Chapter 20

Contrast the etiology, medical therapy, and nursing interventions for the various bleeding problems associated with the first trimester of pregnancy.

- Spontaneous Abortion (Miscarriage)...first trimester
    - Etiology: 60% of first trimester SAs are due to chromosomal abnormalities: other causes are inherited thrombophelias, teratogenic drugs, faulty implantation, weakened cervix, placental abormalities, chronic disease, endocrine imbalance, polycistic ovarian syndrome, dysfunctional folate metabolism and maternal infections. Lots on pg 482.
    - Signs and Symptoms:
        - Reliable indicator = pelvic cramping and backache
        - 25% of first trimester SAs have bleeding
    - Evaluation:
        - Pelvic exam to determine the presence of cervical polyps or cervical erosion
        - Ultrasound to check for fetal heart activity and presence of gestational sac or crown-rump length that is SGA. If there is a FHR this is a good sign the pregnancy will continue (86% chance!)
        - hCG cannot confirm a live fetus b/c the levels fall slowly after fetal death
        - H & H to determine blood loss; type and cross
    - Therapy
        - Bed rest, no sex, maybe sedation.
        - Woman may be hospitalized if bleeding persists or if abortion is imminent or incomplete.
        - IV therapy and blood transfusions to replace fluid
        - D&C or suction evacuation if need to get the products out (can be outpatient if no complications)
        - Rh is woman is Rh-neg...given within 72 hours
        - If beyond 12 weeks gestation, and products of conception are not expelled then woman is induced by IV oxytocin and prostaglandins or misoprostol.
    - Nursing Interventions
        - Assess amount and apperance of vaginal bleeding
        - Monitor VS and pain
        - Ensure woman's blood type and Rh factor are identified
        - Assess FHR if > 10-12 weeks (Doppler)
        - Assess the woman's response to the crisis; evaluate coping mechanisms
        - Dx= fear, acute pain, anticipatory grieving
    - Community-Based Care
        - If woman is in first trimester and begins cramping or spotting, she may be evaluated as an outpatient
        - Guilt is a common emotion
        - Grieving period is 6-24 months
        - Referall to support group helps
- Ectopic Pregnancy (first trimester)
    - What is it?
        - Implantation of ovum in a site other than the endometrial lining of the uterus.
        - Most common location is the ampulla of the tube
    - What are the risk factors?
        - Tubal damage caused by PID; previous pelvic or tubal surgery; emdometriosis; previous ectopic pregnancy; presence of an IUD; high levels of progesterone (alters motility of egg); congenital anomalies of the tube; use of ovulation-inducing drugs; primary infertility; smoking; advanced maternal age
    - Signs & Symptoms
        - Normal S&S of pregnancy initially (including Chadwick's and Hegar's); hCG is present
        - Slow vaginal bleeding d/t fluctuating hormone levels...can lead to hypovolemic shock if hemorrhage is profuse
        - If bleeding has occured into the pelvic cavity then a vag exam is extremely painful; may be able to palpate a mass of blood in the cul-de-sac of Douglas
        - Possibly one-sided lower abdominal pain and fainting or dizziness (50% have referred right shoulder pain)
        - 1/4 involve uterine enlargement
        - Adnexal tenderness on physical exam; 50% have palpable adnexal mass

