The objective was to explore the association between antibiotic use in the first 72 h of life and nutritional performance. All neonates who were commenced on antibiotics were identified. A re-audit was carried out between 5th–19th January 2014. 17 patients were included in the first audit and 15 in the second cycle. Clinical notes were retrospectively analysed by two investigators. The NICE audit tool was used to examine domains including: time taken to commence treatment, use of the correct dose regime of appropriate antibiotics, appropriate blood tests and prompt action on results. As a result of the first audit cycle a checklist was developed highlighting risk factors for sepsis and NICE guidelines. This was included in medical notes as a prompt for junior doctors. The re-audit evaluated for improved performance.

Results and conclusions Overall the unit adhered well to the guideline. Areas for improvement included: availability of culture results remained problematic.

Abstract PO-0550 Table 2

<table>
<thead>
<tr>
<th>Indications</th>
<th>Inappropriate (%)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NICU</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>ICN</td>
<td>5%</td>
<td>0.002</td>
</tr>
<tr>
<td>Indications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perinatal infection</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Healthcare associated Infection</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Surgical Prophylaxis</td>
<td>41%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Medical Prophylaxis</td>
<td>0%</td>
<td></td>
</tr>
</tbody>
</table>

Background Early onset neonatal sepsis is a significant cause of morbidity and mortality. The decision to treat has consequences and a balance must be reached between identifying sick babies and avoiding the potential hazards associated with investigations and over-treatment. Using the 2012 National Institute of Clinical Excellence (NICE) guideline we aimed to identify neonates at risk of sepsis and initiate treatment early. The purpose of the audit was to assess Craigavon Area Hospital’s adherence to this guideline.

Methodology All neonates who were commenced on antibiotics within the first 72 h of life between 9th–28th September 2013 were identified. A re-audit was carried out between 5th–19th January 2014. 17 patients were included in the first audit and 15 in the second cycle. Clinical notes were retrospectively analysed by two investigators. The NICE audit tool was used to examine domains including: time taken to commence treatment, use of the correct dose regime of appropriate antibiotics, appropriate blood tests and prompt action on results. As a result of the first audit cycle a checklist was developed highlighting risk factors for sepsis and NICE guidelines. This was included in medical notes as a prompt for junior doctors. The re-audit evaluated for improved performance.

Results and conclusions Overall the unit adhered well to the guideline. Areas for improvement included: availability of culture results remained problematic.

Background and aims 

**USE OF PROFILATIC ANTIBIOTICS FOR PRETERM INFANTS**

FE Martinez¹, WAG Ferri, MM Mussi-Pinhata, VOS Abdallah, CR Leone², BNNR Brazilian Network on Neonatal Research, Pediatrics, University of Sao Paulo, Ribeirão Preto, Brazil; Pediatrics, Federal University of Uberlandia, Uberlandia, Brazil; Pediatrics, University of Sao Paulo, Sao Paulo, Brazil

The objective was to explore the association between antibiotic use in the first 72 h of life in low risk for infection preterm infants and nutritional performance. Among the 4344 children born between 2010 and 2012 in 16 centres of the BNNR weighing <1495 g, 2395 infants presented no maternal history of chorioamnionitis, <18 h of ruptured membranes, no diagnosis of sepsis in the first 72 h of life and no congenital malformations. Antibiotics were given to 959 infants during the first 72 h of life and 1436 received no antibiotics.

The use of antibiotic was more frequent among children with worst birth conditions and those infants presented poorer evolution parameters except for lower incidence of late onset sepsis.

In nutritional terms, after binary logistic regression (BLR), the use of antibiotics remained as independent risk factors to take over 14 days to regain birth weight and for having lost more than 1 z-score in weight at discharge.

Centres were stratified by the percentage of antibiotic use. Prenatal and birth condition of the two centres strata were very similar. Infants from Conservative centres presented better nutritional performance, but higher incidence of late onset sepsis, use of antibiotics after 72 hs, more days of oxygen use. At BLR for use of oxygen at 36 CA, neither centre strata, nor use of antibiotics during the first 72 hs of life maintained the association found on the univariate analysis.

The use of antibiotics in the first 72 h was independently associated with worse nutritional performance.

**CHANGING EPIDEMIOLOGY OF STaphylococcus Aureus IN A TERTIARY NEONATAL INTENSIVE CARE UNIT (NICU), 2008–2013**

L McDowell, N Geoghegan, M Hogan, J Henderson. Paediatrics, Craigavon Area Hospital, Portadown, UK

10.1136/archdischild-2014-307384.1194

**AN AUDIT OF ANTIBIOTIC USE FOR EARLY ONSET NEONATAL INFECTION IN A NORTHERN IRISH DISTRICT GENERAL HOSPITAL**

L McDowell, N Geoghegan, M Hogan, J Henderson. Paediatrics, Craigavon Area Hospital, Portadown, UK

10.1136/archdischild-2014-307384.1193
We describe the changing epidemiology of Staphylococcus aureus infections in NICU at Leeds over 2008–2013 using laboratory and clinical data.

