Anesthetic Management of Labor & Delivery in Patients with Elevated Intracranial Pressure

Christopher Keenan MD, MBA, Kristin Wakin MD

Background

- Elevated ICP during pregnancy is rare but associated with **significant maternal and fetal risk**
- Physiologic changes of pregnancy may **exacerbate intracranial hypertension**, with risk greatest during labor and delivery
- Evidence guiding anesthetic management in the obstetric population is limited with management based on pathophysiology and **extrapolated largely from neuroanesthesia literature**
- **Preservation of cerebral perfusion pressure and prevention of secondary brain injury** are central anesthetic goals

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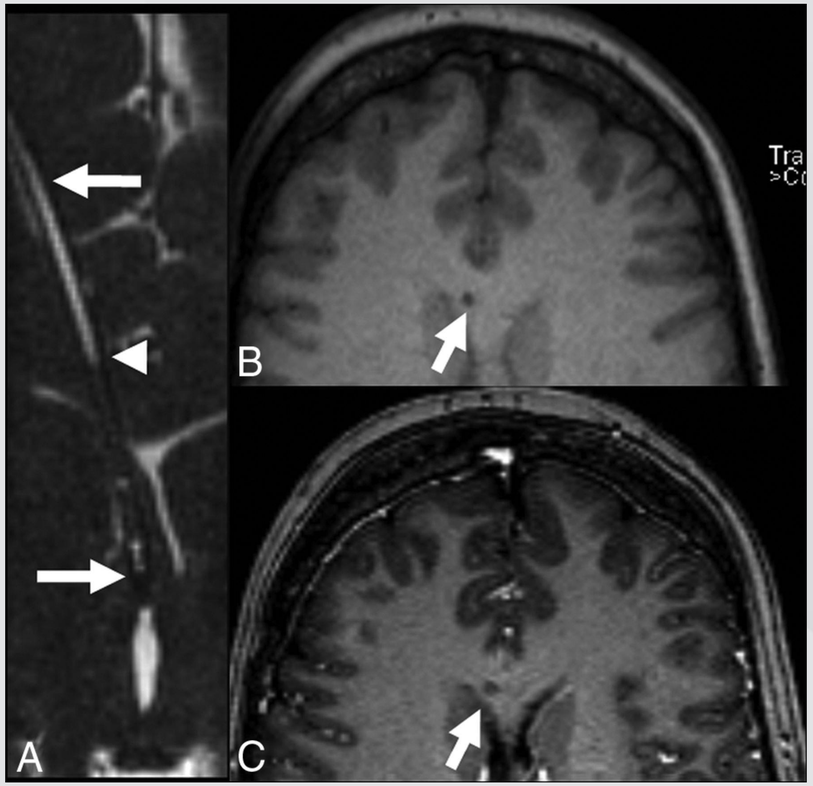
Case Presentation

- 29-year-old G1P0 at 32 weeks presented with **seizures**
  - History of **ankylosing spondylitis, on humira** with a **known thoracic mass**
- **Subacute headache** worsening over several weeks with **seizure-like episode, AMS, and elevated ICP**
  - Lumbar Puncture: Opening pressure **>55 cm H_2O,** ↑ protein and glucose
  - **EVD** placed with return to **baseline neurological status**
- **C-section at 34 weeks under GETA**
  - EVD open throughout case, patient **tolerated very well**
- Steroid course completed and **VP shunt placed** on POD #12 **without complication**
- **Currently- stable on Humira and off steroids 6 months**



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Neuraxial Anesthesia Considerations

- Risk of herniation with dural puncture
- Avoid with **mass effect or CSF obstruction**

General Anesthesia

- Blunt laryngoscopy response

Avoid **hypercarbia, hypoxia, instability**

ICP Management Strategies

CSF diversion (EVD)

- Head elevation, controlled ventilation

Team Approach

- Multidisciplinary coordination essential
- Maternal stability determines fetal outcome

Anson JA, Vaida S, Giampetro DM, McQuillan PM. **Anesthetic management of labor and delivery in patients with elevated intracranial pressure.** *International Journal of Obstetric Anesthesia.* 2015;24(2):147–160. doi:10.1016/j.ijoa.2015.01.004