Chapter 10

PRETERM PRE-LABOUR RUPTURE OF MEMBRANES (PPROM)

When there is a spontaneous rupture of membranes in a pregnancy less than 37 weeks gestation.

Incidence - occurs in 2 to 3.5 % of all pregnancies but accounts for 1/3 of all cases of preterm delivery.

Diagnosis

Diagnosis of PPROM is made by a combination of patient history, clinical suspicion, physical exam, and some testing. Patient history has an accuracy of 90% for the diagnosis of PPROM and should not be ignored.

1. Sterile speculum examination for visualization of amniotic fluid cascade, or pooling of fluid in posterior vaginal fornix. (Ultrasound may be used as an adjunct in the diagnosis; however, amniotic fluid volume alone is not specific for PPROM.)

2. Visual assessment of cervical dilation. Routine digital cervical exam is not recommended unless the patient is in labour.

Laboratory / Diagnostic Evaluation

1. Assess for chorioamnionitis: maternal fever, CBC and differential, fetal tachycardia, uterine tenderness

2. Assess for fetal well-being: nonstress test to establish heart rate baseline, reactivity, and presence or absence of accelerations or decelerations.
3. Assess for presence of contractions.

4. Take swab for Group B Strep from lower 1/3 of the vagina and anus using the same swab as per usual GBS culture methodology.

5. **Ultrasound**: Performed to establish fetal position, establish/confirm fetal growth, anatomy, and fluid volume. Biophysical profile is performed as clinically indicated, recognizing that 2 points may be lost for lack of fluid volume. If ultrasound is not available and fetal position is not certain based on Leopold's Manoeuvres, a vaginal

exam may be warranted to rule out abnormal fetal presentation (eg. footling breech), as this will affect management and/or urgency of transport.

6. Urine culture

7. **Risk Factors:**
    - Idiopathic
    - Amniocentesis
    - Cervical insufficiency
    - Cervical cerclage
    - Prior cervical conisation, laser conisation, loop electrosurgical excision procedure
    - PPROM in a previous pregnancy
    - Prior preterm labour birth
    - Chronic abuptio placentae
    - Vaginal bleeding in pregnancy
    - Uterine/amnion distension
    - Cigarette smoking
    - Low socioeconomic status
    - Polyhydramnios
    - Multiple pregnancy
    - Cigarette smoking
    - Sexually transmitted infection
    - Bacterial Vaginosis

8. **Screening for Sexually Associated/Transmitted Disease in Selected Cases**: The following are conditions associated with PPROM and/or significant post delivery morbidity in the mother and fetus; therefore, diagnosis should be attempted.
    - < Bacterial Vaginosis
    - < C. Trachomatis
    - < T. Vaginalis
    - < N. Gonorrhoea

Management / Initial

1. **Corticosteroids**

- Indications: PPROM less than 32 weeks gestation in the absence of chorioamnionitis
- Recommendations: Betamethasone 12 mg IM q 24 hrs x 2

2. **Antibiotics (Antenatal)**

- Indications: 24-32 weeks gestation in the absence of chorioamnionitis
  No evidence of active preterm labour or compromise
- Recommendations**: Ampicillin 2 gm IV q 6 hours for 48 hours then Amoxicillin 250 mg po Q8H x 5 days **plus** Erythromycin PCE 333 mg po Q8H x 7 days
- **if allergic to penicillin** use Clindamycin 900 mg Q8H IV ADC x 48 hours followed by 300 mg po Q6H x 5 days **PLUS** Erythromycin protocol

- **GBS Prophylaxis** if preterm labour ensues, use GBS prophylaxis whether the woman is known to be GBS positive or negative, particularly if there is a long latency period (eg. > 1 week of ruptured membranes).

3. **Tocolysis**
   Relatively contraindicated in PPROM because of the risk of subclinical chorioamnionitis. Many cases of PPROM are associated with subclinical chorioamnionitis and the risks and potential benefits are unknown.

Expectant Management – Surveillance

Monitoring for signs of:

1. Labour
2. Infection
   - CBC and differential q 2 days
   - Temperature q 6 hours

- FHR TID noting any evidence of fetal tachycardia.

3. Fetal Health
   - Daily NST
   - BPP 2 x per week
   - fetal movement counting

Delivery

1. Induction of labour generally at 36 weeks (some perinatal units are considering an earlier induction).
2. Any time if fetal or maternal situation indicates a need for delivery. Once there is evidence of infection, delivery is urgent to optimize both fetal and maternal outcome.

Sources

Managing Obstetrical Risk Efficiently (More^{OB}), [website]
http://www.moreob.com/en/index.htm

M.H. Yudin et al, No. 233-Antibiotic Therapy in Preterm Premature Rupture of the Membranes JOGC September 2017, vol 39 issue 9, page e207-212.

R. K. Creasy, R. Resnik, Maternal-Fetal medicine, 5th edition, WB Saunders Company, 2004.

S. Cox, B. Hoffman, C. Werner, G. Cunningham, Williams Obstetrics 22nd edition Study Guide, McGraw-Hill, May 2005.

SOGC, Advances in Labour and Risk Management (ALARM) Course Syllabus, 22nd Edition, 2015-2016.

**	ACOG/AAP/CDC recommend **intrapartum antibiotic prophylaxis** (Ampicillin or Penicillin G) for all women delivering preterm (spontaneous or induced), if GBS status positive or unknown.