

treatment was documented. We used the MedCalc statistical software for statistical analysis.

**Results** We identified 124 infants (66 males and 58 females). Of these 43 (34.7%) were diagnosed with EO-NS and 81 (65.3%) with LO-NS. While the rate of positive blood culture results was 36% in the EO-NS group it was 84% in the LO-NS group. Treatment success rates were 93.5% in the EO-NS group, and 81.7% in the LO-NS group. Carbapenem resistance was identified in 10.5% of the newborns in the LO-NS group. Mortality rates were 4.6% in the EO-NS and 8.9% in the LO-NS group.

**Conclusions** The success rates of empiric antibiotic treatment was high in both the EO-NS and LO-NS group. The microbial flora of the NICU should be taken into account when deciding for the empirical antibiotic treatment regimens in infants with hospital acquired sepsis.

#### PO-0572 UMBILICAL VENOUS CATHETERS WITH AGION ANTIMICROBIAL SYSTEM IN A DUTCH NICU

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**Background** The majority of preterm infants at NICUs receives a central venous, or umbilical vein catheter (UVC) and is therefore at risk for catheter associated sepsis. Silver-impregnated UVCs with the AgION™ antimicrobial system may prevent sepsis and may have longer insertion time.

**Objective** To assess sepsis and additional CVC insertion with the use of silver-impregnated UVCs compared with conventional ones.

**Methods** Catheter-duration, sepsis and additional CVC use was compared between infants with silver-impregnated UVCs (silver-group) during 1 year (2012–2013) and infants with conventional UVCs (controls) during 2011, when inserted >3 days.

**Results** In 156/249 (2012–2013) infants a silver-impregnated and all 273 with an UVC in 2011 a conventional UVC was inserted. Mean catheter-duration was 5.8 (3–15) days in the silvergroup vs 5.7 (3–12) days in the controls (NS). 11/156 (7%) infants from the silvergroup developed sepsis during catheterisation vs 17/267 (6.4%) controls [NS]. Main causative microorganisms: CoNS (62.5%), *S. aureus* (15.6%), *Enterobacter* (9.3%). In 22/156 infants of the silvergroup, UVC use was longer than 8 days, vs in 20/273 controls (NS). 3/22 of the silvergroup with UVC use > 8 days developed sepsis vs 1/273 controls ( $p = 0.015$ ). Significant more infants in the silvergroup needed additional CVC insertion 18/156 (11.5%) vs in 28/273 (10.3%) controls ( $p = 0.00$ ).

**Conclusions** Duration of > 8 days of silver-impregnated UVC significantly increased the risk for sepsis as compared with conventional UVC use.

Silver-impregnated UVCs were not inserted for longer periods than conventional UVCs.

Anti-infectious advantage of the silver-impregnated UVCs could not be proven.

#### PO-0573 A TALE OF TWO CRP'S; IMPLEMENTING THE NICE EARLY ONSET SEPSIS GUIDELINE

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**Introduction** A rational approach to managing babies at risk of early onset sepsis continues to challenge neonatal units. In August 2012 NICE published guidance on antibiotics for early onset sepsis in neonates (1). We review our unit's performance in implementing the NICE guidance. Baseline assessment using the NICE tool had been completed previously and the NICE guideline implemented with adjustments for local use.

**Method** A three month prospective audit of babies at risk of or suspected of having early onset sepsis (sepsis within 72 h of birth). The NICE guideline audit tool was used. (3).

**Results** 64 babies were audited. Every baby had a blood culture taken before commencement of antibiotics and were started on correct antibiotic doses. Initial CRP's were taken in 95% of cases but only 61% had a repeat at 24 h.

69% of babies received antibiotics within 1 h of making clinical decision. 88% had cultures available at 48 h as per local policy.

**Discussion** Our data demonstrates the challenge of implementing a relatively straight forward protocol of care. We excelled in some elements: initial investigation and prescribing accuracy. There was clear room for improvement in other areas.

Simple changes to practice have subsequently been implemented including revised gentamicin prescription charts and education to highlight the importance of timely administration of antibiotics and the evidence behind checking CRP levels (5, 6, 7). Re-audit is planned for early 2014.

#### PO-0574 INDICATIONS AND OUTCOMES OF LUMBAR PUNCTURES IN TERM NEONATES IN A TERTIARY NEONATAL UNIT

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**Background** Lumbar puncture (LP) is usually performed when there is a clinical suspicion of meningitis in babies with suspected sepsis. NICE recently published their guidelines on 'antibiotics for early-onset neonatal infections' with guidance on when LPs should be considered.

**Aim** To audit the indications and outcomes of LPs performed in term babies (>37 + 0 weeks) in a tertiary neonatal unit.

**Methods** A list of term babies who had an LP was obtained from the Microbiology Department between 01/01/2010 and 31/12/2013. The Badger electronic patient record and hospital blood results systems were reviewed to collect the data.

**Results** In the last 4 years we had 2,882 term babies admitted to the neonatal unit. 136 LPs were performed in 133 term babies. The reasons for LPs were; (a) raised CRP in 106 cases (median CRP was 70), (b) abnormal neurology in 18 cases, (c) positive blood culture in 8 cases and (d) 4 were for no other clinical focus. There was one culture of coliforms and another positive for herpes simplex virus type 1 on PCR. At discharge, 8 had a diagnosis of meningitis and 1 with encephalitis.

**Conclusion** The predominant indication for LPs in term babies was a raised CRP. We only isolated organisms from two samples. As per NICE guidance, we rely on a combination of clinical findings and CRPs when deciding which term babies to LP.

#### REFERENCES

Antibiotics for early-onset neonatal infection – NICE [www.nice.org.uk/nicemedia/live/13867/60633/60633.pdf](http://www.nice.org.uk/nicemedia/live/13867/60633/60633.pdf)