, G; Napolitano, R;

Abstract

BACKGROUND:

Previous trials did not show any difference in comparing Propess® versus Prostin® for induction of labour (IOL). The aim of this study was to compare the two methods in contemporary practice.

METHODS:

This was a prospective non-randomised interventional study at UCLH in singleton pregnancies undergoing IOL using Propess or Prostin between 2018 and 2019. Sample size was calculated to show difference in the primary outcome: IOL to delivery interval (> 110 women per group).

RESULTS:

232 women were recruited. Propess had a higher induction to delivery interval compared with Prostin (38 vs 27 hours, p=0.001), and induction to artificial rupture of membranes interval (34 vs 16 hours, p<0.001). There was no difference in failed IOL (17.9% vs 16.5%, p=0.774). Rate of labour complications and neonatal morbidity was similar. The emergency caesarean rate was higher in the Prostin group (41.9% vs 27.8%, p=0.025), which remained significant after adjustment for unfavourable cervix and indication of IOL (p=0.011, aOR 2.086, 95%CI 1.185-3.673), mainly due to failure to progress caesarean section in nulliparous.

CONCLUSION:

The use of Prostin significantly reduced the length of IOL by 30% with no difference in failed IOL rate and in maternal or neonatal outcomes. Emergency caesarean rate seems to increase with Prostin, however the study was not powered for this. The use of Prostin as a ripening agent could be considered in contemporary obstetric practice a safe and effective method of IOL and importantly reduces the antenatal inpatient admission time.

Presenter

Clodagh Kelly

Authors

Clodagh K, Nicholls J, Lanceley A, Whitten M

Abstract

Background:

The importance of legally and ethically valid consent is often underestimated in induction of labour (IOL), with no current requirement for formal written consent. This study explores women's perceptions of the IOL consent process and aims to identify any issues or challenges women face in this practice.

Methods:

Qualitative research was conducted in the antenatal ward and labour ward of a large inner-city NHS hospital during February and March 2020. Thirteen women who had been admitted for IOL and were due to be induced imminently participated in face-to-face semi-structured interviews. These were analysed using thematic analysis.

Results:

Four themes were identified: 1) Adequacy of scope of information: Information provision and explanation was often minimal, particularly regarding risks and alternatives. 2) Nature of information: Procedure discussion was limited, information was sometimes contradictory and confusing for women, and the level of risk disclosure needs to be tailored to individual's preferences. The possibility of induction failing wasn't mentioned to any women. 3) How information is communicated and understood: Understanding commonly relied on the patient's own research. Women wanted written and verbal information, tailored to their specific situation, to be explained by healthcare professionals (HCPs) from the point at which IOL was first offered. 4) Consent voluntariness: Some women felt they had a genuine choice, but others perceived pressure to do what was best for their baby. IOL was often presented as a 'plan of action' rather than a choice.

Conclusion:

IOL consent isn't always adequately informed and voluntary. Limited information provision, absence of reasonable alternatives and HCPs' and women's focus on the baby's safety often undermines choice and results in compliance. To achieve the professional and legal requirements of consent, greater scope of information should be explained, and HCPs should offer IOL with strong emphasis on maternal choice.

Presenter

Kelly Harvey-Jones

Authors

Harvey-Jones K1, Lange F2, Tachtsidis I2, Robertson N1, Mitra S1, 1 Neonatology, Institute for Women's Health UCL, 2 Medical Physics and Biomedical Engineering, UCL

Abstract

Background:

Neonatal encephalopathy is a global problem accounting for a quarter of the world's neonatal deaths and a significant cause of childhood disability. A cot-side monitoring system that can track injury progression and accurately predict outcome is urgently needed. We introduce a novel optical monitoring system that measures changes in two significant processes underpinning this disease, mitochondrial metabolism and brain perfusion.

Methods:

Broadband near infrared spectroscopy (BNIRS) measures changes in Cytochrome C oxidase (oxCCO), reflecting mitochondrial metabolic activity. Diffuse correlation spectroscopy (DCS) measures microvascular perfusion by providing an index of cerebral blood flow (CBFi). A novel dual platform incorporating both, created by the UCL group, has been applied to 22 piglets in a pre-clinical cohort following an induced hypoxic/ischaemic insult and recently commenced use at UCLH in a neonatal clinical cohort on babies with neonatal encephalopathy. Preliminary analysis of the monitoring data has been performed in the piglet cohort.

Results:

Early analysis shows the technology can successfully monitor both cerebral metabolic and perfusion responses to an acute induced hypoxic/ischaemic injury continuously and in real time. Changes in traditional NIRS parameters oxy-haemoglobin (HbO2), deoxy-haemoglobin (HHb) and total haemoglobin (HbT), reflecting changes in cerebral blood volume, (fig1B) and those reflecting mitochondrial metabolism (oxCCO) and cerebral perfusion (CBFi) (fig1C) displayed dramatic and consistent results following hypoxic ischaemic (HI) insult with all falling during insult before recovery following resuscitation and further individual trends

(fig1). Changes in vitals (HR, SpO2 and MABP) are presented in fig1A.

