PL.20 PERINEAL ASSESSMENT AND REPAIR E-LEARNING SYSTEM (EPEARLS): AN E-LEARNING TRAINING PACKAGE TO IMPROVE CLINICAL MANAGEMENT OF PERINEAL TRAUMA FOLLOWING BIRTH

doi:10.1136/archdischild-2013-303966.204

1A Mahmud, 2C Kettle, 3D Bick, 4C Rowley, 5T Rathod, 6J Belcher, 7M Abdelmaguid, 8K Ismail. 1Birmingham Women’s Hospital NHS Foundation Trust, Birmingham, UK; 2Staffordshire University, Stafford, UK; 3Keele University, Staffordshire, UK; 4Kings College London, London, UK; 5University of Birmingham, Birmingham, UK

Background Birth related perineal trauma can have a major impact on women’s health. The correct assessment and repair of perineal injuries is procedures that require knowledge and skill. Currently, there is no agreement as to what constitutes an effective training programme. We produced and tested an interactive distance learning multi-professional training package called ePEARLS. This was developed as a tool for the delivery and assessment of perineal repair training in line with UK evidence based practice.

Methods The main aim of this project was to develop, refine and assess ePEARLS as a tool for the assimilation of knowledge and skill to clinicians involved in Intrapartum care. Using pre and post-training objective assessments for both knowledge and skill, we compared the effect of delivering training using ePEARLS compared to other training models. The potential cost effectiveness of this package makes it far superior to other methods of delivering training and maintaining competency.

PL.21 DELIVERY OUTCOMES FOR NULLIPAROUS WOMEN AT THE EXTREMES OF MATERNAL AGE – A COHORT STUDY

doi:10.1136/archdischild-2013-303966.205

1DA Vaughan, 2B Cleary, 3DJ Murphy, 4The Rotunda Hospital, Dublin, Ireland; 5The Coombe Women and Infants University Hospital, Dublin, Ireland; 6Trinity College Dublin, Dublin, Ireland; 7The Royal College of Surgeons in Ireland, Dublin, Ireland

Objective To examine the associations between extremes of maternal age (≤ 17 years or ≥ 40 years) and delivery outcomes.

Design Retrospective cohort study.

Setting Urban maternity hospital in Ireland.

Population A total of 36,916 nulliparous women with singleton pregnancies who delivered between 2000 and 2011.

Methods The study population was subdivided into five maternal age groups based on age at first booking visit: ≤ 17 years, 18–19 years, 20–34 years, 35–39 years and women aged ≥ 40 years. Logistic regression analyses were performed to examine the associations between extremes of maternal age and delivery outcomes, adjusting for potential confounding factors.

Main Outcome Measures Preterm birth, low birth weight, admission to the neonatal unit, congenital anomaly, caesarean section.

Results Compared to maternal age 20–34 years, age ≤ 17 years was a risk factor for preterm birth (adjOR 1.83, 95% CI 1.33–2.52). Babies born to mothers ≥ 40 years were more likely to require...
admission to the neonatal unit (adjOR 1.35, 95% CI 1.06–1.72) and to have a congenital anomaly (adjOR 1.71, 95% CI 1.07–2.76). The overall caesarean section rate in nulliparous women was 23.9% with marked differences at the extremes of maternal age; 10.7% at age ≤ 17 years, adjOR 0.46 (95% CI 0.34–0.62) and 54.4% at age ≥ 40 years, adjOR 3.24 (95% CI 2.67–3.94).

Conclusions Extreme of maternal age need to be recognised as risk factors for adverse delivery outcomes. Low caesarean section rates in younger women suggest that a reduction in overall caesarean section rates may be possible.

### Abstracts

#### PL22 LACTATE CLEARANCE AND OUTCOME IN NEONATES COOLED FOR HYPOTHYMIC ISCHAEMIC ENCEPHALOPATHY

doi:10.1136/archdischild-2013-303966.206

1RE Musson, 1SJ Clark, 2R Kachroo, 1S Didier, 1M Smith. 1Sheffield Teaching Hospitals NHS Foundation Trust, Sheffield, UK; 2Queen Alexandra Hospital, Portsmouth, UK

Aims To investigate the clearance of blood lactate level in neonates undergoing whole body cooling for hypothermic ischaemic encephalopathy (HIE) related to their outcome.

Methods Retrospective case note review of infants receiving whole body cooling at a tertiary neonatal centre with outcome data enabling grouping into normal or abnormal neurological examination, or death, at follow up. Blood lactate measurements taken at 6, 12, 18, 24, 48 and 72 hours were compared across the outcome groups. Data is given as median (± interquartile range).

Results 61 infants were identified with birth weight 3.31 (2.77–3.55) kilogrammes, gestation 39 (38–40) completed weeks, ten minute Apgar score of 5 (2–6) and arterial cord pH 6.95 (6.82–7.08). 13 infants died, 14 had abnormal and 34 normal neurological follow up at last examination.

Kruskal-Wallis test demonstrated significant differences in blood lactate between the three outcome groups at 6, 12, 18, 24, 48 and 72 hours:

<table>
<thead>
<tr>
<th>Time</th>
<th>Outcome</th>
<th>Median lactate mmol/L</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Normal</td>
<td>7.4* 4.3* 4.4* 3.1* 2.3 1.9* 1.4* 1.7</td>
</tr>
<tr>
<td></td>
<td>Abnormal</td>
<td>6.7 5.2** 5.6 4.8 3.4 3.0 2.6*** 2.0</td>
</tr>
<tr>
<td></td>
<td>Death</td>
<td>13.5 10.4 7.7 4.3 3.9 4.2 4.6 2.0</td>
</tr>
</tbody>
</table>

Using Mann Whitney U test: *p < 0.03 compared to those who died, **p < 0.02 compared to those who died, ***p < 0.02 compared to those who had a normal outcome.

