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Management of Newborns Born to Mothers with Chorioamnionitis

Cecilia P. Lev, MD, FAAP

Providence Saint John's Health Center NICU Medical Director

Early-onset sepsis remains one of the most common causes of newborn morbidity and mortality, despite long used guidelines for prevention of antenatal infections, most commonly chorioamnionitis. The outcomes could range from minimal to severe.

The incidence of neonatal infection after membrane rupture longer than 24 hours is approximately 1% to 3%. In the presence of chorioamnionitis, this risk rises to approximately 3% to 16%. The predominant complications in infants born in an infected environment include sepsis, pneumonia, respiratory distress, and meningitis.

Chorioamnionitis indicates infection of the amniotic fluid, membranes, placenta, or/and decidua.

Criteria for suspected chorioamnionitis are:

Evidence of maternal fever $>100.4^{\circ}\text{F}$ and at least 2 of the following criteria:

- a. Leukocytosis $>15,000$
- b. Maternal tachycardia >100 bpm
- c. Fetal tachycardia >160 bpm
- d. Uterine tenderness
- e. Foul odor of amniotic fluid

Workup and management for asymptomatic newborns with suspected sepsis due to chorioamnionitis include:

- a. Blood culture
- b. CBC with differential at 24 and 48 hrs after birth since it takes hours to establish inflammatory response. I/T ratio has the best sensitivity of any of the neutrophil indices (cutoff of 0.3).
- c. CRP at 24 and 48 hrs of life (peaks at 24 hrs after birth). CRP has strong negative predictive accuracy. 2 normal CRPs makes bacterial sepsis unlikely, and antibiotics can be safely discontinued.
- d. Recommended initial therapy is combination of Ampicillin and Gentamicin.

The challenges for clinicians are:

1. Distinguish newborns with high likelihood of sepsis
2. Identify “high risk” yet healthy appearing newborns or newborns with clinical signs that do not require treatment and
3. Promptly discontinuing antimicrobial therapy once sepsis is proven to be unlikely.

Current evidence underlines the role of chorioamnionitis as a major risk factor in neonatal morbidity and mortality. Using this approach, clinicians should be able to decrease this risk and improve outcome.

In 2012, AAP revised CONF (Committee on Fetus and Newborn) guidelines for “Management of neonates with suspected or proven early-onset neonatal sepsis” and it was approved as current policy.

AAP issued several useful algorithms.

Please log into: <http://pediatrics.aappublications.org/content/129/5/1006> for further information.