



Labor Epidural in a Parturient with a Lumboperitoneal Shunt

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EXCEPTIONAL CARE. WITHOUT EXCEPTION.

Introduction

Idiopathic intracranial hypertension (IIH) is a syndrome of increased intracranial pressure without evidence of any structural intracranial abnormalities (1). Surgical treatment in the form of a Lumboperitoneal (LP) shunt may be required in severe cases. The provision of neuraxial anesthesia in parturients with LP shunts remains controversial, with some published recommendations describing contraindications to neuraxial in these patients (2). We present a case of the successful administration of epidural anesthesia for labor pain management in a parturient with a LP shunt.

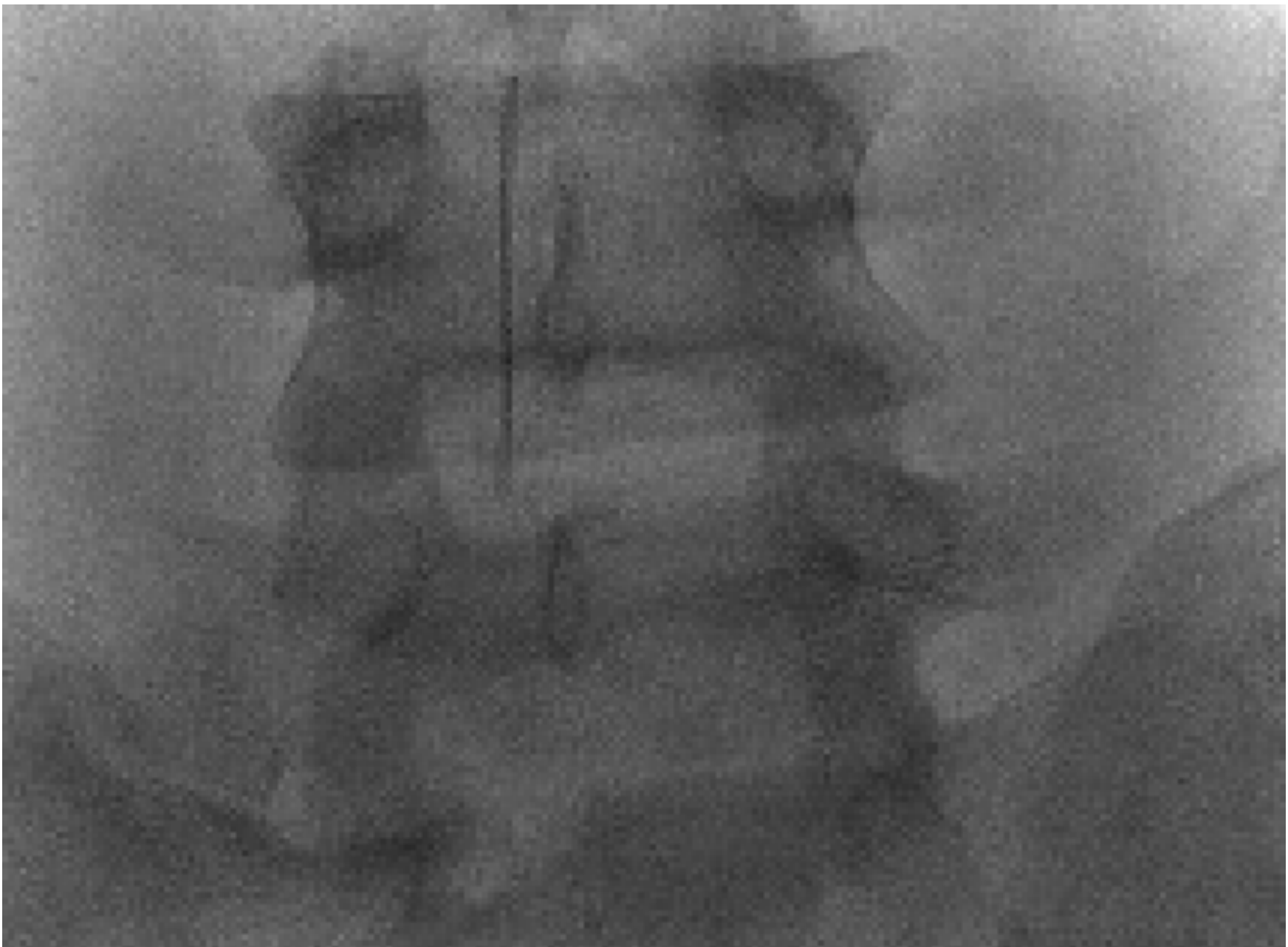
Case Presentation

A 29-year-old woman, G1P0, was admitted at 37 weeks and 6 days for induction of labor for chronic hypertension. Other significant past medical history included obesity, obstructive sleep apnea and idiopathic intracranial hypertension complicated by blindness, treated with a LP shunt placed in 2008. Since then, she had undergone multiple revisions of the shunt with the most recent revision in April of 2019.

A multidisciplinary team composed of maternal fetal medicine, obstetric anesthesia, and neurosurgery discussed the importance of being able to provide neuraxial anesthesia in this parturient with significant comorbidities. Radiological images of the LP shunt were obtained to accurately confirm shunt location due to the multiple revisions that had occurred.



Radiological imaging confirmed the presence of a LP shunt with a programmable valve in the soft tissues of the right flank. The catheter was noted to enter the spinal canal at the L2-3 level, with ascension to the to lower thoracic region.



With the initiation of induction of labor, the decision was made to place the epidural prior to the start of contractions.

The epidural catheter was easily placed below the surgical scar using a midline approach at the L4-L5 interspace. A test dose of 3ml lidocaine 1.5% with 5 mcg/ml epinephrine was negative. An intermittent epidural bolus infusion of 12ml/h of 0.0625% bupivacaine with 2 mcg/mL fentanyl was initiated. This resulted in a T8-9 sensory blockade bilaterally.

With the progression of labor, she required three additional boluses of 10ml doses of 0.125% bupivacaine for breakthrough pain at various intervals. The decision was made to increase the epidural infusion concentration to 0.125% bupivacaine with 2 mcg/mL fentanyl. She required one more additional bolus of 10 ml of 0.25% bupivacaine with 100mcg of fentanyl and remained comfortable for five hours till the uncomplicated vaginal delivery of a healthy baby.

The epidural catheter was easily removed after delivery. The patient had an uneventful postpartum course, and she was discharged home two days after.

Case Discussion:

Lumboperitoneal shunts can be used to treat patients diagnosed with IIH unresponsive to conservative management. (3). There have been theoretical concerns with epidural placement in the presence of LP shunts. (4) These concerns include damage to the shunt, difficult access to the epidural space due to scarring or altered anatomy and knotting of the epidural catheter. Due to these concerns, some authors have recommended that neuraxial blockade be contraindicated in patients with LP shunts, recommending the use of general anesthesia if cesarean section is required in parturients.

No cases of trauma or disruption of the spinal portion of the LP shunt have been reported. Some authors have recommended the use of radiologic studies prior to neuraxial anesthesia with LP shunts, while others have deemed in unnecessary. Others have recommended the use of ultrasonographic assistance (5). In our case, the decision to perform radiological studies was to accurately confirm shunt location due to the multiple shunt revisions that had been performed. The epidural was successfully placed using the midline approach, below the scar at the L4-5 interspace, minimizing the risk of trauma to the shunt.

This case highlights the importance of a multidisciplinary approach in the successful evaluation, management, and provision of neuraxial anesthesia for labor analgesia in a parturient with a LP shunt with multiple revisions.

References:

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