Conclusions In this preliminary study blood lactate measurement shows statistically significant differences for neonatal outcome in terms of death, abnormal or normal examination. This may aid prognostication in infants suffering HIE, and help determine further management.

#### PL23 USE OF QUANTITATIVE FETAL FIBRONECTIN MAY IMPROVE RISK ASSESSMENT IN SYMPTOMATIC WOMEN AT RISK OF PRETERM BIRTH

doi:10.1136/archdischild-2013-303966.207

1H Browne, H Jassell, A Dhanji, E Bonney, N Simpson. 1Leeds General Infirmary, Leeds, UK; 2Leeds Medical School, Leeds, UK

Background The presence of raised fetal fibronectin (fFN) levels in cervicovaginal secretions between 24–34 weeks gestation is associated with an increased risk of spontaneous preterm birth in symptomatic women. Recent developments in testing now enable a quantitative level to be derived. Currently, a level of 250 µmol/l is considered a positive test result. Presently, there is no data to guide clinicians as to which levels signify greater or lesser risk of imminent delivery.

Method This retrospective study was undertaken within Leeds Teaching Hospitals Trust. All fFN tests undertaken in the Maternity Assessment Unit between August 2010 and July 2012 were ascertained, and pregnancy outcomes were collated. 303 results had adequate data to allow analysis and 97 of these included quantitative fFN levels.

Results The overall sensitivity of the test in predicting delivery within 14 days of the test was 64.3%, with a positive predictive value of 17.3%. The specificity of the test was 85.1%, with a negative predictive value (NPV) of 98.0%. The test was more reliable when used in gestations ≤ 29 weeks when compared to those ≥ 30 weeks as higher values were obtained for specificity and sensitivity; 85.8% and 100% respectively. When examining the quantitative data, the percentage of ladies who delivered within 14 days from the test was 5% if fFN levels were between 0–19, 20% (20–49), 0% (50–199), 20% (200–499) and 100% (≥500).

Conclusion Knowledge of quantitative fFN levels may enable more accurate risk assessment of symptomatic women at risk of preterm birth, and inform follow-up pathways.

#### Abstract PL22 Table 1

<table>
<thead>
<tr>
<th>Time</th>
<th>Outcome</th>
<th>Median lactate mmol/L</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Normal</td>
<td>7.4* 4.3* 4.4* 3.1* 2.3 1.9* 1.4* 1.7</td>
</tr>
<tr>
<td></td>
<td>Abnormal</td>
<td>6.7 5.2** 5.6 4.8 3.4 3.0 2.6*** 2.0</td>
</tr>
<tr>
<td></td>
<td>Death</td>
<td>13.5 10.4 7.7 4.3 3.9 4.2 4.6 2.0</td>
</tr>
</tbody>
</table>

Using Mann Whitney U test: *p < 0.03 compared to those who died, **p < 0.02 compared to those who died, ***p < 0.02 compared to those who had a normal outcome.

#### PL24 DO BIRTH PLACE DECISIONS CHANGE OVER A WOMAN’S childbearing CAREER?

doi:10.1136/archdischild-2013-303966.208

1K Coxon, 1J Sandall, 2N Fulop. 1King’s College London, London, UK; 2University College London, London, UK

In England, most women give birth in hospital obstetric units (OUs). First births usually occur in an OU, and women are thought more likely to opt for a different place of birth in subsequent pregnancies, especially if their first births are straightforward. However, this assumption is not based on evidence, because few studies explore the impact of birth on future birth place intentions.

This NIHR-funded research used a longitudinal, narrative design; 41 women with mixed parity and clinical risk profiles were recruited, using a maximum variation sampling strategy, and 113 interviews were conducted during pregnancy, birth and the early postnatal period. Longitudinal data analysis explored the influence of events during birth upon women’s future birth place intentions.

Planned place of birth, willingness to consider different settings and the timing of birth place decisions all differed by parity. Most women who intended to give birth in hospital did so; following birth, they would usually do the same in future, even if their births were straightforward. Women who planned birth in non-hospital settings were less likely to achieve this, especially during first pregnancies, but usually wanted to achieve non-hospital birth in the future.

These findings raise questions about the effect of birth place decisions made during one pregnancy upon women’s subsequent childbearing careers, and have implications for the sustainability of options other than obstetrician-led units. When balancing risks and benefits of OU birth in one pregnancy, it is important to consider the impact this experience might have on women’s future birth place decisions.

#### Abstracts

#### PL25 PRENATAL DIAGNOSIS OF CONGENITAL HEART DISEASE: EFFECT ON LABOUR PROGRESS AND MODE OF DELIVERY

doi:10.1136/archdischild-2013-303966.209

1A McTiernan, S Farrell, CA Walsh, C Mulcahy, C McMahon, FM McAuliffe. Medical Student, University College Dublin School of Medicine and Medical Sciences, Dublin, Ireland; ‘Fetal Medicine Unit, National Maternity Hospital, Dublin, Ireland; ‘Department of Paediatric Cardiology, Our Lady’s Hospital for Sick Children, Dublin, Ireland, ‘University College Dublin School of Medicine and Medical Sciences, Dublin, Ireland