Premature Rupture of Membranes

Preterm delivery occurs in approximately 12% of all births in the United States and is a major factor that contributes to perinatal morbidity and mortality (1, 2). Preterm premature rupture of membranes (PROM) complicates approximately 3% of all pregnancies in the United States (3). The optimal approach to clinical assessment and treatment of women with term and preterm PROM remains controversial. Management hinges on knowledge of gestational age and evaluation of the relative risks of delivery versus the risks of expectant management (eg, infection, abruptio placentae, and umbilical cord accident). The purpose of this document is to review the current understanding of this condition and to provide management guidelines that have been validated by appropriately conducted outcome-based research when available. Additional guidelines on the basis of consensus and expert opinion also are presented.

Clinical Management Questions

- How is premature rupture of membranes diagnosed?
- What does the initial management involve once PROM has been confirmed?
- What is the optimal method of initial management for a patient with PROM at term?
- When is delivery recommended for the preterm fetus in the presence of premature rupture of membranes?
- What general approaches are used in cases of preterm PROM managed expectantly?
- Should tocolytics be considered for patients with preterm PROM?
- Should antenatal corticosteroids be administered to patients with preterm PROM?
- Should magnesium sulfate for fetal neuroprotection be administered to patients with preterm PROM?
Should antibiotics be administered to patients with preterm PROM?

Should preterm PROM be managed with home care?

How should a patient with preterm PROM and a cervical cerclage be treated?

What is the optimal management of a patient with preterm PROM and herpes simplex virus infection or human immunodeficiency virus?

How does care differ for patients with PROM that occurs before neonatal viability?

What is the expected outcome of PROM after second-trimester amniocentesis?

How should a patient with a history of preterm PROM be managed in future pregnancies?

Recommendations and Conclusions

The following recommendations are based on good and consistent scientific evidence (Level A):

► Patients with PROM before 34 0/7 weeks of gestation should be managed expectantly if no maternal or fetal contraindications exist.

► To reduce maternal and neonatal infections and gestational-age dependent morbidity, a 7-day course of therapy with a combination of erythromycin and ampicillin or amoxicillin is recommended during expectant management of women with preterm PROM who are less than 34 0/7 weeks of gestation.

► Women with preterm PROM and a viable fetus who are candidates for intrapartum GBS prophylaxis should receive intrapartum GBS prophylaxis to prevent vertical transmission regardless of earlier treatments.

► A single course of corticosteroids is recommended for pregnant women between 24 0/7 weeks and 34 0/7 weeks of gestation, and may be considered for pregnant women as early as 23 0/7 weeks of gestation who are at risk of preterm delivery.

► Women with preterm PROM before 32 0/7 weeks of gestation who are thought to be at risk of imminent delivery should be considered candidates for fetal neuroprotective treatment with intravenous magnesium sulfate.

The following recommendations and conclusions are based on limited and inconsistent scientific evidence (Level B):

► For women with PROM at 37 0/7 weeks of gestation or more, if spontaneous labor does not occur near the time of presentation in those who do not have contraindications to labor, labor should be induced.

► At 34 0/7 weeks or greater gestation, delivery is recommended for all women with ruptured membranes.

► In the setting of ruptured membranes with active labor, therapeutic tocolysis has not been shown to prolong latency or improve neonatal outcomes. Therefore, therapeutic tocolysis is not recommended.

The following conclusion is based primarily on consensus and expert opinion (Level C):

► The outpatient management of preterm PROM with a viable fetus has not been sufficiently studied to establish safety and, therefore, is not recommended.

Proposed Performance Measure

The percentage of expectantly managed patients with preterm PROM (up to 34 0/7 weeks of gestation) that receive latency antibiotics and corticosteroids

Studies were reviewed and evaluated for quality according to the method outlined by the U.S. Preventive Services Task Force. Based on the highest level of evidence found in the data, recommendations are provided and graded according to the following categories:

Level A—Recommendations are based on good and consistent scientific evidence.

Level B—Recommendations are based on limited or inconsistent scientific evidence.

Level C—Recommendations are based primarily on consensus and expert opinion.