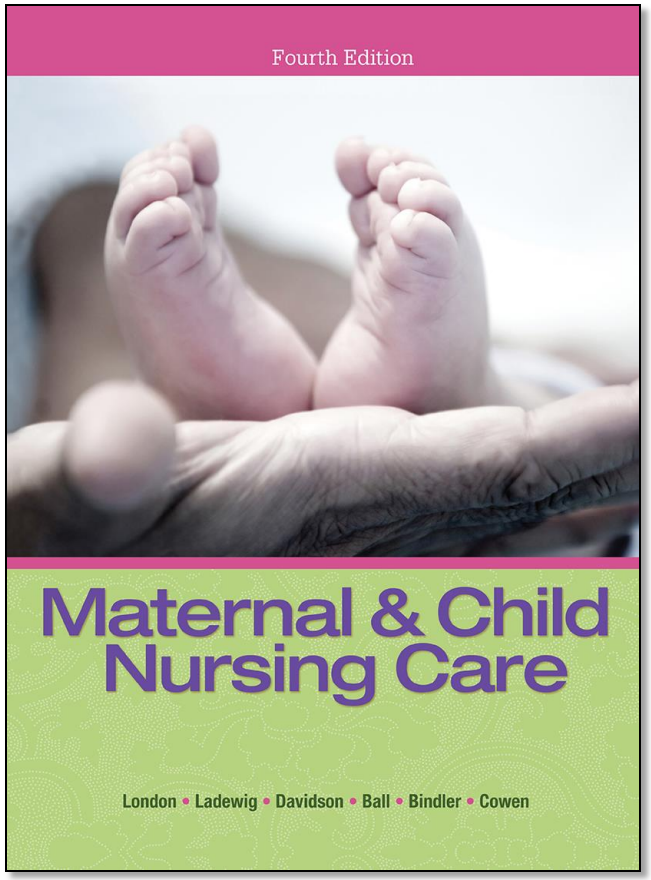
MATERNAL & CHILD NURSING CARE

FOURTH EDITION



CHAPTER 21

Childbirth at Risk: Prelabor Complications

Learning Outcome 21-1

Explain the possible causes, risk factors, and clinical therapy for premature rupture of the membranes or preterm labor in determining the nursing care management of the woman and her fetus-newborn.

Preterm Labor (PTL)

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- When labor occurs btw 20 and 36 completed weeks (37 wks)
- Prematurity 12.7% in US

Table 21–1 Risk Factors for Spontaneous Preterm Labor

Multiple gestation	Cervical shortening/1 cm
DES exposure	Uterine irritability
Known cervical insufficiency	Age (less than 17 or over 35 years)
Hydramnios	Low socioeconomic status
Uterine anomaly	Cigarettes—more than 10/day
Cervix dilated/1 cm at 32 weeks	Substance abuse
Second-trimester abortion	Low maternal weight
Fetal abnormality	Poor weight gain
Febrile illness	More than two first-trimester abortions
Bleeding after 12 weeks	Nonwhite race
History of pyelonephritis or other maternal infection	Cervical cerclage in situ
Diabetes	In vitro fertilization (singleton or multiple gestation)

Table 21-1 Risk Factors for Spontaneous Preterm Labor

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Previous preterm birth	Sexually transmitted infection (STI) (trichomoniasis, chlamydia)
Previous preterm labor with term birth	Anemia
Abdominal surgery during second or third trimester	Abdominal trauma
History of cone biopsy	Foreign body (e.g., IUD)
Uteroplacental ischemia	*Bacterial vaginosis, E. coli* (ascending intrauterine infection)
Stress	Periodontal disease
Inadequate or no prenatal care	Domestic violence
Lack of social support	Long work hours with prolonged standing
Hypertension (preeclampsia, gestational hypertension, chronic hypertension)	Clotting disorders
Obesity	Interval of less than 6 to 9 months between pregnancies

Table 21-1 (continued) Risk Factors for Spontaneous Preterm Labor

Maternal Implications of PTL

- Psychologic stress related to the baby's condition
- Physiologic stress related to treatment for PTL

Fetal-Neonatal Implications of PTL

- Respiratory distress syndrome
  - Increased morbidity and mortality
- Birth trauma
- Maturational deficiencies i.e. immature organs, heat regulation

