



Visual Case Discussion

A case of incomplete cauda equina syndrome

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A 40-year-old male presented for an unprovoked transition of chronic left hip to lower back pain (LBP) with new left lower extremity radicular pain and straining with urination. Exam revealed weakness with left foot dorsiflexion. Emergent lumbar spine MRI revealed a left-sided herniation of L4–L5 with spinal cord compression (Figs. 1 and 2). Once consulted, neurosurgeons agreed on the diagnosis of incomplete cauda equina syndrome (CES-I) and performed an emergent discectomy.

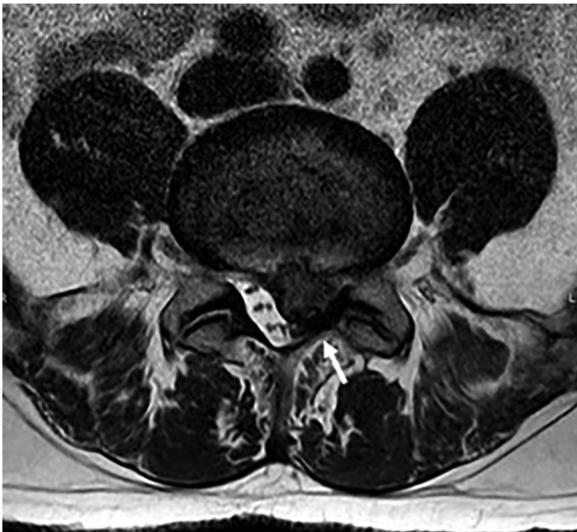


Fig. 1. MRI of the lumbar spine in the axial view showing a left sided herniation.



Fig. 2. MRI of the lumbar spine in the sagittal plane show disc herniation at L4–L5 compressing the cauda equina of the spinal cord.

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CES is rarely seen and classically accompanied by LE paresthesias and weakness, and bowel and bladder dysfunction. CES-I, 30–50% of CES cases, manifests with neurologic urinary difficulties and is a precursor to CES with painless urinary retention (CES-R) and secondary overflow.¹ Pain alone may also cause retention.¹ Diagnostic emergent imaging, preferably by MRI,² is followed by decompression surgery, emergently for CES-I and urgently for CES-R.¹

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.visj.2019.100614](https://doi.org/10.1016/j.visj.2019.100614).

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Questions

- 1 Pulling on an inserted Foley urinary catheter can help distinguish

between neurogenic versus pain-related urinary retention in cases suspicious for CES.

- a True
- b False

- 2 Patients with CES-R usually present with complaints about urinary retention symptoms.

- a True
- b False

Answers

- 1 True. Pulling on an inflated Foley catheter tests for trigone sensitivity and should cause the patient to have discomfort and the urge to urinate unless there is a neurogenic bladder injury.¹

- 2 False. Many patients will deny urinary retention. However, if CES is suspected a postvoid residual should be obtained. A volume of greater than 100 ml is suspicious for CES while a volume less than 100 ml rules out the diagnosis.^{2,3}