    - Low H&H, rising leukocyte levels
    - hCG rising more slowly than usual
  - Evaluation
    - Differentiate between ectopic pregnancy and other disorders (SA, ruptured corpus luteum cyst, appendicitis, salpingitis, torsion of the ovary, ovarian cysts, UTI)
    - Menstrual history
    - Pelvic exam (check for masses and tenderness)
    - Lab tests
    - Ultrasound to check for gestational sac...if you see one then it's not an ectopic pregnancy
    - Laparascopy if you can't figure it out otherwise
  - Therapy
    - Methotrexate if woman wants future pregnancy and the ectopic pregnancy is not ruptured and smaller than 3.5 cm (and stable condition). There must be no fetal cardiac activity and no evidence of maternal thrombocytopenia, leukopenia, kidney disease or liver disease. The med is given IM and may be repeated in 7 days (though the one-dose regime is more common)
    - If surgery is indicated and woman wants future pregnancy, then a laparascopic linear salpingostomy is done to evacuate the ectopic pregnancy gently and preserve the tube.
    - If tube is ruptured or no future pregnancies are wanted, then a laparoscopic salpingectomy is done.
    - il woman is in shock, then an abd incision is made
  - Nursing Interventions
    - First, you assess the apperance and amount of vaginal bleeding
    - Monitor VS (esp BP and pulse), and watch for signs of shock
    - Assess emotional status, etc…
    - Nursing Dx= anticipatory grieving, pain, health-seeking behavior
    - If given Methotrexate, woman is monitored as an outpatient:
      - Monitor woman for increasing abdominal pain (generally lasts 24-48 hours and is mild). More severe pain could mean the treatment failed and follow-up is needed.
        Teach mom want to report: heavy bleeding, dizziness, tachycardia
      - Monitor hCG levels...will go up for 1-4 days then decrease
    - In the hospital:
      - Start an IV and begin preop teaching
      - Watch for signs of developing shock
      - Give pain meds if needed
- Gestational Trophoblast Disease (first trimester)
  - What is it: a pathologic proliferation of trophoblastic cells
    - Hydatidiform mole (can be complete or partial)
    - Invasive mole
    - Choriocarcinoma
  - Signs and Symptoms of hydratidiform mole:
    - Vaginal bleeding as early as 4th week or as late as 2nd trimester; brownish (prune juice color), but could be bright red
    - Anemia s/t blood loss
    - Hydropic vessicles may be passed (with partial mole they are small and may not be noticed)
    - Uterine enlargement greater than expected for gestational age (in 50% of cases)
    - Absence of fetal heart sounds in the presence of other signs of pregnancy
    - Markedly elevated hCG (usually it increases from time of conception and peaks in 60-70 days then reaches a low point at 100-130 days)
    - Very low levels of MSAFP
    - Hyperemesis gravidarum (probably due to high levels of hCG)
    - Preeclampsia (esp if it continues into 2nd trimester)
    - Hyperthyroidism can occur, but is rare.
  - Evaluation
    - Ultrasound after 6-8 weeks to identify vesicular enlargement
  - Clinical Therapy

- Suction evacuation of the mole and curettage of the uterus to remove placental fragments
- Hysterectomy if no more kids or woman is bleeding excessively
- Treatment for choriocarcinoma:
  - These develop in 20% of women after the mole is removed
  - Women need follow up care in order to watch for this...baseline CXR to detect metastasis + a repeat CXR if chemo is needed. Also CT scan, and brain CT to rule out metastatic spread.
  - Continued high hCG is a sign of this, so the hCG is monitored every 1-2 weeks until two negatives in a row, then q 1-2 months for a year.
  - Pelvic exams q 4 weeks until remission (if getting chemo) and then q 3 months for 1 year
  - Woman needs to be on birth control during this time that hCG levels are out of whack or getting chemo
- Nursing Interventions
  - If hospitalized...monitor VS, bleeding and signs of hemorrhage.
  - Type and cross match
  - Administer oxytocin to prevent hemorrhage
  - Rh if woman is Rh negative and not sensitized.
  - Nursing Dx = fear, health-seeking behavior, anticipatory grieving

Identify the medical therapy and nursing interventions indicated in caring for a woman with an incompetent cervix.

- What is it: Painless dilation of the cervix without contractions d/t a structural or functional defect
- Contributing factors
  - Congenital factors; may be found in women exposed to DES or those with bicornuate uterus
  - Acquired factors r/t inflammation, infection, subclinical uterine activity, cervical trauma, cone biopsy or late abortions, or increased uterine volume (multiples).
  - Biochemical (hormonal) factors = increased relaxin levels
- Risk factors
  - Multiple gestations, multiple 2nd term losses, previous preterm birth, short labors...others pg 489.
- Signs and Symptoms
  - Woman is usually unaware of any contractions and presents with advanced effacement and dilatation, maybe bulging membranes
- Treatment
  - Medical Management
    - Close monitoring of cervical length via transvaginal US at 16-24 weeks
    - Bed rest
    - Progesterone supplements
    - Anti-inflammatory drugs and abx
  - Surgical Management
    - Cerclage procedures (a heavy suture to reinforce the cervix at the internal os)
      - McDonald cerclage uses a purse-string technique high up on the cervix
      - Shirodkar method uses a submucosal band placed at level of internal os
      - Abdominal cerclage may be needed for women with short or amputated cervix (others pg 490)
    - Tocolytics, Abx and anti-inflammatory drugs are given peri-operatively and for ongoing tx
    - Emergency cerclage requires 5-7 days in hospital, others are done outpatient
    - The suture can be cut after 37 weeks for vaginal birth; or left in place and C/S
- Nursing intervention
  - Treat mom signs of impending birth: lower back pain, pelvic pressure, changes in discharge

