



Anesthetic management for cesarean delivery for patient with surgically corrected spina bifida cystica with neurologic deficits and pre-eclampsia

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Pregnant people with spina bifida (SB) pose anesthesiology management challenges

Spina Bifida is a neural tube defect that occurs in utero

Although pregnant patients with SB can deliver vaginally, these patients are more likely to undergo cesarean delivery than those without SB (OR 1.2; 95% CI [1.1-1.3])

Complex spine anatomy makes neuraxial techniques challenging or unreliable, with some clinicians avoiding neuraxial anesthesia altogether

Others judge that pre-existing neurologic deficits may obviate concerns regarding direct cord injuries



31-year-old G1P0 with spina bifida presented for induction of labor for pre-eclampsia without severe features

Past Medical History

- **Spina bifida with L1 myelomeningocele status post repair**
- Hydrocephalus status post ventriculoperitoneal shunt
- Neurogenic bladder complicated by incontinence with vesicostomy
- Scoliosis
- **Low lying conus terminating at L4-L5 level**, as well as severe thecal sac narrowing at L4–L5 and L5–S1 level (Fig 1).

➤ Patient elected for neuraxial anesthesia and epidural was attempted

➤ Despite uncomplicated placement, epidural analgesia failed, and patient had ongoing pain not responsive to supplemental medications

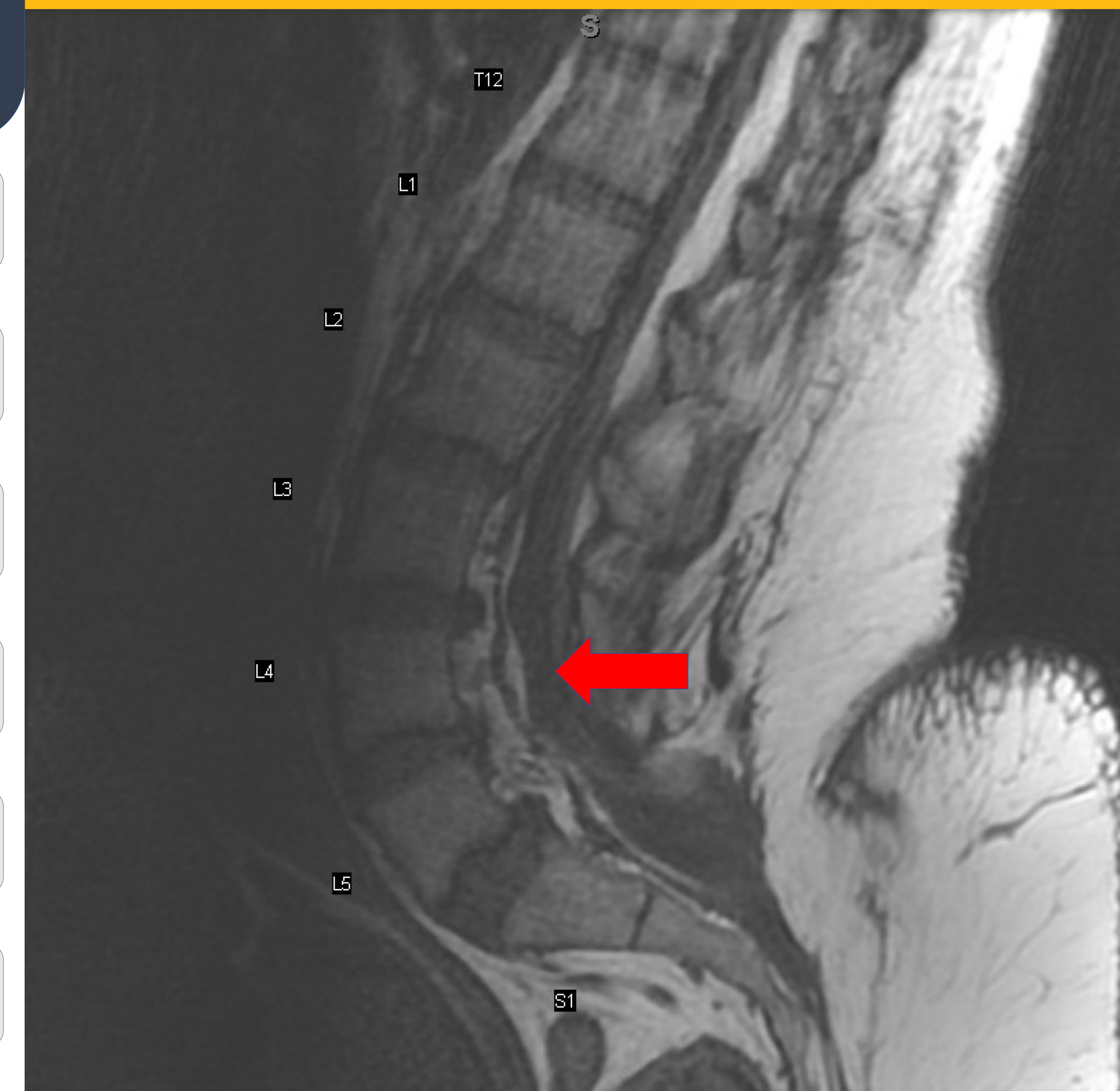
➤ Decision made to abandon labor induction in favor of primary cesarean delivery due to failed induction of labor

➤ General endotracheal anesthesia was induced with uneventful video laryngoscopy intubation

➤ Given location of vesicostomy, a primary classical cesarean delivery was performed via a supraumbilical midline incision, and intraoperative course was uneventful

➤ Bilateral transversus abdominus plane blocks were done for pain control, and she was extubated and transferred to the PACU in stable condition

Figure 1. Sagittal lumbosacral MRI without contrast of this patient. Arrows indicate termination level of the conus medullaris





Key Points and Discussion



Given complex anatomy and potential neurologic complications, patients with SB can pose perioperative challenges during obstetric care and delivery.

Pregnant patients with SB benefit from prenatal neuraxial imaging and anesthesiology consultation, specifically to evaluate for tethered cord and conus termination level.

Shared decision making is essential when making decisions about neuraxial techniques and delivery planning.

However, contingency planning for a cesarean delivery under general anesthesia with a multidisciplinary team is also critical given care complexity and higher rates of failed neuraxial anesthesia.

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