**Chapter 5: Complications During Pregnancy**

* **High Risk Pregnancies can relate to the pregnancy itself, can occur because of a medical condition or injury, can result from environmental hazards that affect the mother or her fetus, or can arise from maternal behaviors or lifestyles that have a negative effect. (Ex: Twins, Preeclampsia, Chronic HTN)**
* **Danger signs in Pregnancy:** 
  + **Gush of fluid (could be amniotic fluid or urine) from the vagina.**
  + **vaginal bleeding**
  + **abdominal pain, persistent vomiting and nausea (consistent hyperemesis gravidarum)**
  + **epigastric pain (constant burning or hurting – can be from elevated liver enzymes)**
  + **edema (facial or all over)**
  + **severe headaches**
  + **blurred vision or dizziness (seeing spots, double vision)**
  + **chills and fever (over 100.4) \*INFECTION\***
  + **painful urination or reduced urine output. \*UTI\***
* **Pregnancy related complications: Hyperemesis Gravidarum, bleeding disorders, hypertension, and blood incompatibility between woman and fetus.**
* **Anemia: Iron is best absorbed with Citrus (orange juice), take with meals, iron injections, iron infusions and iron pills. Anemic patients are harder to oxygenate.**
* **Nitrates and Leukocytes in Urine indicates infection.**

**Placenta Previa: bright red bleeding occurring when cervix dilates, resulting in PAINLESS bleeding.**

**Placenta Abruptio: DARK red bleeding with pain, enlarging uterus (placenta pulls from uterus) Monitor for rigid hard abdomen.**

**Hyperemesis Gravidarum: FLUID VOLUME DEFICIT – caused by nausea, vomiting, diarrhea (not taking in enough of what you are taking out.**

* **Nausea, vomiting, dehydration, urine output decreased.**
* **Can cause Hypotension leading to Tachycardia (treated by IV bolas)**
* **Decreased urine output: under 30cc an hour.**
* **Metabolic Acidosis**
* **Renal Impairment over time.**
* **Potential Consequences: Cardiac dysfunctions, starvation, fetal death.**
* **You may see weight loss, dry mucous membranes, TACHYCARDIA, hypotension leading to syncope, decreased neck veins (FLAT), skin turgor and can LEAD TO HYPOGLYCEMIC SHOCK.**
* **Goal is to correct dehydration, may can give Zofran for the nausea, but will not fix the dehydration – RESTORE ELECTROLYTE IMBALANCES. (IV fluids)**
* **Medication Treatments: Pyridoxine B6, Antiemetics (Phenergan, Zofran), and Corticosteroids**

**Complications from Alteration in Perfusion Due to Bleeding**

* **Major cause of bleeding in the second and third trimester is ABORTION, pregnancy termination prior to 20 weeks gestation is considered ABORTION, after 20 weeks is considered preterm (age of viability – 20wks)**
* **Abortion can be spontaneous or occurring naturally.**
* **After 20 weeks: fetal demise (preterm)**
* **Before 20 weeks: ABORTION**

**Abortion:**

* **Signs: Backache, bleeding (vaginal), and uterine cramping.**
* **ASSESS for abdominal tenderness, maternal hypotension (ectopic pregnancy may lead to hemorrhage leading to symptoms of hypotension)**
* **Dilation of cervix and expulsing of products of conception**
* **Abortion medications: Rhogam will still be given if patient miscarriages.**
* **Common causes of bleeding in first half of pregnancy: Ectopic pregnancy and Gestational trophoblastic disease**
* **Second half of pregnancy: Placenta previa and Abruptio Placenta.**
* **Ectopic pregnancy:** 
  + **Most commonly occurs in fallopian tubes!**
  + **Most common symptom is shoulder pain.**
  + **When prescribed METHOTREXATE: do not take folic acids, drink alcohol, refrain from sun exposure (photosensitivity), and no anticoagulants!**
* **Gestational Trophoblastic Disease (GTD):**
  + **RARE, pathologic proliferation of trophoblastic cells (placenta)**
  + **Hydatidiform mole** 
    - **Common sign is vaginal bleeding, bright red, some “vessels” are being passed – increased risk for loosing pregnancy and possibility of developing choriocarcinoma.**
    - **Manifestations: Rapid uterine growth (ex: do not look pregnant, BAM, look pregnant) and HCG levels will be extremely high.**
    - **Treatment: Hysterectomy (reduces risk for CHORIOCARCINOMA)**
* **Care of a pregnant woman with Excessive bleeding**
  + **DOCUMENT blood lost (input \* output)**
  + **Typing screening: what blood type is patient (RH neg or RH positive)**
  + **Typing cross match: (sending to lab to put blood on hold in case patient needs infusion)**
  + **Monitor fetal heart rate and contractions.**
  + **Administer oxygen via mask.**
  + **Emergency: Fluids, blood products & medications as prescribed.**
* **LS Ratio:** 
  + **Fetal Lung Maturity test**
  + **you will get amnio fluid by Amniocentesis.**
  + **Looking for a 2-1 Ratio,**
  + **If Mother is gestational diabetic, you will look for a 3-1 Ratio.**

