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 patient is considered post term which increases the risk of infant death. The baby's demands will increase while the placenta's function decreases. The baby is at risk for dry peeling skin, weight loss, and meconium aspiration. As the babies grows bigger, they may become too big for a successful vaginal birth which increases the risk of complications for both mom and baby.

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

Prostaglandins are used to ripen the cervix. The physician ordered this medication to help prepare the mother's cervix for induction.

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

The nurse will need to collect a complete health history of mom and baby, they will need to know the baby's gestational age, weight and size, the baby's position in the uterus. They may perform a contraction stress test to make sure that the baby can tolerate contractions before inducing labor. A bishop score will also be calculated to determine how ready the cervix is for labor.

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

The nurse will titrate the infusion drip and closely assess vital signs, fluid balance, pain, contraction strength and frequency, and fetal status during administration of oxytocin.

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.**

The maternal risks associated with diabetes and pregnancy are infections, preeclampsia, hydramnios, ketoacidosis, hypoglycemia, and hyperglycemia.

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

Uncontrolled hyperglycemia can cause fetal death, macrosomia, IUGR, RDS, hyperbilirubinemia, hypoglycemia, prematurity, cardiomyopathy, congenital defects, and future psychiatric disorders.

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

The nurse should teach the patient how to check their blood glucose levels and encourage them to do it 4-8 times a day. It is important to teach them how to monitor urine ketones from home and how to log their food intake, activity, and insulin. The nurse should also encourage the patient to exercise 3 times a week for at least 20 minutes unless contraindicated.

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

The baby will more than likely classify as LGA. Babies of mothers with gestational diabetes usually come out will macrosomia. Macrosomia is mainly due to the increased insulin resistance of the mother. A higher of amount of blood glucose passes through the placenta into the fetal circulation leading to fast growth and deposits of fat. It is important to provide an expected plan for labor and delivery because the baby may not fit through the birth canal, usually resulting in delivery by cesarian section.

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?**

The patient is exhibiting preeclampsia. The assessment supports this disease process because her blood pressure is equal to 160/110 with deep tendon reflex measured at 3+ with 2 beats of ankle clonus. She has extensive peripheral edema, severe headache, blurred vision, and proteinuria measured at 3+.

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

This is her first pregnancy, she's young, has poor eating habits, stands on her feet for long periods of time, has stressors such as school and work, and hasn't been to her prenatal appointments to monitor her pregnancy for any complications.

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

PIH directly affects circulation and because circulation involves each organ, complications arise. Decreased circulation affects the kidneys, brain, placenta, and liver. Decreased renal perfusion reduces the glomerular filtration rate. When there is damage to the glomerulus, fluid begins to shift into the interstitial spaces leading to peripheral edema. Vasoconstriction of the cerebral vessels can lead to hemorrhage or

arterial spasms. Decreased placental circulation increases the risk for placental abruption. Decreased hepatic perfusion impairs hepatic function and can lead to hepatic edema and can even lead to rupture.

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

Since the only cure is delivery of the baby, the mother may be admitted to the hospital to be monitored until delivery. In the hospital, she will be placed on bed rest, in a dark, quiet room with limited visitors. She will be placed on seizure precautions and closely monitored for further complications. If she is sent home, she will be required to reduce activity and monitor blood pressure at home. She will have to follow up with her provider every 3-4 days and will be instructed to perform fetal activity checks by measuring kick counts.

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

   The drug of choice is Magnesium sulfate which is an anticonvulsant that depresses CNS irritability and relaxes smooth muscle. Labetalol may also be used to control PIH. Labetalol is a antihypertensive medication. She may also be given Magnesium sulfate which is an anticonvulsant that depresses CNS irritability and relaxes smooth muscle.

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

   When administering magnesium sulfate the nurse should closely monitor BP and RR. The nurse will also have to closely monitor urine output and deep tendon reflexes. The side effects of this drug is respiratory depression, CNS depression, sweating, flushing, hypotension, and ultimately magnesium toxicity. A loading dose will be administered over 15-20 minutes and then continuous infusion to maintain control. This medication will always be administered via pump and piggybacked into the primary line to the most proximal port.