COMMON DISEASES AND HEALTH PROBLEMS FOR NURSING STUDENTS

A Comprehensive Maternal Clinical Study Guide

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1. Gestational Diabetes Mellitus (GDM)

- Definition

Gestational Diabetes Mellitus (GDM) is defined as any degree of glucose intolerance with onset or first recognition during pregnancy. It typically develops during the second or third trimester due to the diabetogenic effects of placental hormones which impair maternal insulin sensitivity.

-Causes (Etiology)

Primarily caused by the secretion of placental hormones (human placental lactogen [hPL], progesterone, cortisol, and prolactin) that create insulin resistance, coupled with inadequate maternal insulin production to overcome this block.

-Risk Factors

Maternal age over 35, pre-pregnancy obesity (BMI >30), prior history of GDM, family history of Type 2 diabetes, previous macrosomia infant (>4,000 g)

-Signs and Symptoms

Often asymptomatic but can present with classic signs such as polydipsia (excessive thirst), polyuria (frequent urination), fatigue, recurrent vaginal/urinary tract infections, and rapid excessive weight gain Fundal height is larger than the gestational age in weeks..

-Nursing Diagnosis

1-Risk for Unstable Blood Glucose Level
2- Risk for maternal Injury
3- Risk for fetal injury
4-Risk for Ineffective Childbearing Process
5-Risk for Ineffective Health Maintenance

-Possible Complications

Maternal: Preeclampsia, cesarean delivery, future Type 2 diabetes.

Fetal: Macrosomia, shoulder dystocia, neonatal hypoglycemia, respiratory distress syndrome (RDS), and hyperbilirubinemia.

★ **STUDY NOTE:** ***Macrosomia can cause severe Difficult labor dystocia. Always prepare for shoulder dystocia protocols during birth.***

2. Pregnancy-Induced Hypertension (Preeclampsia & Eclampsia)

-Definition

Pregnancy-Induced Hypertension (PIH) is systemic hypertension (>140/90 mmHg) presenting after 20 weeks of gestation. Preeclampsia is PIH accompanied by proteinuria or multi-system organ dysfunction. Eclampsia is the onset of generalized tonic-clonic seizures in a patient with preeclampsia.

-Causes (Etiology)

The precise etiology is unknown but involves abnormal trophoblastic invasion of spiral arteries, leading to placental ischemia, widespread maternal endothelial cell dysfunction, and severe vasospasm.

-Signs and Symptoms

Systolic BP >=140 or diastolic BP >=90, proteinuria, persistent severe headache, blurred vision, epigastric, and sudden edema of the face and hands.

-Diagnostic Tests

Serial blood pressure measurements, 24-hour urine collection for total protein (or protein-to-creatinine ratio), complete blood count (thrombocytopenia), liver function tests (elevated ALT/AST), and serum creatinine.

-Medical Management

For severe preeclampsia, administer Magnesium Sulfate (MgSO4) intravenously for seizure prophylaxis and antihypertensives (Labetalol, Nifedipine).

-Nursing Diagnosis

-Ineffective Uteroplacental Perfusion.
-Risk for preterm labor

-Risk for Maternal or Fetal Injury
-Risk for Ineffective Childbearing Process

-Risk for Ineffective Health Maintenance
-Risk for preterm labor

-Patient Education

Educate the patient on danger signs (headache, vision changes, abdominal pain, decreased fetal movement).

-Possible Complications

Maternal: Eclampsia (seizures), HELLP syndrome, placental abruption.
Fetal: Intrauterine growth restriction (IUGR), oligohydramnios, premature birth, and hypoxia.

3. Placenta Previa

-Definition

Placenta Previa is an obstetric complication in which the placenta attaches abnormally within the lower uterine segment, partially or completely covering the internal cervical os.

-Causes (Etiology)

Anatomical factors affecting the endometrium, such as delayed implantation of the blastocyst or scarring of the upper uterine segment, which forces the placenta to implant lower.

-Risk Factors

Previous cesarean birth, prior uterine curettage or surgery, multiparity, advanced maternal age, smoking, and multifetal gestation.

