

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?

Induction is a safer option in this case due to the fact that after 40 weeks placental function begins to decrease in the uterine environment. In addition, the patient's Bishop score may indicate a need for cervical ripening.

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

Prostaglandins are utilized as a method for cervical ripening at term. This will raise the Bishop Score of the mother and provide for a more favorable vaginal delivery.

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

The nurse must assess the FHR for at least 20 minutes to confirm fetal well-being. Leopold's and a vaginal exam to confirm a cephalic presentation are also required at this time. The medication may not be administered in the case of tachysystole or FHR patterns that indicate inadequate fetal oxygenation are observed.

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

The nurse must monitor the mother and fetus for potential complications and intervene when necessary. The nurse is responsible for changing and stopping the infusion and they see fit.

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.

Ketosis during the first trimester can progress to maternal/fetal demise in extreme circumstances. The mother is at an increased risk of membrane rupture, this poses a serious threat of infection.

Urinary tract infections are more common in a diabetic mother's pregnancy, this is due to increased glucose content in the urine and bacterial growth in a high sugar content.

The mother is at risk for a potential cesarean birth. This can be due to macrosomia. Additionally, the mother is at an increased risk for postpartum hemorrhage due to macrosomia and polyhydramnios.

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

Congenital malformations such as neural tube defects and caudal regression syndrome are at a higher risk if maternal diabetes are uncontrolled.

Glucose excess can cause surfactant to be inactivated. This therefore causes respiratory distress and may require artificial surfactant administration. The newborn is also at risk for episodes of hypoglycemia and may require earlier feedings and more calories to avoid these episodes of dangerous calorie burning expenditures. This newborn may be at an increased risk for weight loss.

Hyperbilirubinemia is also at an increased risk as an LGA baby experiences more trauma during delivery than that of an SGA/AGA baby.

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

In early pregnancy, the diabetic mother is at a higher risk of developing hypoglycemia in correlation with metabolic changes. In this instance, nausea and vomiting contribute to the risk of hypoglycemic episodes.

It is very important to teach the mother the importance of controlling her diabetes with adequate insulin and carbohydrate counting to prevent serious congenital malformations in the developing fetus.

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

LGA will most likely be the classification of this newborn. Due to increased glucose intake in utero, infants of diabetic mothers are typically large for their gestational age.

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?
Pregnancy Induced Hypertension is demonstrated by the clinical manifestations. New onset before 20 weeks is also associated with superimposed preeclampsia or eclampsia. Since the patient is 34 weeks gestation it is very possible that the condition has progressed to preeclampsia. The blood pressure reading, and signs of fluid overload and proteinuria support the concerning diagnosis.

2. What in the patient's history places her at risk for Pregnancy-Induced Hypertension?
Pregnancy Induced Hypertension is the most common complication of adolescent pregnancy.

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

The vascular bed is subjected to endothelial dysfunction, this can lead to clotting and even a pulmonary embolism. Severe hypertension is liable to lead to a hypertensive crisis. Pulmonary edema may occur due to fluid overload, this can cause shortness of breath, tachypnea and hypoxemia. Renal failure may result, the increased pressure on the kidneys results in a spilling of proteins and impaired excretion of metabolites and fluids. Impaired electrolyte balances play a huge role in neurologic functioning such as seizure, vision, strokes and cerebral edema. Finally, the increased pressure can result in placental abruption, therefore causing massive hemorrhage and fetal demise in utero.

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

Delivery is recommended at 37 weeks gestation. Vaginal birth is the preferable route of delivery. Home care will include more sedentary activities and close blood pressure monitoring. Daily weights should be taken each morning to monitor fluid retention. Fetal assessments- kick counts are essential for recognition of fetal well being. The mother's diet should include protein and carbs, fluid restriction is usually unnecessary.

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

Magnesium Sulfate is the drug of choice in this scenario. Oxytocin is often administered during intrapartum to stimulate the uterus. Opioid analgesics may also be ordered to reduce painful stimuli and prevent seizure onset. Furosemide may be prescribed to prevent or treat pulmonary edema.

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

The nurse must carefully monitor for flushing, sweating, hypotension, depressed DTRs and CNS depression (including respiratory depression). Blood pressure must be monitored closely and the maternal respiratory rate must remain above 12 per minute. Urinary output must remain above 30 ml/hr before administration. Resuscitation equipment should be prepared at the bedside along with calcium gluconate.