

# Pregnancy Complications- Maternal (OB) Nursing

## Abortion

Loss of fetus before 20 weeks; fetus is not considered to be viable if less than 20 weeks gestation or weighs less than 500 g

“Miscarriage” is the term commonly used to describe an unintentional abortion

Usually occurs within the first 12 weeks of pregnancy

6 different classifications of abortion: threatened, inevitable, incomplete, complete, missed, and recurrent

|            | S/S   | Treatment  | Nursing Interventions  |
|------------|---|--|--|
| Threatened | <p>“spotting” or vaginal bleeding in early pregnancy</p> <p>Uterine cramping, pelvic pressure, backache</p> | Pelvic rest  | <p>Teach patient to curtail sexual activity until bleeding stops</p> <p>Teach patient to count peripads to assess for amount of blood</p> <p>Teach patient to check for tissue passage or foul-smelling drainage (foul smelling drainage, fever, or uterine tenderness could be signs of an infection)</p> |
| Inevitable | <p>Rupture of membranes and cervical dilation</p> <p>Back pain</p> <p>Abdominal pain</p>                    | D&C (dilation and curettage) if tissue remains in uterus | Teach patient about the D&C procedure and what to expect   |

|            |  |   |   |
|------------|--|---|---|
| Incomplete | <p>Not all uterine components and fetus are expelled</p> <p>Severe abdominal cramping and bleeding</p> | <p>IV fluid replacement</p> <p>D&amp;C or D&amp;E (dilation and evacuation)</p> <p>IV Pitocin or IM Methergine to contract the uterus after procedure</p>   | <p>Ensure cardiovascular stability- patient is at high risk of <b>hemorrhage</b>.</p>   |
| Complete   | <p>All components of pregnancy are expelled</p>  | <p>Pelvic rest</p>  | <p>Monitor for bleeding, pain, and fever</p> <p>Teach patient to avoid sexual intercourse until follow-up appointment</p> <p>Teach patient is advisable to wait at least 3 months before attempting to conceive again</p> |
| Missed     | <p>Fetus dies but is retained in the uterus</p>  | <p>D&amp;C</p> <p>If infection is suspected-initiate antibiotic therapy before D&amp;C</p> <p>If disseminated intravascular coagulation (DIC) is developing, then the priority is to deliver the placenta and fetus</p> | <p>Monitor for signs of infection or DIC</p>  |
| Recurrent  | <p>3 or more consecutive spontaneous abortions</p>   |   | <p>Assist in completing a full reproductive assessment</p> <p>Teach patients about genetic counseling</p>   |

If a woman is Rh-negative, **RhoGam is given within 72 hours of abortion**

## Ectopic pregnancy

Implantation of the fertilized ovum in **ANY** site other than the endometrial lining of the uterus.

Most occur in the fallopian tube.

### Common causes:

- Pelvic inflammatory disease (PID)
- Intrauterine device for contraception
- Defects in fallopian tubes
- Cigarette smoking
- Vaginal douching

### Early manifestations

- Missed menstruation followed by vaginal bleeding- scant to profuse
- Unilateral pelvic pain; sharp abdominal pain
- Referred shoulder pain
- Cul-de-sac mass
- Beta hCG levels are lower than expected for gestation

### Acute manifestations (ruptured fallopian tube)

- Cullen's sign- bluish discoloration around umbilicus
- N/V
- Faintness
- Hypovolemic shock can occur due to blood loss

### Treatment

- Combat shock/stabilize cardiovascular system
  - Administer blood replacement
  - IV fluid replacement
- Linear salpingectomy- **for unruptured fallopian tube**; removes fertilized egg and leaves the tube open to heal naturally

- Methotrexate- folic acid antagonist that inhibits cell division in the embryo; used prior to rupture
- Salpingectomy- surgically remove **ruptured fallopian tube** (reassure women that they can still have successful pregnancies in the future)

#### **Nursing interventions**

- Prevent/ identify and treat hypovolemic shock
- Explain that nausea and vomiting may be experienced with methotrexate
- Teach patient to avoid alcohol and vitamins with folic acid while taking methotrexate
- Teach patient to avoid sexual intercourse until hCG levels are undetectable

## **Gestational Trophoblastic Disease- Hydatidiform Mole**

Trophoblast cells in the uterus develop abnormally. The placenta, but not the fetus, develops Grapelike vesicles that can grow large enough to fill the whole uterus

Choriocarcinoma may spread rapidly to vagina, lung, liver, kidney, and brain

#### **Signs/symptoms:**

- Vaginal bleeding- dark brown spotting to profuse hemorrhage
- Larger uterus than expected
- Excess N/V
- Early development of preeclampsia
- Diagnosed by ultrasound and levels of hCG (higher than expected)

