Aims

Severe IVH occurs in up to 15% of extremely premature infants with more than half developing PHVD. Affected infants are at significant risk of mortality and adverse neurodevelopmental outcomes. The aetiology is multi-factorial but the use of antenatal steroids, magnesium sulphate, and delivery within a maternity unit with a co-located neonatal intensive care (NICU) can reduce the risk.

Monitoring and intervention thresholds for PHVD varies. Some centres react to serial ventricular index (VI) measurements on cranial ultrasound (CrUSS) whilst others assess head circumference or signs of raised intracranial pressure. Management strategies also differ. Temporising measures include lumbar punctures (LP), ventricular taps, insertion of a ventricular reservoir or ventriculosubgaleal shunt prior to the insertion of a definitive ventriculoperitoneal (VP) shunt.

The aims were to:

• Determine how many infants (<32 weeks) developed severe IVH with or without PHVD across two NICUs in our network
• Establish how many didn’t receive antenatal steroids, magnesium sulphate or required postnatal transfer to NICU
• Review management strategies between two NICUs and consider ways to minimise variation
• Quantify risk of mortality or survival with neurodevelopmental impairment

Methods Using BadgerNet, infants born <32 weeks, between Jan 2018-Jun 2021, with grade 3 or 4 IVH +/- PHVD or PHVD with any grade IVH, were identified retrospectively. Two NICUs within the same neonatal network were included; Centre 1 had onsite neurosurgery whilst Centre 2 used remote consult prior to transfer for neurological intervention.

Results Overall, 44 infants were identified, accounting for 6.5% of infants <32 weeks inborn or retrieved following initial stabilisation across both NICUs. Gestational age 23+2 – 30+6 weeks, birth weight 510-1920g. 36% required postnatal transfer to NICU, 29.5% didn’t receive magnesium sulphate and 47.7% received incomplete or no antenatal steroids.

19 (43.2%) infants developed PHVD, 2 had bilateral grade 2 IVH, whilst the remainder had more extensive injury. In both centres, PHVD was monitored using CrUSS with VI and head circumference measurements. In 15.8%, early re-direction towards comfort care was undertaken, whilst 47% were managed conservatively. Variation in temporising strategies was evident between the centres. Centre 2 performed serial LPs (range 2-5 per infant) in 5 infants, 4 of whom subsequently required a subgaleal shunt followed by a VP shunt. In comparison, no Centre 1 infants underwent LP. The primary intervention for 2 infants was a subgaleal shunt, 1 of whom later required a VP shunt.

Follow up data was available for 56.8%. Of those, 44% had died and 48% survived with significant neurodevelopmental impairment.

Conclusion The mortality and morbidity following severe IVH, with or without PHVD, is extremely high. Strategies to minimise this risk are essential. Counselling expectant mothers to identify signs of threatened preterm labour and present early for assessment might further improve receipt of antenatal steroids and magnesium sulphate and facilitate in-utero transfer to a maternity centre with a co-located NICU. The subsequent implementation of a neurosurgical pathway is also hoped to streamline referrals, standardise management strategies and facilitate timely intervention.
case notes. Documentation was unclear in 8% (N=4) of Eclipse notes and 11% (N=4) of Obstetric notes (figure 2). Duration of DCC was documented in only 13% (N=4) of all known DCC cases.

Abstract 712 Figure 1  Data of combined documentation of DCC from involved teams

Abstract 712 Figure 2  Bar diagram showing total cohort, the number with documentation, the number with no documentation & the number with nuclear documentation by team

Conclusion 1. Considering that DCC is now routine practice, documentation of DCC had significant variation and hence standards need to be developed.

2. New standards should incorporate duration of DCC and clearly specify where documentation should occur in both maternity and neonatal paper & electronic patient records.

3. Team to review DCC documentation in 6 months.

REFERENCES

Aims
Objectives The ‘healing environment’ is a core concept of the developmental care approach which aims to reduce the negative impact of a highly stressful sensory neonatal environment on preterm babies. Despite the daily interactions of support staff in the neonatal intensive care unit (NICU), little is offered for those working in support roles. Additionally, in-service training is well-recognised as building a sense of shared purpose and instilling feelings of being valued. We aimed to explore the impact of a new educational programme offering developmental care training for non-clinical support staff (housekeepers, ward clerks, and domestic assistants).

Methods The Fostering Improvement of the Neonatal Environment for Support Staff (FINESS) programme was developed and delivered by the neonatal occupational therapist. This involved a one-hour interactive developmental care workshop focussed on light and noise stressors in the NICU environment. The workshop was run twice, a week apart, to facilitate covid safe face to face training. After each workshop, participants were invited to complete a short questionnaire, either independently or dictate their responses to the response coordinator who completed the questionnaire verbatim. Analysis of quantitative responses concentrated on determining the relative frequency of the Likert scale ratings out of 5. All qualitative responses were transcribed and independently analysed by one of the researchers using open coding.

Results Six non-clinical staff participated (3 domestic assistants, a domestic supervisor, a ward clerk and a housekeeper). None of those who participated had previously received any training related to developmental care on the neonatal unit. Ratings of confidence in knowledge improved from mean of 3.67 to 4.83 (rating out of 5) after the workshop. 4 participants strongly agreed (5/5; mean 4.33) that they will change the way they practice following the workshop (figure 1). One respondent noted that she had ‘learnt how my performance would affect babies’ and explained her change would be ‘to open and change bins without noises’.

Following the workshop, 100% of participants reported increased feelings of being valued and appreciation of the importance of their role in looking after sick babies. One respondent explained she felt this way ‘because the neonatal team trained us to make difference in work’. 80% described the workshop as informative and interactive and were keen to receive more ‘training to support other staff to keep babies safe’.

Abstract 732 Figure 1  Rating of confidence pre-& post-workshop (mean)