-Signs and Symptoms

Classic presentation is sudden, painless, bright red vaginal bleeding during the second or third trimester. The uterus remains soft, relaxed, and non-tender.

-Nursing Diagnosis

- Risk for Maternal/Fetal Injury.
- Risk for impaired recovery
- Deficient Knowledge
- Readiness for Enhanced Parenting
- Risk for preterm labor

-Nursing Interventions → **Do NOT perform any vaginal/cervical examinations.**

2. Monitor maternal vital signs, blood loss (pad count/weight), and continuous fetal heart rate (FHR).

-Possible Complications

Maternal: Abortion, placenta accreta spectrum, Boggy uterus.
Fetal: Preterm birth, fetal hypoxia, intrauterine growth restriction (IUGR), and fetal death.

4. Abruptio Placentae (Placental Abruption)

-Definition

Abruptio Placentae is the premature separation of a normally implanted placenta from the decidua basalis of the uterine wall before the birth of the fetus, occurring after 20 weeks of gestation.

-Causes (Etiology)

Degeneration of the spiral arterioles leading to decidual hemorrhage, which causes the placenta to tear away from the uterine lining.

-Risk Factors

Maternal hypertension (chronic or gestational), abdominal trauma (falls, motor vehicle accidents, domestic violence), cocaine use, smoking, history of prior abruption, and rapid uterine decompression (e.g., rupture of membranes with polyhydramnios).

-Signs and Symptoms

Classic triad: Painful, dark red vaginal bleeding (can be concealed behind the placenta), persistent severe abdominal/uterine pain or tenderness, and uterine hypertonus/rigidity (board-like abdomen).

-Nursing Diagnosis

- Risk for Maternal/Fetal Injury.
- Risk for impaired recovery
- Deficient Knowledge
- Readiness for Enhanced Parenting
- Risk for preterm labor

-Acute pain
-Fatigue

-Possible Complications

Maternal: Hypovolemic shock, Couvelaire uterus (extravasation of blood into uterine myometrium), renal failure, and DIC.
Fetal: Severe fetal distress, hypoxia, preterm delivery, and stillbirth.

5. Anemia in Pregnancy

Definition

Anemia in pregnancy is a condition characterized by a reduction in red blood cell (RBC) count, hemoglobin (Hb), or hematocrit (Hct) levels. The CDC defines anemia in pregnant women as Hb <11.0 g/dL in the first and third trimesters, and <10.5 g/dL in the second trimester.

Causes (Etiology)

Most commonly caused by iron deficiency (due to increased maternal and fetal demand for iron), folate deficiency, or hemodilution (physiological anemia of pregnancy where plasma volume increases disproportionately to RBC mass).

Risk Factors

Poor dietary intake of iron-rich foods, multi-fetal pregnancy, closely spaced pregnancies, history of heavy menses, pre-existing gastrointestinal malabsorption, and active bleeding.

Signs and Symptoms

Fatigue, generalized weakness, pallor (especially of the conjunctiva and nail beds), dyspnea on exertion, palpitations, dizziness, and pica (craving for non-food items like ice or clay).

Medical Management

Oral iron supplementation (e.g., Ferrous Sulfate 325 mg, providing 65 mg elemental iron, 1-3 times daily) combined with Vitamin C to enhance absorption. IV iron sucrose or blood transfusion is indicated for severe or refractory cases.

Nursing Diagnosis

-Fatigue
- Risk for Maternal/Fetal Injury.
- Deficient Knowledge
- Readiness for Enhanced Parenting
- Risk for preterm labor

Patient Education

Advise the patient to take iron supplements on an empty stomach with a glass of orange juice (Vitamin C) for maximum absorption. Warn them that stools will turn black or dark green. Instruct them to avoid taking iron with milk, antacids, tea, or coffee, as these inhibit absorption.

6. Hyperemesis Gravidarum

Definition

Hyperemesis Gravidarum (HG) is a severe, intractable form of nausea and vomiting during pregnancy that leads to dehydration, weight loss (exceeding 5% of pre-pregnancy weight), electrolyte imbalances (hypokalemia), ketonuria, and nutritional deficiencies.