Discuss the medical therapy and nursing care of a woman with hyperemesis gravidarum.

- What is it:
  - N/V so severe it affects hydration and nutrition status
  - Occurs in 0.5 to 2% of pregnancies

    - Occurs more frequently in nulliparous women, adolescents, women with multiples, obese women, certain ethnic groups, pregnancies complicated by GTD or fetal abnormalities, and women with a family history of it.
- What causes it?
    - Still not sure, but possible culprits are hCG, estradiol, displacement of GI tract, hypofunction of pituitary and adrenal cortex, abnormalities of corpus luteum, h. pylori infection and pyshologic factors
- Diagnostic criteria
    - Hx of intractable vomiting in first half of pregnancy
    - Dehydration
    - Ketonuria
    - Loss of 5% of body weight
- Evaluation
    - Ultrasound to exclude possibility of molar pregnancy
- Clinical Therapy
    - First line: frequent small meals of simple CHOs and occasional use of antiemetics
    - If that doesn't work she may require IV fluids as an outpatient
    - If that doesn't help, she may need to be hospitalized
    - Initially, women is NPO, then given IV fluids to correct dehydration, then K to prevent hypokalemia. Woman will also get thiamine…(don't give dextrose before thiamine...this can cause Wernicke encephalopathy)
    - Desired urine output is 1000 ml/24 hours
    - Ginger can help as can acupuncture and acupressure
    - If woman does not respond to this treatment, then she gets TPN until she can take oral feedings.
        - Six small dry feedings followed by clear liquids; or…
        - 1 oz water each hour, followed as tolerated by clear liquids then nourishing liquids, advance as tolerated
- Nursing Interventions
    - Assess amount and character of emesis
    - I & O
    - FHR
    - Maternal VS
    - Weight
    - Signs of jaundice and bleeding
    - Teach about home care: small CHO meals with high protein and no fatty foods; rest with feet elevated; slowly sip carbonated beverages when nauseated. Herbal tea may help;
    - Teach woman to avoid odors, exposure to fresh air, very hot or cold liquids, ice and straws
    - In the hospital: same stuff you do for chemo patient

Discuss the nursing care for a woman experiencing premature rupture of the membranes.

- Consider PROM if a woman complains of a watery vaginal discharge or sudden gush of fluid
- Ask her about time of initial fluid loss, if the leak is continuous, the color/odor/amount/consistency of the fluid.
- Check any leaking fluid with nitrazine paper (amniotic fluid is more alkaline than normal vag secretions). The paper will change to blue-green or blue if ROM (but some things can cause a false negative, see pg 493). Can also do a fern test
- Sterile speculum exam if more evaluation is needed...looking for gross pooling in the vagina when she bears down.
- US can look for reduced amniotic fluid
- Amniocentis if you can't figure it out...they put a blue dye in there and then put in a tampon to see if it turns blue. Urine will be green!
- Assess FHR via heart rate tracing or biophysical profile
- Calculate gestational age of fetus to determine plan
    - > 36 weeks, labor will start in 50% of women within 12 hours
- Management of PROM in absence of infection and < 37 weeks is conservative
    - Amniocentesis maybe
    - Fetal lung maturity test if nearing 34 weeks gestation
    - BR and hospitalized
    - Complete CBC and UA on admission
    - Regular non-stress tests or biphysical profiles to monitor fetal well being

