

## **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?

Post term pregnancy.

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

To help promote cervical ripening.

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

Is the baby in breech position, was her previous delivery vaginal or cesarean, is her uterus over distended, does the patient have hypertension or other cardiac issues, where is the presenting part?

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

Assess FHR for at least 20 mins before induction. Perform Leopold's Maneuver and/or vaginal exam to verify presentation. Notify physician of abnormal FHR. Do not begin induction until ultrasound is done prior. Observe UA for establishment of effective labor pattern. Observe FHR for tachycardia, bradycardia, decreased variability and pathologic decelerations.

## **CASE STUDY - Diabetes in Pregnancy**

A 30-year-old, G2, P1, is in her 10<sup>th</sup> 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.

Hypertension and preeclampsia increased even without renal or vascular Impairment. Urinary tract infection due to increased bacterial growth in nutrient-rich urine. Ketoacidosis due to uncontrolled hyperglycemia or infection. Labor dystocia, cesarean birth, uterine atony with hemorrhage after birth due to hydramnios secondary to fetal osmotic diuresis caused by hyperglycemia or uterus is overstretched. Both injury to maternal tissues due to fetal macrosomia causing difficult birth.

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

Congenital anomalies, variations in fetal size, hypoglycemia, hypocalcemia, hyperbilirubinemia, and respiratory distress syndrome.

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

Preconception care, diet, self monitoring of blood glucose level, insulin demands and therapy, timing of delivery, exercise, fetal surveillance.

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

LGA, because of the gestational age and since her previous pregnancy was a 9 pound child this would be in the same range. Women with gestational diabetes often have larger babies which would classify them as LGA.

## **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?

Preeclampsia. Patient has hypertension, past 20 weeks gestation, proteinuria, edema. headache, and blurred vision.

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

First time pregnancy and she's an adolescent.

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

Decrease renal perfusion reduces glomerular filtration rate. Blood urea nitrogen, creatinine, uric acid levels rise. Proteins from the kidneys reduces osmotic pressure and allow fluid to move from interstitial spaces. This results in edema and reduction in intravascular volume causing a rise in hematocrit levels. Reduced liver circulation leads to hepatic edema and sub-capsular hemorrhage . Vasoconstriction of several vessels leads to pressure induce rupture of thin-walled capillaries resulting in small cerebral hemorrhages. This causes blurred vision and hyper active deep tendon reflexes. Decreased osmotic pressure can lead to pulmonary capillary leakage and result in pulmonary edema. Decrease placental circulation result in infarctions that increase risk for placental abruption.

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

Bedrest in the lateral position, external stimuli is reduced, external fetal monitoring is indicated during hospitalization, frequency of monitoring is individualized. Antihypertensive medication's to decrease risk of stroke or congestive heart failure. Anticonvulsant medication's to prevent seizures.

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

Magnesium sulfate. Antihypertensive medication and oxytocin are often administer simultaneously with magnesium sulfate.

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

Monitor blood pressure, assess maternal respiratory (rate >12 breaths per minute), urinary output ( > 30 mL per hour) place resuscitation equipment in the room, and have calcium gluconate on stand by.