

## **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?

**It may be medically necessary for an obstetric, fetal, or other medical indication or it may be elective.**

- **The intrauterine environment is hostile to fetal well-being**
- **SROM at or near term without onset of labor**
- **Post term pregnancy**
- **Chorioamnionitis**
- **Hypertension associated with pregnancy or chronic hypertension**
- **Maternal medical conditions that worsen with continuation of the pregnancy**
- **Fetal demise**

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

**The patient's cervix is firm, so the drug will cause the cervix to ripen.**

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

**UA, FHR, and fetal heart patterns are monitored before induction for a baseline, when oxytocin is started, and throughout labor.**

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

**Assess the FHR for at least 20 mins before induction to identify fetal well-being. Perform Leopold's maneuvers, a vaginal exam, or both to verify a cephalic fetal presentation.**

**Observe UA**

**Observe FHR for patterns such as tachycardia, bradycardia, decreased variability, and pathologic (late, variable, or prolonged) 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, preeclampsia**

**UTI**

**Ketoacidosis**

**Labor dystocia, cesarean birth, uterine atony with hemorrhage after birth**

**Birth injury to maternal tissues (hematoma, lacerations)**

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

**Congenital anomalies**

**Perinatal death**

**Macrosomia**

**Intrauterine fetal growth restriction**

**Preterm labor, premature rupture of membranes, preterm birth**

**Birth injury**

**Hypoglycemia**

**Polycythemia**

**Hyperbilirubinemia**

**Hypocalcemia**

**Respiratory distress syndrome**

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

**Diet**

**Exercise**

**Blood glucose monitoring**

**Pharmacologic treatment**

**Fetal surveillance**

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

**LGA**

**Fetal macrosomia results when elevated levels of blood glucose stimulate excessive production of fetal insulin, which acts as a powerful growth hormone.**

## **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?

**Severe preeclampsia**

**Blood pressure is 160/110, severe headache, proteinuria, hyperreflexia with clonus, and blurred vision.**

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

**First pregnancy**

**Age**

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

**Preeclampsia is a result of generalized vasoconstriction and vasospasm resulting in a multiple system organ failure disease in pregnancy. The primary pathologic process of hypertension is vasoconstriction, whereas the underlying cause of vasospasm remains unknown. There is abnormal development in the maternal spiral arteries leading to decreased perfusion and oxygenation.**

**Vascular bed- endothelial dysfunction, altered coagulation, altered response to vasoactive substances**

**Cardiovascular and pulmonary—increased vascular resistance, increased cardiac output and stroke volume, decreased colloid osmotic pressure**

**Renal—Proteinuria, altered function**

**Hepatic—hepatic dysfunction, hepatic rupture**

**Hematologic—thrombocytopenia, altered platelet function, hemolysis**

**CNS—hyperreflexia**

**Uteroplacental—spiral arteries, changes consistent with hypoxia**

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

**Reduced activity**

**Home blood pressure monitoring**

**Weight monitoring**

**Urinalysis for protein**

**Fetal assessment**

**Diet high in protein and calories**

**Antihypertensive medications**

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

**Labetalol and Magnesium sulfate**

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

**The nursing considerations for magnesium sulfate are to monitor the blood pressure, assess respiratory rate, presence of DTRs, and urinary output greater than 30 ml/hr. Resuscitation equipment should be in the room and calcium gluconate for signs of toxicity.**