

Quick Review: Prom

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Citation

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Abstract

PROM (Premature Rupture of Membranes) can be defined as the rupture of the chorioamniotic membrane prior to the onset of labor. It's incidence is approximately 10 - 15 % and carries a number of associated conditions/complications: infection, prolapsed cord, abruption, and preterm labor. In PROM, 60 - 80% of patients will undergo onset of labor within 24 hrs; 20 - 40 % may have latency periods in excess of 7 days. The exact mechanism of rupture is not known. However, various factors have been associated with the condition including infection, increased uterine size (polyhydramnios, macrosomia, multiple gestation), uterine anomalies (e.g. bicornate uterus), fetal anomalies, and coitus.

PROM (Premature Rupture of Membranes) can be defined as the rupture of the chorioamniotic membrane prior to the onset of labor. It's incidence is approximately 10 - 15 % and carries a number of associated conditions/complications: infection, prolapsed cord, abruption, and preterm labor. In PROM, 60 - 80% of patients will undergo onset of labor within 24 hrs; 20 - 40 % may have latency periods in excess of 7 days. The exact mechanism of rupture is not known. However, various factors have been associated with the condition including infection, increased uterine size (polyhydramnios, macrosomia, multiple gestation), uterine anomalies (e.g. bicornate uterus), fetal anomalies, and coitus.

About 5 % of patients with PROM will also be preterm (prior to 37 completed weeks of gestation), a state called 'PPROM'. The mechanism behind this rupture is also unknown but infection seems to play a strong role; bacterial products may act biochemically to weaken the fetal membranes while at the same time increasing prostaglandin synthesis leading to uterine contractions. In addition to the risks carried with PROM, PPRM also adds the weighted factor of prematurity (the possibility of RDS). PPRM prior to 34 weeks gestation carries a neonatal mortality rate of 29%. Even though the etiology behind rupture of membranes may not be known, it must be remembered that in up to 5 % of cases with spontaneous leakage of fluid, the leakage will resolve and amniotic fluid be replaced.

Unlike determining it's cause, determining the diagnosis of

PROM is relatively simple: Nitrazine, "Fern", or Ultrasound. After the insertion of a Sterile Speculum, sampling of the fluid found in the vaginal vault is performed. With a nitrazine test, pH of the fluid is being tested: amniotic fluid is more basic (7.0) compared to normal vaginal secretions (4.5). However, there can be many False Positives (it is not very specific); blood, urine, semen, or antiseptic chemicals can all increase the pH. Placement of some of the fluid onto a glass slide will allow direct visualization under a microscope: amniotic fluid will "fern" when dried due to the amount of NaCl crystallization which occurs. If both of these are inconclusive, then Ultrasound evaluation of the AVF can be performed (usually will show a decreased amount - though large "lakes" may still be present). If AVF is decreased, then the fetal kidneys should be closely evaluated (to rule out agenesis which can lead to oligohydramnios). If there is still not a satisfactory result to demonstrate PROM, then sterile dye can be injected into the amniotic cavity under U/S guidance; with rupture, some of this fluid will leak out through the cervical os.

Management of PROM usually depends on the Gestational Age. Under NO circumstance should a digital cervical exam be performed until the pt enters active labor (to minimize infection exposure). If the fetal lungs are mature (tested by PG existence in the sampling of fluid from the vaginal pool, or by amniocentesis), induction of labor should be considered unless the station or cervical status indicate that

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further observation is needed; PROM is Not an indication, in of itself, for abdominal delivery. If the fetal lungs are immature, treatment should be Expectant - with encouragement for adequate hydration, reduced physical activity, abstinence from intercourse, and close observation for possible infection (CBC's). If during the appropriate time

frame (28 - 32 weeks), corticosteroids may be given for lung maturity, though this is highly controversial! [The same corticosteroids may cause immunosuppression and lead to increased morbidity via infection].

References

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