Autumn Ford

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 one week post-term.

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

Prostaglandin is the hormone responsible for ripening the cervix before induction.

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

   Cervical assessment utilizing Bishop's score to determine cervical readiness. This includes dilation, effacement, fetal station, cervical consistency and position.

   Leopold Maneuvers to determine the position and presentation of the baby.

   Baseline VS on the mother and baseline fetal heart rate/patterns.

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

Monitor the FHR/pattern for tachysystole. If it occurs, reduce or stop the infusion, give a fluid bolus, reposition the mother to increase blood flow, and non-rebreather O2 mask at 10L.

Assess the uterine activity for hypertonia, and contractions for frequency, duration and intensity for a relaxation of at least 30 sec between contractions. The same measures used for tachysystole are used for excessive uterine contraction.

Mother's BP and HR q 30min or with every dose change. Temp q 2-4 hrs to ID infection. I/O to monitor for water intoxication.

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.

HTN, and preeclampsia. UTI due to the increased glucose in the urine. Ketoacidosis with uncontrolled hyperglycemia or infection. Labor dystocia, C-section due to hydramnios diuresis from hyperglycemia. Uterine atony postpartum due to overstretched uterus. Hematoma and lacerations due to trauma from macrosomia.

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

Congenital anomalies related to maternal hyperglycemia during first trimester. Perinatal death related to poor perfusion due to maternal vascular impairment. Macrosomia due to fetal hyperglycemia and excess nutrients. IUGR from maternal vascular impairment. Preterm labor, premature ROM, preterm birth due to overdistention of uterus from hydramnios and macrosomia. Birth injury due to large fetal size, shoulder dystocia, other difficult delivery. Hypoglycemia after birth related to neonate hyperinsulinemia. Polycythemia due to hypoxemia. Hyperbilirubinemia due to excess hemolysis. Hypocalcemia from reduced fetal parathyroid function. Respiratory distress syndrome from inadequate surfactant production secondary to immature fetal lung development and slowed absorption of fetal lung fluid.

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

She should control her GDM with diet. Simple sugars should be eliminated. If she is not obese, she should consume 30kCal/kg/day and if obese 25kCal/kg/day. Breakfast carbs may be limited to 30g at breakfast. Calories should be divided between 3 meals and at least 3 snacks, with an evening snack to prevent nighttime ketosis. She should follow her HCP recommended activity/exercise. Self-glucose monitoring should be done at fasting 4 hours after last food, and 2 hrs postprandial. If fasting is >95, and postprandial >120, insulin therapy will be initiated.

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

   LGA or SGA. Diabetic mothers increased blood glucose levels translate into increased fetal blood glucose. This in turn stimulates excess fetal insulin production which acts as a growth hormone leading to LGA baby.
   Vascular impairment leads to insufficient perfusion of the fetus, decreasing the glucose and oxygen supply. Amniotic fluid may also be reduced. These lead to SGA baby.

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. Systolic >140/90, proteinuria is 3+, >20 weeks gestation, pitting edema, HA with blurred vision and deep tendon reflex 3+.

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

First pregnancy, deferred prenatal care

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

   Kidneys: decreased GFR due to decreased renal perfusion. Increase in BUN, creatinine and uric acid levels. Reduced renal blood flow damages the glomeruli leading to proteinuria and edema.

   Liver: decreased circulation leads to hepatic edema and subcapsular hemorrhage that can result in necrosis, manifested by increased liver enzyme levels in serum and epigastric pain.

   Cerebral vessels: vasoconstriction leads to pressure induced rupture of capillaries leading to small cerebral hemorrhages manifested by HA, blurred vision and DTR.

   Lungs: decreased oncotic pressure may lead to pulmonary capillary leak resulting in pulmonary edema manifested by dyspnea.

   Placenta: decreased circulation leads to infarctions that increase the risk for placental abruption. IUGR, persistent hypoxemia and acidosis can occur from reduced maternal blood flow through the placenta.

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

   The patient is presenting with severe preeclampsia, treatment is immediate induction of labor and delivery. Lateral bed rest in a quiet environment to decrease risk of seizure, with continuous FHR.

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

   Antihypertensive hydralazine is the drug of choice. Also used are calcium channel-blocker nifedipine, or beta-adrenergic blocker labetalol.

   Magnesium sulfate, anticonvulsant

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

AE: HA, dizziness, chest pain, tachycardia, orthostatic hypotension, N/V/D, dyspnea

Considerations: caution in pts hypersensitive to aspirin. Monitor BP, HR. monitor for lupus-like symptoms (sore throat, fever, muscle/joint ache, rash). Tell pt to rise slowly getting up, ask for assistance. For IV admin-give as rapid bolus. Do not add to infusion solutions. Incompatible with D5W, D10LR, D10NS. PO give with food.