Neuraxial Analgesia in the ICU Complicated by Epidural Hematoma and Paraplegia

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Case Report

- 72-year-old female with abdominal pain and constipation
- PMH: Hypertension, hyperlipidemia
- Ex lap for perforated bowel
- Postoperative:
  - Septic shock
  - Sepsis-induced cardiomyopathy
  - Acute renal failure
- Pain service consult for tenuous respiratory status and comorbidities
- Transversus abdominis plane block placed with mild improvement
Case Report:

- T9/10 epidural catheter easily placed
  - Informed consent obtained
  - Large midline scar identified
  - In accordance with ASRA anticoagulation guidelines
  - Consistently unreliable neuro exam complicated by prolonged ICU delirium

- Epidural day 6:
  - Decreased lower extremity strength and sensation
  - Team alerted ~2-3 hours after discovery by nursing

- Neurosurgical consultation: Laminectomy refused by patient/family due to high surgical risk and unlikely recovery of function

- No neurologic recovery obtained
Incidence and Symptoms of Epidural Hematoma

- Incidence of clinically-relevant hematoma unknown although likely rare
  - Difficult to study given its rarity
  - 1:7200 (N = 43,200) epidurals in non-obstetric, elderly (> 70 years old) [1]
  - 1:8921 (N=62,450) epidurals in non-obstetric, 0:79,837 in obstetric population [2]

- Symptoms [3]
  - Increased motor block (83%)
  - Increased sensory block (53%)
  - Back pain (25%)
  - Onset - Mean = Postoperative day 1
  - Diagnosis - Mean = Postoperative day 2
Risk Factors for Epidural Hematoma

- Risk factors
  - **Intrinsic or iatrogenic coagulopathy likely = #1 [3]**
  - Timing of catheter manipulation [3]
  - Advanced age [3]
  - Non-obstetric > obstetric population[1]
- Spinal pathology/prior surgery [4]
  - Spinal hardware is often considered a risk factor
  - **Not a contributor in one study** (N=937; 207 vs 730 with history of spine surgery), although no epidural hematomas reported
  - Spinal pathology only contributes to increased risk of neurologic complications (ex. worsening neuropathy)
Take-Home Points

1. Epidural hematomas are rare, although incidence likely depends on patient characteristics.
2. Not all common risk factors and symptoms for epidural hematoma are known, well understood, or consistent.
3. Informed consent for neuraxial analgesia should include a personalized conversation of associated risks including epidural hematoma.

References