Method Leeds neonatal service experienced an increased number of cases of Meticillin resistant Staphylococcus aureus (MRSA) colonisation and bacteraemia in 2008–2009. A series of infection control interventions were implemented stepwise including:

- asepsis training.
- weekly screening.
- adoption of the Saving Lives central venous catheter package.
- daily antiseptic skin washes in neonates >28 weeks.
- 2% Chlorhexidine for skin asepsis prior to invasive procedures.

Results There has been a noticeable success in reduction in MRSA infections and no bacteraemia has been reported since 2009 (Graph 1). A similar improvement has not been seen in Meticillin sensitive Staphylococcus aureus (MSSA) bacteraemia.

A retrospective review carried out to review MSSA bacteraemia since 2008: 71% (27 of 38) cases were in neonates under 28 weeks, a vulnerable cohort currently excluded from daily skin washes.

Conclusions Given an association between MSSA colonisation and infection, further work should investigate infection control strategies that effectively target the highest risk groups and include active surveillance for MSSA and MRSA with subsequent decolonization.

Poster abstracts

**PO-0552** Figure 1

Abstract PO-0552

**CONTRIBUTIONS OF CHANGES IN SERUM PROCALCITONIN CONCENTRATION IN THE TREATMENT OF SECONDARY SEPSIS IN NEWBORN**

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December 2011 and January 2013 with suspected infection after 5 days of life and serum PCT > 0.6 ng/L. Serial PCT, CRP and blood culture survey was performed according to the usual protocol. Adapted antibiotherapy was administered for 10 days after the last positive blood culture.

Results 54 infective episodes were observed in 46 neonates, born at a mean term of 32 weeks (range: 26–40) and infected for a mean of 19 days (7–40). Staphylococci and gram-negative bacteria caused respectively 57% and 22% of infective episodes. At the time of clinical diagnosis (D0), 74% of the PCT values and 81.5% of the CRP values were positive. Between D5 and D8, 80% of PCT measurements were negative (<0.6 ng/L) versus only 25% of CRP. On D8, 47.0% of CRP measurements were still positive. Had antibiotherapy been discontinued when PCT was <0.6 ng/ml, it would have been 5 days shorter.

Conclusion In newborn with secondary sepsis, serum PCT may help to reduce antibiotherapy duration and this should be examined in a controlled study.

**PO-0554**

**CREATING A NETWORK OF NEONATOLOGISTS, CHILD HEALTH RESEARCHERS, AND PUBLIC HEALTH SPECIALISTS TO STUDY NEONATAL INFECTIONS’ RELATED MORTALITY AND MORBIDITIES IN EGYPT**

1 M Mohamed, 2 A Roess, 3 A Shaalan, 4 H Aly, 1 Newborn Services, The George Washington University Medical Center, Washington DC, USA; 2 Department of Global Health SPHHS, The George Washington University, Washington DC, USA; 3 President, National Research Centre, Cairo, Egypt

Background Congenital and acquired infections not only play major role in neonatal mortality in Egypt, but also lead to significant morbidities and lifelong handicaps among Egyptian newborns.

Objectives 1) Develop research agenda to study neonatal infections and their impact on neonatal mortality and morbidities in Egypt. 2) Facilitate the assembly of multidisciplinary, multicenter research teams to examine the most critical questions on this agenda.

Methods Through collaboration with Egyptian National Research Centre, authors organised a four-day workshop in Cairo, Egypt, to facilitate the interaction of Egyptian and US experts to achieve above objectives. Authors invited neonotologists, obstetricians, and child health researchers from academic, governmental, and private sectors across the country. A call for abstracts invited participants to share their clinical and laboratory research. Leading neonotologists were invited to share their field experiences and case studies. Authors distributed participants into five diverse teams. Workshop activities included panel presentations, open discussions, and team focused-interactions. While discussing current and emerging aspects of neonatal infections and their impact on neonatal mortality and morbidities in Egypt, each team was tasked to develop research questions to study causes, predisposing factors, and intervention or prevention methods. Findings of each team were verified through whole group revisions. Using epidemiologic and clinical criteria, participants used simple voting to create a consensus on the most critical issues. Each team concluded the workshop by designing a framework for a research project to examine one of these issues.

Results More than forty neonotologists, paediatricians, child health researchers, and obstetricians joined the workshop. Sixteen abstracts were selected for presentation. Eighteen guest...