#### **Treatment:**

- D&C and vacuum aspiration of uterine contents (mole)
- Before evacuation
  - Chest imaging
  - CMP
  - Baseline hCG
- After evacuation
  - Curettage
  - IV oxytocin to contract the uterus

**Follow-up is extensive for the following year:**

- Assess for the development of choriocarcinoma
- Beta hCG levels Q 1-2 weeks until 3 consecutive pre-pregnancy levels; then repeated Q 1-2 months for up to a year
- Chest x-rays
- Placed on oral contraception to prevent a rise in hCG
- If choriocarcinoma develops, then chemotherapy is started

## **Placenta previa**

Placenta implants in the lower uterus

Classified as marginal, partial, or complete

Marginal (low lying)- lower border is more than 3 cm from cervical os

Partial- placenta is within 3 cm of the cervical os but does not completely cover it

Total- placenta covers the cervical os completely

**Signs/symptoms:**

- Sudden onset of painless uterine bleeding in later half of pregnancy
- Verified by ultrasound
- Copious amounts of bleeding during early labor

Management will vary based on maternal and fetal status

- Some women will be managed in the outpatient setting if they have **no** active bleeding and bed rest can be maintained at the home with the help of family
- Some women will need to be managed in the inpatient setting
- **C-section delivery** for ALL types except low lying due to the risk of bleeding and hemorrhage.
- Unless it is an emergency c-section due to fetal compromise or excessive bleeding in mother, most c-sections can be scheduled when the fetus is **greater than 36 weeks** gestation and has **mature lungs**

**Nursing interventions**

- Avoid manual vaginal examinations or contraction stimulation
- Teach patient to assess vaginal discharge at every urination and defecation
- Teach patient to count fetal movements daily

- Encourage bed rest
- Assess uterine activity daily
- Teach patient to omit sexual intercourse
- Nonstress test weekly
  - 20 minute strip
  - FHR needs to accelerate
  - Ice cold water is the best method to wake the baby

## Abruptio Placenta

Placental abruption- separation of placenta before delivery

Risk factors include maternal HTN, short umbilical cord, trauma, smoking, caffeine, **cocaine**, vascular problems (DM), multigravida status

Fetal vessels are disrupted so fetal bleeding occurs as well

Major danger is **hemorrhage** and **hypovolemic shock**

**Signs/symptoms:**

**5 classic s/s**

- **Profuse vaginal bleeding**
- **Abdominal/low back pain- aching/dull**
- **Uterine irritability- quivers on strip; frequent low-intensity contractions**
- **High resting tone- uterus never gets soft**
- **Uterine tenderness**

**Nursing interventions**

- Prepare patient for C-section immediately
- Combat shock- blood replacement/fluid replacement
- Continue monitoring mom and baby as excessive bleeding and **fetal hypoxia** are major concerns
- Assess for complications of DIC- check PT, PTT, fibrinogen, CBC

Placenta previa vs abruption placenta in a nutshell:

| Placenta previa  | Abruptio Placenta   |
|--|---|
| PAINLESS vaginal bleeding  | Bleeding accompanied by pain  |
| Bright red bleeding  | Dark red bleeding   |
| First episode of bleeding is slight then becomes profuse         | First episode of bleeding is usually profuse                              |
| Signs of blood loss compatible to extent of bleeding             | Signs of blood loss out of proportion to visible amount                   |
| Uterus soft, non-tender  | Uterus board-like, painful; low back pain                                 |
| Fetal parts palpable; FHR countable and uterus is not hypertonic | Fetal parts non-palpable; FHR non-countable and high uterine resting tone |
| Blood clotting defect absent                                     | Blood clotting defect (DIC) likely  |

## DIC- Disseminated Intravascular Coagulation

Anticoagulation and procoagulation factors are activated simultaneously

Risk factors include abruption, PIH/HELLP syndrome (impaired liver function impairs clotting), sepsis, anaphylactoid syndrome

### Signs/symptoms:

- Bleeding
- Clots
- Bruising everywhere
- Significant drop in blood pressure
- CBC: platelets less than 100,000, increased fibrin degradation products, prolonged PTT and PT, decreased serum fibrinogen

### Nursing interventions:

- Assist with delivery of fetus and placenta which is fueling the DIC process
- Administer fluid replacement- IV fluid, blood, and blood products

### Hyperemesis Gravidarum

Severe uncontrollable vomiting that begins in the first weeks of pregnancy.

