

Extending horizons in perinatal medicine

Fourth Swansea Perinatal Symposium (SWAPS 2018), Swansea, 18 May 2018

Delegates from neonatal, paediatric, obstetric and midwifery disciplines gathered together at the Liberty Stadium in Swansea for the fourth Swansea Perinatal Symposium (SWAPS). Building on its success over the past few years, the conference extended its horizons beyond the UK this year to include distinguished speakers from Europe and the USA. Staying true to its aim of providing high quality but affordable educational opportunities, the symposium offered delegates an extended plenary session, break-out sessions in neonatology and obstetrics as well as a scientific forum for poster and oral presentations.

Plenary session 1

Professor Lucy Chappell, Research Professor in Obstetrics at the National Institute for Health Research and Consultant Obstetrician from King's College London, explored recent progress in our understanding, early diagnosis and management of pre-eclampsic toxemia (PET). She focused on the changing definitions of PET that now include *de novo* hypertension in pregnancy even in the absence of proteinuria when accompanied by evidence of organ dysfunction (renal, neurological or haematological) and/or fetal growth restriction. She described the promising role of placental insulin-like growth factor (PLGF) as a diagnostic biomarker of PET and how it could be used in the risk stratification and subsequent management pathway. Including PLGF in the management pathway reduced adverse maternal outcomes with no subsequent consequence on the fetus. She discussed her involvement in the Phoenix trial that randomises women with PET between 34-37 weeks' gestation to either a planned delivery within 48 hours or expectant monitoring until 37 weeks. Recruitment for this trial is ongoing and results are eagerly anticipated to balance the risk of late preterm delivery with that of an ongoing PET in pregnancy.

Professor Tim Draycott, Consultant

Obstetrician from Southmead Hospital, Bristol, brought the audience to their feet with his humour and quick wit in his talk entitled *Multidisciplinary training to improve outcomes – learning from teamwork*. He described the unsustainable rise in maternity negligence claims costing the NHS £85 million per week, equivalent to the cost of running a small hospital for a year or 4.5 times the cost of employing all midwives required in England. He believed that effective and sustainable multidisciplinary training with teams 'working together' using 'local systems' and using the 'right fidelity' models can reduce harm to the mother and the baby. He presented data that showed that the introduction of the PRactical Obstetric Multi-Professional Training (PROMPT) initiative in Bristol had resulted in dramatic reduction in birth injuries, hypoxic-ischaemic encephalopathy and maternity litigation costs. Similar outcomes have been replicated in different healthcare settings and countries.

Plenary session 2

Professor Karen Puopolo, Associate Professor of Clinical Paediatrics at Perlman School of Medicine, and Medical Director, CHOP Newborn Care at Pennsylvania Hospital, USA, was the first speaker of the second plenary session. She highlighted the increasing use of antibiotics in term and near-term infants for screening and management of early onset neonatal sepsis (EONS), a disease with relatively low incidence (0.5/1,000 live births) but serious consequences. The indiscriminate use of antibiotics is not without consequence with reports of rising microbial resistance and associations with short- and long-term diseases such as late onset sepsis, necrotising enterocolitis, obesity, type 2 diabetes and inflammatory bowel disease. The challenge for clinicians is to design a model that could safely evaluate fewer infants at risk of sepsis while ensuring that it captures those who truly go on to develop EONS. She described the research undertaken by the Kaiser Permanente group in California



Dr Aoife Owens with conference organisers Dr Sujoy Banerjee and Dr Geraint Morris.



Dr Pippa Kyle discussing perinatal medicolegal claims.

that led to the development of the sepsis risk calculator (SRC). The SRC is based on the Bayesian approach and uses a multivariate analysis of maternal risk factors of EONS at birth and subsequently incorporates data on the state of infant wellbeing. The implementation of the SRC in different centres across the USA has resulted in >50% reduction in antibiotic use in EONS without compromising the detection of true culture-positive sepsis. The talk generated lively discussions in the

audience on the pros and cons of implementing the SRC to the UK population.