Conclusion:

Previous BNIRS studies showed metabolic reactivity following perinatal insult correlated with MRI findings of disease severity. This combined platform offers a more detailed picture of brain pathophysiology and provides an exciting opportunity to develop a robust biomarker of injury that can potentially evaluate response to emerging treatments, determine injury severity and provide accurate, early prognostic information in the clinical population.
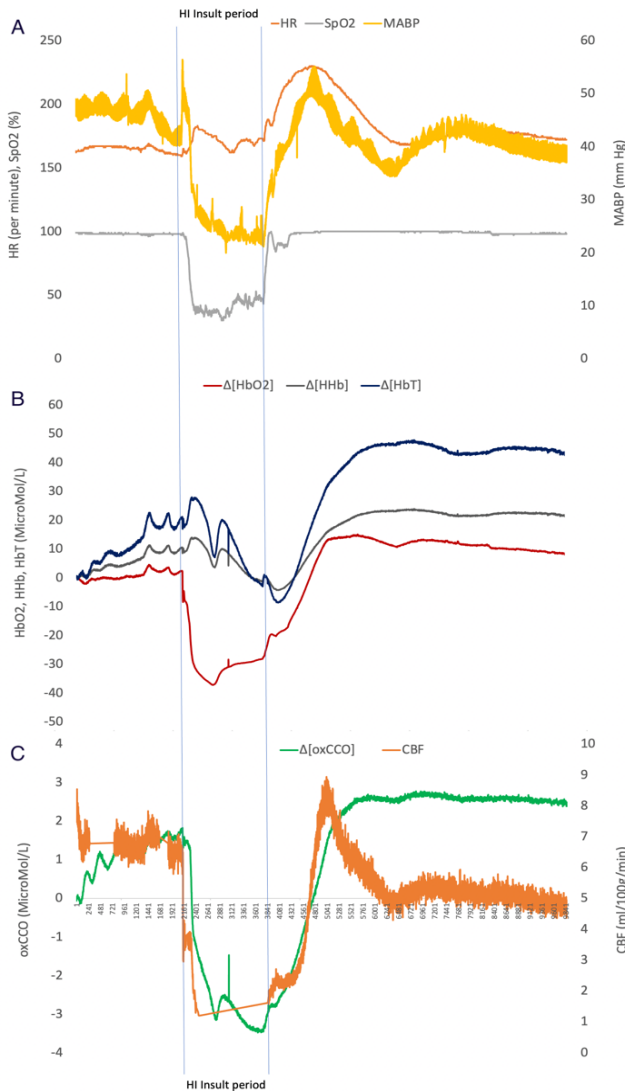
Presenter

Kevin Tjandraprawira - 1

Authors

Tjandraprawira, KDa,d,; Olaitan Ab; Petrie Ac; Wilkinson Nb; Rosenthal ANa,b

Abstract

Background:

This study wishes to investigate conservative and excisional/ablative treatment outcomes for cervical intraepithelial neoplasia grade 2 (CIN2) following introduction of virological test of cure.

Methods:

This was a retrospective study of prospectively collected data involving 331 sequential biopsy-proven CIN2 cases at UCLH colposcopy unit. CIN2 cases diagnosed 01/07/2014-31/12/2017 were followed-up until colposcopy discharge and then using the national cervical cytology database. Outcomes were defined: Cytological/histological regression was absence of high-grade CIN on biopsy and/or high-grade dysplasia; Virological regression was cytological/histological regression and negative human papillomavirus testing; Persistence was biopsy-proven CIN2 and/or moderate dyskaryosis; Progression was biopsy-proven CIN3+ and/or severe dyskaryosis.

The main outcome measures were regression, persistence, progression rates; median regression/progression times; referral to discharge interval; subsequent CIN.

Results:

Median follow-up was 22.6 months (range: 1.9-65.1). 175 (52.9%) patients were initially managed conservatively. 77.3%(133/172) regressed, 13.4%(23/172) persisted and 9.3%(16/172) progressed to CIN3+. 97(56.4%) patients achieved virological regression. Median regression and progression times were 6.1 (range 2.4-30.4) months and 7.6 (range 3.8-43.3) months, respectively. 156 (47.1%) patients underwent initial excision/ablation, with a 89.4%(110/123) virological cure rate. Patients managed conservatively vs. planned excision spent a median of 16.4 and 11.7 months respectively, within colposcopy follow-up. 7 (4.0%) and 3 (1.9%) patients developed further CIN in the conservative and treatment groups respectively, during median 17.2 months post-discharge.

Conclusions:

Conservative management is a reasonable and effective management strategy in appropriately-selected women with CIN2. The above data provide useful information for clinicians and patients deciding management options.

Presenter

Kevin Tjandraprawira - 2

Authors

Tjandraprawira KDa,c; Petrie Ab; Djuwantono Ta; Kusumah AYc; Kamilah AYc; Putri DIc; Ananta MRc; Sari SPc

Abstract

Background: There is still paucity of up-to-date data on pregnancy-associated hypertension and its adverse effects on both maternal and neonatal outcomes for the Indonesian population. This study wishes to provide up-to-date data on pregnancy-associated hypertension maternal and neonatal profiles in Indonesia.

Methods: retrospective clinical audit on all pregnancy-associated hypertensive patients between 01/01/2020-31/03/2020 in Cianjur, Indonesia and their respective neonatal outcomes. Patients were excluded due to irretrievable case notes and missing data on maternal and neonatal variables. Definitions on pregnancy-associated hypertension are according to the latest International Society for the Study of Hypertension in Pregnancy guideline.

