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Oral Board Primer

Introduction to Labor Epidurals

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Learning Objectives

Upon completion of this activity, participants should be able to:

- Discuss the **advantages, complications, side effects** of a lumbar epidural for labor analgesia with the parturient.
- Identify **probable causes for a failed/inadequately** functioning epidural catheter.
- **Manage a failed/inadequately** functioning epidural catheter.
- **Recognize and formulate a plan to treat** common side effects of lumbar epidural for analgesia.
- Develop a plan for a patient undergoing a

Case 1

20-year-old G1P0, 58 inches tall and weighing 60 kg, with no significant past medical history is at 39 weeks gestational age and presents with spontaneous rupture of membranes to labor and delivery triage. She is in significant pain from the uterine contractions and has heard about an epidural for labor pain control. However, she is extremely anxious about the procedure and is requesting an epidural.

1) How would you go about this task and what would you explain to her?

1a) How would you go about this task?

- This task: preop evaluation and anesthetic consultation

1b) What would you explain to her?

- Any contraindications to performing the neuraxial block are determined and alternatives explored
- Informed consent
- Written Consent
- The risks of epidural for labor analgesia
- Side effects of the medications

Case 1

2) The patient is satisfied with your explanation about how the procedure will be performed, the risks, benefits and alternatives to an epidural and requests epidural placement. Which solution will you use to provide continuous labor analgesia?

Case 1

3) The epidural catheter is placed at L3-4 level in a single attempt. A test dose is given with 3 ml of Lidocaine with 5 mcg/ml of epinephrine after negative aspiration of blood or CSF. The patient has no symptoms of intravascular or intrathecal injection, and in an attempt to get the patient comfortable quickly, the catheter is bolused with 5 ml of 0.1% Ropivacaine with fentanyl 2 mcg/ml within the next 3 minutes after the test dose. As soon as you do this, the maternal blood pressure drops to 80/50 mm Hg and the fetal heart rate drops to 100bpm. What do you do?



Case 2

A 35-year-old G4P3 with BMI of 45, had an epidural catheter placed at 4 cm cervical dilation. It was a difficult placement, requiring 3 attempts by an experienced obstetric anesthesia provider. The patient was comfortable for about an hour, but is now having more perineal pain with contractions. The cervical exam is now 9cm with 100% effacement and station of the fetus is +2.

1) What are the possible causes of this patient's inadequate analgesia



1) What are the possible causes of this patient's inadequate analgesia

- Anatomic factors
- Technique, methodology and equipment
- Catheter related issues
- Patient related factors
- Operator factors

Case 2

2) What is an epidural test dose? What will you do if you encounter ‘a positive test dose’?

Case 2

3) How will you go about troubleshooting this patients epidural?

- Unilateral Block
- Patchy Block
- Inadequate height of block/lower but symmetric sensory block
- Dense motor block – patient cannot push
- No sensory or motor block at all
- Intravascular placement
- Adequate sensory block, but patient still in pain, in advanced 1st stage of labor
- Adequate sensory block, but patient has back pain; fetal occipito-posterior position
- Intrathecal catheter
- Missed sensory segments

Case 3

A 23 year old G2P1 had a lumbar epidural catheter placed in labor. The epidural has been functioning adequately for labor analgesia. Epidural PCEA with 0.1% Ropivacaine with 2 mcg/ml of Fentanyl has been running at 8 ml/hour with a PCEA dose of 5 ml q 20 minutes. The obstetricians have scheduled her for a cesarean delivery due to arrest of descent.

1) How will you provide anesthesia for the cesarean delivery?



Case 4

A 25 year old parturient with a BMI of 50, requested a lumbar epidural for labor analgesia in early labor. You attempt placing the epidural in the sitting position, but the procedure is technically challenging as no anatomical landmarks are appreciated and midline is difficult to identify. Finally, at the 4th attempt, you get loss of resistance with saline and as you detach the saline syringe, you see a gush of clear fluid from the needle.

1) What are the management steps?

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