SUCCESSFUL NEURAXIAL ANESTHESIA FOR A PARTURIENT WHO HAS A HISTORY OF SPINAL SCHWANNOMA REMOVAL

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Introduction

- Neuraxial anesthesia following spine surgery is regarded as a relative contraindication.
  - Worsening neurological symptoms
  - Instrumental infections
  - Unintentional dural puncture
  - Unpredictable spread of local anesthetics
- Recent literature has proved that neuraxial anesthesia can be performed safely and effectively in extradural surgeries
  - Unknown evidence for intradural surgeries

Case Description

- A 37-year-old G6P3 at 38w0d parturient presented for induction of labor for cHTN
- Previous vaginal deliveries (prior to schwannoma discovery) without complications with labor epidural
- 7 years ago, she presented with back pain that radiated to her left leg.
  - MRI(Fig 1): left L5 nerve tumor with widening of the L5-S1 left neural foramen and bone remodeling
  - Tx: Left L5 hemilaminectomy, complete facetectomy at L5-S1, and resection of partial intradural L5 nerve root tumor. L5 ligament flavum resected and arachnoid space closed with a muscle graft and layer of Tissel

MRI lumbar spine

Fig 1. Tumor visualization

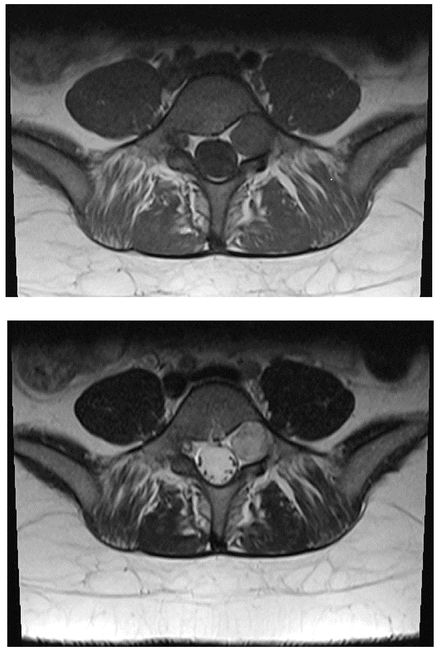
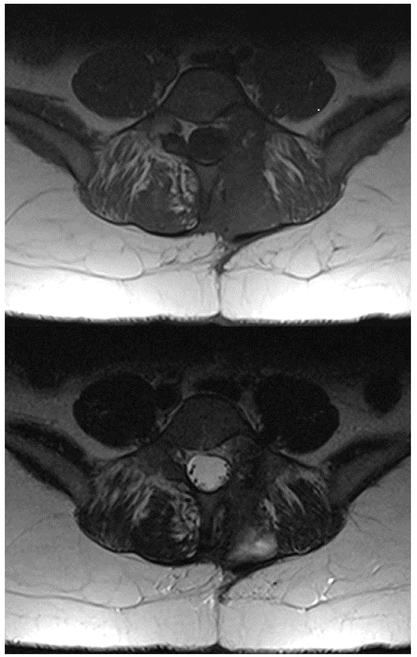


Fig 2. Post-op tumor resection



- Dx: Spinal schwannoma (1.7cm TS x 1.5cm AP x 2.2cm CC)
- Post-op MRI(Fig 2): Resolved mass effect on the thecal sac. Granulation tissue encases the exiting left L5 nerve root and partially encases the descending left S1 nerve root.

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Case Description

- Review of systems: Post-op partial weakness and numbness of left L5 region, leg pain, and left foot drop that were more symptomatic during the third trimester. No issues with walking. No back pain.
- Physical exam:
  - Height 152.4cm, Weight 84.6kg, BMI 36.4.
  - Head and neck: Mallampati 3-4, redundant neck tissue and imbedded jewelry in her cheek.
  - Back: 3cm incision scar on her L5-S1 level without tenderness
  - Neurological: Slightly decreased motor function and numbness of left L5

Anesthesia Management

- Labor epidural
  - L2/3, depth of 6cm. Catheter left at 11cm at the skin. No difficulty and negative test dose.
  - Two doses of 5ml 0.125% bupivacaine with 5mcg/ml fentanyl and 1.25mcg/ml epinephrine
  - Continuous 10ml/hr 0.0625% bupivacaine with 2mcg/ml fentanyl and 1.25mcg/ml epinephrine
  - Block height was right T9 and left T10.
- 9 hours later: Fetal distress with cesarean section indication
  - Intact sensation in left low thoracic and lumbar area: Inadequate coverage
  - Unfavorable airway
  - Patient extremely anxious
- Spinal anesthesia: 12mg 0.75% hyperbaric bupivacaine, 200mcg epinephrine, and 150mcg morphine at L3/4 covering T5 level bilaterally.
- The surgery was completed without significant events.
- Hospital discharge on postoperative day 2 without any new neurologic deficit

Discussion

- CSE/DPE or use of intrathecal catheter could have been an option if inadequate epidural is anticipated due to violated epidural space.
- Future studies would be required to better clarify the efficacy and safety of neuraxial anesthesia for patients with a history of intradural spine surgery.

Conclusion

- A parturient with a pre-existing history of intradural spine surgery was managed safely with neuraxial anesthesia.
- Inadequate/insufficient coverage with an epidural could happen and important to have an alternate plan in place