Premature Rupture of Membranes (PROM)

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The topic of premature rupture of membranes (hereafter referred to as PROM) is one of particular interest to me because its occurrence was the ultimate cause of my cesarean. At the time my membranes ruptured (or more accurately leaked), there was no helpful information to be found in any of my mainstream books except that one should go directly to a hospital, which is exactly what I did. Although there were no signs of infection in either myself or the baby, my doctor told me that the baby could die if I did not consent to surgery. My doctor was genuinely concerned, as I had endured 10-12 digital examinations by various residents and was only 34 weeks along. Soon after my son's birth, my mother-in-law told me about how her water had broken (gushed) with her fifth child when she was only five months pregnant. She carried the baby for another two months and the baby survived its premature vaginal birth. This was 1963, and they did not administer antibiotics. She negotiated with her obstetrician, who agreed to let her be on bedrest at home. Unfortunately, the kind of wisdom and patience her doctor exhibited is rare in our modern age of technological births.

Defining PROM

The most fundamental problem with any discussion of PROM is in the way it is defined. In general terms, PROM is when the membranes rupture before labor begins. Unfortunately, most doctors still make no distinction between true PROM and a leak. In three articles from The American Journal of Obstetrics and Gynecology, a professional journal which is normally precise about defining research parameters, there is not even a mention of the difference between a leak and a rupture of membranes (Kurki et al., Owen et al., and Wolf et al.). Nowhere in the articles does it say whether the women included in

the studies had true PROM, nor do they even acknowledge that such a difference exists. In contrast, A Good Birth, A Safe Birth says "sometimes the tear in membranes seals over" (154). Similarly, Homebirth reassuringly states, "If there is only a dribble of fluid, it is probably the hind waters, the part of the bubble behind the baby's head, that are leaking, and they often reseal themselves after a while. You can ignore it" (138-9). Bonnie Cox, former president of ICEA, notes that the nature and amount of fluid leaking are important considerations in deciding on treatment (25-6), and presumably only addresses the problem of true PROM. The issue of what to define as PROM is an important one, because first-time mothers are likely to panic when seeing any fluid, and judging by the OB-Gyn journals, it is doubtful that these mothers will receive reassurance from their doctors, who don't even recognize that a leak is different from a rupture.

Causes of PROM

Unfortunately, maternal guilt often results from an event such as PROM, especially pPROM, or the premature rupture of membranes (before 37 weeks gestation). It is therefore important to know what does, and probably does not cause PROM. According to Korte and Scaer, pelvic examinations during the last three months of pregnancy have been shown to contribute to the incidence of PROM (153). Kitzinger (138) and Cox (28) agree. Cox affirms that in most cases, the cause of PROM remains unknown, although she says that subclinical infection may be a factor. She reports on a study in which erythromycin given at 26-30 weeks gestation lowered the chance of PROM in high-risk women [but more on this under Treatment of PROM]. The women in this study were defined as those who had previous PROM or pPROM, smokers, (active and passive) and those with chlamydial infections. Apparently, all these conditions are assumed to put a woman at higher risk of PROM.

According to Kurki and Ylikorkala, sexual intercourse during pregnancy is not directly related to the incidence of PROM. Their study consisted of 407 nulliparous women who turned in charts showing their frequency of coitus during the last three months of pregnancy. In fact, there was found to be a negative relationship between coitus during the last week of pregnancy and the

incidence of PROM and preterm labor, with those women having sex then being less likely to experience these complications (1130). While the research is somewhat imperfect, having to depend upon the self-reported charts of 407 women, it is still significant.

The researchers discuss flaws in previous studies which showed a correlation between coitus and PROM. One possible flaw is that "women who are delivered preterm are more likely to report intercourse and other possible 'harmful' events than are women who are delivered at term when both are interviewed postpartum" (1133). An important factor in their studied population is that all the women had a single sex partner, not many. Because subclinical infections may be a factor in PROM, it seems wise to advise women with many sexual partners (or whose mates have many partners) to abstain from sex late in the pregnancy.

In any case, the research on PROM is hopeful in that women are rarely, if ever to "blame" for its occurence. All sources consulted agreed that monogomous intercourse during late pregnancy is not responsible for PROM. If anything, a woman's OB may be to blame for insisting on cervical examinations during the final weeks of pregnancy.