- Maternal BP, pulse and temp q 4 hours
- Labs to detect maternal infection
- After initial treatment and observation some women can go home if the leak stops or if the fetus has not reached age of viability. Woman is advised to continue BR with bathroom privileges; monitor temp QID, keep a fetal movement record and go on pelvic rests. She may get twice weekly non-stress tests and CBS, and weekly US and cervical visualization.
- Prophylatic abx with any woman with unknown strep status or history of a positive culture during pregnancy
- IMMEDIATE BIRTH IS INDICATED IF AMNIOTIC FLUID SHOWS:
    - low glucose level
    - high WBC
    - positive gram stain
    - organisms in the fluid
- Betamethasone decreases likelihood of neonatal respiratory distress syndrome, necrotizing enterocolitis, intraventricular hemorrhage and perinatal death
    - 12 mg IM followed by second doze in 24 hours
    - ...or dexamethasone 6 mg IM q 12 hours for 4 doses
- Tocolytics usually not indicated...but may be used short-term to allow the short course of steroids to be administered.
- Encourage woman to rest on right or left side

Contrast the etiology, medical therapy, and nursing interventions for preterm labor.

- Signs and Symptoms
    - abdominal pain
    - back pain
    - pelvic pain
    - menstrual-like cramps
    - vaginal bleeding
    - increased vag discharge (may be pinkish or mucus-like)
    - pelvic pressure
    - urinary frequency
    - diarrhea
- Evaluation
    - Assess for fFN...the presence of fFN after 20 weeks gestation and before term is abnormal
    - Assess contraction frequency, but this alone is not enough info
    - Digital cervical exam once ROM has been ruled out
        - 3cm or more dilated or 80% or more effaced with regular contractions = PTL
    - Assess cervical length by endovaginal US
        - length of less than 20 mm with regular contractions = PTL
    - Primary Intervention to reduce preterm birth = dx and treat infections, perform cervical cerclage and give progesterone
    - Secondary Intervention = abx and tocolytics
        - Tocolytics
            - May delay birth for 2-7 days so that you can give betamethasone for fetal surfactant induction or get mom to another facility
            - Effect of tocolytics is reduced if cervix is more than 4-5 cm dilated or if there is subclinical amnionitis
            - The only tocolytic approved by FDA is Yutopar, but there are others that are currently used…
            - B-adrenergic agonists (aka B-mimetics): often choses as first-line Thx, but can affect maternal CV and metabolic physiology (hypoT, arrhythmias, tachyC, palpitations, myocardial ischemia, pulmonary edema and maternal hyperG)
            - Mag sulfate: has fewer side effects than those above;
                - Loading dose is 4-6 g IV in 100 ml over 20 minutes
                - Maintenance dose is 1-4 g/hour titrated to deep tendon reflexes and serum Mag levels
                - Therapy lasts 12 hours
                - Maternal serum level is usually 5.5 - 7.5 mg/dL

      - Loading dose SE: flushing, feeling warm, HA, nystagmus, nausea, dry mouth, dizziness
      - Other SE: sluggishness, risk of pulmonary edema (if infection or multiple gestation, too much IV fluid or concurrent B-mimetic Thx)
      - Fetal SE: hypotonia and lethargy for 1-2 days, hypoG, hypocalcemia
    - CCB (Nifedipine)
      - Inhibits contractile activity
      - Common SE: hypoT, tachyC, facial flushing, HA
      - Coadministration with terbutaline or ritodrine (B-adrenergics) is effective
      - Coadministration with Mag sulfate is bad...can cause seriously low Ca levels and maternal CV collapse
    - Prostaglandin synthetase inhibitors (celecoxib, sulindac, indomethacin, ketorolac)
      - Few maternal SE: dyspepsia, N/V, depression, dizziness (psychosis and renal failure are RARE)
      - Best to give with an antacid or taken with meals
      - Do not use in women with drug-induced asthma, coagulation probs, hepatic or renal insufficiency or PUD.
      - Indomethacin crosses placenta...can lead to oligohydramnios and premature closure of fetal ductus arteriosus. Associated with some other probs...not widely used.
  - Corticosteroids (betamethasine or dexamethasone) should be administered antenatally if woman is at risk for PTL.
- NO ATTEMPT TO STOP LABOR IF…
  - fetal demise
  - lethal fetal anomaly
  - severe preeclampsia/eclampsia
  - hemorrhage/abruptio placentae
  - chorioamnionitis
  - severe fetal growth restriction
  - fetal maturity
  - acute nonreassuring fetal status
- Nursing Care for PTL
  - Nsng Dx = Health-seeking behavior, fear, ineffective coping
  - Once uterine activity stops, woman is sometimes placed on oral tocolysis and discharged
  - Teaching for self care:
    - Teach S&S of PTL:
      - Contractions that occur a 10 mins or less (may not be painful)
      - Miild menstrual-like cramps low in abd
      - Pelvic pressure
      - ROM
      - Low, dull backache
      - Change in vag discharge
      - Abd cramping with or without diarrhea
    - Evaluate contraction activity 1-2 x a day by lying down tilted to one side. Place fingertips on fundus and chack for contractions for 1 hour.
    - If she has PTL symptoms for > 15 mins she needs to:
      - Empty bladder and lie down (tilt to the side)
      - Drink 3-4 cups of fluid
      - Palpate for uterine contractions for 1 hour (if they are 10 mins apart, she needs to call doc)
      - Soak in a warm tub bath with uterus completely submerged
      - Rest for 30 mins after symptoms subside; gradually resume activity
      - Call doc if symptoms persist, even if no contractions.
  - Hospital based care
    - Promote bed rest, monitor VS, measure I &O, continuously monitor FHR and contractions
    - Place woman on left side to promote maternal-fetal circulation
    - Minimal vag exams
    - Monitor for adverse affects of tocolytics (if used)