Causes (Etiology)

The exact cause is unknown, but it is strongly linked to rapidly rising levels of human chorionic gonadotropin (hCG) and estrogen, alongside thyroid dysfunction and psychological stressors.

Signs and Symptoms

Persistent, severe vomiting not limited to the morning, profound salivation (ptyalism), dehydration (dry mucous membranes, poor skin turgor, postural hypotension), significant weight loss, and extreme fatigue.

Nursing Diagnosis

-Risk for Deficient Fluid Volume
-Fatigue
-Imbalanced nutrition less than body requirements
-Risk for electrolyte imbalance
-Nausea
-Risk for Maternal or Fetal Injury
-Risk for Ineffective Childbearing Process

Patient Education

Instruct the patient to eat small, frequent meals (every 2-3 hours), separate liquids from solids, choose high-protein and dry carbohydrate snacks (crackers), and avoid greasy, spicy, or strongly scented foods. Suggest ginger capsules or peppermint tea.

7. Preterm Labor

Definition

Preterm Labor is defined as the occurrence of regular uterine contractions accompanied by progressive cervical dilation and/or effacement occurring after 20 weeks and before 37 completed weeks of gestation.

Causes (Etiology)

Multifactorial; often triggered by localized or systemic infection, deciduous activation, intrauterine inflammation, cervical insufficiency, or excessive uterine stretch.

Signs and Symptoms

Regular uterine contractions (felt as tightening or hardening of the abdomen) occurring every 10 minutes or more frequently, dull lower backache, pelvic pressure, intestinal cramping, change or increase in vaginal discharge, and fluid leaking.

Nursing Diagnosis

Risk for (Fetal) Injury
Risk for Ineffective Childbearing Process
Risk for ineffective childbearing process
Risk for impaired attachment

Nursing Interventions

1. Position patient on her left side to maximize uteroplacental perfusion.
2. Monitor uterine contraction frequency and intensity, along with FHR.

Possible Complications

Fetal: Respiratory Distress Syndrome (RDS), intraventricular hemorrhage, patent ductus arteriosus and neonatal death.

8. Difficult Delivery (Failure to Progress)

Definition

Difficult Delivery, also referred to as labor dystocia, encompasses failure to progress (FTP) and Cephalopelvic Disproportion .Failure to progress is slow or stalled cervical dilation or fetal descent. Cephalopelvic Disproportion is a mismatch between the size of the fetal head and the maternal pelvis, preventing pelvic passage.

Causes (Etiology)

The '4 Ps' of dystocia: Power (ineffective uterine contractions), Passenger (fetal malpresentation or macrosomia), Passage (contracted pelvis or soft tissue obstruction), and Psyche (maternal anxiety/fear causing catecholamine release which slows labor).

Risk Factors

Maternal Pelvic stature, maternal obesity, fetal macrosomia (>4,000 g), post-term pregnancy, advanced maternal age, epidural analgesia, and nulliparity.

Signs and Symptoms

Prolonged latent or active phase of labor, secondary arrest of dilation (no change in >2 hours), failure of fetal descent (no progress in station during pushing).

Diagnostic Tests

PV vaginal examinations checking cervix dilation and station, pelvimentry (mostly clinical), ultrasound. CTG.

Nursing Diagnosis

-Fatigue
-Ineffective Uteroplacental Perfusion.
-Risk for Maternal/Fetal Injury.
- Risk for impaired recovery

Possible Complications

Maternal: Uterine rupture, postpartum hemorrhage, extensive perineal lacerations, chorioamnionitis, pelvic floor injury.
Fetal: Birth trauma (Erb's palsy, clavicle fracture), severe hypoxia, caput succedaneum, and cephalohematoma.

9. Instrumental Delivery (Vacuum & Forceps)

Definition

An Instrumental Delivery is an operative vaginal delivery using a vacuum extractor or obstetric forceps to apply traction to the fetal head, assisting the mother in expelling the fetus during the second stage of labor.

