

And the winners are...

REaSoN



Prize winning presentations from REaSoN 2019 examined perinatal post mortem consent training, stability of noradrenaline infusions in the NICU, unintended extubation and reducing central line associated blood stream infections.

The REaSoN neonatal conference continues to be one of the largest neonatology events in the UK calendar. Bringing together over 400 neonatal multidisciplinary healthcare professionals, the 25th anniversary meeting delivered dedicated sessions covering current research evidence, quality improvement (QI), nursing, ethics, and key 'hot topics' for staff working in neonatal units today.

Delegates attending the conference were invited to submit abstracts of new findings and original observations as poster presentations. From the main poster display, four abstracts were chosen for oral presentation at the conference and a further three were selected for inclusion in the QI session (**TABLE 1**).

Some excellent entries were received – well done to all of the authors and presenters for their amazing efforts and congratulations to this year's winners.



Title	Authors	
Oral presentations (sponsored by Fisher & Paykel)		
A new approach to perinatal post mortem consent training	Asha Shenvi, Jo Cookson, Hannah Wood	Prize winning oral presentation
Cumulative outcomes of extreme prematurity over a five-year period from a tertiary neonatal unit – are they better than Epicure 2?	Anna Darbyshire, Heather McMurchie, Alison Keeling-Smith, Pinki Surana	
Routine use of inhaled budesonide reduces BPD and home oxygen use in preterm babies	Magdalena Fuller, Vennila Ponnusamy, Peter Reynolds, Claire Slater	
A UK survey of sedation and treatment methods used in ROP	Julia Arthur, Louise Allen	
Poster presentations (sponsored by Fisher & Paykel)		
A 24-hour stability study of noradrenaline infusions in the simulated NICU environment	Lisa Kaiser, Heike Rabe, Bhavik Patel	Prize winning poster
BAPM framework on central venous catheters in neonates – is it pragmatic?	Pinki Surana, Ruth Pitt, Vikki Fradd	
Can we reduce neonatal admissions due to jaundice?	Sonal Datir, Gopa Sarkar	
Changing profile of culture positive sepsis in a tertiary neonatal unit	Katrina Harrison, Julie Fletcher, Vennila Ponnusamy	
Development of discharge criteria for neonatal transitional care at South Tees NHS Foundation Trust	Sian Oldham, Alison Stewart, Vrinda Nair	
Early extubation success in extremely preterm infants – a tertiary neonatal unit experience	Amelia Shaw, Aishin Lok	
Exomphalos: nine-year experience of a tertiary neonatal intensive care unit	Sarah Williamson, Louise Lawrence, Shree Vishna Rasiah	
Expressed breast milk on the neonatal unit – when do mothers stop expressing and how we are promoting sharing of good practice	Claire Blythe, Elizabeth Pilling	
Group B streptococcal sepsis: experience of one tertiary neonatal unit. A 12-year review	Nicola McMullan, Cora Hiatt, Puneet Nath	
How effective is Helping Babies Breathe training for practitioners delivering babies in non-facility settings?	Grace Mupanemunda	
How low is too low? Neonatal morbidity, mortality and short-term health outcomes for term infants born with arterial cord pH 7.0-7.1	Thomas Munro, Alice Shiner, Rose Marion, Sarah Bates	

