

CASE STUDY - INDUCTION OF LABOR

A G3, P2 patient at 41 weeks gestation is admitted for induction of labor. Assessment data reveals: cervix dilated 2 cm, 40% effaced, -2 station, cervix firm, and membranes intact. The patient's last baby was delivered at 40 weeks and weighed 9 pounds. The physician has ordered Prostaglandin administration the evening before Oxytocin in the morning.

1. What is the indication for induction of labor?

Indications for induction of labor include a hostile intrauterine environment to the fetus, spontaneous rupture of membrane (premature rupture of membranes), post term pregnancy, chorioamnionitis, gestational hypertension, placental abruption, maternal medical conditions that worsen with continuation of the pregnancy, and fetal demise.

2. Why did the physician order prostaglandins the evening before the induction?

The physician ordered prostaglandin because it causes cervical ripening.

3. What tests or evaluation should be performed prior to the induction?

Evaluations include: one or more previous low transverse cesarean deliveries, breech presentation, conditions in which the uterus is overdistended (risk for uterine rupture), severe maternal conditions like heart disease and severe hypertension, fetal presenting part above the pelvic inlet, inability to adequately monitor the fetal status during labor, and bishop score.

4. What are the nursing considerations when administering an Oxytocin infusion?

Assess FHR for at least 20 minutes before induction, perform Leopold's maneuvers, a vaginal examination, or both to verify a cephalic presentation, observe UA for establishment of effective labor pattern, observe FHR for abnormal patterns such as tachycardia, bradycardia, and decreased variability, and monitor for tachysystole. In the postpartum period, observe the uterus for firmness, height, and deviation, observe the color and quantity of lochia, notify provider if uterus does not remain contracted, the presence of large clots, or bright red lochia, assess for cramping, assess vital signs, monitor intake and output and breath sounds.

CASE STUDY - Diabetes in Pregnancy

A 30-year-old, G2, P1, is in her 10th week of pregnancy. Her first baby was stillborn at 32 weeks, so she is very worried about this pregnancy. Initial lab work obtained two weeks ago included testing for diabetes, due to the patient's history a stillborn. The physician explains during the first prenatal visit there is a concern for diabetes due to an elevated glucose level. The nurse realizes patient education regarding diabetes, the effects of diabetes on both the patient and baby and how to manage diabetes it is essential.

1. Discuss maternal risks associated with diabetes and pregnancy.

Mothers with diabetes in pregnancy have an increased risk of the following: hypertension, preeclampsia, urinary tract infections, ketoacidosis, labor dystocia, cesarean birth, uterine atony with hemorrhage after birth, and birth injury to maternal tissue (hematoma, lacerations)

2. Discuss fetal-neonatal risks associated with diabetes and pregnancy.

Fetal-neonatal risks associated with diabetes and pregnancy include congenital anomalies, perinatal death, macrosomia, intrauterine fetal growth restriction, preterm labor, premature rupture of membranes, preterm birth, birth injury, hypoglycemia, polycythemia, hyperbilirubinemia, hypocalcemia, and respiratory distress syndrome.

3. What educational topics should be covered to assist the patient in managing her diabetes?

We should cover blood glucose monitoring, insulin therapy, signs and symptoms of hyperglycemia and hypoglycemia, medication education, and diet/nutritional and exercise education.

4. What classification (SGA, AGA, LGA) will this patient's baby most likely be classified as? Discuss your answer.

This patient's baby will most likely be classified as LGA due to elevated blood glucose levels. Glucose from the maternal side is easily transported across the placenta, so if she is hyperglycemic, so is the fetus. In response to the elevated glucose levels, excess fetal insulin is produced and acts as growth hormone, resulting in fetal macrosomia.

CASE STUDY - Pregnancy Induced Hypertension

A single 17-year-old patient Gr 1 Pr 0 at 34 weeks gestation comes to the physician's office for her regular prenatal visit. The patient's assessment reveals BP 160/110, DTR's are 3+ with 2 beats clonus, weight gain of 5 pounds, 3+ pitting edema, facial edema, severe headache, blurred vision, and 3+ proteinuria.

Patient's history – single, lives with her parents, attending high school, works at local grocery store in the evenings as a cashier, began prenatal care at 18 weeks, has missed two of her regularly scheduled appointments for prenatal care, never eats breakfast, snacks for lunch and eats dinner after she gets off work at 10:00 pm.

1. What disease process is this patient exhibiting? What in the assessment supports your concern?

This patient is exhibiting severe preeclampsia. The whole assessment supports my concern: BP of 160/110, 3+ DTR with 2 beats clonus, weight gain, pitting edema, facial edema, severe headache, blurred vision, and 3+ proteinuria.

2. What in the patient's history places her at risk for Pregnancy-Induced Hypertension?

This patient is a primigravida which places her at risk for pregnancy-induced hypertension.

3. Describe how Pregnancy-Induced Hypertension affects each organ and how these effects are manifested.

In the cardiovascular system, pregnancy-induced hypertension causes decreased intravascular volume, severe hypertension which includes hypertensive crisis, pulmonary edema, congestive heart failure, and future cardiac disease and dysfunction. The pulmonary system manifests as pulmonary edema and hypoxemia/acidemia. Renal system can manifest as oliguria, acute renal failure, and impaired drug metabolism. Hematologic, hemolysis can occur as well as a decreased oxygen carrying capacity, thrombocytopenia, coagulation defects, and anemia. Neurologically, seizures, cerebral edema, intracerebral hemorrhage, stroke, and visual disturbances including blindness can occur. Liver function is affected and manifests as hepatocellular dysfunction, hepatic rupture, hypoglycemia, coagulation defects, and impaired drug metabolism and excretion. Hypertension can also cause uteroplacental effects such as abruption and decreased uteroplacental perfusion.

4. What will the patient's treatment consist of?

Treatment for this patient will consist of hospitalization and progression toward delivery. We want to manage and improve placental blood flow and fetal oxygenation, prevent seizures and other complications like HELLP syndrome, stroke, and eclampsia, bed rest and fetal monitoring, reduce external stimuli that may precipitate a seizure, administer antihypertensive medication, and monitor vital signs.

5. What is the drug of choice for this condition? What other medication(s) might be ordered for this patient?

The drug of choice for this condition is Magnesium Sulfate. Other medications that might be ordered include Labetalol, Hydralazine, and Nifedipine.

6. What are the Nursing considerations when administering the drug of choice? (Side effects & medication administration guidelines)

Nursing considerations include monitoring blood pressure closely during administration, assessing for respiratory rate above 12 breaths per minute, presence of deep tendon reflexes, and ensuring urinary output is greater than 30 mL/hr before administration. Resuscitation equipment (suction and oxygen) needs to be in the room and calcium gluconate needs to be readily available to use for magnesium sulfate toxicity. Side effects include flushing, sweating, dry mouth, headache, and more serious reactions include muscle weakness, pulmonary edema, hypotension, depressed DTRs, and CNS depression. The guidelines for administering magnesium sulfate include having two qualified nurses to check the orders and pump setting to ensure it is the correct dose, it is administered through a secondary line and on a pump so it can be discontinued without disruption of the primary line, a loading dose is given and then an individualized maintenance dose is given, it is given in the closest port closest to the IV insertion site, and it is important to monitor the therapeutic serum level (5 to 8 mg/dL).