MGMT OF PPROM

FLAME LECTURE: 129

BURNS / TAYLOR 8.7.19

LEARNING OBJECTIVES

Describe the management of preterm prelabor rupture of membranes

Prerequisite Lectures:

FLAME 127 – RULING OUT RUPTURED MEMBRANES

See also:

FLAME 125 – MANAGEMENT OF PRETERM LABOR
FLAME 126 – ADVERSE OUTCOMES OF PRETERM DELIVERY

DEFINITIONS & EPIDEMIOLOGY

Recap:

Rupture of membranes/ROM (colloquially: 'bag of water breaking')

Spontaneous (SROM): occurs *after* onset of contractions

Prelabor (PROM): occurs *before* onset of contractions

Preterm (PPROM): occurs *before* onset of contractions prior to 37wks GA

Assisted (AROM): when membranes ruptured by provider to assist progression of labor

PPROM vs PTL: Preterm labor (PTL) indicates cervical change and contractions (with or without PPROM). PPROM only refers to membrane status.

PPROM occurs in 2-4% of singleton pregnancies but is implicated in 18-20% of perinatal deaths

50% of women with PPROM will deliver within 1 week of rupture, regardless of intervention

*This lecture focuses specifically on **preterm PROM**, specifically how the management differs from term PROM. For general PROM management, see FLAME 127: Ruling out Ruptured Membranes*

INITIAL MANAGEMENT OF PPROM

- Confirm gestational age (GA) and fetal position (via ultrasound)
- Start fetal heart rate monitoring to evaluate for fetal distress if at a viable GA
- Start tocometry to assess presence of contractions
- Admit to the hospital, send CBC (for WBC), perform serial vital signs
- When to deliver vs. allowing latency?
  - Latency is the period of time between PPROM and delivery
  - After **34 0/7** weeks, induction of labor and **delivery is recommended**
  - Before 34 0/7, expectant management with close maternal monitoring is recommended unless there is concern for a pathologic process occurring, i.e.:
    - Signs of intrauterine infection
    - Evidence of placental abruption
    - Non-reassuring FHRT
    - Unstable lie with risk of fetal cord prolapse

MANAGEMENT OF PPROM
BY GESTATIONAL AGE

< 24 Weeks GA (Previability)

- Patient counseling
- Expectant management or Induction of labor
- Consider latency antibiotics as early as 20 0/7
- No GBS prophylaxis
- No Tocolysis
- No MgSo4
- No corticosteroids (until 23 weeks if aggressive measures desired)

24 0/7 - 33 6/7 (Early Preterm)

- Expectant management
- Antibiotic prophylaxis
- Single course of corticosteroids
- GBS prophylaxis if +/unknown
- MgSO4 before 32 weeks

34 0/7 - 36 6/7 (Late Preterm)

- Risks/benefits of expectant management beyond 34 0/7 weeks can be discussed w/ pt
- Single course of corticosteroids can be considered if they have not received a prior course.
- GBS prophylaxis if +/unknown

≥ 37 0/7 (Term)

- Proceed to delivery (induction if not spontaneous)
- GBS prophylaxis as indicated

MANAGEMENT OF PPROM

OTHER INTERVENTIONS

Tocolysis: intended goal is to suppress contractions, thereby increasing latency period

- While tocolytics may increase latency, they also increase chorioamnionitis risk
- ACOG declares they **NOT recommended.** They are not well studied just for latency during corticosteroid or antibiotic windows

Corticosteroids: goal is to promote fetal lung maturity and other complications of prematurity

- Do not increase risk for chorioamnionitis
- **Recommended**: 1 course of corticosteroids from 24 0/7 wks to 34 0/7 wks
- Rescue dose of steroids is recommended in preterm labor but insufficient data for recommendation for or against in setting of PPROM management

Magnesium sulfate: goal is for neuroprotection and reduction in cerebral palsy risk in preterm newborn

- **Recommended**: $MgSO_4$ for women with PPROM <32 0/7 wks if concern for delivery

MANAGEMENT OF PPROM

ANTIBIOTICS

GBS Prophylaxis

Recommended: For ALL women with PPROM and GBS positive or unknown status should receive GBS prophylaxis

GBS testing typically occurs around 35wks, thus many women with PPROM will not yet have testing

Antibiotic prophylaxis (not GBS-related)

Antibiotic prophylaxis reduces infection risk and increases latency period with decreased morbidity

Recommended: for PPROM patients <34 0/7wks x 1week

48hrs of *IV* ampicillin (2 gram q6h) + erythromycin (250 mg q6h)

After which, 5 days *oral* amoxicillin (250 mg q8h) +/- erythro (333 mg q8h)

Alternative: can swap 1 dose of *oral* azithromycin (1 gram) in lieu of erythromycin due to better tolerance

MANAGEMENT OF PPROM

OTHER COMPLICATING FACTORS

- **HSV infection**: risk of vertical transmission is highest in primary infection (30-50%)
  - Expectant management + acyclovir recommended if recurrent infection and <34 0/7 weeks
  - Primary infection management less clear, but acyclovir should be started + C-section delivery if lesions (or prodromal symptoms) are present at onset of labor
- **HIV infection:** risk of vertical transmission as soon as membranes ruptured
  - However, increased ROM latency length not correlated with increased transmission risk
  - Management individualized; consider checking viral load, starting antiretroviral therapy, and gestational age-morbidity risks to newborn

COMPLICATIONS

The most common complication of both term and preterm PROM is **intrauterine infection**

15-20% of women with PPROM will have an intrapartum infection

15-20% of women with PPROM will have a postpartum infection

Intraamniotic infection (aka chorioamnionitis, is a clinical diagnosis, discussed further in **FLAME 128:** Intra-amniotic Infection

Intraamniotic infection & inflammation (aka Triple-I) is typically a polymicrobial ascending infection

New criteria for categorizing IAI / Triple I:

Suspected IAI / Triple I	Confirmed IAI / Triple I
- Maternal fever > 39°C *with or without:* - Fetal tachycardia - Elevated WBCs - Purulent cervical drainage	Amniotic fluid gram stain / culture OR Histologic confirmation of infection/ inflammation on placental pathology

Other risks to newborn are complications of prematurity, discussed in FLAME 124: Preterm Labor

FUTURE PREVENTION

Prior PPROM increases risk for PPROM and PTL in subsequent pregnancies

Progesterone supplementation is less effective than when used for prevention in the setting of a history of straight-forward PTD

- However, should still be offered to patients with prior PPROM
- Start between 16-24 wks GA, continue through 36 wks
- Not appropriate for management of *current* PPROM

Cervical length monitoring and cerclage is not well studied in setting of prior PPROM

REFERENCES & RESOURCES

ACOG Practice Bulletin 188: *Prelabor Rupture of Membranes.* 2018

ACOG Committee Opinion 712: *Intrapartum Management of Intraamniotic Infection*. 2017.

UpToDate: Preterm Premature (Prelabor) Rupture of Membranes

Caughey AB, Robinson JN, Norwitz ER. Contemporary Diagnosis and Management of Preterm Premature Rupture of Membranes. Reviews in Obstetrics and Gynecology. 2008;1(1):11-22.