Implementing a birthday cuddle is safe and enjoyed by parents and staff alike	Magdalena Fuller, Filomena Mayra A. Leitao, Peter Reynolds
Is fluid bolus therapy effective in the management of circulatory failure in the early life period of VLBW preterm infants?	Camilla Menis, Alexandra Scrivens, Sanja Zivanovic, Margherita Lazzarini, Paola Roggero, Fabio Mosca, Charles Christoph Roehr
Lipid overdose in a preterm neonate: lessons learnt from medication error	Sonal Datir, Charlotte Sewsarran, Gopa Sarkar
Lying or sitting lumbar punctures – what do nurses think?	Alexandra Scrivens, Andrew Marshall, Rhea Navani, Charlotte Bannink, Charles Roehr
Neurodevelopmental outcomes of infants born at <32 weeks' gestation or birth weight <1,500g in a single-centre level 3 neonatal unit	Rachel Panniker, Christina Manea, Vennila Ponnusamy
Productive and cost-effective neonatal outreach services at Great Western Hospital, Swindon	Keshava Girish Gowda, Catherine Neate, Nikki Taylor, Steph Penny, Rachel Skyes, Gemma Texeira
The correlation between early general movement assessment and two-year neurodevelopmental outcome in high risk preterm infants	Anneli Allman, Debbie Paris
Management of NEC in a tertiary neonatal surgical unit: a multidisciplinary team approach to improve standards of care	Julia Arthur, Shazia Hoodbhoy, Claire Jackson
Quality improvement oral presentations	
Reducing unintended extubation in a tertiary neonatal intensive care unit: a QI initiative	Helena Smith, Vrinda Nair
Postnatal management of hypoglycaemia – a work in progress	Sumaiya Mohamed Cassim, Wendy Ramsay, Deepa Varghese, AnneMarie Bruce, Gillian Reid, Satyajit Ray, Andrew Brodie, Sarah Cleary, Gemma O'Reilly
Get SET: optimising temperature management in preterm infants (<32 weeks' gestation)	Maria Isabella Duggan, Joyce O'Shea, Colin Peters, Anne Marie Heuchan
Quality improvement poster presentations	
Challenges in reducing central line associated blood stream infections in a tertiary neonatal unit – an ongoing QI project	Asma Yasmeen, Joan McCaffer, Brian Jones, Chris Lilley
Central line sepsis: a QI project	Rowena Craig, Simon Pirie, Michelle Grant
Beads of courage and end of treatment bell within the neonatal unit	Danielle Roberts, Erin Lee
Implementation of a novel nurse-managed prolonged jaundice clinic improved service efficiency, patient experience, and continuity of care	Rosie Anderson, Ruchira Perera, Gopa Sarkar
Improving hypothermia in preterm infants at admission to a tertiary neonatal unit – a QI project	Caroline Woolley, Gurpreet Sunsoay, Danika Simkins, Rachel O'Sullivan, Laura Gilbert, Pinki Surana
Improving the care of babies at risk of neonatal hypoglycaemia	Keshava Girish Gowda, Christina Rattigan, Karin Jones, Julie Herring
Integrated transitional care facility with both midwifery and neonatal input – a QI project	Rashmi Mehta, Pinki Surana, Amy Walker, Katy Pettit
Look after yourself and your colleagues – steps to formalise the debriefing process on the NICU	Elke Reunis, Rashmi Mehta, Harsha Gowda, Imogen Storey
National CQUIN programme to improve two-year neurodevelopmental follow up rates in extreme preterm infants (2016-2018)	Vennila Ponnusamy, Katherine Gumbs
Neo-train QI initiative to improve early onset sepsis care in neonates as per NICE recommendation	Anoj Oommen, Kamini Yadav, Nitesh Singh, Divya Saxena
Oral sucrose for heel prick procedure – are we complying with evidence-based guidelines?	Asma Yasmeen, Allan Jackson
Prevention of significant hypothermia in preterm infants <32 weeks' gestation	Nicola McMullan, Lucy Bradley, Cora Hiatt
QI project on early onset neonatal sepsis: is it possible to achieve antibiotic administration within an hour of decision making?	Keshava Girish Gowda, Karthiga Subramaniam, Harriet Nicholas



TABLE 1 A list of the abstracts submitted for poster presentations. From these, four abstracts were chosen for oral presentation at the conference and a further three were selected for inclusion in the QI session.

A new approach to perinatal post mortem consent training. Asha Shenvi,¹ Jo Cookson,² Hannah Wood¹

¹University Hospitals of North Midlands NHS Trust; ²Staffordshire, Shropshire and Black Country Neonatal Operational Delivery Network

Background

All parents should be offered a post mortem examination of their baby. In 2016, MBRRACE-UK reported that post mortem was offered in 81.3% of neonatal deaths but consent was obtained in only 28.6%. Our network's experience is similar with offer and uptake rates as low as 67% and 18%, respectively, in some units. Published evidence identifies multiple barriers to consent including issues related to training. Lack of knowledge among consent takers impacts the uptake of post mortem. In our region, pathology training days are too infrequent to meet demand. A working group was formed to develop a new e-learning training package that aims to meet the educational needs of consent takers and improve the post mortem rates.

