

Maine Medical

PARTNERS

Women's Health

A department of Maine Medical Center

Prelabor Rupture of Membranes

Risk Factors

- Intraamniotic infection (15-25%, higher for earlier gestational ages)
- History of preterm PROM
- Short cervical length
- Second- and third-trimester bleeding
- Placental abruption (2-5%)
- Low body mass index
- Cigarette use
- Illicit drug use

Diagnosis:

1. Based on history and physical exam.
2. Avoid digital cervical exam. Examination by sterile speculum is recommended unless the patient is in active labor or imminent delivery is planned. Inspect for umbilical cord prolapse, bulging membranes, cervical effacement/dilation; cervical cultures should be done.

Confirm diagnosis by:

1. Visualization of fluid passing from cervical canal.
2. Amniotic fluid pH is 7.1-7.3 (nitrazine positive).
 - False positive results occur in the presence of semen, blood, alkaline antiseptics, or bacterial vaginosis.
 - False negative may occur with prolonged leakage and minimal residual fluid.
3. Ferning (arborization) by microscopic visualization suggests membrane rupture.
 - A significant amount of RBCs in fluid can prevent ferning.
4. A normal amniotic fluid index makes PPROM less likely. Ultrasound to assess amniotic fluid index is not diagnostic, but may be a helpful adjunct.
5. Fetal fibronectin is sensitive but nonspecific for PPROM. Negative test strongly suggests intact membranes. Positive test not diagnostic (false positive 19-30%).

Management:

1. Deliver for obvious intrauterine infection, placental abruption, or evidence of fetal compromise.
2. Obtain testing for Chlamydia Trachomatis and Neisseria Gonorrhoea from the cervix.
3. Group B Streptococcus (GBS) cultures of vagina and rectum.
4. Obtain catheterized specimen of urine for UA and C&S when indicated.

5. Continuous fetal heart rate monitoring for 24 hours with tocodynamometry.
6. Obtain ultrasound for fetal position, EFW, BPP and AFI upon admission (official scan later). Gestational age is a primary factor when considering delivery vs. expectant management.
7. Deliver when PPROM occurs at or beyond 34 weeks' gestation.
8. PPROM prior to 34 weeks should be managed expectantly if there are no fetal or maternal contraindications.

Expectant Management:

1. Hospitalization
2. Periodic assessment for infection (high-index of suspicion), placental abruption, umbilical cord compression, fetal well-being and signs of labor
3. Ultrasound
 - daily BPP
 - fetal well being
 - amniotic fluid index
 - growth
4. Fetal heart rate monitoring
 - FHR and toco monitoring q 4 hours (if decreased amniotic fluid, consider continuous monitoring)
 - Vitals q4-8 hours

The outpatient management of PPROM with a viable fetus is **NOT** recommended. Inpatient maternal/fetal surveillance is recommended.

Steroids:

Use of steroids with PPROM proven by studies to:

1. Reduce neonatal mortality
2. Decrease RDS
3. Decrease IVH
4. Decrease NEC
5. No increased risk of maternal or fetal infection

Give single course of corticosteroids to patients with gestational age between 23 0/7 and 36 6/7 weeks.

Betamethasone (celestone) 12 mg 1M q 12-24 hours x 2 doses

Or

Dexamethasone 6 mg IV or 1M q 6-12 hours x 4 doses

Antibiotic Treatment:

Administration of broad spectrum antibiotics with PPROM (prior to 34 weeks):

1. Prolongs pregnancy
2. Reduces maternal and neonatal infections
3. Reduces gestational-age dependent morbidity

Treat with a 7-day course of antibiotics for PPRM.

Example (ACOG ref 1):

IV ampicillin (2 grams q 6 hours) and erythromycin (250 mg q 6 hours) for 48 hours followed by oral amoxicillin (250 mg q 8 hours) and erythromycin base (333 mg q 8 hours) for 5 days.

Alternative (ref 2):

Azithromycin 500 mg IV q 24 hours x 2 doses, then azithromycin 500 mg PO daily x 5 doses (used in conjunction with the usual IV ampicillin, followed by oral amoxicillin)

For penicillin allergy (rash only):

Ancef 1 gram IV q 8 hours x 48 hours and zithromax 1 gram PO x 1 dose followed by keflex 250 mg q 6 hours for 5 days.

For penicillin allergy (anaphylaxis):

Vancomycin 1 gram q 12 hours x 48 hours and zithromax 1 gram PO x 1 dose followed by vancomycin 500 mg q 12 hours for 5 days. (If clindamycin sensitive cultures, may switch to clindamycin 300 mg q 6 hours for 5 days.)

*****Avoid amoxicillin/clavulanate (augmentin) due to increased risk of neonatal necrotizing enterocolitis.*****

Women with PPRM and a potentially viable fetus who are known GBS carriers and those who give birth before carrier status can be delineated should receive intrapartum prophylaxis to prevent vertical transmission regardless of earlier treatments.

Neuroprotection:

Consider magnesium sulfate 4 gram bolus followed by 1 gram/hour for 12 hours if between 24 and 32 weeks if believed to be at risk for imminent delivery.

In RCT, MgSO₄ has demonstrated to decrease the risk of cerebral palsy in surviving infants before 32 weeks' gestation.

Tocolysis:

Therapeutic tocolysis is not recommended.

Consider delivery if any of the following are present:

- Non reassuring FHT
- Non reassuring BPP
- Maternal temperature > 38.0° C (or 100.4° F)
- Uterine tenderness
- Maternal or fetal tachycardia
- Regular contractions
- Delivery at 34 weeks' gestation

Less than 24 weeks' gestation:

- Patient counseling
- Expectant management or deliver
- Prior to admission at 23 to 24 weeks, corticosteroids, magnesium sulfate for neuroprotection, tocolysis, and GBS prophylaxis are not recommended.
- Antibiotics may be considered (consult)
- Refer to Perinatal Guideline “Outpatient Management of Second Trimester PROM” <https://mainehealth.org/healthcare-professionals/clinical-resources-guidelines-protocols/obstetrical-perinatal-guidelines>

References:

1. ACOG Practice Bulletin No. 188. Prelabor Rupture of Membranes. January 2018.
2. Navathe R, Schoen CN, Heidari P, et al. Azithromycin vs erythromycin for the management of preterm premature rupture of membranes. Am J Obstet Gynecol 2019; 221:144.e1.