Prelabour Rupture of the Membranes (PROM)

Definition
- Rupture of membranes before the onset of labour
  - preterm < 37 wks gestation (PPROM)
  - term ≥ 37 wks gestation (TPROM)

Latent Period
- Time from rupture until onset of labour
- The later the gestation, the shorter the latent period
- Term PROM:
  - 90% go into labour within 24 hours
- Preterm PROM:
  - 50% go into labour within 24 hours
  - 70 – 80% go into labour within 1 week

Incidence
- Term PROM = 8%
- Preterm PROM = 2% – 3.5%
- Preterm PROM accounts for 1/3 of all preterm deliveries
- Frequency increases with increasing parity

Risk Factors/Etiology of PROM
- Infection
- Uterus distention (e.g. – polyhydramnios)
- Cervical insufficiency
- Following cervical cerclage/surgery
- Amniocentesis
- PPROM/PTB in a previous pregnancy
- Vaginal bleeding in pregnancy
- Cigarette smoking
- Low socio-economic status

Bacterial Vaginosis
- No evidence to support screening and treating all asymptomatic women to prevent PTB
- Treatment of BV in women with hx of PTB does not prevent PTB but may decrease PPROM and LBW
Treatment of BV

- Symptomatic patient
  - oral or vaginal treatments are indicated and safe
- Asymptomatic at risk for PTB
  - oral metronidazole 500mg bid x 7 days
  OR
  - oral clindamycin 300mg bid x 7 days
  - vaginal preparations not recommended-cure rates similar but not effective to prevent PPROM

Diagnosis of PROM

- History
- Clinical suspicion
- Speculum exam
- Commercial bedside tests
- Ultrasound
  - PROM less likely if normal fluid volume

SPECULUM

- Pooling
- Visible fluid from Cervix
- Ferning
  - false positive - antiseptic solution, semen, fingerprints & cervical mucous
- Nitrazine
  - false positive - blood, alkaline vaginal infections (BV), urine, semen
- Immunoassay for placental alpha microglobulin-1 (e.g. Amnisure)

Complication of PROM – Term

- Fetal / neonatal infection
- Maternal infection
- Umbilical cord compression / prolapse

Complications of PROM – Preterm

- Preterm labour and delivery
- Maternal and fetal infection
- Cord compression / prolapse
- ↑ CS rate
- Abruptio Placentae
- Early, severe oligohydramnios
  - pulmonary hypoplasia
  - fetal deformity
Management – General

• Assess maternal and fetal well-being
• Assess cervical status by speculum exam unless in labour
• Cultures if indicated
• Assess for
  – infection (CRP and WBC)
  – conditions requiring concurrent management
  – indications for immediate delivery

Management – General

• AVOID digital cervical exam until induction or labour
• GBS management
• Tocolysis not indicated

Management – Term

• Current evidence supports IOL with oxytocin for all women with term PROM rather than expectant management
• PG may be considered in women with an unfavourable cervix

Management – Term

Oxytocin Induction vs PG (+/- oxytocin) Induction or Expectant Management

• ↓ chorioamnionitis
• ↑ maternal satisfaction
• ↓ neonatal infection among women who are GBS positive
• No change in CS

Oral Misoprostol vs Vaginal PG + Oxytocin

• Easier to administer
• Does not require pelvic examination
• Lower CS rate
• No difference in fetal/maternal complications
• Increase in GI side-effects

Management – Term

• Recommend induction regardless of GBS status
  – reduction maternal infection
  – reduction NICU admission
• Induction more compelling when GBS+
  – reduction neonatal infection
• If chorioamnionitis – treat and deliver
Management – Term
- If expectant management > 24 hours chosen
  - no digital exam in absence of labour
  - assess signs of infection and fetal movements by women
  - assess fetal movement and HR monitoring every 24 hours
  - asymptomatic babies observed for infection for the first 12 hours

Management – Gestational Age 34 – 36+6 wks
- Consider induction
- GBS prophylaxis if positive or unknown
- Surveillance for infection
  - if chorioamnionitis – treat and deliver
- Consider transfer depending on local resources

Management – Preterm (< 34 wks)
- Steroids (< 32 wks and consider between 32 – 34)
- Consider transfer
- GBS prophylaxis
- Antibiotics (macrolide) if fetal lung maturity cannot be proven and delivery not planned
  - ↑ latency
  - ↓ infection
  - ↓ neonatal morbidity

Management – Preterm (< 34 wks)
- Expectant management
  - surveillance for infection
  - if chorioamnionitis – treat and deliver
  - fetal health surveillance

Summary
- PROM/PPROM occur for many different reasons
- Avoid digital exam
- Sterile speculum exams appropriate
- Balance risks of preterm birth and morbidity