Method

A national online survey was designed to gather information on health professionals' current experiences of consent taking. The survey was hosted on the Survey Monkey website between May and October 2018. Health professionals who were expected to obtain consent from paediatric, neonatal, obstetric, midwifery and bereavement communities were invited to participate. The results of the survey were used to inform the development of the new e-learning training package. Multidisciplinary input was obtained from perinatal pathologists, neonatologists, obstetricians, bereavement midwives, the local learning disability team, the national organ donation team and Sands, the stillbirth and neonatal death charity.

Results

Survey responses were analysed from 122 health professionals. Most agreed parents should be offered post mortem (94%). Forty-three per cent had not been trained to take consent, and those who had listed 18 different types of training. A perinatal post mortem had not been observed by over 50%. There was lack of consistency on what should be discussed with parents while obtaining consent. Confidence levels were variable with 28% feeling "not so confident" or "not at all confident". Eighty-two per cent felt more extensive and accessible training is needed. The e-learning training package will be available to all consent takers. Content includes 5-6 modules that are mapped to the Sands and the Human Tissue Authority guidance. A multi model approach to learning is included with case studies, case vignettes, questions and answers, videos and animations. The learner will also be required to observe a perinatal post mortem. Optional content will be available for parents.

Conclusion

The uptake of perinatal post mortem remains low. Our national survey identified that the Sands prerequisites for consent takers are not being met and highlighted the need for standardised training. We have developed a multi-model e-learning training package that will be freely available to consent takers. We anticipate this will improve health professionals' ability to offer post mortem and subsequently impact uptake rates positively.



24-hour stability study of noradrenaline infusions in the simulated NICU environment.

Lisa Kaiser, Heike Rabe, Bhavik Patel



A 24 Hour Stability Study of Noradrenaline Infusions in a Simulated NICU Environment

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University of Southampton
University of Brighton
Brighton and Sussex medical school
NHS GIG

Lisa Kaiser, Heike Rabe, Bhavik Patel
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 All authors have declared no conflicts of interest

Background

Noradrenaline (NA) infusions are increasingly used to treat hypotension in the neonatal population. Current evidence suggests that NA infusion solutions retain adequate drug concentrations in excess of 24 hours. However, studies were undertaken in very different environmental conditions to those of a Neonatal Intensive Care Unit (NICU), where infants may be nursed in temperatures over 35°C and humidity up to 80%, as well as be exposed to phototherapy.

Aims

This study aimed to determine whether NA infusion solutions were stable for 24 hours in a NICU environment, as current practice is to change such infusions at this frequency.

Methods

NA infusions were made up in 4 infusion vehicles based on a dosing weight of 2kg

- Glucose 5%, glucose 10%, sodium chloride 0.45%, sodium chloride 0.9%/glucose 5%

Triplicates of each infusion solution were exposed to NICU conditions (see figure 1)

- Incubator (35°C, with and without 80% humidity)
- Open cot (mattress temperature set at 37°C)
- Therapeutic hypothermia
- Phototherapy

Samples of the solutions were taken at infusion commencement, 0.5, 12 and 24 hours and analysed with high-performance liquid chromatography

Results

A percentage loss of >7.5% was deemed significant. NA concentrations were variable in all vehicles (figure 2), particularly in the incubator +/- humidity. In these environments sodium chloride 0.9%/glucose 5% was the only infusion vehicle in which adequate drug concentrations were maintained (up to 12 hours with, up to 24 hours without humidity).

When exposed to phototherapy, only glucose 10% and sodium chloride 0.45% retained adequate NA concentrations at 12 hours; sodium chloride 0.45% only at 24 hours (figure 3).

Figure 2. NICU Environments

Figure 3. Phototherapy

Conclusions

- Results indicate NA infusions are not stable for 24 hours in a NICU environment – but must be interpreted with caution
- Adequate drug concentrations for the duration of the infusion may be achieved by using sodium chloride 0.9%/glucose 5% as a diluent, changing infusions every 12 hours, and using light-protective extension sets if infants are receiving phototherapy
- Further research is required to verify results and refine recommendations for practice

Figure 1. Study Setup

Save the date for next year's REaSoN conference 28-30 June 2020.

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