The Real and Imagined Dangers of PROM

Cord Prolapse

One of the real bugaboos associated with PROM is cord prolapse. When a woman's amniotic sac suddenly ruptures, there is a real danger that the cord might be swept out with the fluid. However, doctors do not recognize that such an occurence is very unlikely if the woman merely has a leak. Therefore, MDs put all women with suspected PROM to bed, which of course contributes to the bigger problem of unnecessary cesareans for "failure to progress." Furthermore, cord prolapse is an extremely rare condition, as evidenced in A Good Birth, A Safe Birth. The authors cite a study of 29,960 deliveries, out of which there were 79 cases of cord prolapse (109). That's less than 3 in 1000 cases. Ten of those prolapses were caused by amniotomy! In other words, they were iatrogenic in nature. If you factor those iatrogenic cases out, that leaves 2 in 1000 cord prolapses possibly natural in origin. [Since the study was conducted at a university hospital, other cases may have been caused

by iatrogenic factors such as labor induction.] The reason I stress the term "natural," is that a woman can reduce her chances of experiencing a cord prolapse by avoiding interventions such as amniotomy, labor induction and a prone position during labor. The only time a prone position would seem advisable would be if the baby is less than 33 weeks gestation in order to prolong the latent period.
In summary, cord prolapse is a serious, life-threatening complication which is most likely to occur with a sudden gush of fluid associated with PROM. HOWEVER, prolapse is extremely rare, and its threat should not be overestimated. Kitzinger says, "A prolapsed cord is very unlikely to occur during a home birth or in any birthplace where invasive procedures are not practiced. It is usually a consequence of intervention, in particular of rupturing the membranes artificially when the presenting part is very high" (140). To prevent a cord prolapse, then, perhaps the best thing a woman can do with PROM is to stay home as long as possible. In the hospital, there looms the much greater threat of a woman being restricted to bed after her water has already broken, since this position is known to contribute to the use of pitocin, fetal distress and unnecessary cesareans.
If a woman's water breaks before she gets to the hospital (which is basically the definition of PROM), then the danger would seem to be mostly past, especially if the fetal head is engaged and blocking the cervical opening. In the case of a premature leak of the waters, there would seem to be no increased risk of cord prolapse, although it's impossible to tell from the research.

Chorioamnionitis

According to Bonnie Cox, the maternal complication of most concern with PROM is chorioamnionitis, or inflammation of the fetal membranes. The syndrome is characterized by maternal fever, uterine tenderness, a foul-smelling vaginal discharge, rapid fetal heartbeat, and maternal leukocytosis (30). She says that the incidence of chorioamnionitis in the general obstetrical population is 0.5-1%; but it is 26-28% in women with a latency period (time between PROM and onset of labor) of 24 hours or more. Chorioamnionitis is probably the reason that some doctors place a limit of 24 hours on the latency period. Cox aptly points out that although the syndrome's incidence was once thought to be

related to the length of the latent period, recent studies refute this assumption. It is now believed to be caused by ascending infection, frequent cervical exams, and bacterial colonization of amniotic fluid preceding PROM (30). It is maddening that doctors still arbitrarily limit the latency period to 12-48 hours, but continue to precipitate infections by conducting internal exams on women with PROM.

Prematurity

In the case of pPROM, a very real complication is prematurity of the fetus. Cox states that pulmonary hypoplasia and skeletal compression deformities are two of the problems associated with pPROM. Here, she is discussing those infants between 24 and 33 weeks gestational age. She says that the younger the gestational age, the more likely these problems are to occur. One thing she neglects to mention is that pulmonary hypoplasia is often caused by doctors trying to induce the baby before it is ready. It is recognized that with pPROM babies, their lungs are often more mature than expected of a baby that age. Wolf et al. report that "the incidence of respiratory distress syndrome in pregnancies complicated by PROM is lower than that in other preterm pregnancies" (1237). Cohen in Silent Knife asserts that a baby's lungs develop rapidly after an amniotic rupture, possibly because of stress hormones released by the baby. In my case, it was fortunate for my son that I delayed going to the hospital and that my water was broken for 72+ hours before the cesarean. Even without the aid of labor contractions he breathed immediately and without assistance--an uncommon occurence for a 34-week baby.

