**Problem**

- Chorioamnionitis is a diagnosis given when a woman has a temperature over 100.4°F twice, a fetal heart rate over 160 beats per minute for 10 minutes, maternal leukocytosis and/or purulent vaginal discharge during intrapartum period.
- Standard of treatment for all well appearing neonates born to mothers with chorioamnionitis was evaluation with a blood culture, complete blood cell count and empiric antibiotic treatment for 36 hours of life irrespective of their clinical status.
- Past audits showed 100% asymptomatic newborns born to mothers with chorioamnionitis had negative blood cultures.
- When medically necessary, antibiotics can be lifesaving, but may lead to long term health risks.
- We were challenged with finding a way to decrease empiric antibiotic treatment to these healthy neonates born to mothers with chorioamnionitis.

**Project Implementation**

- A validated neonatal sepsis calculator was incorporated into the electronic medical record and utilized for every neonate born at ≥ 35 weeks gestation.
- Education on the usage of the calculator was provided to the obstetrical and pediatric nurses and providers throughout the Advocate Health System.

**Results**

**Pre & Post Implementation Results of Neonatal Sepsis Calculator on Asymptomatic Infants > 35 Week Gestation Born to Women Diagnosed with Chorioamnionitis**

<table>
<thead>
<tr>
<th>Percentage of Blood Cultures</th>
<th>Percentage of Infants Receiving Antibiotics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Implementation</td>
<td>Post Implementation</td>
</tr>
<tr>
<td>120</td>
<td>80</td>
</tr>
<tr>
<td>100</td>
<td>60</td>
</tr>
<tr>
<td>80</td>
<td>40</td>
</tr>
<tr>
<td>60</td>
<td>20</td>
</tr>
<tr>
<td>40</td>
<td>0</td>
</tr>
</tbody>
</table>

**How many babies received antibiotics?**

- Mothers with Chorioamnionitis and Asymptomatic Neonates ≥ 35 weeks Receiving Antibiotics

<table>
<thead>
<tr>
<th>Year</th>
<th>Mothers with Chorioamnionitis</th>
<th>Neonates Receiving Antibiotics</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>2021</td>
<td>86</td>
<td>3</td>
</tr>
</tbody>
</table>

**How many babies received antibiotics?**


**Results**

**Following implementation of the neonatal sepsis calculator:**

- Number of blood cultures performed reduced by 82%.
- Number of neonates who received antibiotic reduced by 96%.
- This represents a savings of at least $700 per neonate by avoiding the cost of the complete blood cell count, blood culture and antibiotic administration.

**Implications for Practice**

- The incidence of chorioamnionitis in term infants is 9.7/1000.
- Of 3.6 million infants born in United States in 2020, 34,920 infants were born to mothers with chorioamnionitis.
- Implementation of the neonatal sepsis calculator throughout the United States will significantly reduce the number of neonates receiving antibiotics during the first few days of life and save $60 million in health care dollars.

**References**


**Acknowledgements**

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