

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 indicated for this patient due to the fact that she is now past full-term pregnancy and her membranes are still intact.

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

Administration of prostaglandin is commonly ordered for scheduled inductions. This drug causes cervical ripening. It will allow the cervix to soften and make it more likely to dilate with the forces of labor.

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

The fetal heart rate and patterns should be assessed for at least 20 minutes before induction to ensure fetal wellness. Leopold's maneuvers and/or a vag exam should be performed to make sure that the baby is in cephalic position. Uterine activity should be assessed to establish effective labor patterns.

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

When administering oxytocin it is important to remember that it is given as a secondary drug via piggyback infusion so that it is able to be stopped quickly if needed. The IV line should be inserted into the primary fluid line at the most proximal point to limit the amount of drug infused if discontinued. Oxytocin will be started slowly and increased gradually. It is regulated by the infusion pump. Uterine activity, fetal heart rate and patterns are monitored before induction to obtain a baseline. They will be continuously monitored after the drug has been started and throughout labor.

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.

A pregnant woman has an increased risk of spontaneous abortion or fetal abnormalities during the first trimester when major fetal organs are developing. This may be due to hypo/hyperglycemia or ketosis causing an abnormal metabolic environment. Hypertension and preeclampsia are also more likely to develop in women with preexisting diabetes. Ketoacidosis can be a threat to those with type 1 diabetes and is often precipitated by infection or missed doses of insulin. Urinary tract infections are more common, probably as a result of glucose in the urine.

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

The effects on fetal and neonates of a mother with preexisting diabetes depends on the timing and severity of maternal hyperglycemia and the degree of vascular impairment that has occurred. Congenital malformation is 2-6x higher if maternal hyperglycemia is not controlled during the first trimester. Fetal macrosomia results when elevated levels of blood glucose stimulate excessive production of fetal insulin, which acts as a powerful growth hormone. Neonates are at higher risk for hypoglycemia because fetal insulin production would have accelerated during pregnancy in order to metabolize the excessive glucose received from the mother. Neonates can also experience hypocalcemia, hyperbilirubinemia, and respiratory depression syndrome.

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

An individualized assessment should be completed to ensure that women with diabetes can appropriately monitor their blood glucose level. The nurse should observe the skills of the women in mixing and self-administration of insulin. They should also be educated on diet, exercise, and fetal surveillance.

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

The patient's child will most likely be classified as LGA. Fetal hyperglycemia causes a stimulating production of insulin to metabolize carbohydrates. Excess nutrients are transported to the fetus.

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 signs of preeclampsia. Her BP is greater than 140 diastolic and 90 systolic. She is pitting, has a protein dipstick of 3+, a noticeable weight gain, blurred vision, and edema.

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

This patient had an increased risk for preeclampsia because it is her first pregnancy.

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

Pregnancy induced hypertension causes increased vascular resistance, increased cardiac output and stroke volume, and decreased colloid osmotic pressure. The kidneys are affected causing slight decrease in glomerular size and a decreased diameter glomerular capillary lumen. This results in proteinuria and altered overall kidney function. Liver dysfunction also occurs due changes consistent with hemorrhage into the hepatic tissue. Hepatic rupture can occur because of fibrin deposition and hepatocellular necrosis. Low platelet counts will result due to an increase in destruction and life span.

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

Treatment for pregnancy induced hypertension will overall include preparing the mother for delivery of the child. The only cure is delivery of the baby and placenta. Steroids may be given to accelerate fetal lung maturity and delivery will try to be prevented for 48 hours after administration of the drug. Delivery is usually withheld until 37 weeks, but if her hypertension is determined to be severe, immediate delivery may be required.

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

It is recommended to administer magnesium sulfate for seizure prophylaxis in patients with severe preeclampsia.

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

Use caution with antihypertensive medication because there is a risk of hypotension if combined. Side effects include: sCNS depression, accumulation of magnesium to toxic levels that may manifest by flushing, sweating, hypotension, and depressed DTRs.