Results: Preeclampsia accounts for 66.8% (235/352) of pregnancy-associated hypertension. 40.9% (144/352) had delivered at too-young and/or too advanced maternal ages.

Compared to other pregnant women, those with preeclampsia, on average, had higher systolic and diastolic pressures pressure (p<0.001; p<0.001 respectively) and poorer kidney (ureum and creatinine) and liver function profiles (AST and ALT) (p<0.001; p=0.003; p=0.033; p=0.002), and required more intensive care admission. Neonates from women with eclampsia had, on average, lower birthweight, birth length and poorer 1-minute and 5-minute APGAR scores (p=0.015; p=0.021; p=0.006 and p=0.005, respectively). Neonates from HELLP syndrome patients had significantly lower birthweight and birth length compared to all others. (p=0.048; p=0.017 respectively).

Conclusion: pregnancy-associated hypertension exerts adverse maternal and neonatal outcomes, particularly among eclampsia and HELLP-syndrome neonates. Various challenges remain for optimal management

Presenter

Khimi Karavadra

Authors

Karavadra, K

Abstract

Background: Malignant ovarian germ cell tumours are rare, and the surgical management of these tumours is controversial. The aim to preserve fertility is contested by the oncological risk of recurrence. This study aimed to evaluate the clinical features, prognostic factors, and surgical management of these tumours at a single institution to provide guidance for future treatment.
Methods:
Retrospective analysis of forty-one patients treated
for MOGCT between 2011 and 2019 was conducted. Kaplan Meier survival analysis and univariate cox regression were used to analyse prognostic factors for recurrence and survival.
Results
The median age was 23 years (7-79). The most
common histological type was immature teratoma and 25(61.0%) patients had stage I disease. 2 patients
underwent comprehensive surgical staging, compared to 39 who underwent conservative surgical staging. 33 patients underwent laparotomy, 8 patients underwent laparoscopy. 17 patients received adjuvant chemotherapy. 4(9.8%) patients died, and 10(24.4%) patients experienced tumour
recurrence. Abnormal fallopian tube histology and stage IV disease were unfavourable prognostic factors for recurrence. Abnormal fallopian tube histology and age at diagnosis were unfavourable prognostic factors for survival.
Conclusions:
This study shows that surgical removal of the
fallopian tube to prevent recurrence is validated, indicating that the oncological risk of recurrence outweighs the small benefit to fertility. Conservative staging appears to have no effect on prognosis.

Presenter

Konstantina Tetorou

Authors

Tetorou K., Sisa C., Hussain I., Ghoora L., Paulose D., Hristova M.

Abstract

BACKGROUND:
Hypoxic-ischaemic encephalopathy (HIE) affects 3-10/1000 live births worldwide. HIE brain damage is associated with an inflammatory response and oxidative stress, thus activating cell death. The only available therapy for HIE is therapeutic hypothermia, which is only partially effective. There is therefore an unmet clinical need for the development of novel therapeutic interventions for treatment of HIE. Curcumin is a natural compound and an antioxidant, with reported anti-inflammatory properties. Previous study showed the neuroprotective effect of curcumin in postnatal day 7 (P7) mice after HI. However, neurodevelopment in the P7 mouse is only comparable to a slightly pre-term infant. The P9 mouse is neurodevelopmentally more similar to a full-term infant and therefore modelling HIE at that age is more clinically relevant. This study aims to investigate whether 200µg/g body weight curcumin following HI is neuroprotective in the P9 mouse and to compare the outcome with the previous P7 study.
METHODS:
P7 and P9 C57/Bl6 mice were subjected to HI and treated intraperitoneally with 200ug/g per gram body weight curcumin dissolved in DMSO (experimental group) or DMSO alone (control group) or no treatment. We assessed histologically microglial and astroglial activation, as well cell death and tissue loss as markers of brain damage.
RESULTS:
Curcumin treatment following neonatal HI in the P9 mouse significantly decreased microglial, astroglial activation as well as tissue loss and cell death. However, compared to the results from the P7 study, the protective effect of the curcumin in the P9 study was observed in different brain regions.
CONCLUSION:
Our data suggests that curcumin has a neuroprotective effect in both slightly pre-term and term HI model.

Presenter

Lauren Berg

Authors

L. Berg, K. Howard, J. T. Gleeson, I.C. Kotsopoulos

Abstract

BACKGROUND
Ovarian cancer is the leading cause of gynaecological cancer-associated death. All-stage 5-year survival in the UK is 49.4%, but survival varies significantly by stage and most women present late with FIGO stage III or IV disease. As a result of multiple studies showing evidence of improved survival with maximum surgical effort, to achieve no macroscopical residual disease, the surgical approach has become increasingly more radical.
METHODS
This was a retrospective audit of ten years of clinical data (2006-2016), including all patients diagnosed with epithelial ovarian cancer, that had undergone standard complete treatment (debulking surgery and at least 6 cycles of cisplatin-based chemotherapy) at UCLH. We compared survival rates prior to and following the change in surgical approach using

ultra-radical cytoreduction, with particular focus on patients with stage III/IV disease.

