Abstracts

Introduction Preterm babies are often discharged around 35 weeks gestation at a time of rapid growth and immature feeding patterns. This puts them at risk of growth failure. If they are discharged breast feeding they are often given formula top ups to aid growth. An alternative is to continue with some breast milk fortification (BMF); however it is not known whether this may also interfere with breast feeding success.

Method Records of all babies <35 weeks at birth send home on BMF during 2009–2012 inclusive were reviewed and prevalence of any breast feeding at 6 weeks corrected compared with babies sent home breast feeding alone. All babies received iron and vitamins.

Results Of the 32 babies discharged on BMF 63% were still breast feeding at 6 weeks corrected. Of the 120 babies discharged without BMF 45% were still breast feeding.

Conclusion Use of BMF post discharge may help prolong breast feeding in preterm babies, further work is needed to evaluate this intervention.

PC.36 DEVELOPMENT OF REGIONAL, POINT OF CARE, MULTI-DISCIPLINARY, HIGH FIDELITY NEONATAL SIMULATION PROGRAMMES IN THE UK

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Introduction We describe an innovative hub and spoke approach to instructor training for high fidelity point of care neonatal simulation. Efficacy, regional funding and sustainability issues are considered.

Methods The Leicester Neonatal Simulation Programme started in 2007; a 2 day instructor course covering designing and running local, point of care, high fidelity, neonatal simulation programmes commenced in 2010. Successful instructor training in the Trent region led to other regions commissioning training. This enhanced development of local neonatal simulation programmes. Funding was from innovation grants, charitable funds and Deaneries; approaches to regional coordination vary.

Results The Leicester team has trained 230 instructors from several UK neonatal networks with extremely positive feedback (overall course approval score 98%). Senior multi-disciplinary staff from >60 hospitals have been trained and run programmes for their local neonatal services. A review of 203 participants in Leicester and 255 in the East of England programme found similar outcomes with reported improved team working (93% vs. 92%), improved communication with colleagues in critical situations (92% vs. 96%) and improved recognition of a sick infant (87% vs. 80%). A wide range of human factors were consistently reported as team derived learning points. Both regions found reduced participant anxiety with repeated simulation sessions.

Conclusions Centralised high fidelity simulation instructor training to facilitate local point of care simulation has resulted in widespread dissemination of neonatal simulation training across the UK. This multidisciplinary approach and equity of access meets key recommendations of the UK DoH framework for technology enhanced learning.

REFERENCES


PC.37 AUDIT OF THE INCIDENCE OF USE, AND OF INFANT OUTCOMES FOLLOWING THERAPEUTIC HYPOTHERMIA FOR NEONATAL ENCEPHALOPATHY IN NHS GREATER GLASGOW AND CLYDE (GG&C) FROM JANUARY 2008 TO DECEMBER 2010

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Introduction Neonatal hypoxic-ischaemic encephalopathy (HIE) is the most common cause of neurological deficit in near-term infants. It is estimated to affect 2–3 neonates per 1000 live births. Controlled hypothermia can improve neonatal outcomes. The therapy has been available within tertiary level Neonatal Units in NHS GG&C subsequently to the seminal UK randomised controlled trial of its use.

Aims To identify all neonates who underwent ‘cooling’ within GG&C over a 3 year period and assess clinical outcome up to 24 months.

Methods Neonates treated with cooling were identified retrospectively from the TOBY register and unit neonatal data. Case records were audited for management and outcome data.

Results Of 42,000 live births delivered 29 neonates were identified as having received cooling, 26 were born within GG&C. The incidence of cooling steadily increased from 0.4/1000 in 2008 to 1/1000 in 2010. All neonates cooled were born ≥35 weeks. Four infants had recognised ‘cooling’ complications. Eight neonates died, all within the neonatal period. Of the surviving infants, five demonstrated severe disability and two moderate disability as classified by Shankran et al., twelve had no disability at discharge from follow-up. Information was not available for two survivors.

Conclusion The incidence of therapeutic cooling increased through the study period. Use of this therapy will increase further following recent NICE guidelines (2010). Good clinical outcomes can be rescued but a significant number of infants have neurodevelopmental delay. Comprehensive, standardised follow-up of all cooled infants should be offered as a local standard of care.

REFERENCES


PC.38 THE WESSEX-OXFORD NEONATAL EDUCATION PROGRAMME – ‘MULTIPROFESSIONAL EDUCATION TO LAY THE FOUNDATIONS FOR TOMORROWS NEONATOLOGISTS’

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Background Neonatal trainees have nationally reported that existing paediatric programmes did not cover the existing level 3 curriculum or prepare adequately for the consultant role.
Aim Development of a curriculum mapped nationally reproducible framework incorporating clinical and non-clinical modules, simulation and technology enhanced learning.