The final talk of the pre-lunch session was by Professor Craig White, Divisional Clinical Lead, The Quality Unit, Scottish Government. He discussed the challenges faced by the NHS in Scotland with large differences in life expectancies reported within populations and in different areas of the same city. He described a variety of programmes and national initiatives aimed at promoting positive change. This has required frontline practitioners to lead innovation and improve quality through a wide range of improvement programmes and leadership courses. Scotland has also promoted the 'patient's voice' through improvements in choice and quality of outlets for patients to discuss their experiences and for these to be acted upon. He touched upon clinicians' duty of candour and how this could lead to better engagement and trust of users in healthcare services. These initiatives have shown a positive impact across all disciplines of healthcare and improved patient experience in Scotland.

Plenary session 3

In the post-lunch session, Professor Jason Gardosi from the Perinatal Institute in Birmingham described the Growth Assessment Protocol programme. The Perinatal Institute provides tools for assessment of fetal growth and birth weight by defining each pregnancy's growth potential through the Gestation Related Optimal Weight (GROW) software. GROW charts are customised fetal growth charts that take into account several maternal parameters including height, weight and ethnicity to identify women who qualify for enhanced fetal surveillance using ultrasound. The programme has resulted in significant improvements in stillbirth rates across the midlands and is being rolled out to most regions of the UK including Wales. Its use in the neonatal population to screen babies at risk of true hypoglycaemia is being piloted.

The post-lunch session concluded with a podium presentation for the best abstract awarded to Dr Laura Price from Singleton Hospital. She described a joint perinatal quality improvement initiative that had improved compliance of antenatal magnesium sulphate administration for high-risk preterm births from 36-88%. The best poster prize went to Dr Aoife Owens for her poster on the use of YouTube videos

to offer NHS staff catch up and remote access to local educational programmes; important for staff working in a shift pattern.

Neonatal break-out session

Professor Gunnar Naulaers, Consultant Neonatologist from Leuven University Hospital in Belgium, discussed the use of near infrared spectroscopy (NIRS) in neonatal practice. An analysis of peripheral and cerebral oxygen saturation can provide the clinician with an assessment of cerebral blood flow and autoregulation. He discussed how a variety of factors such as blood pressure, heart rate, partial pressures of carbon dioxide and oxygen, patent ductus arteriosus and medications affect brain circulation and oxygenation. A careful analysis guides rational management of hypotension, hypocapnia and conditions such as persistent pulmonary hypertension of the newborn and cardiac disorders. NIRS information may also be helpful in medicolegal cases.

In the final neonatal session, Professor Karen Puopolo expertly summarised the evidence behind the usefulness of commonly used laboratory parameters in the diagnosis of EONS. She emphasised that modern paediatric blood culture systems have been optimised and can be trusted to detect even low level bacteraemia as long as an optimum volume of blood is incubated (1-3mL). At least 94% of the pathogens are detected within 36 hours and maternal antibiotics do not influence the result of the infant blood culture. Recent studies have shown that neither full blood count nor C-reactive protein (CRP) have the desired sensitivity, specificity, positive and negative predictive values to be used



Professor Gunnar Naulaers speaking about the use of near infrared spectroscopy in neonatal practice.



Dr Aoife Owens, winner of best poster presentation, and Dr Laura Price, winner of the best abstract for oral presentation.

alone to make decisions regarding management of EONS. Multiple non-infectious inflammatory factors influence the value of white blood count and CRP around the time of birth. They are particularly unhelpful in assessing risk among term infants that appear well whose prior probability of EONS is relatively low. Serial CRPs may perform better for late onset sepsis.