RESULTS

We identified 143 cases of epithelial ovarian cancer between 2006 to 2010 (group 1) and 262 cases between 2011 to 2016 (group 2). The mean survival was 49.74 for group 1 and 47.12 months for group 2 (p = 0.07). All-stage five-year survival was 51.47% and 58.01% respectively (p = 0.21). Recurrence-free survival was 22.31 for group 1 and 35.73 for group 2 (p = 0.05). Focusing on stage III/IV disease, overall five-year survival was 51.1% in group 1 compared to 41.0% in group 2 (p=0.08). There was no statistically significant difference in recurrence-free survival between the two groups (22.1 vs 25.5 months, p=0.06).

CONCLUSION

The five-year survival in our unit over this ten year period was 65.0%, above the national average of 49.4%. However, this was partially related to the inclusion criteria. In stage III/IV disease, overall survival worsened after a trend towards more radical surgery, though this effect was statistically insignificant, and might be related to selection bias. Recurrence-free survival was better in the radical surgery group.

Presenter

Lindsay Kindinger

Authors

Kindinger, L1, Wallis N1, Whitten M 1,2, , Siassakos, D 1,2

Abstract

BACKGROUND

The current diagnostic criteria for gestational diabetes at UCLH is defined by the International Association of Diabetes in Pregnancy Study Groups (IADPSG): ≥5.1mmol/l fasting blood glucose, ≥10.0mmol/l 1hour value, ≥8.5mmol/l 2 hour value following a 75g glucose load, with one abnormal value giving a diagnosis of gestational diabetes (GDM). Reactive hypoglycaemia, defined as a 2hour blood glucose level equivalent or below the 0h (fasting) result, is known to be more prevalent amongst women with gestational diabetes. To date there has been no investigation into the association of reactive hypoglycaemia and subsequent obstetric outcomes.

METHODS

Birth outcomes were collected from all antenatal women attending for a full glucose tolerance test (GTT) between April 2019 and July 2020. Outcomes were compared amongst women with normal GTTs, reactive hypoglycaemias, and those diagnosed with GDM.

RESULTS

2576 pregnancies had a full GTT with corresponding outcome data available. Of these, 14.2% (n=365) had Reactive hypoglycaemia, 20.2% (n=520) were diagnosed as GDM and 65.6% (n=1691) had a Normal GTT.

Mean birthweights (BWs) differed significantly among these three groups (P=0.003, ANOVA). The 'Reactive Hypoglycaemia' group had the greatest mean BWs (3370g ±559) compared to both the Normal group (mean 3319g ±560, P=0.016) and the GDM group (3164g ±552, p=0.0001). Gestational age at delivery was earlier in the GDM group (mean 38+4 ±10days), compared in both the Normal and Reactive hypoglycaemia groups (39+2 ±10days and 39+2 ±9days respectively, P=0.3).

When comparing birthweight to 'difference in 0h and 2h blood glucose', there was a significant negative correlation between greater Reactive hypoglycaemia and larger BW (Linear regression, P=0.012).

CONCLUSION

This study demonstrates a significant association between reactive hypoglycaemia and greater birth weight compared to women with a normal GTT, after controlling for gestational age at birth. Further obstetric outcomes are currently being evaluated.

Presenter

Nana Onyinah

Authors

Onyinah N

Abstract

Background

Childbirth is a powerful trigger for psychiatric disorders and relapses. Episodes during pregnancy and especially the postnatal period can cause substantial morbidity and mortality (Jones et al 2014). Recent United Kingdom (UK) mortality enquiries have revealed suicide in particular and psychiatric causes as one of the leading causes of direct maternal death occurring during or within 42 days post birth and a leading cause of direct death occurring within one year following childbirth (Centre for Maternal and Child Enquiries 2011, Mother and Babies: Reducing Risk through Audits and Confidential Enquiries MBRRACE,2018, 2019).

This audit was conducted to establish and evaluate current practice in communication among staff on maternity care ward (MCU) following the implementation of ward safety huddles in 2018. Another aim of the audit was to review the care pathway of women (via electronic records) affected by or with a history of mental illness who booked and received maternity care in UCLH, in accordance to Trust guidelines and NICE (2014) recommendation.

Methods

The contents of ward huddle for a period of 6 days (1 huddle per day, 17/6/20-19/6/20, 22/6/20-24/06/20) were reviewed (using a created audit template) together with 5 separate 1:1 midwives handover within the same dates. Only morning huddles were audited within these dates. 10 sets of patients (with a history of mental illness) electronic records were reviewed to ascertain if care given followed recommended care pathways. These 10 patients were inpatient within the 6 audit days (17/6/20-19/6/20, 22/6/20-24/06/20).

Results

The huddles attendees were multidisciplinary with diverse roles and total numbers ranged from 11-19. A total of 40 cases were discussed 17 out of 40 cases were mental health cases and were equal to a total of 10 women. Women discussed had diverse mental health conditions ranging from moderate to severe mental illness. 8 women out of the above 10 were screened for psychiatric history, Depression and Generalised Anxiety Disorder (GAD) at their antenatal booking appointment (80%). 5 women (out of 8 screened) were referred to the Perinatal Mental Health Service. All the 5

women had a level of engagement with the services. The remaining 3 women (out of the 8 screened) declined referral to any mental health service at booking, reasons were that they felt stable at booking.