Exact causes are unknown

**Signs/symptoms:**

- Persistent nausea and vomiting
- Weight loss of 5% or more of body weight
- May become severely dehydrated
- Depletion of essential electrolytes- low sodium, potassium, and chloride
- Increased hgb and hct- hemoconcentration

**Nursing interventions:**

- Reduce severity of nausea and vomiting
- Teach patient that food portions should be small
- Teach patient to eliminate foods with strong odors
- Teach patient that the best foods to eat are lowfat foods and easy to digest carbs such as fruit, bread, cereals, and rice
- Teach patient to sit up right after meals
- Teach patient to drink liquids and soups in between meals as to avoid overdistention of the stomach
- Maintain nutrition and fluid balance
  - Teach patient to eat every 2-3 hours; salt food to replace chloride
  - Administer IV fluids and TPN if ordered
- Provide emotional support
  - Encourage and allow expression of feelings

## Hypertensive Disorders

Four categories of hypertensive disorders- gestational hypertension, preeclampsia, eclampsia, chronic hypertension



| Gestational Hypertension   | Preeclampsia   | Eclampsia  | Chronic Hypertension  |
|--|--|--|---|
| Elevated BP after 20 weeks gestation<br>Not accompanied by proteinuria | >140/90 mm HG after 20 weeks<br>Accompanied by proteinuria | Progression of preeclampsia<br>Accompanied by seizures | Hypertension was present before pregnancy and is not related to pregnancy |

The blood pressure rises due to arteriolar vasospasms and vasoconstriction causing:

- An increase in peripheral resistance
- Fluid forced out of the vessels
- Hemoconcentration

**Signs/symptoms:**

- High blood pressure
- Proteinuria as a result of glomerular damage
- Increased BUN, creatinine, and uric acid due to decreased renal perfusion
- Weight gain related to fluid retention
- Generalized edema
- Headaches and blurred vision due to cerebral vessel vasoconstriction
- Epigastric pain due to hepatic edema and increased liver enzymes (may have an impending seizure due to the distention and closing off of the liver capsule)
- Hyperreflexia- brisk DTRs
- Clonus
- Vascular constriction and narrowing of small arteries in the retina

The nurse must know the difference between **dependent** edema and **generalized** edema. The patient with pregnancy induced hypertension has generalized edema because fluid is in all tissues

**Pre-eclampsia**

- 140/90 mm Hg after 20 weeks gestation accompanied by significant proteinuria (greater than 0.3 g)

- Associated with intrauterine growth restriction (IUGR)

| Mild                                  | Severe                              |
|---------------------------------------|-------------------------------------|
| 140/90 mm Hg                          | 160/90 mm Hg                        |
| Protein 1+ to 2+                      | Protein 3+ to 4+                    |
| Edema 1+ to lower legs                | Edema 3+ to 4+ generalized          |
| 1-pound gain in a week                | Greater than 2-pound gain in a week |
| Reflexes 1+ to 2+                     | Reflexes 3+ to 4+                   |
| Visual disturbances absent or minimal | Visual disturbances common          |

Placenta grading will exceed the normal value (placenta is aging faster than it should)- the nurse will note decelerations in the case of an abnormally old placenta

#### Home Management of Preeclampsia:

Woman may be allowed to stay at home if she and the fetus are in stable condition and the woman can adhere to the treatment plan.

The treatment plan includes:

- Activity restriction- **full bedrest** is not required- side-lying position to maximize placental blood flow when resting
- Monitor fetal activity- record “kick counts”; should have a minimum of 3 movements in one hour. If no fetal movement is detected in a 4-hour period, physician should be notified
- Check blood pressure 2-4 times per day
- Weigh daily- preferably in the morning
- Dipstick test every morning with first void
- Diet- 70-80 g protein, low salt, no caffeine, no smoking

#### Inpatient Nursing Care

Women with severe preeclampsia will be monitored in the inpatient facility

- Complete bed rest; quiet environment to prevent overstimulation
- Anticonvulsant medications

- Magnesium sulfate

### **Magnesium Sulfate**

- Relaxes smooth muscle and reduces vasoconstriction
- CNS depressant
- Therapeutic serum magnesium level: 4-8 mg/dL
- Loading dose is typically 4-6 g and the maintenance dose is titrated and is often 2g/hour

### **Nursing interventions for Mag Infusion:**

- Monitor vital signs closely during IV infusion
  - At risk for **respiratory depression**. If respirations are less than 12, then the HCP should be notified- stop infusion of mag, administer calcium gluconate
- Assess reflexes
  - Infusion will need to be altered or stopped if DTRs are absent or hyper
- Assess for clonus- should be absent
- Measure urinary output. Should be 30 mL/hour or the patient will be at risk of excessive serum magnesium levels
- Urine dipstick for protein
- Measure magnesium level every 6 hours
- Monitor for signs of magnesium toxicity
  - Less than 14 breaths per minute
  - O2 sat less than 95%
  - Absence of DTRs
  - Sweating, flushing
  - Confusion, lethargy, disorientation
  - Hypotension
- Calcium gluconate is the **antidote**
  - Keep at bedside and push 1 mL/min
  - VS every hour