Causes (Etiology)

Indicated for prolonged second stage of labor, maternal exhaustion, maternal medical conditions where pushing is contraindicated (e.g., severe cardiac disease), or non-reassuring fetal heart rate patterns requiring rapid birth.

Risk Factors

High fetal station (never perform unless head is engaged and at least +2 station), nulliparity, maternal obesity, occiput posterior position, and dense epidural anesthesia.

Diagnostic Tests

Clinical assessment confirming complete cervical dilation, ruptured membranes, engaged fetal head, known fetal position, empty bladder, and adequate maternal pelvis.

Medical Management

The obstetrician applies the vacuum cup or forceps blades around the fetal head. Traction is applied in sync with maternal expulsive efforts during contractions. The pediatrician must be present for immediate neonatal assessment.

Nursing Diagnosis

Risk for Injury (Maternal/Fetal)
Risk for postpartum hemorrhage (Risk For bleeding)

Possible Complications

Maternal: Third- or fourth-degree perineal lacerations, pelvic floor dysfunction, postpartum hemorrhage, hematoma, and urinary retention.
Fetal: Cephalohematoma, skull fracture, and neonatal jaundice.

10. Uterine Hyperstimulation (Tachysystole)

Definition

Uterine Hyperstimulation, clinically termed uterine tachysystole, is defined as the occurrence of more than 5 contractions in a 10-minute period, averaged over a 30-minute window, or contractions lasting longer than 90 seconds, with less than 60 seconds of relaxation between them.

Causes (Etiology)

Most commonly caused by excessive, inappropriate, or hypersensitive response to exogenous uterotonic medications, specifically Oxytocin (Pitocin) or prostaglandins (Misoprostol, Dinoprostone) used for induction or augmentation of labor.

Risk Factors

High doses of oxytocin, rapid titration of uterotonics, pre-existing uterine hypersensitivity, and improper monitoring of uterine activity.

Signs and Symptoms

Frequent contractions (>5 in 10 mins), very painful/intense contractions, back-to-back contractions with no uterine rest/relaxation between them, and maternal anxiety.

Diagnostic Tests

Continuous electronic fetal and uterine monitoring using a tocodynamometer (CTG) and Continuous fetal heart rate monitoring will often show decelerations.

Medical Management

Immediate discontinuation of Oxytocin. If tachysystole is induced by vaginal prostaglandins, attempt removal of the insert. Administer IV fluid bolus, oxygen via face mask, and, if unresolved, a tocolytic agent (such as subcutaneous Terbutaline) to relax the uterus.

Nursing Diagnosis

-Ineffective Uteroplacental Tissue Perfusion
- Risk for Maternal/Fetal Injury.
- Risk for impaired recovery

Possible Complications

Maternal: Uterine rupture, placental abruption, postpartum hemorrhage (due to uterine fatigue/atony).
Fetal: Progressive fetal hypoxia, late decelerations, fetal acidosis, and intrauterine asphyxia.

11. Dystocia: Complications & Management

Definition

Dystocia refers to abnormal or difficult labor characterized by slow or lack of progress. The most acute is Shoulder Dystocia, where the fetal head is delivered but the anterior shoulder becomes wedged behind the maternal symphysis pubis.

Causes (Etiology)

Pelvic contraction/narrowing, fetal malpresentation (breech, face, brow), fetal macrosomia (weight >4,000g or >4,500g).

Risk Factors

Maternal diabetes GDM, fetal macrosomia, post-term pregnancy, maternal obesity, excessive gestational weight gain, prior history of shoulder dystocia, and prolonged second stage of labor.

Signs and Symptoms

Slow progress of labor. In shoulder dystocia, the 'turtle sign' occurs: the fetal head retracts tightly against the perineum immediately after delivery.

Medical Management

For shoulder dystocia, immediately execute the HELPERR protocol: H - Help (call for extra staff/pediatrician), E - Evaluate for episiotomy, L - Legs (McRoberts maneuver: flex and abduct thighs), P - Pressure (suprapubic pressure), E - Enter (internal maneuvers), R - Remove posterior arm, R - Roll the patient (Gaskin maneuver). Fundal pressure is strictly contraindicated.