Conclusion

The quality of case discussion did not only create situational awareness, enhanced Staff knowledge about the complexities of the Patients situation but was patient centred. Wealth of information was discussed thereby ensuring safety for these vulnerable women. A greater proportion (80%) of women included in the audit were screened for Psychiatric history, however 80% compliance is considered as poor as NICE (2014) and Trust guidelines states all women must be screened. There was however evidence of a level of continued assessment in the records of all the women including the women (20%) that were not screened. The audit also highlighted the diverse support and input from Health Professionals that are available to women affected by Mental illness who access maternity care in UCLH.

Presenter

Natasha Baker

Authors

Baker, N. Potts, L. Jennings, S. Trevillion, K. Howard, L.M

Abstract

Background

The health benefits of breastfeeding are well established but for mothers with severe mental illness (SMI), the decision to breastfeed can be complex. Very few prior studies have investigated the infant feeding choices of women with SMI, or the factors associated with this. Our aims were to examine antenatal infant feeding intentions and infant feeding outcomes in a cohort of women admitted for acute psychiatric care in the first postpartum year.

Methods

This study was a secondary analysis of a national cohort study (ESMI: Examining the effectiveness and cost-effectiveness of perinatal mental health services). Participants had been admitted to acute psychiatric services for severe postnatal mental disorders. Infant feeding outcomes were retrospectively self-reported by women one-month following discharge. Descriptive statistics and logistic regression were used to analyse the data.

Results

Infant feeding outcomes were available for 218 women. 144 (66.06%) reported breastfeeding in some capacity and 74 (33.94%) formula fed. 85% had intended to breastfeed and antenatal breastfeeding intentions were significantly associated with actually breastfeeding in this sample (P<0.001). Although very few women were taking psychotropic medication contraindicated for breastfeeding, over a quarter of the sample (26.15%) reported being advised against breastfeeding because of their medication and this advice was associated with lower odds of breastfeeding (AOR: 0.39, CI:0.17-0.93).

Conclusion

This study demonstrates that women with SMI intend to breastfeed and for the majority, this intension is fulfilled. However, almost a quarter of the sample formula fed despite

wanting to breastfeed and the rate of exclusive breastfeeding was significantly lower than in the general population. In addition, misplaced advice relating to breastfeeding and psychotropic medication indicates that further training is required for professionals caring for women at risk of perinatal SMI about how to manage infant feeding in this population. Further research is required to develop a more in-depth understanding of the unique infant feeding support needs of women with perinatal SMI.

Presenter

Nikita Rana

Authors

Rana N, Driver T, Whitten SM

Abstract

Background

Adverse impacts upon staff wellbeing have been identified following involvement with perinatal cases with complex social needs. Although workplace-provided support is available for staff, barriers to access may exist. This work explores staff wellbeing alterations following involvement with women with complex social needs in the perinatal period, aiming to identify service development needs to support staff wellbeing.

Methods

Maternity healthcare professionals (HCPs) at UCLH completed anonymised questionnaires during January-February 2020 exploring associations between complex cases and their own wellbeing and evaluating personal experience of staff welfare support mechanisms. Focus groups interviews were used to facilitate communication of personal experiences, transcripts were analysed using thematic analysis.

Results

56 HCPs completed questionnaires (52% midwives and 47% obstetricians, 1% unknown). Reported day-to-day stress ratings averaged 6.56/10 (midwives 7.00/10; doctors 6.08/10). 54 respondents reported involvement with complex social needs cases as part of their role; 96% reported some degree of wellbeing alteration following such involvement. Midwives reported a greater negative impact upon their wellbeing (6.32/10) compared to doctors (4.76/10). 58.9% participated in hospital-provided welfare activities, of which two-thirds communicated their satisfaction with having enough well-being support at work (p=0.022). Focus group case discussions reinforced the narrative emerging from the questionnaires. Safety huddles, team meetings, debriefs and case reviews were highlighted as having an important role in supporting staff wellbeing. However, staff also reported taking work problems home with them and of difficulties 'moving on' after complex cases; reported utilisation of staff psychological and welfare services was low.

Conclusion

This work helps to support the role of existing strategies to support staff working with complex cases, but highlights the need for further targeted support to facilitate staff welfare maintenance, especially for those regularly involved with demanding cases. Further analysis with a larger sample-size is recommended to further inform profession-specific strategies for optimising support.

Presenter
Sania Latif
Authors
Latif, Sania (1); Al Wattar, Bassel H.(1); Lukaszewski, Tomasz (1); Yasmin, Ephia (1); Khanjani, Shirin (1); Serhal, Paul (2); Mavrelos, Dimitrios (1)