### **Antihypertensive Medications**

- Hydralazine (Apresoline)- vasodilator- increases cardiac output and placental blood flow

- Nifedipine- calcium channel blocker
- Labetalol- beta-adrenergic blocker- can affect the infant so it is rarely used

## Eclampsia

Preeclampsia manifestations plus **generalized seizures**

Generalized seizures start with facial twitching, followed by rigidity of the body

Results in fetal bradycardia, loss of variability, or late decelerations

### Nursing interventions:

- [Fetal monitoring](#) to assess for signs of fetal compromise
- Place patient in left side-lying position to decrease risk of aspiration and increase maternal and fetal blood flow
- Monitor for contractions
- Pad side rails to reduce injury if a seizure occurs
- Administer magnesium as ordered
- Administer furosemide as ordered in case of pulmonary edema
- Frequent maternal assessment- lung sounds hourly, hourly urine output, ruptured membranes, signs of labor, or abruptio placentae
- Apply oxygen via face mask at 8-10 L/min as needed
- Prepare patient for chest radiography or ABGs to identify aspiration if suspected
- Prepare and assist with delivery of fetus once maternal and fetal vital signs are stable

## HELLP Syndrome

Cause is unknown but can result from severe preeclampsia

Life threatening occurrence: mother must be observed in ICU setting

Occurs between 26 and 40 weeks of gestation or after delivery

**Hemolysis**– erythrocytes are damaged during passage through small blood vessels

**EL**– elevated liver enzymes because blood flow is obstructed by fibrin deposits; hyperbilirubinemia and jaundice may occur

**LP**– low platelets due to vascular damage (platelets aggregate at sites of damage), results in systematic thrombocytopenia

**Signs/symptoms:**

- Pain in RUQ (due to liver involvement), lower chest, or epigastric area
- N/V
- Severe generalized edema
- Low hemoglobin, thrombocytopenia, increased AST (greater than 20) and LDH (greater than 90)

**Nursing Interventions:**

- Similar to management for **preeclampsia** or **eclampsia**
- DELIVER BABY-despite gestation (if fetus is less than 34 weeks gestation, then a corticosteroid can be used, such as betamethasone, to aid in fetal lung development)
- Administer prescribed blood and blood products, IV fluids
- Bed rest to reduce trauma to the liver

## Gestational Diabetes

Identified by a prenatal screening test called the **glucose challenge test (GCT)**. This test is performed between 24-28 weeks.

Women with a fasting glucose level of greater than 126 mg/dL or a nonfasting glucose level of greater than 200 mg/dL are considered to have Gestational Diabetes.

**Early pregnancy (1-20 weeks)**

- Metabolic rates and energy needs change little
- Insulin levels increase
  - Hypoglycemia may occur
- Favor development and storage of fat

**Late pregnancy**

- Insulin resistance
  - Hyperglycemia may occur
- Gluconeogenesis
  - Fat utilization

**Maternal effects:**

- HTN, Preeclampsia

- Ketoacidosis>>>maternal and fetal death
- Increased incidence of UTIs
- Hydramnios>>>distended uterus
- Rapid aging of placenta

#### **Fetal effects:**

- Early pregnancy>>>spontaneous abortion/major fetal malformations
- Impaired placental perfusion results in fetal growth restriction
- Macrosomia, birth injury related to macrosomia
- 4 major problems for the newborn
  - **Hypoglycemia** because fetal insulin production was accelerated in utero
  - **Hypocalcemia**– less than 7 mg/dL
  - **Hyperbilirubinemia**– excess RBCs are being broken down
  - **Respiratory distress syndrome**– reduced surfactant due to decreased cortisol (due to increased insulin)

#### **Diet modifications:**

- 40-45% from carbs
  - 12-20% from protein
  - 40% from fat
  - 1800 calorie diet

#### **Education:**

- Patient should monitor their blood glucose 6 times a day
  - Fasting
  - 2 hours after breakfast
  - 1 hour prior to lunch
  - 2 hours after lunch
  - At bedtime
- Patient should keep their blood glucose above 60 but below 100 mg/dL
- If the woman is prescribed insulin, then educate her and her family on how insulin works and how to administer it. The nurse should verify that the patient understands the information and is able to successfully administer the medication

- Teach the patient and her family the signs and symptoms of hypoglycemia and how to correct it if it occurs