



Low Thoracic Combined Spinal-epidural Anesthesia for Cesarean Delivery in a Patient with History of Spina Bifida and Tethered Cord



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Background

- Thoracic spinal anesthesia is unconventional because of fear of iatrogenic injury to the spinal cord
- 1 prior report of thoracic spinal anesthesia for cesarean delivery ¹
- Reports of neurological injury during lumbar spinal anesthesia in undiagnosed tethered cord ²

Case Details

- 39-year-old G1P0 at 35w3d elective CD with tubal ligation
- Medical hx: Repaired S1 myelomeningocele, ambulatory spina bifida, squamous cell carcinoma of bladder s/p complex abdominal and urological surgeries, lumbar laminectomies and spinous processes resection from L2-S1
- Physical exam: 165 cm, BMI 35 kg/m², MPIII with limited neck extension, absent lumbar midline landmarks
- Patient expressed strong desire to be awake for the delivery of her own child
- Thorough risk and benefit discussion of thoracic neuraxial analgesia versus general anesthesia in OBA High Risk Clinic

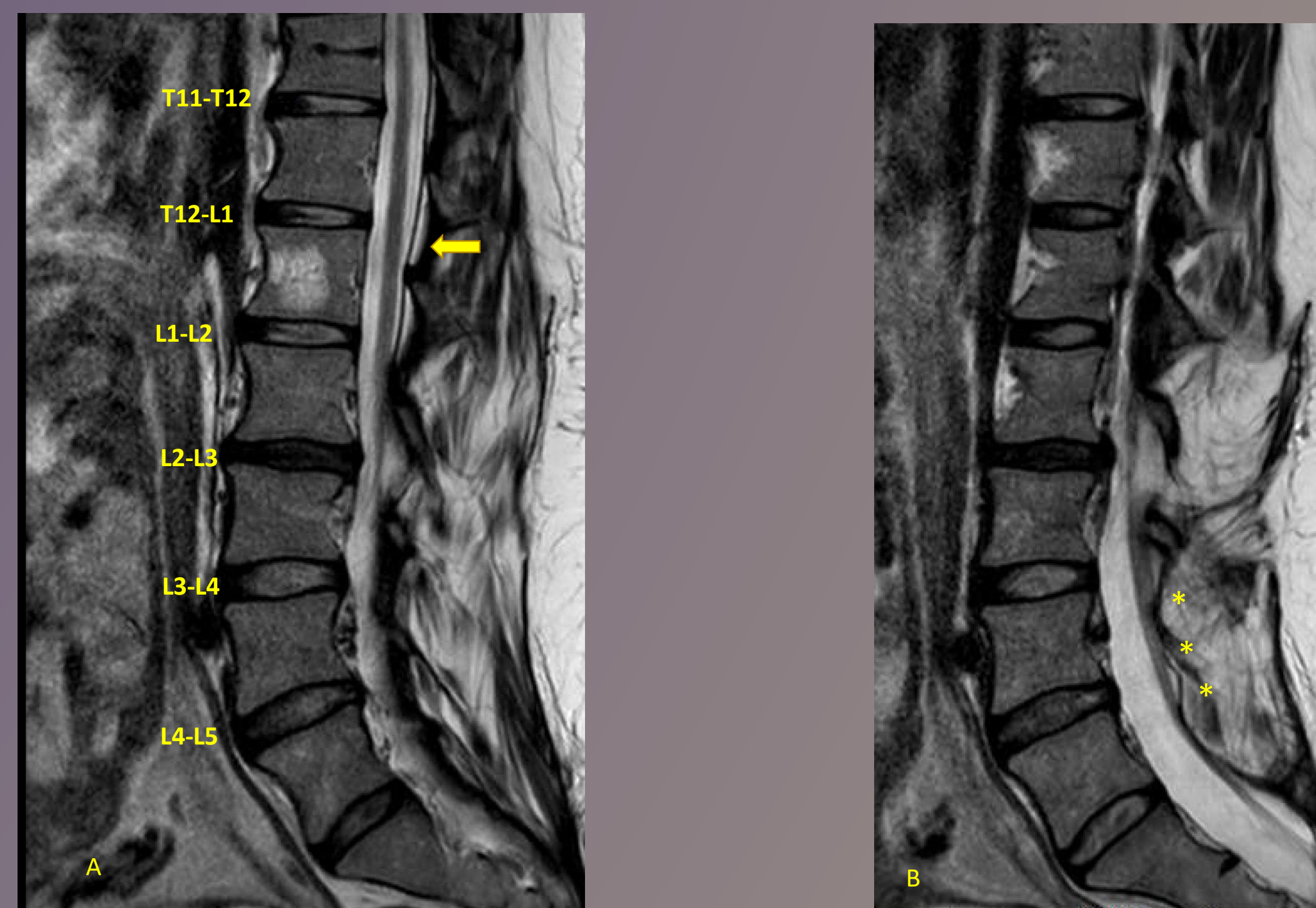


Fig 1. (A) Sagittal lumbar spine MRI with interspaces labeled. Block arrow points to epidural space. (B) * points to neural placode adherent to the posterior aspect of the thecal sac

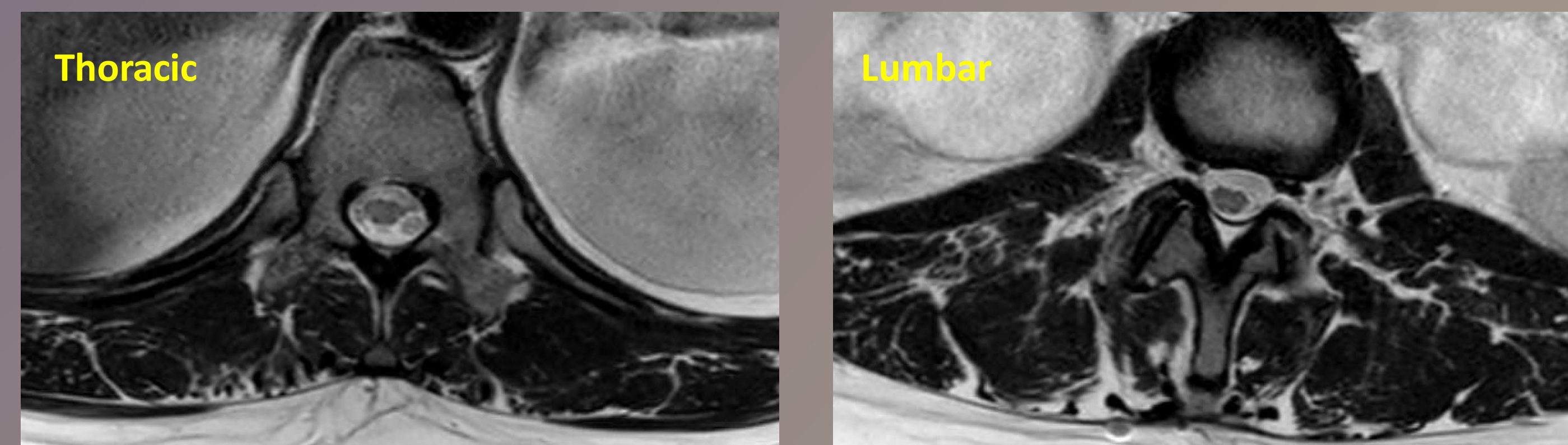


Fig 2. Transverse MRI of spine showing the location of spinal cord in the thoracic versus lumbar spine

Case Details

- tCSE using midline approach at T12-L1
- 17g Touhy needled with LOR at 4.5 cm with saline
- Dura punctured with 26g Gertie Marx needle
- Reduced Spinal dose: 7.5 mg hyperbaric bupivacaine, 10 mcg of fentanyl, and 100 mcg of morphine PF
- Patient reported transient paresthesia during the retraction of spinal needle
- Block assessed to be T4 bilateral to pinprick
- Adjuncts: 2% lidocaine (10 cc total), low dose remifentanyl infusion
- Complete return of sensation and discharged on POD 3

Discussion

- Thoracic spinal anesthesia has been safely and successfully utilized in cohorts of various surgeries ranging from orthopedic, breast, to abdominal surgery ³
- No reports of long-term neurologic sequela from transient paresthesia during thoracic spinal placement ³
- Larger distance between posterior dura and the spinal cord in the thoracic region on supine MRI ⁴
- Joint decision between patient, surgeon, and anesthesiologist weighing the risk and benefits of neuraxial anesthesia versus GA
- Advance procedure that should only be performed by experienced anesthesiologist
- Spinal imaging recommended for neuraxial planning

Reference:

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