Obstetric break-out session

Professor Catherine Williamson of King's College London discussed the range of conditions that can lead to liver disease during pregnancy including PET (49%), HELLP (haemolysis, elevated liver enzymes, low platelets) syndrome (22%), intra-hepatic cholestasis (17%) and viral infections. She emphasised the importance of distinguishing these from acute fatty liver of pregnancy (AFLP). Although AFLP is rare, it is life threatening with at least one maternal death reported every year in the UK. Interestingly, the Swansea criteria – a set of standard diagnostic criteria for the diagnosis of AFLP – are now recognised and validated across the globe. She discussed her involvement in the PITCHES trial, a multicentre randomised controlled trial of ursodeoxycholic acid vs placebo in women with intrahepatic cholestasis of pregnancy to evaluate adverse pregnancy outcomes. She also discussed the possibility of underlying biliary transport gene mutations in liver disease. They occur more frequently in women with early presen-

tation, high bile acid levels and those with biliary symptoms outside of pregnancy. Intrahepatic cholestasis also increases risk of respiratory distress syndrome in neonates and later obesity and insulin resistance.

Dr Pippa Kyle, Consultant Obstetrician and Subspecialist in Maternal and Fetal Medicine (formerly at Guy's and St Thomas Hospitals and Christchurch Women's Hospital, New Zealand) explored the current issues related to perinatal medico-legal claims. This constitutes nearly half of all clinical negligence claims in the NHS. Cerebral palsy is the highest payout category due to the need for lifetime support and its effect on families and relationships. She argued that cerebral palsy may be harder to prevent due to multiple aetiological factors. In contrast, neonatal hypoxic-ischaemic encephalopathy is much

more tangible and easier to assess due to international consensus definitions. She highlighted the general assumption that all term deliveries should have good outcomes while the guidance and standards of care are less clear for preterm births. She described the process of how claims are assessed. The claimant must prove that there exists a direct causal link between any breach of duty and resultant pain, suffering, harm or loss of function. The liability is decided on a balance of probabilities >50%. The breach of duty may not be the sole cause but should at least materially contribute to the outcome. It is now more common for higher claim values to be settled with a lump sum in addition to annual periodic payments for life. She also discussed alternative approaches to settle claims for clinical negligence including the approach of no-fault compensation

adopted widely in New Zealand, fixed tariffs for specific injuries and structured payout. These approaches reduce legal and administration costs and offset the greater number of claimants that are dealt with more promptly.

The fourth Swansea Perinatal Symposium was attended by 225 delegates and 16 commercial exhibitors, highlighting the growing enthusiasm around this conference. The fifth Swansea Perinatal Symposium is provisionally scheduled for 2 May 2019.

By Laura Price

ST1 Paediatrics

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REaSoN 2018 neonatal meeting

The REaSoN 2018 neonatal meeting attracted an influential gathering of over 400 neonatal professionals dedicated to facilitating and improving health care for newborn babies and their families. Held at the University of Warwick on 2-3 July, the two-day conference and exhibition covered hot topics in neonatology through lectures, discussion, debates and networking opportunities. Topics included nasal high

flow, breast milk fortification, less invasive surfactant administration, family-centred care, guidelines for hypoglycaemia, and necrotising enterocolitis.

The poster and oral presentation competitions, which encourage the sharing of forward-looking research among the neonatal community, received many excellent entries. Congratulations go to this year's winners – Dr Lauren Young for Best

Oral Presentation and the NeoPremQI project team at Great Western Hospital for the Best Poster prize.

Conference organiser CFS Events would like to thank all of the sponsors and, in particular, platinum sponsors Chiesi, Fisher & Paykel Healthcare and Inspiration Healthcare.

For more information visit www.reasonmeeting.co.uk



Consultant neonatologist Dr Kevin Ives welcomes delegates and introduces the two-day programme.



Nick Connolly of Fisher & Paykel Healthcare presents the award for Best Oral Presentation to Dr Lauren Young for her talk on nutrient-enriched formula for preterm infants following hospital discharge.



REaSoN
Neonatal Meeting

1st – 2nd July
2019

**University of Warwick,
Coventry, UK**

www.reasonmeeting.co.uk