Abstract
Background:
Adenomyosis can reduce the chance of clinical pregnancy by half in women undergoing assisted conception (1). The MODA trial (modified downregulation for women with moderate/severe adenomyosis of the uterus) aims to evaluate the effect of prolonged downregulation on the reproductive outcomes in women with adenomyosis undergoing IVF.
Methods:
MODA is a pragmatic randomised controlled trial of two parallel arms comparing prolonged downregulation with GnRH analogue for six weeks to standard downregulation for two weeks. Our primary outcome is clinical pregnancy and we will also collect data on secondary outcomes including endometrial thickness at embryo transfer, miscarriage, livebirth, gestational age at delivery, birthweight at delivery, presence and severity of adenomyosis symptoms. We aim to randomise 162 patients over 3 years to have an 80% chance of detecting an increase in the clinical pregnancy rate from 20.5% in the control group to 39.4% in the experimental group, as significant at the 5% level (α= 0.05, β= 0.20).
Discussion:
To date there is no consensus on the optimum regime for treatment of women with adenomyosis. Prolonged downregulation could improve the clinical pregnancy rate by reducing the endometrial inflammatory reaction and its impact on uterine receptivity in women with moderate/severe adenomyosis of the uterus undergoing frozen thawed embryo transfer. The MODA trial is designed to offer pragmatic real life evaluation of the optimal use of downregulation in affected women. MODA is currently recruiting across two fertility centres and is hoping to open more sites in the future.
Conclusion:
The MODA trial will help to evaluate the benefit of prolonged downregulation in women with adenomyosis undergoing IVF.
Ethical approval: 19/LO/1567 - NCT03946722.
References
Mavrelos D, Holland TK, O'Donovan O, Khalil M, Ploumpidis G, Jurkovic D, et al. The impact of adenomyosis on the outcome of IVF-embryo transfer. Reproductive biomedicine online. 2017 Nov;35(5):549-54. PubMed PMID: 28802706.

Presenter
Sophie Kennedy
Authors
(Kennedy, SK)1, (Nicholls, JN)1, (Lanceley, AL)1, (Whitten, MW)2, (Kelly, CK)1

Abstract
Background:
Informed consent has taken centre stage in recent years following emerging legal developments. Good consent practice enacts patient autonomy in line with professional and legal requirements and ensures that patients comprehend the information necessary to make informed decisions.
The 2015 case of Montgomery v Lanarkshire Health Board demonstrates the courts' increasing appreciation of patient autonomy over paternalistic care. However, opinions vary as to whether this case changed the practice of obstetric consent or simply clarified existing professional guidance.
This uncertainty is reflected on the labour ward where the need to change a plan of action can emerge rapidly at a time when women may be exhausted and in pain. Undertaking dialogical consultations which truly support autonomous decision-making in these circumstances is potentially challenging. Understanding HCPs experiences of consent is necessary to improve such consultations.
Methods:
In-depth semi-structured interviews conducted at UCLH with eighteen participants (eleven obstetricians; seven midwives). These interviews were analysed by thematic analysis.
Results:
Three themes were identified:
The value of women's choice: HCPs framed consent as an agreement process rather than an exercise of choice. Implicit paternalism was evident with some HCPs imposing their recommendations upon patients.
Communicating risk: many participants viewed exhaustive risk disclosure, including extremely rare risk disclosure as their duty to ensure the validity of obstetric consent.
Law and professional practice: many HCPs lacked knowledge of the implications to practice of current law.
Conclusions:
HCPs experiences of labour ward consent reflect uncertainties in consent practice such that it sometimes falls short of legal and professional requirements. Difficulties in discussing risk with women in an appropriate way threatens the lawfulness of consent. If consent is to remain as the legal standard of autonomy, we recommend the provision of specialist training to assist professionals in providing timely consultation dialogues which endorse women's right to choose.

Presenter
Susanne Neher
Authors
Neher, S. Hall, J.

Abstract
Introduction
Obstetric fistula (OF) is an injury that develops as a result of obstructed labour. Existing research demonstrates a relationship between OF and adverse quality of life (QoL); however, a condition-specific tool to measure QoL in OF patient populations does not exist. This project aims to understand which aspects of QoL are prioritised by existing tools, and how patient perspectives can be integrated with existing QoL metrics to develop a condition specific tool. A conceptual model for a condition-specific tool is proposed.
Methods
A mixed methods study was conducted. Descriptive statistics were gathered from a quantitative sample provided by Operation Fistula, a non-governmental organisation (NGO) in

Madagascar, and participants interviewed in this project for qualitative analysis.

Univariate descriptive analyses were used to explore how representative the qualitative sample might be in relation to OF patients in Madagascar. Qualitative data were collected from semistructured interviews with OF patients and analysed using content analysis. Results were compiled to develop a conceptual model for a condition-specific QoL measurement tool.

Results

Descriptive statistics, including average age at treatment and average OF duration, were provided for the quantitative and qualitative sample populations. Five initial themes were identified

from the literature review, and an additional two themes and seventy sub-themes were identified from the interview transcripts.

Conclusion

The descriptive statistics gathered indicated that the qualitative sample was a good approximation of the typical OF patient served by Operation Fistula in Madagascar. The number of new themes and sub-themes identified from the transcripts suggested that existing QoL tools do not capture effects on QoL specific to OF.

This might mean generic QoL tools currently utilised do not provide an accurate assessment of QoL in OF patients. A conceptual model that incorporates metrics from existing tools and themes identified from patient interviews would be more appropriate and was proposed.

Presenter

Tanya Djanogly

Authors

Djanogly T,a Nicholls J,b Whitten M,c Lanceley A.d

Abstract

Background

Around one in seven births involve episiotomy, a surgical cut made to the vaginal wall and perineum, yet little is known of how consent is obtained for the procedure. This study investigates how consent is currently gained for episiotomy and explores how women experience and perceive this process, thereby identifying areas for improvements in consent practice.

Methods

Face-to-face interviews were conducted with 15 women who had recently undergone episiotomy at an inner-city nhs foundation trust hospital, in early march 2020. Interviews were semi-structured and were analysed using thematic analysis.

