Premature Rupture of Membranes (PROM)

Premature Rupture of Membranes (PROM) is rupture of the fetal membranes (amniotic sac) more than one hour before the onset of labor. Risk factors include vaginal or cervical infection, cervical incompetence and history of PROM. Diagnosis is made by a sterile speculum examination, where there is pooling of amniotic fluid seen in the posterior vaginal canal, a positive fern test, and positive Nitrazine paper test. Treatment is determined based on gestational age. If less than 34 weeks gestation, corticosteroids are administered in order to hasten fetal lung maturity prior to delivery. If more than 34 weeks, labor is induced.



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Pathophysiology

Rupture > 1 Hour Before Labor
Rupture Greater-than (1) Wand
Premature rupture of the membranes (PROM) refers to a patient who presents with rupture of fetal membranes (amniotic sac) more than one hour prior to the onset of labor. Patients present with leakage of fluid, vaginal discharge, vaginal bleeding and pelvic pressure without regular uterine contractions, evidence of cervical dilation or cervical effacement.

Risk Factors

Infection
Infectious-bacteria
Infection in the vagina or cervix may lead to PROM.

PROM History
PROM Hx
Having a history of PROM with a previous pregnancy is a risk factor for developing PROM in subsequent pregnancies.

Incompetent Cervix
Incompetent-clumsy Cervix-certificate
Cervical incompetence is a medical condition in which the cervix dilates and thins prematurely. This may lead to miscarriage or PROM. Women with known cervical incompetence or insufficiency may elect to have a cervical cerclage placed between 12 and 16 weeks gestation. A cerclage, also called a cervical stitch, closes the cervical os to prevent premature delivery. The stitch is then removed prior to delivery.

Diagnosis

Fern Test
Fern
PROM can be diagnosed with a sterile speculum examination of the cervix and vaginal cavity. A sample of vaginal fluid is obtained for a fern test to determine if amniotic fluid is present in the vagina, indicating the membranes have ruptured. The vaginal fluid is placed on a glass slide and allowed to dry, if amniotic fluid is present, the dried fluid will have a fern leaf-like pattern seen on microscopy.

Nitrazine Paper Test
Knight-zine
Normally, the vagina has an acidic pH. In PROM, the Nitrazine paper turns blue, due to the alkaline pH of amniotic fluid.

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Ultrasound

Ultrasound-machine

Ultrasound should be utilized to monitor fetal growth and the amount of amniotic fluid present. It is important to identify oligohydramnios (amniotic fluid index (AFI) ?5 cm or single deepest pocket (SDP) <2 cm), as this may be associated with PROM.

Treatment

Consider Tocolytics

Taco-lights

Tocolysis is the inhibition of myometrial contractions. Therefore, tocolytic medications slow down or inhibit the onset of labor. If uterine contractions occur, tocolysis is contraindicated.

Consider Antibiotics

ABX-guy

If signs and symptoms of chorioamnionitis are present (maternal fever and uterine tenderness in the presence of PROM, in the absence of UTI or URI), then obtain cervical cultures, and begin broad-spectrum IV antibiotic therapy and initiate delivery.

< 34 Weeks Gestation

Less-than (30) Dirty (4) Fork

At less than 34 weeks gestation, corticosteroids are given.

Corticosteroids

Quarter-on-steroids

Corticosteroids are given to women less than 34 weeks gestation to hasten fetal lung development.

> 34 Weeks Gestation

Greater-than (30) Dirty (4) Fork

At more than 34 weeks gestation, the preferred management is induction of labor.

Induction of Labor

Labor Induction-duck

Women with term PROM should undergo prompt induction of labor if they are more than 34 weeks gestation. Oxytocin (a synthetic analog of the hormone produced in the hypothalamus) or prostaglandins may be used as an inducing agent.

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