Meagan Britt
May 2, 2022

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?

   - 41 weeks gestation (Post term pregnancy/Placenta is no longer working)

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

   - Prostaglandin is a drug that is used to cause cervical ripening
   - Cervical ripening: a process used to ripen (soften) the cervix and make it more likely to dilate with the forces of labor.
   -

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

   - Cervical assessment estimates whether the cervix is favorable for induction.
   - The Bishop scoring system is used to estimate cervical readiness for labor with five factors: cervical dilation, effacement, consistency, position, and fetal station. Vaginal birth is more likely to result if a Bishop score is higher than 8.

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

   - Assess fetal heart rate
   - Preform Leopold's maneuver
   - Vaginal examination
   - Observe UA for establishment of effective labor pattern
   - Observe uterus for firmness, height, and deviation.

- Observe lochia for color, quantity, and clots

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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.
   - Hypertension, Preeclampsia
   - UTI
   - Ketoacidosis
   - Labor dystocia, cesarean birth, uterine atony, with hemorrhage after birth
   - Hematoma
   - Lacerations

2. Discuss fetal-neonatal risks associated with diabetes and pregnancy.
   - Congenital anomalies
   - Perinatal death
   - Macrosomia
   - Fetal growth restriction
   - Preterm labor, PROM, preterm birth
   - Birth injury
   - Hypoglycemia
   - Polycythemia
   - Hyperbilirubinemia
   - Hypocalcemia
   - RDS

3. What educational topics should be covered to assist the patient in managing her diabetes?
   - Diet
   - Exercise
   - Blood glucose monitoring
   - Pharmacologic treatment
   - Insulin Administration
   - Fetal Surveillance

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

   - SGA: if vascular impairment is present in the mother, placental perfusion may be decreased. Vascular impairment may be caused by complications of the diabetes such as vasoconstriction, with occurs in preeclampsia or as a result of the disease process of diabetes. Impaired placental perfusion decreases supplies of glucose and oxygen delivered to the fetus. As a result, the infant is likely to be small for gestational age.

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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?

    - Pregnancy-Induced Hypertension/ Severe preeclampsia)
    - BP 160/110
    - 3+ proteinuria

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

    - First pregnancy

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

    - Vascular bed: Endothelial Dysfunction, Altered Coagulation, and Altered response to Vasoactive Substances
    - Cardiovascular and Pulmonary: Increased Vascular Resistance, Increased Cardiac Output and Stroke Volume, and Decreased Colloid Osmotic Pressure
    - Renal: Proteinuria and Altered Function
    - Hepatic: Dysfunction and Rupture
    - Hematologic: Thrombocytopenia, Altered Platelet Function, and Hemolysis
    - CNS: Hyperreflexia
    - Fetal/Neonatal: Fetal Intolerance to Labor, Preterm Birth, Oligohydramnios, IUGR, IUFD, Abruptio Placentae, Spiral Arteries, and Changes Consistent With Hypoxia

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

    - Activity Restrictions
    - Blood Pressure Monitoring
    - Weight Checks
    - Urinalysis
    - Fetal Assessments

- Diet
- Antihypertensives
- Anticonvulsants

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

- Labetalol
- Hydralazine
- Nifedipine
- Magnesium Sulfate (Seizure Prevention)

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

- Labetalol: has less maternal tachycardia and fewer adverse effects; contraindicated in patients with asthma, heart disease, or CHF; associated with hypoglycemia and small for gestational age infants.
- Hydralazine: Higher doses are associated with maternal hypotension, headaches, and fetal distress.
- Nifedipine: may be associated with reflex tachycardia and headaches; because of mechanism of action, a synergistic effect with magnesium sulfate may result in hypotension and neuromuscular blockade.
- Magnesium Sulfate: S/E- flushing, sweating, hypotension, depressed DTRs, and CNS depression, including respiratory depression. Route- IV or IM (painful). Monitor blood pressure closely, assess for RR above 12, presence of DTRs, and urinary output greater than 30ml/hr before admin. Place resuscitation equipment in the room. Ensure calcium gluconate, which acts as antidote, is readily available, along with syringes and needles.