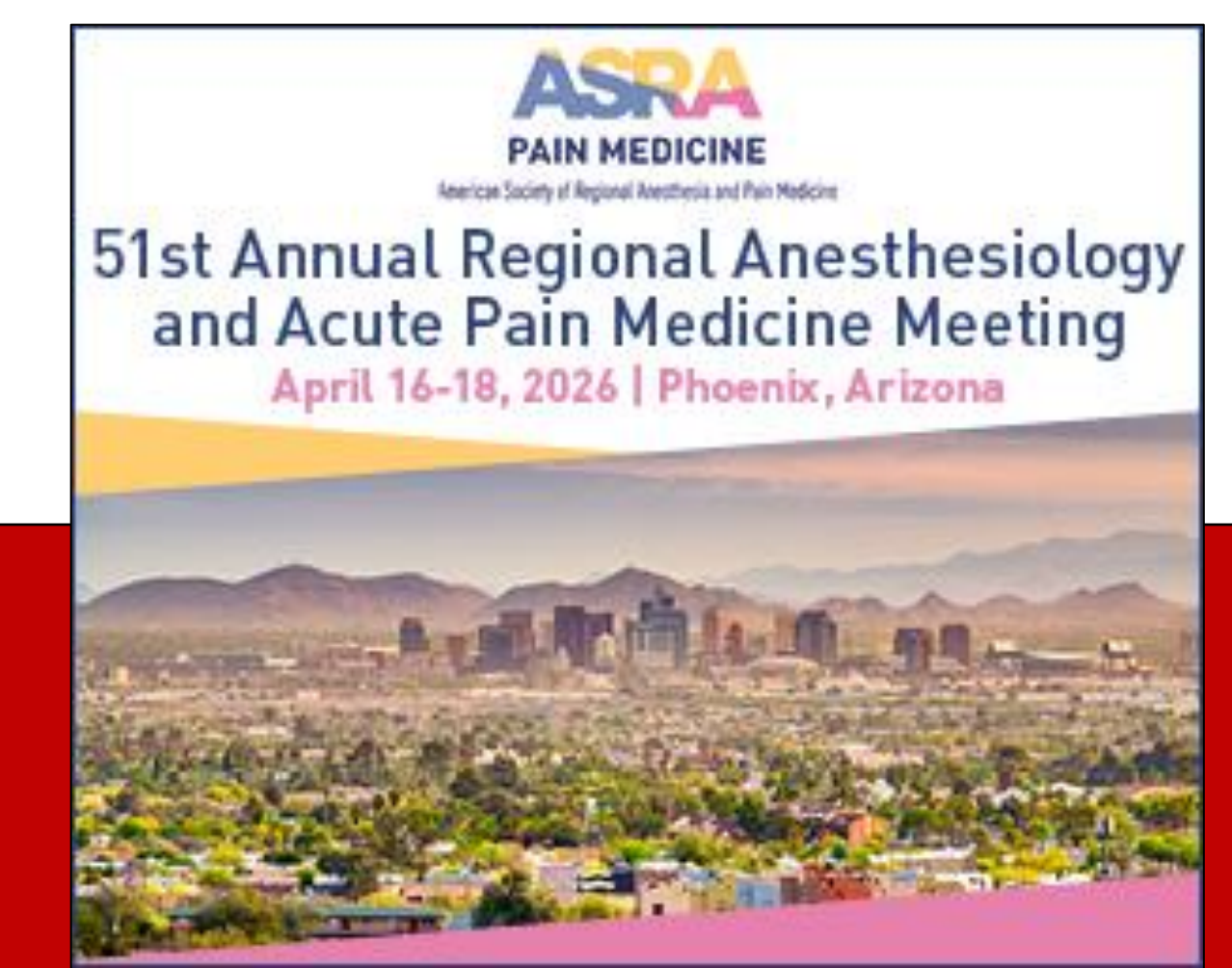


Intrathecal Migration, Subdural Placement, or No-Man's Land? Challenging Thoracic Epidurals in the Trauma Patient

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Background

- Thoracic epidurals are commonly used for analgesia following surgery or acute trauma¹⁻³
- A well-placed epidural can reduce the risk of pneumonia, atelectasis, and improve rehabilitation¹⁻³
- Extensive injuries can complicate both placement and troubleshooting of epidural complications²⁻⁴
- This case describes the management of a patient with bilateral rib fractures after a motor vehicle polytrauma who developed significantly delayed hypotension and delayed cerebrospinal fluid aspiration following an initially uncomplicated thoracic epidural placement

Case Description

- 80-year-old woman with an extensive medical history presented following a motor vehicle accident:
 - Bilateral rib fractures, L clavicle fracture, pelvic ring fractures, and tibia/fibular fractures
- T 7-8 thoracic epidural was placed uneventfully (following a femoral nerve block to facilitate positioning), with negative aspiration and a negative test dose (3ml-1.5% lidocaine w/epinephrine)
- Pt remained hemodynamically stable with close ICU monitoring following placement → ~1hour later she was brought to the operating room holding area and was found to be somnolent with a systolic blood pressure ~50
- Epidural infusion was stopped, she responded appropriately to fluid and push-dose epinephrine, and intraoperative TEE showed hyperdynamic function and underfilling
- Epidural catheter aspiration then revealed ~1cc of clear fluid with a positive glucose test, concerning for CSF
- The epidural was removed post-operatively → POD 1 a single shot erector spinae plane block was performed for analgesia without complication
- Unfortunately, despite these measures, she died nine days following the accident from sepsis and multiorgan failure

Discussion

- This case highlights the challenges of evaluating epidural complications in polytrauma patients
- Despite negative catheter aspiration, test dose, and uncomplicated placement, a later aspiration suggested CSF
- Possible explanations:
 - Intrathecal catheter migration
 - Subdural placement⁴
 - Pre-existing dural tear (especially in trauma⁵), allowing delayed intrathecal spread
- Beyond expected sympathectomy, high suspicion should remain for rare complications with any hypotension following thoracic epidural placement in the trauma patient

