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DECREASED ANTIBIOTIC USE IN WELL-APPEARING INFANTS EXPOSED TO MATERNAL CHORIOAMNIONITIS

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**Background:** In accordance with the CDC’s 2010 Guidelines for Prevention of Perinatal Group B Streptococcal Disease, 100% of all well-appearing infants admitted to our Level III NICU admitted for maternal chorioamnionitis have undergone a limited early-onset sepsis (EOS) evaluation and started on IV antibiotics for a minimum of 48 hours. Studies have shown potential negative consequences of early antibiotic exposure, as well as separation of the mother-baby dyad. Subsequently, tools such as the Kaiser Permanente EOS Calculator have been developed to aid in the clinical evaluation of this patient population. As an institution involved in the Baby Friendly Initiative, it was prudent that we investigate the benefits of a modified sepsis protocol.

**Objective:** Decrease the routine use of antibiotics in well-appearing infants > 34 weeks gestation exposed to chorioamnionitis by 40%.

**Design/Methods:** The project was implemented in three PDSA cycles.

Cycle 1: Reviewed current practices, performed literature reviews, and developed a multidisciplinary chorioamnionitis taskforce. Members of the taskforce developed an updated sepsis protocol, provided formal staff education, and created a tracking form for which baseline data was collected on all infants whose mothers were diagnosed with chorioamnionitis.

Cycle 2: Implementation of the updated sepsis protocol with patient tracking.

Cycle 3: Re-education of all staff on the EOS calculator and updated protocol.

**Results:** Three PDSA cycles were completed over a 6-month period (Figure 1).

Cycle 1: Thirteen infants were included and 100% were started on antibiotics. 3/13 received a 7-day antibiotic course for presumed clinical sepsis.

Cycle 2: Seven infants were included in this cycle. Only 2/7 infants were started on antibiotics, a 70% reduction in antibiotic use.

Cycle 3: Following re-education, four patients were included in this cycle. There was 100% use of the EOS calculator and 50% reduction in antibiotic use (Figure 2).

**Conclusions:** We exceeded our goal of 40%, with a 70% reduction in antibiotic use for infants exposed to maternal chorioamnionitis. Implementation of the EOS calculator has reduced antibiotic exposure and number of laboratory evaluation at our busy, high volume delivery hospital. Our planned next steps are to include the evaluation of workflow for all involved in care of these infants and improve education for the family members.
Figure 1. Run Chart

- **PDSA 1:** Baseline data for antibiotic use for infants exposed to maternal infection.
- **Goal Antibiotic Use:** <60%
- **PDSA 2:** Implement change in antibiotic use and utilization of EOS calculator.
- **PDSA 3:** Re-education of providers and nursing staff on process.

**Observation Months:**
- Month 1
- Month 2
- Month 3
- Month 4
- Month 5
- Month 6

**Infants Started on Antibiotics (%):**
- 100
- 75
- 50
- 25
- 0

Figure 2. Process and Balancing Measures

- **PDSA 1**
- **PDSA 2**
- **PDSA 3**

**Infants (%):**
- + blood cult.
- >/= 7d Abx
- Abx dc’d 48 hrs
- >/=3 CBCs
- CRP
- EOS Calculator

Legend:
- PDSA 1
- PDSA 2
- PDSA 3