Signs and Symptoms of PTL

- Uterine contractions that occur at least every 10 minutes
  - With or without pain
- Mild menstrual-like cramps felt low in the abdomen
- Constant or intermittent feelings of pelvic pressure

Signs and Symptoms of PTL

- Rupture of membranes
- Low, dull backache
- Change in the vaginal discharge
- Abdominal cramping

PTL – Community-Based Care

- Teach signs and symptoms of PTL
- Teach self-assessment and self-care
  - Evaluation of contraction activity once or twice daily
  - Ensure the woman knows when to report signs and symptoms
  - Reinforce to caregivers the need to take the woman's call seriously and treat her positively

Strongest Predictors of PTL

- Multiple gestation
- Bleeding during pregnancy
- Cervicovaginal fibronectin: Fibronectin is a protein normally exists in the fetal membranes & decidua. Its normal to be in the cervicovaginal fluids during early pregnancy, but not btw 22-37 wks.
  - ✓ Neg. test = low risk of PTL within 7-14 days.
  - ✓ Post. Test = high risk for PTL
- Abnormal cervical length on ultrasound

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Strongest Predictors of PTL

- History of previous preterm birth
- Abnormal vaginal flora
- Infection
- Possible link with paternal smoking

Diagnosis of PTL

- 20 to 37 weeks' gestation
- Documented uterine contractions
  - At least 4 in 20 minutes or 8 in one hour
- Cervical change: dilatation>1cm and effacement ≥ 80%

Goals of Clinical Therapy for PTL

- Maintain good uterine blood flow
- Detect uterine contractions
- Ensure that fetus is stable

Clinical Interventions for PTL

- Maternal lateral positioning
- IV fluid infusion
- Maternal laboratory studies
  - CBC
  - C-reactive protein (CRP): Blood test detects inflammation in the body
  - Vaginal and urine cultures
  - Fetal fibronectin (fFN)
- Ultrasounds

Tocolysis for PTL

- Use of medication to stop labor by suppressing cotx.
  - β-adrenergic agonists (β-mimetics)
  - Magnesium sulfate
  - Cyclooxygenase (prostaglandin synthetase) inhibitors
  - Calcium channel blockers
- β-mimetics terbutaline sulfate (Brethine) & magnesium sulfate are most widely used tocolytics

Other Medication

- Corticosteroids (Dexamethasone) to be given especially btw 24 to 34 weeks: prevent RDS complications

Premature Rupture of Membranes (PROM)

Premature Rupture of Membranes (PROM)

- Spontaneous rupture of membranes before onset of labor
- Preterm PROM (PPROM): rupture of membranes before 37 weeks' gestation
- PROM: 5-10% of all pregnancies
- PPROM: 3% of all pregnancies

Risk Factors Associated With PPROM

- Low socioeconomic status
- Tobacco use
- Low body mass index
- Infection
- Previous history of PPROM

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Risk Factors Associated With PPROM

- Hydramnios
- Multiple pregnancy
- Urinary tract infection (UTI)
- Amniocentesis
- Placenta previa
- Abruptio placentae