Results

Three themes emerged in relation to women's experiences of the episiotomy consent process: 1) information provision regarding episiotomy, 2) realities of episiotomy practice and their influence on consent discussions, and 3) the resulting voluntariness of consent. Minimal information on episiotomy was shared with participants, particularly concerning risks and alternatives. Practical realities such as time pressure, women's physical exhaustion and their focus on the baby's safe delivery, constrained consent discussions. Participants consequently inferred that there was no choice but episiotomy; whilst some women were still happy to agree, others perceived the choice to be illusory and disempowering, and subsequently experienced episiotomy as a distressing event.

Conclusion

Consent to episiotomy is not consistently informed and voluntary and more often takes the form of compliance. More information must be provided to women in a timelier fashion in order to fulfil legal requirements, and to facilitate a sense of genuine choice.

Presenter

Tomasz Lukaszewski

Authors

Lukaszewski T, Al Wattar B H, Williamson E, Latif S, Foo X, Lewin J, Yasmin E

Abstract

Background:

There is evidence that malignancy adversely affects spermatogenesis (1). However, there is no consensus on which cancer type is associated with worse sperm parameter. The aim of this study was to evaluate the association of different types of cancer and abnormalities of sperm parameters.

Methods:

This was a retrospective cohort study of men referred to the fertility preservation clinic over a period of 35 years (1984-2019) after being diagnosed with malignancy. We compared pre-treatment semen analysis results across different types of cancer diagnosis and benchmarked the results with the 2010 WHO criteria. Data were collected as part of ongoing service evaluation process using electronic records. We compared data using descriptive statistics and reported using odds ratio (OR) and 95% confidence interval (CI) for oligozoospermia, azoospermia and asthenozoospermia.

Results:

We collected data on 3366 men which included 1110 cases of testicular cancer (33.0%), 938 of lymphoma (27.9%), 439 of sarcoma (13.0%), 301 of leukaemia (8.9%), 217 of prostate cancer (6.4%), 143 of brain tumour (4.2%), 126 of bowel cancer (3.7%), 49 of myeloma (1.5%), 22 of lung cancer (0.7%) and 21 of skin cancer (0.6%). Severe oligospermia (<5 mill/ml) was most common with testicular cancer (OR 1.67, 95%CI 1.34-2.05) followed by bowel cancer (OR 1.34, 95%CI 0.82-2.22). There was no significant difference in the odds ratio of azoospermia across different types of cancer. Asthenozoospermia was more frequently observed in men with myeloma (OR 2.94, 95%CI 1.66-5.20) followed by prostate cancer (OR 1.72 95%CI 1.30-2.27). Absence of any motile sperm was most common in men with myeloma (OR 2.88, 95%CI 1.47-5.57).

Conclusions:

Oligospermia is most commonly associated with testicular cancer followed by bowel cancer, whereas asthenozoospermia is most frequently observed in myeloma and prostate cancer. The effect of cancer on sperm parameters should form a key feature in the discussion on fertility.

Presenter

William Dooley

Authors

Dooley W, De Braud L, Thanatsis N, Memtsa M, Jauniaux E, Jurkovic D

Abstract

Background

This study aimed to assess the diagnostic value and impact on management of early embryonic demise (EED) of visualising an amniotic sac without a live embryo on ultrasound imaging. We also examined how this could influence the rate of follow up visits required.

Methods

This was a prospective cohort study assessing all pregnant women who attended a single specialist early pregnancy unit from July 2017 to November 2018. The presence of an amniotic sac in the absence of a live embryo was documented and women were followed-up until a conclusive diagnosis was reached.

Results

The study included 6012 women. A conclusive diagnosis was reached on the initial scan in 4221 (70.2%). 1135 (18.9%) women had pregnancies of uncertain viability and required follow up ultrasound scans to confirm viability.

174/1135 (15.3%) of women with pregnancies of uncertain viability were found to have an amniotic sac without a live embryo on their initial ultrasound. 134/174 women attended their follow up, and in all EED was confirmed. The presence of amniotic sac without live embryo at the initial visit had a specificity of 100% (95% CI 98.53-100.00) and positive predictive value of 100% CI 87.37-100) in the diagnosis of EED. 1403/6012 (23.3%) women were offered follow-up to resolve diagnostic uncertainties, the majority of which were for women with pregnancies of uncertain viability (1135/1403 (80.1%)). By using the presence of amniotic sac without a live embryo to diagnose EED, the number of follow-up scans for pregnancies of uncertain viability would be reduced by 14.4%, which accounted for 11% of all follow up scans.

Conclusion

Our study showed that the finding of an amniotic sac without a live embryo on ultrasound is a reliable marker of EED and could reduce the number of follow-up scans by 11%.

Presenter

Xulin Foo

Authors

Foo X, Lukaszewski T, Balachandren N, Atik Y, Wattar B, Burt E, Khanjani S, Davies M, Mavrelos D, Yasmin E

Abstract

Background:

Covid-19 related closures of fertility services caused anxiety among women about the effects of treatment delays, especially in women with low ovarian reserve and increased reproductive age.(1) We implemented a prioritisation system for service resumption. Women whose treatments were curtailed were prioritised, as were age and ovarian reserve. Our objectives were to evaluate the impact of fertility service cessation on patients' reproductive outcomes, and the effectiveness of a screening, triaging and prioritisation plan in resuming services.