Infections

Maternal infection is probably the most common risk of PROM. Ironically, this complication is the one most likely to be caused by the doctor and hospital environment. Cox says that at all gestational ages, patients who have had only a sterile speculum exam have an average of 11.3 days of latency; whereas those who have had digital vaginal exams only last 2.1 days before labor starts (29). Obviously, the risk to the premature fetus is lessened with each day it can remain in the womb, making digital exams a definite risk

to the baby.

Treatment of PROM

Prophylactic Antibiotics

Because of the high risk of infection in the hospital, doctors have tried to counteract it with antibiotic treatment while the woman is still pregnant. In a study conducted by Owen, Groome and Hauth on 117 women, half of whom received antibiotic treatment and half who did not, they found antibiotic treatment after PROM to benefit the mothers, but not the infants. In fact, they found a higher incidence of neonatal necrotizing enterocolitis in the treatment group (976). The average gestational age of the fetuses was only 30 weeks, presumably of a young enough age so that infection would be a real threat to them. The eleven neonatal deaths in the study were almost evenly divided between the control and the treatment group, all related to RDS. From this study, it would seem that, if anything, antibiotic treatment might have a negative effect on the infant. It certainly doesn't seem reasonable to routinely prescribe prophylactic treatment to women with PROM.

Common Sense Treatment

Korte and Scaer list some common-sense precautions to be taken in the case of PROM. They are as follows: avoid pelvic exams; avoid intercourse; avoid sitting in water; stay home until labor starts; avoid contacts outside the family; check temp. regularly and watch for pain or tenderness in the abdomen; drink plenty of fluids; keep in touch with your doctor; wait for labor to begin; and go to the hospital if you have active genital herpes with PROM (154-5).

Cox recommends avoiding digital exams and intercourse; bedrest; and administration of antibiotics. She also recommends amniocentesis, ultrasound and the nonstress test to assess fetal maturity and well-being. From personal experience, I can say that ultrasound for this purpose is useless. My doctor confirmed that I had "enough" fluid (how much is enough?) but said that judging from the ultrasound, my baby only weighed about 4.5 pounds. Well, he must have grown quickly because the next day his actual birth weight was 6lb. 6oz.! Amniocentesis is dangerous to the fetus and the nonstress test is

notoriously undependable. In short, it seems most advisable to follow the advice of Korte and Scaer.

The Reality of Hospital Management of PROM

As has been previously noted, midwives are likely to first determine whether the woman has experienced a leak, or true PROM. In the case of the former, she is apt to tell the woman to be patient, and to monitor her temperature to be on the lookout for infection. On the other hand, MDs do not usually make such a distinction. Korte and Scaer say that doctors either take an "aggressive" or a "conservative" approach to PROM. They contend that most doctors nowadays tend toward the "conservative" approach of waiting for labor to begin or signs of infection. Such was not the case for me at the renowned George Washington Hospital in Washington, D.C. As previously stated, I received numerous internal exams, was told I must lie flat on my back (so as not to experience the mythical "dry birth"), and hooked up to a maximum dose of Pitocin, even though the baby was early and his head was "floating." Such treatment is a disgrace considering what is known about PROM. I wish I could say that my experience was unusual, but I have talked to other women in different parts of the country with similar experiences.
Since PROM is fairly common, occurring in one out of ten pregnancies, it is important not to panic if it happens to you. In most cases, the best solution is to wait it out while monitoring for signs of infection.

Works Cited

Cox, Bonnie. "Premature Rupture of the Membranes." Childbirth Instructor. Autumn 1993: 27-31.

Kitzinger, Sheila. Homebirth. Ny: Dorling Kindersley, Inc., 1991.

Korte, Diana and Roberta Scaer. A Good Birth, A Safe Birth. 3rd ed. Boston: Harvard Common Press, 1992.

Kurki, Dr. Tapio and Dr. Olavi Ylikorkala. "Coitus during Pregnancy is not

Related to Bacterial Vaginosis or Preterm Birth." Am J Obstet Gynecol 169 (5) November 1993: 1130-4.

Owen, Dr. John, Dr. Lynn J. Groome and Dr. John C. Hauth. "Randomized Trial of Prophylactic Antibiotic Therapy after Preterm Amnion Rupture." Am J Obstet Gynecol 169(4) October 1993: 976-81.

Wolf, Dr. Edward J., et al. "Do Survival and Morbidity of Very-Low-Birth-Weight Infants Vary According to the Primary Pregnancy Complication that Results in Preterm Delivery?" Am J Obstet Gynecol 169 (5) November 1993: 1233-9.

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