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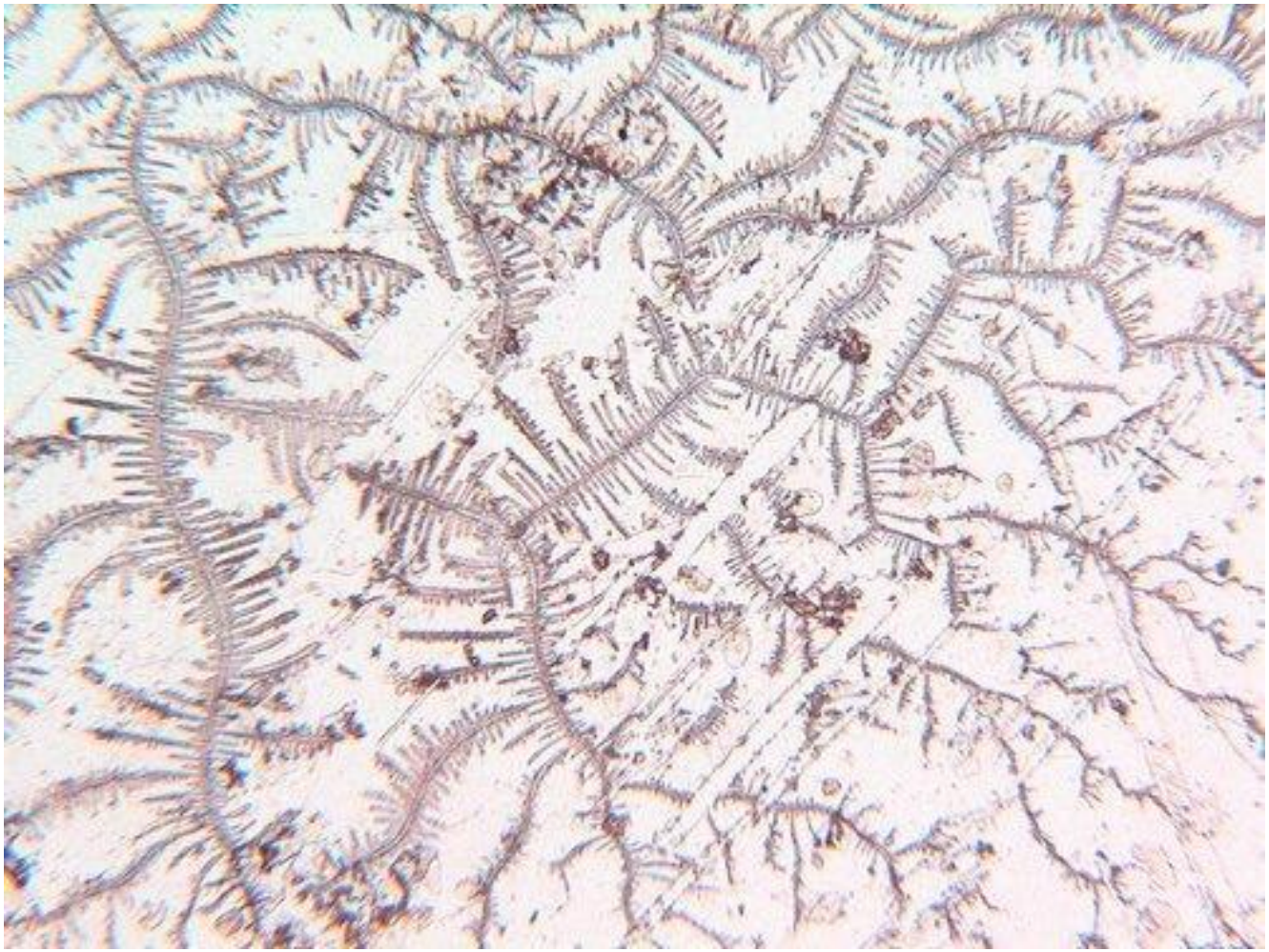
Risk Factors Associated With PPROM

- Trauma
- Incompetent cervix
- Bleeding during pregnancy
- Maternal genital tract anomalies

PROM & PPROM diagnosis

- Speculum exam: detects presence of amniotic fluid in the vagina (pooling)
- If pooling is not clear, test vaginal fluid by nitrazine paper→ turns to blue if amniotic fluid exists (bacteria may affect result of test).
- Ferning test: confirms rupture of membranes (definitive test)
- No digital exam: **Why..???**

Ferning test



Maternal Risk of PROM

- Related to infection
  - Specifically *chorioamnionitis* and *endometritis*
- Abruptio placentae occurs more frequently in women with PROM
- Rare complications include retained placenta and hemorrhage, maternal sepsis, and maternal death

Fetal/Newborn Implications

- Risk of respiratory distress syndrome (with PPROM)
- Fetal sepsis
- Malpresentation
- Umbilical cord prolapse or compression
- Nonreassuring fetal heart rate tracings
- Premature birth
- Increased perinatal morbidity & mortality

PROM – Nursing Care

- Determine duration of the rupture of membranes
- Assess gestational age
- Monitor for infection
- Assess fetal heart rate
- Evaluate the woman and partner's childbirth preparation and coping abilities

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PROM – Nursing Care

- Assess uterine activity and fetal response to the labor
  - Vaginal exams only if necessary
- Provide comfort measures
- Maintain adequate hydration
- Encourage left lateral positioning

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PROM – Nursing Care

- If PPROM
  - Hospitalization, bed rest, monitored for infection, and assess fetal well-being
- Education