Methods:

We performed a pre-post intervention study to compare the reproductive outcomes of patients pre- and post-Covid 19 lockdown (June-August 2020 vs Aug-Sept 2019). We divided the cohort of patients into two groups (AMH<10pmol/L; AMH·10pmol/L) for analysis. All patients met the ovarian reserve criteria set by CCGs. We analysed data using descriptive statistics and compared group distributions using chi-squared test and one-way ANOVA.

Results:

We performed a total of 68 fresh cycles. The median age of women was 36 years (range 23-41 years). 57% of women receiving treatment had AMH<10pmol/L compared to 44% pre-lockdown (p=0.09). There was no significant difference in the clinical pregnancy rates (48% post-lockdown vs 61% pre-lockdown, p=0.09). 3% of cycles were cancelled due to poor response.

There was no significant difference in clinical pregnancy rates in women with AMH <10pmol/L (50% post-lockdown vs 60% pre-lockdown; p=0.2). When comparing women aged >37 years, the clinical pregnancy rates remained unchanged (40% post-lockdown vs 41% pre-lockdown; p=1.0). The miscarriage rate was unchanged (13% vs 11%; p=0.8). There were two biochemical pregnancies post-lockdown but none pre-lockdown (p=0.0006).

Conclusions:

A strategic forward plan of screening, triaging and prioritisation enabled us to successfully restore our fertility services and attenuate its impact on patients' reproductive outcomes. Despite a larger proportion of anticipated low responders, our data showed no significant differences in reproductive outcomes pre- and post-lockdown.

References:

(1) Phillip A Romanski, Pietro Bortoletto, Zev Rosenwaks, Glenn L Schattman, Delay in IVF treatment up to 180 days does not affect pregnancy outcomes in women with diminished ovarian reserve, Human Reproduction, Volume 35, Issue 7, July 2020, Pages 1630–1636.

Presenter

Zainab Al-Dabbach

Authors

Al-Dabbach Z, Panicker S, Modder J

Abstract

Background:

Significant number of women in Maternity Unit in UCLH developing pyrexia in labour, sometimes necessitating prolonged stay in the hospital with impact on maternal and fetal outcomes.

Methods:

Prospective audit of labour records on EPIC of 50 women who developed pyrexia in labour between March -May 2020 and 50 women who delivered without developing pyrexia in the same period; aim was to identify risk factors for pyrexia in labour and to compare with patients who did not develop pyrexia and thus to explore recommendations for changes in practice.

Results:

There was no difference between the two groups in terms of age or BMI, however, the majority of women who developed

pyrexia were primiparous (40/50), with IOL being associated with 22/50 cases. Of note, 18/50 patients had no associated risk factors; 11/50 women had PROM. There was a strong correlation between length of SROM and pyrexia with 40/50 patients developing pyrexia between 5-48 hours of SROM; in comparison, in the non-pyrexial group 22/50 women had delivered within 4 hours of SROM and 37/50 within 14 hours of SROM.

There was a significant difference in the number of vaginal examinations between the two groups with 38/50 women in the pyrexial group undergoing 5-11VEs and 22/50 in the non-pyrexial group undergoing less than 5 VEs. With respect to pain relief, 38/50 in the pyrexial group had epidural analgesia as against 23/50 in the non-pyrexial group; 18 women opted for no analgesia in the latter group. The rate of instrumental delivery and CS was similar in the two groups.

Conclusion:
There was 96% compliance with local standards in terms of management of sepsis and administration of IV. Suggestion for improvement was to use proforma to ensure clear documentation of aseptic precautions during VE, of antibiotics use and discussion with microbiology.

Medical Student Prize Talk

The Neuroprotective Effects of Curcumin Following Hypoxic-Ischemic Brain Injury in the P9 Neonatal Mouse Model

Ishrat Hussain (Medical Student, Maternal & Fetal Medicine)

Neonatal hypoxia-ischaemia (HI) is caused by a shortage of oxygen and inadequate perfusion of the brain. It is associated with neurological morbidities such as cerebral palsy and epilepsy and greatly contributes to infant mortality rates. Currently, gold-standard treatment is controlled therapeutic hypothermia. However, this therapy has a narrow therapeutic window, is largely inaccessible in developing countries and is not always effective. Therefore, the development of new therapies is vital. Curcumin is a natural phenol which has been widely studied for its antioxidant, anti-inflammatory and free-radical scavenging properties making it a strong contender as a pharmaceutical intervention against HI. Previous study into the neuroprotective effects of curcumin in postnatal day 7 (P7) mice determined that a dose of 200μg/g body-weight (BW) significantly reduced levels of neuronal tissue loss following HI. However, neurodevelopment in P7 mice is only comparable to slightly pre-term infants.

This study aimed to investigate whether a 200μg/g BW intraperitoneal injection of curcumin following HI is neuroprotective in the P9 mouse model which is more neurodevelopmentally similar to a full-term infant. Nissl staining for tissue loss was carried out in 37 mice subjected to HI: 13 mice received curcumin, 12 received DMSO and 12 received no treatment.

Our results demonstrated that a 200μg/g BW dose of intraperitoneal curcumin immediately following induced HI significantly reduced tissue loss in the cortex, pyriform cortex, thalamus and hippocampus compared to HI control littermates. Our results also show that DMSO had no effect in producing this outcome.

Overall this study demonstrates that curcumin is a strong candidate as a new treatment following HI in full-term infants and supports further testing.

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