

Nursing 201- Nursing Care of Special Populations

Problems of Pregnancy

I. Hyperemesis Gravidarum

- A. Excessive vomiting during pregnancy leading to dehydration and nutritional deficiency
- B. Etiology: Unknown but theories exist and risk factors are known
 - i. Theory: High hCG levels, hyperthyroidism, increased estrogen levels
 - ii. Risk Factors: past hx of hyperemesis gravidarum, multifetal gestation, having a female fetus, migraines, motion sickness hx, molar pregnancy, family hx
- C. S/S: Unrelenting nausea and vomiting, weight loss, nutritional deficiency, ketonuria, electrolyte imbalances
- D. Complications:
 - i. Maternal: esophagus rupture, Thiamine and Vitamin K deficiencies, CNS involvement (encephalopathy)
 - ii. Fetal: SGA, premature birth
- E. Treatment:
 - i. IVF replacement, correction of electrolyte imbalances
 - ii. pyridoxine (vitamin B6) and doxylamine (Unisom), or a single drug combination of both pyridoxine and doxylamine (Diclegis). Antiemetics, Corticosteroids, Antacids, Proton Pump Inhibitors, anti histamines.
 - iii. Nutritional supplements such as ginger. TPN, tube feeding.
 - iv. Holistic Approach: Acupuncture, hypnosis

II. Cervical Insufficiency

- A. Cervix unable to support the increasing weight of the cervix
- B. Painless dilation of the cervical os without labor or contractions
- C. Associated with 2nd trimester repeated preterm births
- D. Risk Factors: Uterine abnormalities, uterine weakness, collagen disorders, cervical trauma, history of a d&c before, cone biopsy
- E. Symptoms: Often none, short cervix
- F. Diagnosis
 - i. History, Physical exam/Ultrasound exam transvaginal
- G. Treatment: Cervical cerclage prophylactically or as a treatment measure to constrict the internal os of the cervix

III. Premature Rupture of Membranes (PROM) aka. Prelabor Rupture of Membranes

- A. Spontaneous ROM prior to the onset of labor at any gestational age
- B. P-PROM- preterm prelabor rupture of membranes before 37 weeks of pregnancy
- C. Etiology is unknown but could be r/t weak amniotic membranes or increased intrauterine pressure

- D. Other Factors: Infection of the urogenital tract, past hx of PROM or P-PROM, short cervical length, hx of bleeding in pregnancy, low socioeconomic status, low BMI, smoking or drug usage
- E. Risks of PROM or P-PROM: Infection of the amniotic membranes or endometrial lining. Neonatal sepsis, umbilical cord prolapse & compression, placental abruption
- F. Management: Near term between 34-36 weeks deliver fetus as infection risk is high. Preterm before week 32 gestation give antibiotics, glucocorticoids & magnesium sulfate.

IV. Preterm Labor

- A. Occurrence of regular uterine contractions with a change in cervical effacement or dilation between 20 weeks and 36 6/7 week gestation
 - i. Higher incidence in African American/Black mothers
- B. Spontaneous or Indicated Categories for preterm birth
 - i. Spontaneous as name implies
 - ii. Indicated could be initiation of preterm labor for a medical reason
- C. Risk Factors & Causes
 - i. Hx of previous spontaneous preterm labor, urogenital infection, black race, bleeding during pregnancy from unknown origin, uterine abnormality, use of reproductive assistance, multifetal gestation, smoking, drugs, low bmi, late prenatal care, stress
 - ii. Indicated preterm birth causes include preexisting conditions, acute conditions in pregnancy, AMA, fetal disorders and fetal defects that are lethal
- D. Identification of those at Risk
 - i. History is the strongest predictive factor. Family hx also high risk
 - ii. Cervical length- we want long cervix, > 30mm is a good length and less likely for preterm labor
 - iii. fFN- Fetal Fibronectin Test
 - 1. fFN is a glue-like glycoprotein. Holds the fetal sac against the uterine lining.
 - 2. Glycoprotein substance should be present in cervical/vaginal secretions only in early or late pregnancy
 - 3. Should not be present after early or late pregnancy unless there is placental inflammation which could mean preterm labor imminent.
 - iv. Symptoms Preterm Labor
 - 1. May not feel like typical labor pains
 - 2. Change in vaginal d/c, pelvic/lower abd pressure, backache low and constant, mild cramping, contractions that aren't painful, possible ROM.
 - 3. If have symptoms: immediate interventions needed
 - a. Stop activity, drink fluids, lie down, call doctor

- b. If checked by doctor and ok some restrictions may apply
 - v. Preterm Labor Management
 1. Treat infection prn
 2. Arrest labor using tocolytics
 - a. Transfer to higher level of care
 - b. Give time to achieve more lung maturity in fetus before birth
 3. Contraindications for suppression of labor: preeclampsia, hemodynamically unstable, intrauterine fetal demise, lethal anomaly, chorioamnionitis, P- PROM
- E. Pharmacologic Management for Preterm Labor
- i. Betamethasone
 1. Antenatal glucocorticoid
 2. Accelerates fetal lung maturation
 3. IM- dosage 12mg for 2 doses, 24 hrs. apart
 4. Side effects: increased WBC, hyperglycemia, fetus can have decreased movement and breathing in utero
 - a. Dexamethasone can also be used, dosage 6mg IM for 4 doses, 12 hrs. apart
 - ii. Magnesium Sulfate
 1. Most commonly used tocolytic
 2. CNS depressant, smooth muscle relaxer, neuroprotectant
 3. IV- loading dosage 4-6 grams over 30 min, then IV maintenance gtt.
 4. Discontinue within 24-48 hrs. or sooner if adverse reactions
 5. Side effects: flushing, hot, sweating, burning at IV site, N&V, weakness, lethargy, dizziness, hypotension, RR decreased, absent DTRs, chest pain, decreased fetal movement, RR, and FHR.
 6. Antidote- calcium gluconate for magnesium toxicity
 7. Nursing: Monitor UO, reflexes, magnesium levels, VS
 - iii. Terbutaline
 1. Beta-Adrenergic Agonist
 2. Smooth muscle relaxer
 3. Subcutaneous injection 0.25mg every 4 hours
 4. Discontinue within 24 hours or if adverse reactions
 5. Side effects: tachycardia, dizziness, N&V, hypotension, chest pain, arrhythmias. Fetal tachycardia.
 6. Reversal agent for cardiac effects- propranolol
 7. Nursing: Monitor VS, serum electrolytes (can see low K+)
 - iv. Nifedipine
 1. Calcium channel blocker
 2. Smooth muscle relaxer
 3. Oral 10-20mg dosage initially every 3-6 hrs.

4. Side effects: hypotension, headache, dizzy, nausea, flushing, fetal hypotension
 5. Avoid usage with Magnesium sulfate as using both can cause a skeletal muscle blockade.
 6. Nursing: Monitor VS
- v. Indomethacin
1. Prostaglandin synthetase inhibitor (NSAID)
 2. Smooth muscle relaxant
 3. Oral 50-100mg initial dose, then 25-50mg every 6 hr. for 48 hours
 4. Side effects: N&V, Headache, Dizzy, GI bleeding, constriction of the ductus arteriosus in the fetus, decreased fetal urine production
 - a. Need ductus arteriosus patent in fetus to detour blood away from fetal lungs until it closes after birth.
 5. Nursing: Monitor for bleeding, administer with food to decrease GI distress, don't use for > 48 hours, not used for gestations > 32 weeks