Methods A quorum of neonatologists, with trainees as the lead drivers have developed the Wessex-Oxford Neonatal Education Programme. WONEP includes a website, and 12 curriculum mapped modules rotating between Wessex and Oxford. The programme covers clinical modules, as well as ethics, management, research methodology, and bereavement.

Results 10 sessions have been delivered over 2 years with a mix of teaching methods including lectures, multidisciplinary simulation and workshops covering clinical and non-clinical elements. Initial sessions were attended by neonatal trainees with increasing attendance by network consultants, midwives, nurses and nurse practitioners as the programme has evolved. 93 feedback forms show 100% of attendees agree the content was relevant to their training. 97% agree the sessions were high quality and 92% agreed it was relevant to their practice.

Conclusion WONEP demonstrates how empowering trainees to assess their needs can result in curriculum mapping and delivery of high quality education covering relevant competencies. The use of simulation, and technology enhanced learning has encouraged more multidisciplinary participation and human factors training allowing simulation, and technology enhanced learning has encouraged more high quality education covering relevant competencies. The use of simulation, and technology enhanced learning has encouraged more multiprofessional teams who train separately to learn together. WONEP serves as a national model of how individuals involved in neonatal care from varying backgrounds can have a combined approach to delivery of education to achieve higher standards in neonatal care.

REFERENCE

PC.39 RELIABILITY OF MYOCARDIAL PERFORMANCE ASSESSMENT IN PRETERM INFANTS USING STRAIN AND STRAIN RATE: A COMPARISON BETWEEN LEFT VENTRICULAR, SEPTAL AND RIGHT VENTRICULAR WALLS

Abstract PC.39 Table

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<th>Mean (SD)</th>
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<th>Intra-ob ICC</th>
<th>Inter-ob bias Mean (SD)</th>
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<td>Strain (%)</td>
<td>3.4 (1.0)</td>
<td>0.26 (0.59)</td>
<td>0.92</td>
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Objective To assess the reliability of longitudinal strain (LS) and strain rate (SR) in the very low birth weight infants.

Design/Methods LS and SR were measured in infants less than 28 weeks corrected gestational age using colour tissue Doppler at the mid segment of the LV free wall, the intra-ventricular septum and RV free wall from the apical 4-chamber view. Intra and inter-observer reliability was assessed using intra class correlation coefficient (ICC) and Bland-Altman Analysis.

Results 48 infants with a mean (SD) gestation and birth weight of 26.9(1.3) weeks and 959(230) grams underwent an echocardiogram at 11(5) hours of life. The RV and septal walls demonstrated superior bias and agreement when compared to the LV free wall.

Conclusions Assessment of LS and SR in preterm infants using colour tissue Doppler is feasible with the RV and septal wall providing better reliability results. Further study of those parameters in preterm disease states is warranted.

PC.40 ASSESSMENT OF MYOCARDIAL PERFORMANCE USING NOVEL ECHOCARDIOGRAPHY MARKERS IN INFANTS LESS THAN 29 WEEKS GESTATION DURING THE TRANSITIONAL PERIOD

Aim To assess the reliability of longitudinal strain (LS) and strain rate (SR) in the very low birth weight infants.

Design/Methods LS and SR were measured in infants less than 28 weeks corrected gestational age using colour tissue Doppler at the mid segment of the LV free wall, the intra-ventricular septum and RV free wall from the apical 4-chamber view. Intra and inter-observer reliability was assessed using intra class correlation coefficient (ICC) and Bland-Altman Analysis.

Introduction Physiological changes of the preterm heart during the transitioning period are a challenging area to assess. Colour Tissue Doppler derived longitudinal strain (LS) and strain rate (SR) as well as tricuspid annulus plane systolic excursion (TAPSE) and fractional area change (FAC) are novel echocardiographic techniques for the assessment of left (LV) and Right (RV) ventricular function. We aimed to assess the feasibility and reliability of measuring these indices in preterm infants less than 29 weeks gestation during the transitioning period.

Methods A prospective study was conducted on 54 preterm infants, with a mean (SD) gestation and birth weight of 26.7 (1.4) weeks and 954 (231) grams. LS, SR, conventional markers and novel RV markers were measured at a mean of 10 and 45 h
PC.38 The Wessex-Oxford Neonatal Education Programme – 'multiprofessional education to lay the foundations for tomorrows neonatologists'

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