Nursing Interventions

1. Immediately assist the mother into the McRoberts maneuver (hyperflexing the hips against the abdomen).
2. Apply downward/lateral suprapubic pressure (NEVER fundal pressure) to dislodge the shoulder.
3. Note and document precise times of: head delivery, maneuvers performed, and final delivery of the body.
4. Prepare for immediate neonatal resuscitation.

Possible Complications

Maternal: Postpartum hemorrhage, third/fourth-degree perineal lacerations, uterine rupture, symphyseal separation.
Fetal: RDS

★ STUDY NOTE: ***Fundal pressure is contraindicated in shoulder dystocia as it further wedges the anterior shoulder under the symphysis pubis and increases the risk of uterine rupture.***

12. Umbilical Cord Prolapse

Definition

Umbilical Cord Prolapse is an obstetric emergency where the umbilical cord slips down ahead of the presenting part of the fetus and protrudes through the cervix into the vagina, leading to cord compression between the fetus and maternal pelvis.

Causes (Etiology)

Occurs when the presenting part of the fetus does not completely fill or seal the lower uterine segment, allowing the cord to slide downward when the membranes rupture.

Risk Factors

Rupture of membranes with an unengaged presenting part (high station), breech or transverse malpresentation, prematurity, polyhydramnios, multifetal pregnancy, and amniotomy (artificial rupture of membranes) at a high station.

Signs and Symptoms

Subjective feeling of something in the vagina after membranes rupture. Objective visualization or palpation of the loop of cord in the vagina, or sudden, severe, variable decelerations or prolonged fetal bradycardia.

Medical Management

This is a critical emergency requiring immediate delivery (usually cesarean). The immediate goal is to relieve pressure on the cord. The nurse must keep their hand in the vagina holding the presenting part off the cord while transporting the patient to the operating room.

Nursing Diagnosis

Ineffective Uteroplacental Tissue Perfusion related to mechanical compression of the umbilical cord.

Nursing Interventions

1. Call for immediate assistance and notify the obstetrician and surgical team.
2. Place gloved hand into the vagina and apply upward pressure on the fetal presenting part to keep it off the cord. Do NOT remove your hand until delivery.
3. Assist the mother into the knee-chest or extreme Trendelenburg position.
4. Wrap protruding cord loosely in warm, sterile, saline-soaked gauze (do NOT attempt to push it back in).
5. Administer oxygen therapy.

Patient Education

Instruct the patient to breathe deeply and remain calm, explaining that she needs to stay in a knee-chest or head-down position to relieve pressure on the cord to keep the baby safe.

Possible Complications

Maternal: Extreme psychological distress, risk of emergency surgical complications, perineal trauma.
Fetal: Severe hypoxic-ischemic encephalopathy, RDS, Meconium aspiration syndrome and intrauterine death.

★ **STUDY NOTE:** ***Do not manipulate or try to push the prolapsed cord back inside the cervix, as this causes vasospasm of the umbilical vessels and worsens fetal hypoxia.***

13. Urgent / Emergency Cesarean Section

Definition

An Urgent or Emergency Cesarean Section is the surgical delivery of a fetus through incisions in the maternal abdomen and uterus, performed immediately when an acute threat to the life or well-being of the mother or fetus is identified.

Causes (Etiology)

Indicated for severe fetal distress (sustained bradycardia), cord prolapse, placental abruption, uterine rupture, active maternal hemorrhage, eclampsia, or failed operative vaginal delivery.

Risk Factors

Prior uterine surgery, labor dystocia, induction of labor, fetal malpresentation, and pre-existing maternal medical conditions (e.g., severe cardiovascular disease).

Medical Management

Rapid prep and transfer to the operating theater. Perform rapid-sequence spinal/epidural anesthesia or general anesthesia. Deliver the fetus (ideally within 30 minutes of decision time) and repair uterine/abdominal walls.

Possible Complications

Maternal: Hemorrhage, anesthetic complications (aspiration, spinal headache), bladder/bowel injury, post-op infection (endometritis, wound infection), and deep vein thrombosis (DVT).
Fetal: Respiratory distress syndrome (RDS).