**Classification of Hypertension in Pregnancy:**

* + - * **Preeclampsia-eclampsia**
* **Hypertension and vasospasms due to gradual loss of resistance to angiotensin. This is the MOST COMMON hypertensive disorder in pregnancy. You will see decreased renal perfusion, decreased output and retention of sodium, and increased serum levels of creatine, BUN, and uric acid.**
* **Pathophysiology:** 
  + **Hyperreflexia (overstimulation of nervous system)**
  + **Decreased placental PERFUSION.**
  + **Increased viscosity of blood > leading to increased risk of blood clots.**
  + **HELLP Syndrome (Hemolysis, elevated liver enzymes & low platelet count) – Normal Platelet (150-450, not enough platelets is Thrombocytopenia! \*\*VERY IMPORTANT – TEST QUESTION\*\***
  + **H: HEMOLYSIS**
  + **E: ELEVATED**
  + **L: LIVER ENZYMES**
  + **L: LOW**
  + **P: PLATELET COUNT**
* **Preeclampsia Assessment: PROMOTE bed rest (overstimulation of nervous system), dark environment, rest, quiet, and lay in left lateral position)**
* **Labs: Kidney function, liver enzymes, clotting factors, proteinuria testing of urine, nonstress test, contraction.**
* **Seizure precautions: Magnesium sulfate (PREVENTS SEIZURES), dim lights, side rails. If urinary output is decreased and patient is on Magnesium Sulfate, they are at risk for Toxicity. ANTIDOTE: CALCIUM GLUCONATE!**
* **Assessment for Toxicity: Urine output, Blood pressure, respirations and reflexes EVERY HOUR! Respirations less than 12, urine output under 30ml/hr, BP drop, reflexes absent > STOP MAG and ADMINISTER ANTIDOTE!**
* **Eclampsia is characterized by grand mal convulsion (seizure), and may occur before, during, or early. PROTECT YOUR PATIENT. DO NOT LEAVE THEM.**
* **Preceded by the HS: headache, heartburn, hyperreflexia, hemoconcentration – early prevention is important to prevent complications from a seizure.**
* **Anemia – can lead to alterations in Oxygenation!**
  + **can be caused by PICA (eating chalk, flower, clay, dirt, corn starch)**
  + **May be tired, tachycardic, and feel irritable.**
  + **Respirations may increase with SOB on exertion.**
  + **Brittle nails**
  + **Decreased color (pallor), causing dizziness and decrease in oxygen saturation.**
  + **Foods high in Iron: Organ meats (liver), red meats, fish, green, leafy vegetables, raisins, and sunflower seeds.**
  + **Anemia treatment: Prenatal vitamins and foods rich in iron**
  + **Ferrous sulfate: Take on empty stomach, take with orange juice (high vitamin C) – DO NOT CRUSH! May lead to nausea, GI problems, can take with food, no milk or antacids.**
* **Glucose Metabolism (Gestational Diabetes)**
  + **You want consistent blood sugars.**
  + **Endocrine disorder of carbohydrate metabolisms (bread, white, potatoes, sugar – WHITE)**
  + **The baby is going to pull glucose from the mother, therefore the baby will be larger for gestation, and can be born and infant blood sugar can drop after delivery.**
  + **If a woman cannot increase INSULIN production (insulin brings sugar down) – she will have periods of HYPERGLYCEMIA, since fetus is continousley drawing glucose from the mother – she will also experience hypoglycemia. Education: snacking/eating every 3 hours.**
  + **During the second and third trimesters, the fetus is at risk for organ damage from hyperglycemia because fetal tissue has increased tissue resistance to material insulin actions (MAINTAIN CONSISTENCY!)**
  + **HYPOGLYCEMIA: tremors, tachycardia, irritability, nausea, drowsiness, DIAPHORESIS**
  + **HYPERGLYCEMIA: flushed skin, fruit-like breath odor, lethargic,**
  + **In 2nd and 3rd trimester: INSULIN REQUIREMENTS INCREASE (SO BLOOD SUGAR SHOULD BE HIGHER)**
  + **Pregnancy women cannot take METFORMIN, DIET CONTROLLED OR INSULIN ONLY.**
  + **Increased gestational age – C-section, diabetics have bigger babies.**