

Paravertebral Compartment Syndrome: A Unique Case of Back Pain

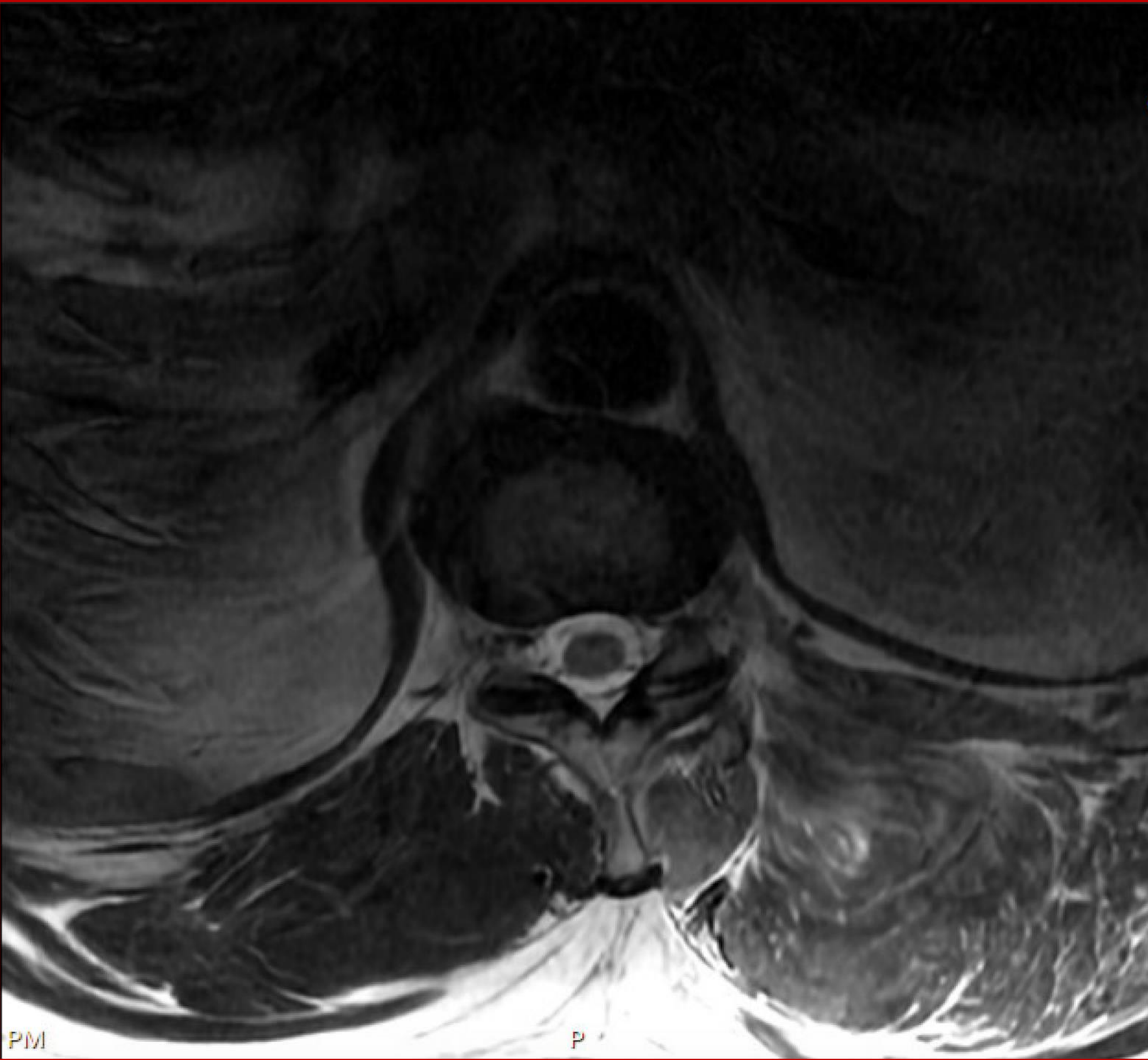
Eric Xu DO, Alex Kervyn MD, Noah VanWingerden MD, Ernesto Cruz MD
Department of Physical Medicine & Rehabilitation at Temple University

Intro

- Up to 10-15% of patients with lower back pain have been shown to display neurologic deficits that could lead to downstream complications such as lower extremity paralysis, numbness, and neurogenic bowel and bladder [1].
- It is important to identify etiologies other than trauma to determine the course and urgency of treatment.
- In this case report, the authors will examine a case of severe left-sided middle and lower back pain in the setting of paravertebral compartment syndrome, seemingly induced by rhabdomyolysis and opioid overdose.



In conclusion, paravertebral compartment syndrome is an extremely rare condition. This case is particularly unique as it is in the setting of opioid overdose and reversal. However, for practitioners, it must remain on the differential of acute back pain for patients who present with this chief complaint.



Case Report

- 44-year-old male with a past medical history of proximal common femoral artery thrombus, polysubstance use disorder, seizures, amputation of digits two through five of the right hand, and splenic rupture status post splenectomy who initially presented for drug overdose after being revived in the field with naloxone.
- In the emergency room, the patient endorsed severe left-sided back pain, a heavy sensation in his bilateral lower extremities and complete loss of motor and sensory ability from the waist down. The patient had not been able to void spontaneously and placement of a Foley catheter returned dark, brown urine.
- MRI of the thoracic and lumbar spines revealed diffuse edema and expansion of the left paraspinal muscles with post-contrast enhancement and degenerative changes.

Discussion

- A unique presentation of unilateral compartment syndrome and rhabdomyolysis without clear instigating factors status post opioid overdose.
- Atypical presentation of unilateral paraspinal compartment syndrome causing bilateral neuromuscular symptoms concurrent with genitourinary deficits.
- Expansion of the left paraspinal muscles could have called compression of the spinal canal that led to a functional transverse myelitis.
- Instigating agent could be the IV opioid mixture injected due to unknown components.
- Injection site and anatomy were additional factors in considering the specificity of effect on the left paravertebral muscles.

References

1. Gushcha AO, Sharif S, Zileli M, Oertel J, Zygourakis CC, Yusupova AR. Acute back pain: Clinical and radiologic diagnosis: WFNS spine committee recommendations. World Neurosurg X. 2024;22:100278. Published 2024 Feb 9. doi:10.1016/j.wnsx.2024.100278