Previable Prelabor Rupture of Membranes

Your symptoms and our exam show that your water has broken even though you are less than 22 weeks pregnant. That should not occur until term and is very dangerous this early in pregnancy.

We need to watch carefully for symptoms of preterm labor, infection and bleeding. If these occur, the only outcome is delivery now. Any other treatment would just increase risk to you without any benefit for your baby.

If no symptoms develop during your time of observation, management options include:

1. **Delivery** – We can give you medicine to start your labor. You are in a very high risk situation: if you stay pregnant, we may not be able to save your baby and you are at risk of complications.
2. **Watch and wait (Expectant management)** – We can let you go home or stay at the hospital. You can choose to limit your activities but we don't believe that will change your outcome. Complications of "bedrest" can include blood clots in your legs or lungs. The most likely thing to happen would be that signs of labor, infection or bleeding develop within days to a couple weeks no matter what we or you do, before your baby would have a good chance of survival if born. However, some women do stay pregnant much longer and do deliver a baby that may survive and be healthy.

What will happen if we wait?

Limited, imperfect data suggests that the prognosis for your baby is very poor if your water breaks at less than 22 weeks. Fewer than 1 in 5 of babies will survive and those that do may be very sick and affected for life. Complications that put your life at danger or impact your ability to have children in the future can occur, and may be more common if you delay delivery. However, catastrophic outcomes for moms are so rare, and the decision to proceed with delivery can be so hard, that it is reasonable to wait and watch closely for changes. About half of mothers who try expectant management will deliver within the first week after their water breaks anyway. If you stay pregnant beyond the first week, half will deliver within the first month and half will stay pregnant longer.

When can my baby survive?

Between 22 and 25 weeks, general survival goes from 0% to more than 90%. This is impacted by lung development which we will discuss later. Our NICU currently supports babies as young as 23 weeks. You are __ days from 23 weeks and __ days from 25 weeks. Between 23 and 25 weeks, the rates of very severe complications of prematurity go from high to much lower. A healthy baby born at 23 weeks that survives with all efforts in place to improve outcomes still has up to a 50% chance of having his or her ability to learn and develop significantly affected, but this drops to less than a third at 25 weeks. The risk of not being able to walk, see, hear or live independently as an adult is small throughout this time. Beyond 25 weeks, outcomes continue to improve every week. Having a very early baby who then must go through the challenges of being premature can be very stressful for families and can significantly impact the whole family for a long time

Is my baby ok without amniotic fluid?

Amniotic fluid is baby urine. As your baby continues to grow, he or she will continue to pee and amniotic fluid may continue to leak out of your vagina or re-accumulate in your uterus. Amniotic fluid is an important barrier to infection and also crucial in the second trimester for lung development. If conditions are not right, the lungs can never develop to the point that they can support life after birth. That condition is called pulmonary hypoplasia, or underdevelopment. There is no ultrasound or other test before delivery that can let us know if this condition is present. This means you could decide to wait, stay pregnant for weeks or months between when your water breaks and you deliver, and your baby still might not be able to absorb oxygen at birth which would lead to death.

The risk of pulmonary hypoplasia is up to 20% with rupture at less than 23 weeks. This can happen whether fluid re-accumulates in the uterus or not. If the fluid does not reaccumulate, your baby's face and limbs may look different after delivery because they have been pressed to the walls of your uterus, but most of these changes will resolve with time and physical therapy.

Interventions to discuss:

1. **Antibiotics** – A week long course of antibiotics is used with ruptured membranes after 23 weeks. They have been shown to decrease the risk of infection and increase the time between rupture and delivery (this is called latency). They can be considered if rupture occurs at 22 weeks. We do not recommend them at less than 22 weeks because they may mask an underlying infection. We want to know quickly about any signs of infection at less than 22 weeks, so we can proceed with delivery and protect mom from further harm when we know we cannot help the baby.
2. **Antenatal steroids (betamethasone**) – Two injections of betamethasone 24 hours apart are given to moms who are at high risk to deliver within a week and have a preterm baby that may survive (23 weeks or more). 24 hours after the second dose, the steroids have reached a peak effect called steroid maturity. If a mom does not deliver in that first week, we have the option to repeat the 2 doses the next time we suspect delivery may occur within one week. These injections decrease the rate of preterm lung disease as well as other serious complications of prematurity like bleeding from immature brain vessels (intraventricular hemorrhage) and ischemia of immature bowel (necrotizing enterocolitis). They have no effect on the condition previously discussed, pulmonary hypoplasia.
3. **Tocolytics or medicine to stall labor (Indomethacin or procardia)** – These are appropriate for some patients who seem to be laboring without signs of infection or bleeding and who have not had a complete steroid course (2 doses). They are not effective beyond about 48 hours of use and carry risk with prolonged use.
4. **Magnesium** – A bolus and infusion of magnesium is given to mom when a very preterm baby is expected to be born within the next 12 hours. Exposure to this medicine is expected to improve baby's neurologic prognosis by lowering the risk of cerebral palsy.
5. **Cesarean delivery** – cesarean delivery improves outcomes for babies over 25 weeks that are not head down or who show signs of significant distress during labor. It is not clear whether cesarean benefits a baby's outcome between 23-25 weeks although it may increase the chance your baby would be born with a heartbeat and be a candidate for support from the NICU. Cesarean delivery, especially the higher risk cesarean often necessary between 23-25 weeks (called a classical cesarean), carries many risks for moms. Between 23-25 weeks you may choose a cesarean or vaginal delivery even if your baby is not head down or is showing signs of distress. Your baby can still be monitored in labor and our special team from the NICU can attend the birth and try to support your baby even if there have been some signs of distress.

There is no "right" choice in a situation as difficult as this – parents just make the best choice they can with consideration of what's best for them and their family. We are here to help as are the NICU doctors who can talk to you about what to expect if you have a baby in the NICU and help make decisions about when interventions to improve outcomes, such as steroids for lung development and full resuscitation efforts, may be right for you and your baby.

If you have another pregnancy – we recommend early consultation in the first trimester to review possible measures to reduce the risk that early rupture occurs again. Possible interventions include ultrasound of the cervix and progesterone.

KDD 10/2021