



Is expectant management a safe alternative to immediate delivery in patients with PPROM close to term?

Yes, when there are no overt signs of infection or fetal compromise in singleton pregnancies, according to results of a large randomized trial that compared these 2 forms of accepted management of preterm premature rupture of membranes.

Morris JM, Roberts CL, Bowen JR, et al; PPRoMT Collaboration. Immediate delivery compared with expectant management after preterm pre-labour rupture of membranes close to term (PPROMT trial): a randomized controlled trial. Lancet. 2016;387(10017):444-452.

► EXPERT COMMENTARY

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Preterm premature rupture of membranes (PPROM) refers to rupture of membranes prior to the onset of labor before 37 weeks' gestation. It accounts for one-third of all preterm births.¹ Pregnancy complications associated with PPROM include intrauterine infection (chorioamnionitis), preterm labor, and placental abruption. Should such complications develop, immediate delivery is indicated. When to recommend elective delivery in the absence of complications, however, remains controversial.

The American College of Obstetricians and Gynecologists (ACOG) currently recommends elective delivery at or after 34 weeks'

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gestation,² because the prevailing evidence suggests that the risk of pregnancy-related complications (especially ascending infection) exceeds the risks of iatrogenic prematurity at this gestational age. However, ACOG acknowledges that this recommendation is based on "limited and inconsistent scientific evidence."² To address deficiencies in the literature, investigators designed the PPRoMT (preterm prelabor rupture of the membranes close to term) trial to study women with

WHAT THIS EVIDENCE MEANS FOR PRACTICE

Few clinical studies have the potential to significantly change obstetric management. This report by Morris and colleagues is one such study. It was well designed, well executed, and powered to look at the most clinically relevant outcome, namely, neonatal sepsis. While these study results do call into question the current American College of Obstetricians and Gynecologists recommendations to electively deliver patients with PPROM at or after 34 weeks' gestation, additional discussion is needed at the national level before these recommendations can be changed.

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FAST TRACK

While the study authors advocate expectant management over immediate delivery, further study is needed before current recommendations are revised

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ruptured membranes before the onset of labor between 34 and 37 weeks' gestation.

PPROMT study design

Morris and colleagues present results of their multicenter, international, randomized controlled trial (RCT) of expectant management versus planned delivery in pregnancies complicated by PPRM at 34 0/7 through 36 6/7 weeks' gestation carried out in 65 centers across 11 countries. A total of 1,839 women not requiring urgent delivery were randomly assigned to either immediate delivery (n = 924) or expectant management (n = 915).

No difference was noted in the primary outcome of neonatal sepsis between the immediate birth (n = 23 [2%]) and expectant management groups (n = 29 [3%]; relative risk [RR], 0.8; 95% confidence interval [CI], 0.5–1.3). This also was true in the subgroup of women who were colonized with group B streptococcus (RR, 0.9; 95% CI, 0.2–4.5).

There also was no difference in the secondary outcome measure, a composite metric including sepsis, ventilation for 24 or more hours, or death (73 [8%] in the immediate delivery group vs 61 [7%] in the expectant management group; RR, 1.2; 95% CI, 0.9–1.6). However, infants born to women randomly assigned to immediate delivery, versus expectant management, had a significantly higher rate of respiratory distress syndrome (RR, 1.6; 95% CI, 1.1–2.3) and mechanical

ventilation (RR, 1.4; 95% CI, 1.0–1.8). In addition, the immediate-delivery infants had a longer median stay in the special care nursery/neonatal intensive care unit (4.0 days, interquartile range [IQR], 0.0–10.0 vs 2.0 days, IQR, 0.0–7.0) and total hospital stay (6.0 days, IQR, 3.0–10.0 vs 4.0 days, IQR, 3.0–8.0). As expected, women in the expectant management group had a significantly longer hospital stay than women in the immediate delivery group, because 75% (688/912) were managed as inpatients. Interestingly, women in the immediate delivery group had a higher cesarean delivery rate than those in the expectant management group (239 [26%] vs 169 [19%], respectively; RR, 1.4; 95% CI, 1.2–1.7), although no explanation was offered.

Strengths and limitations

Major strengths of this study include the large sample size and superior study design. It is by far the largest RCT to address this question. Because this was a pragmatic RCT, certain practices (such as the choice of latency antibiotic regimen) varied across centers, although randomization would be expected to minimize the effect of such variables on study outcome.

A major limitation is that participant recruitment occurred over a period of more than 10 years, during which time antenatal and neonatal intensive care unit practices likely would have changed. 🔄

References

1. Goldenberg RL, Rouse DJ. Prevention of premature birth. *N Engl J Med*. 1998;339(5):313–320.
2. American College of Obstetricians and Gynecologists

Committee on Practice Bulletins–Obstetrics. ACOG Practice Bulletin No. 160: premature rupture of membranes. *Obstet Gynecol*. 2016;127(1):192–194.