

Alexander D. Kofinas, MD
Director, Kofinas Perinatal
Associate Professor, Clinical Obstetrics and Gynecology
Cornell University, College of Medicine

The Use of Glucocorticoids for Lung Maturation in Pregnancies with PROM

Discussion and individual management schemes continue to occur in the face of Premature Rupture of the Membranes (PROM). The definition, rupture of the membranes before the onset of labor, continues throughout the United States. When the rupture occurs before 37 weeks of gestation, it is referred to as preterm PROM. Preterm delivery occurs in approximately 12% of all births and is a major factor contributing to perinatal morbidity and mortality. PROM is a complication in one quarter to one third of preterm births. Management relies on evaluation of the relative risks of infection, cord accident, operative delivery, and of the gestational age of patients not in labor.

This condition may occur from a variety of reasons. At term, weakening of the membranes may result from physiologic changes combined with shearing forces created by uterine contractions. Intrauterine infection has been shown to play an important role in preterm PROM, especially at earlier gestational ages. Factors associated with an increase in PROM, vaginal bleeding, cervical conization, and cigarette smoking during pregnancy. Uterine distension (twins), emergency cervical cerclage, prior antepartum antibiotic treatment and preterm labor also may be associated with PROM. Many cases, however, may occur in the absence of recognized risk factors.

A Term pregnancy associated with PROM complicates approximately 8% of pregnancies and is generally followed by the onset of labor and delivery. The most significant maternal risk of term PROM is infection, a risk that increases with the duration of membrane rupture. Fetal risks associated with PROM include umbilical cord compression and ascending infection.

Pregnancies associated with preterm PROM are managed expectantly with the knowledge-that 75% of such cases are delivered within the first week. Known also that in

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these cases that the earlier the rupture occurs, the longer the interval or latency period before delivery. The incidence of infection increases with decreasing gestational age at membrane rupture and increases with digital vaginal examination. The most significant risks to the fetus after preterm PROM are complications of prematurity. At all gestational ages prior to term, respiratory distress has been reported to be the most common complication. Other serious forms of morbidity, including necrotizing enterocolitis and intraventricular hemorrhage, also are associated with prematurity but are less common nearer to term. Infection, cord accident, and other factors contribute to the 1-2% risk of antenatal fetal demise after preterm PROM.

Expectant management of preterm PROM generally consists of modified bed rest to potentially enhance amniotic fluid re-accumulation and complete pelvic rest to avoid infection. Patients should be evaluated periodically for evidence of infection or labor. In a patient with preterm PROM, a temperature exceeding 38.0⁰C (100.4⁰F) may be indicative of infection, although some investigators have suggested that fever, with additional factors such as uterine tenderness and maternal or fetal tachycardia, is a more accurate indicator of maternal infection. Leukocyte counts are nonspecific in the absence of clinical evidence of infection, especially if antenatal corticosteroids have been administered.

This area over the past several years has lead to much discussion and controversy, whether or not to use corticosteroids in the face of ruptured membranes. High-risk obstetricians (Perinatologists) have been concerned about the impact that this medication would have on the infectious risks for the mother. Neonatal intensive care Neonatologists were more concerned about the beneficial effects that this administration would have on lowering the risks of Respiratory Distress Syndrome, Necrotizing Enterocolitis and Intraventricular Hemorrhage. Not until a more recent Meta-analysis was published in 1995, was there a distinct benefit demonstrated by the administration of corticosteroids in reducing the incidence of respiratory distress syndrome, necrotizing enterocolitis and Intraventricular hemorrhage in the preterm infants below 32 weeks of gestation. It was as a result of this study that The National Institutes of Health Consensus Development Panel recommended that corticosteroids should be utilized in those patients with PROM prior to 32 weeks of gestation. The committee did not clarify' completely whether or not it was necessary that doses should be repeated on a weekly basis.

Therefore, based on these recommendations we have instituted within our policy

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that all patients who are between 24—32 weeks of gestation and present with PROM should receive, in the absence of infection a course of corticosteroids. Whether or not the dose should be repeated continues to be debatable and this decision should be taken on a case by case basis. **ACOG Practice Bulletin Number 1, June 1998.**