	Abruptio Placentae	Placenta Previa
What is it?	Premature separation of a normally implanted placenta from the uterine wall. Classification is based on the extent of the abruption (Class 0-3)	Placenta is improperly implanted on lower uterine segment. Classified in 4 degrees (total, partial, marginal, low-lying)
Etiology	More frequent in pregnancies complicated by smoking, PROM, HTN; risk of recurrence is 10x higher if a previous abruption has occurred; cause is unknown, can occur in trauma.	Cause is unknown; occurs in 1 in 200 pregnancies; factors = multiparity, increasing age, placenta accreta, defective development of blood vessels in decidua, prior C/S, smoking, recent SA or TA, large placenta.
Signs & Symptoms	-Sudden onset -Bleeding can be internal or concealed -Dark venous blood -Anemia is greater than apparent blood loss -Shock is greater than apparent blood loss -Toxemia may be present -Severe and steady pain -Uterus is tender -Uterus is firm to stony hard -Uterus may enlarge and change shape -Fetal heart tones are present or absent -Engagement may be present -No relationship to fetal presentation	-Quiet and sneaky onset -Bleeding is external -Blood is bright red -Anemia = blood loss -Shock = blood loss -Toxemia is absent -Pain is present only if in labor -Uterus is not tender -Uterus is soft and relaxed -Uterine contour is normal -Fetal heart tones are usually present -Engagement is absent -Fetal presentation may be abnormal
Treatment	-Coagulation tests -Maintain CV status of mom -Develop plan for birth -If separation is mild and near term, induce for vag birth; C/S if no labor in short time -If moderate to severe, C/S after hypofibrinogenemia has been treated by cryopreciptate of FFP -Whole blood if hypovolemic to a Hct of 30% -Lactated Ringers	-Determine if PP or advanced labor with copious bloody show -Localize placenta via tests that do not require vag exam (transabdominal US) -If < 37 weeks: try to delay birth (try to stop bleeding. If bleeding recurs or complete previa or labor is present or signs of distress, then C/S -If > 37 weeks, C/S if bleeding continues or complete previa; otherwise induce. -BR with bathroom privileges only if not bleeding -No vag exams -Betamethasone if premature -Lactated Ringers -Possible blood transfusion
Nursing Interventions	Type and cross Establish large bore IV Continuous external fetal monitoring CVP monitoring Monitor urine output Monitor contractions and resting tone Abd girth measurements hourly Place mark at top of fundus and check q hr Reinforce positive aspects of condition Monitor VS Complete BR Keep mom NPO Betamethasone if baby premature Assess amount of blood loss	Maintain mom on BR Monitor blood loss, pain, uterine contractility Evaluate FHR monitoring (external) Monitor mom's VS Evaluate H&H, Rh, UA I&O Check newborn's Hbg, cell volume, erythrocytes
Complications	DIC Couvelaire uterus	Hemorrhage Shock