GBS (GROUP B STREP) IN PREGNANCY

FLAME LECTURE: 97

BURNS / ROSENBAUM 2.25.22

LEARNING OBJECTIVES

- Discuss the potential impact of Group B Strep on the gravid patient and the fetus/newborn
- Identify the appropriate evaluation for diagnosing Group B Strep during pregnancy

EPIDEMIOLOGY

- Maternal Colonization:
  - 15-40% of women are colonized in the vagina/rectum
  - Approximately 50% of women who are colonized will transmit the bacteria to their newborns via vertical transmission
  - In the absence of intrapartum antibiotic prophylaxis,1-2% of those newborns will develop neonatal GBS early-onset disease (0-6 days of age)
  - Mortality rate of neonatal early-onset GBS disease is 1-3% in term infants and 20-30% in preterm infants
- Maternal Infection Risks:
  - Asymptomatic bacteriuria
  - Cystitis
  - Pyelonephritis
  - Intra-amniotic infection
  - Endometritis
  - Bacteremia

EARLY-ONSET NEONATAL INFECTION

- 0 to 6 days of life
- Most commonly manifests as generalized sepsis, pneumonia, or meningitis
- Since maternal screening and antibiotic prophylaxis implemented, incidence decreased from 1.8 --> 0.24 per 1000 live births (from 1990-2016)
- Risk factors:
  - Preterm delivery (<37 weeks of gestation)
  - Premature rupture of membranes at any gestation
  - Rupture of membranes for ≥18 hours
  - Chorioamnionitis
  - GBS bacteriuria during current pregnancy
  - Temperature ≥38°C (100.4°F) during labor
  - Prior delivery of an infant with GBS disease

MANAGEMENT: SCREENING

- All women should receive GBS screening between 36 0/7-37 6/7 weeks of gestation (ACOG Committee Opinion 797)
  - Vaginal/rectal swab and bacterial culture
  - Results valid for 5 weeks
    - May need to repeat if performed early with later term delivery
  - In some settings, NAAT rapid-screening is used if a term patient presents in labor with an unknown GBS status
    - Rectovaginal cultures are still preferred for routine screening
    - But NAAT has faster turn around (~2-3 hours), it can provide quicker confirmation in L&D setting

MANAGEMENT: PROPHYLAXIS

Who should receive prophylaxis:

- GBS Unknown status this pregnancy + history of GBS colonization in a previous pregnancy
- GBS Unknown status in labor <37 weeks irrespective of history
- GBS Unknown status and ROM > 18 hours
- GBS Unknown status and maternal fever > 100.4F
- GBS positive during routine screening or intrapartum NAAT
- GBS bacteriuria during this pregnancy
- History of previous infant with GBS sepsis/infection irrespective of current testing

Who does not need prophylaxis:

- GBS negative screen this pregnancy within last 5 weeks
- C-section delivery before ROM
- GBS unknown in labor, at term, with ROM < 18 hours and no fever

MANAGEMENT: PROPHYLAXIS

- Recommended to receive > 4hrs prior to delivery (but necessary obstetric interventions should not be delayed if the 4 hours are not completed)
  - *Penicillin G* 5 million units IV (initial dose) + 2.5-3 million units IV q4 hrs until delivery
- For those who report an allergy to penicillin:
  - Penicillin allergy testing should be considered (b/c often they are historical mild reports of reactions)
  - Non-anaphylactic allergy (i.e rash): **Cefazolin 2g IV loading dose then 1g IV q8 hrs til delivery** (only 10% cross-reactivity between penicillins and cephalosporins)
  - Anaphylactic allergy: perform test sensitivities to clindamycin and erythromycin
    - Sensitive to both: use **Clindamycin (900 mg IV q 8hrs)**
    - Resistant to both: use **Vancomycin (1 g IV q 12hrs)**
    - Erythromycin no longer used due to high resistance, but when culture resistant to erythromycin, clindamycin is also likely not effective
    - **Vancomycin (1 g IV q 12hrs)** preferred if sensitivity testing not performed

REFERENCES & RESOURCES

- ACOG Committee Opinion No. 797: *Prevention of Early-Onset Group B Streptococcal Disease in Newborns*. February 2020.
- UpToDate – Early-onset neonatal group B streptococcal disease: Prevention
- UpToDate - Group B streptococcal infection in pregnant women
- UpToDate – Group B streptococcal infection in neonates and young infants