



Atypical Thoracic Epidural Hematoma with Fluctuating Unilateral Symptoms

Brittni L. Miller, MD; Mitchell Gist, MD

University of Colorado Anschutz, Department of Anesthesiology

Introduction

Intermittent neurologic deficits following thoracic epidural placement present a diagnostic challenge and may delay recognition of serious complications. We report a medically challenging case involving a patient who developed waxing and waning unilateral motor and sensory deficits with urinary retention four days after T6–7 epidural catheter placement, ultimately found to have a compressive T5–T8 epidural hematoma despite absence of back or radicular pain.

Methods

The patient's electronic medical record was retrospectively reviewed, including documentation from internal medicine, orthopedic spine surgery, urology, and the acute pain service. Clinical course, neurologic examinations, procedural details, laboratory data, and treatment timelines were evaluated. All available spinal imaging studies were independently reviewed to characterize the extent and evolution of the epidural hematoma.



Figure 1. MRI of thoracic spine demonstrating a small dorsal epidural hematoma spanning T5–T8 measuring up to 5 mm.

Case Report

A 42-year-old male sustained multisystem trauma after ejection from a horse, including left rib fractures (3rd- 7th) with hemothorax, displaced clavicle fracture, type II dens fracture with C1–C2 subluxation, and grade I left internal carotid artery injury.

- The acute pain service placed a thoracic epidural preoperatively prior to rib plating, intercostal cryoablation, VATS, and chest tube placement.
- On epidural day 4, despite satisfactory analgesia, the patient developed intermittent left lower extremity numbness and weakness with urinary retention. Neurologic deficits fluctuated throughout the day, at times fully resolving.
- The epidural infusion was reduced and subsequently discontinued on day 5 with some symptomatic improvement, and the catheter was removed.
- Two days later, MRI revealed a small dorsal epidural hematoma spanning T5–T8 measuring up to 5 mm, causing mild canal narrowing without cord compression.
- The patient was admitted to the surgical ICU for close neurologic monitoring; orthopedic spine recommended nonoperative management. Neurologic examination normalized, and symptoms resolved.
- The patient was downgraded from ICU and discharged on postoperative day 10 without further neurologic sequelae.

Discussion

Epidural hematoma classically presents within 24–48 hours with severe axial or radicular pain followed by progressive neurologic deficits and sphincter dysfunction.¹ This case was atypical, lacking back or radicular pain, and demonstrating waxing/waning unilateral motor and sensory deficits with urinary retention four days post-epidural placement.

Classic risk factors include traumatic placement, coagulopathy, female sex, and advanced age.²

None of these risk factors were present, highlighting the need for vigilance despite low-risk profiles.

Key Takeaways



COLLABORATION



DIAGNOSTIC
VIGILANCE



SERIAL
EXAMS



EARLY
IMAGING

Resources

1. Brown DL, Warner MA. Spinal, epidural, and caudal blocks. In: Butterworth JF IV, Mackey DC, Wasnick JD, eds. *Morgan Mikhail's Clinical Anesthesiology*. 7th ed. New York, NY: McGraw-Hill Education; 2022: 965-1005. &
2. Macfarlane AJR, Hewson DW, Brull R. Spinal, Epidural, and Caudal Anesthesia. In: Miller RD, Cohen NH, Eriksson LI, et al, eds. *Miller's Basics of Anesthesia*. 8th ed. Philadelphia, PA: Elsevier; 2023:289-317.