Group B Streptococcus

The GBS Problem
- Most significant cause of early-onset sepsis in the term infant
- Colonization in gravidas 10% – 30%
- Without intrapartum antibiotic prophylaxis (IAP)
  - transmission to the fetus 40% – 70%
  - disease in those colonized 1 – 2%
  - overall incidence 1.8/1,000 live births
- Disease
  - early onset less than 7 days
  - late onset 7 days to 3 months
- 89–95% of early onset GBS disease presents in first 24 hrs

Neonatal Morbidity and Mortality
- Disease: bacteremia, pneumonia and meningitis
- 40% with GBS meningitis will be left with moderate to severe neurologic disability
- Overall mortality rate 5% – 12%
- Overall mean case fatality for early onset is 12.1%

Maternal Morbidity and Mortality
- Pregnancy:
  - asymptomatic bacteriuria, UTI and chorioamnionitis
- Early Postpartum:
  - endometritis and wound infection

Recommended Screening Technique
- Universal vaginal/rectal screening at 35-37 wks and IAP for carriers at time of ROM or labour
- Swab lower third of vagina and rectum (through anal sphincter)
- Self-collection as effective as collection by caregivers
- If high risk for penicillin anaphylaxis
  - test for sensitivity to clindamycin and erythromycin
- No benefit in antepartum treatment of positive vaginal GBS screen
- Repeat screening after 5 weeks if not delivered

GBS Bacteriuria
- Treat immediately
  - symptomatic UTI
  - asymptomatic > 10^6 CFU/ml
- GBS bacteriuria in any concentration should be regarded as colonized at delivery
  - do not screen at 35 – 37 wks
  - treat in labour as GBS positive
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Intrapartum Management – GBS +

- Prophylactic antibiotics: ↓ early-onset neonatal infection by 89% (NNT 25)
- ↓ maternal colony counts at delivery in order to:
  - prevent ascending maternal infection
  - achieve an effective antibiotic concentration in the fetus

Recommendations

No method prevents all GBS disease

Intrapartum antibiotic prophylaxis (IAP) at the time of ROM or labour if:

- Previous infant with invasive GBS disease
- GBS bacteriuria during current pregnancy
- A positive screening culture

Recommendations

If GBS status unknown, administer IAP for any of the following:

- Preterm labour (< 37 wks)
- ROM > 18 hrs
- Maternal fever (≥ 38°C)

Recommendations – Special Situations

Term PROM

- IAP in GBS colonized women and induce
- Preterm labour with intact membranes, if:
  - GBS status negative within 5 wks, IAP not indicated
  - GBS status unknown, do swab and IAP pending results

Recommendations

Intrapartum prophylaxis is not indicated for:

- Previous pregnancy with a positive GBS screening culture but negative screen in current pregnancy
- Planned Caesarean delivery performed in the absence of labour or membrane rupture
- Negative GBS screening culture within 5 wks regardless of intrapartum risk factors

Recommendations

Chorioamnionitis

- Regardless of GBS status, consider this diagnosis with maternal fever ≥ 38°C, fetal tachycardia and signs of maternal sepsis
- Treat with broad spectrum antibiotics and expedite delivery
**Group B Streptococcus**

**Recommend Antibiotics for IAP**
- Preferred (narrow spectrum)
  - Penicillin G 5 million units IV, then 2.5 million q4h, until delivery
- Alternative
  - Ampicillin 2 g IV, followed by 1g q4h, until delivery

**Recommend IAP – If Penicillin Allergy**
- Low risk for anaphylaxis
  - Cefazolin 2 g IV, followed by 1g q8h until delivery
- High risk for anaphylaxis
  - GBS sensitive to clindamycin and erythromycin
    - clindamycin 900 mg IV q8h, until delivery
  - GBS resistant (or sensitivity unknown) to clindamycin or erythromycin (must be sensitive to both to use either)
    - vancomycin 1 g IV, q12h until delivery

**Newborn Recommendations**
- Well appearing full term infants
  - adequate IAP ≥ 4 hrs
    - no need for septic workup, additional Tx or investigations
    - observe in hospital 24 hrs
  - inadequate IAP or < 4 hrs – evaluate and observe 24 – 48 hrs
- Preterm infants
  - require individualized evaluation and management

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**Conclusions**
- Universal screening at 35 – 37 wks gestation and offer intrapartum treatment if culture positive
- No protocol prevents all GBS morbidity or mortality
- Antepartum treatment of GBS colonization is not indicated with the exception of urinary tract infection
- Individual centres must adopt strategies for GBS disease prevention