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?**

   The indication for induction of labor is post-term pregnancy with the patient being 41 weeks gestation.

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

   Prostaglandins are used for cervical ripening. This process is used to help ripen or soften the cervix and make it more likely to dilate with labor.

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

   Prior to induction the Bishop scoring system should be used to indicate if the cervix is favorable for induction. The Bishop score includes cervical dilation, effacement, consistency, position, and feal station. The higher a Bishop score is the more favorable the cervix is for laboring. The patient should also be checked for the presence of factors that may contraindicate a vaginal delivery such as the present of a placenta previa, vasa previa, abnormal fetal presentation, and any previous uterine surgery such as a cesarian section.

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

   Nursing considerations prior to administrating Oxytocin include assessing FHR for baseline and variability and performing Leopold's maneuver. Nursing considerations while the administration is infusing include tachysystole, FHR patterns looking for tachycardia, bradycardia, decreased variability and decelerations. If any adverse effects appear want to implement intrauterine resuscitation measures such as reducing the Oxytocin, placing the mother on her left side for better cardiac output and fetal oxygenation, placing a nonrebreather on the mother and administering oxygen at 10 L/min and giving the mother a bolus of fluids.

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.**

   Risks associated with diabetes and pregnancy are spontaneous abortion, hypertension and/or preeclampsia, DKA, recurrent UTI's, hydramnios and risk for complications during childbirth of fetus has macrosomia such as shoulder dystocia.

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

   Fetal-neonatal risks associated with maternal diabetes include congenital malformations such as neural tube defects and cardiac defects, fetal macrosomia, risk for complications after birth such as hypoglycemia and respiratory distress syndrome. The neonate is also at an increased risk for birth trauma and can lead to jaundice.

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

   Educational topics that should be covered to assist the patient in managing her diabetes include diet, exercise to the patients physical ability, blood glucose monitoring at home, pharmacologic management at home if it applies to the patient's plan of care, signs of hypoglycemia/hyperglycemia and fetal surveillance such as kick counts.

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 if the mother is hyperglycemic. Though maternal insulin does not cross the placental barrier, maternal blood glucose does. The fetus produces insulin by 10th week gestation resulting in macrosomia when elevated levels of blood glucose stimulate excessive production of fetal insulin and results in excessive growth of 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 severe preeclampsia. The patient's blood pressure is 160/110, patient is experiencing DTR 3+ with the presence of clonus, pitting edema present, facial edema and proteinuria is present.

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

   This being the patient's first pregnancy places her at an increased risk for PIH.

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

   PID causes vasoconstriction and vasospasm resulting in multiple system organ failure. This can lead to decreased renal perfusion, elevated BUN and Cr levels, loss of protein from kidneys, reduced liver circulation impairs function and leads to hepatic edema and risk for rupture, increased risk of a stroke due to vasoconstriction of cerebral vessels and decreased placental circulation resulting in infarction that increases risk of placental abruption and HELLP syndrome.

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

   The only curse is delivery of the fetus and placenta, but since patient is 34 weeks gestation may need to try other alternative therapies prior to delivery. Alternative treatment may include antepartum management to improve placental blood flow and fetal oxygenation, seizure, and stroke prevention. The patient would be on strict bedrest and have an EFM to assess the FHR and may be started on antihypertensive medication.

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 would be Magnesium sulfate to prevent seizures by depressing the CNS and relaxing the smooth muscle and reducing the blood pressure. Other medications may include Labetalol, Hydralazine and Nifedipine.

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

Magnesium sulfate is administered IV for fast action but needs to be administered and monitored very carefully. Magnesium sulfate is infused via a secondary line through an IV pump and connected to the most proximal port to the patient to ensure the medication can be discontinued at any time if needed. Before infusion the medication needs to be verified by two qualified nurses along with the IV pump settings. A major side effect of the medication would be Magnesium toxicity which presents with flushing of the skin, hypotension, depressed DTRs, respiratory depression and decreased urinary output. These need to me monitored extremely closely and if respirations fall below 12, urinary output is less than 30 mL/hr and absence of DTRs the Magnesium should be stopped and Calcium gluconate should be administered quickly and the physician notified.