

Transient Cauda Equina Symptoms Following Caudal Epidural Steroid Injection

Nick Winokur B.A.¹, Rishabh Kodra M.D.², Asli Ozcan DO²

¹Albert Einstein College of Medicine

²Montefiore Medical Center



INTRODUCTION

Chronic low back pain affects nearly a quarter of people worldwide, with 11% to 12% experiencing disabling pain¹. Epidural steroid injections (ESIs), used to treat radicular pain, have shown modest improvements in pain and disability and reduced surgery risk in those who failed conservative methods. Cauda equina syndrome (CES) is a rare complication characterized by varying degrees of urinary and fecal dysfunction, saddle anesthesia, and lower extremity motor weakness³.

CASE DESCRIPTION

61-year-old female with history of spinal stenosis (status-post surgical fusion at L4, L5) suffering from chronic postoperative radicular pain with limited response to conservative management.

- Uncomplicated caudal ESI performed under fluoroscopy with an injectate solution of 2 mL of 1% Lidocaine, 20 mg of Dexamethasone, and 6 mL of normal saline after confirmation of epidural placement with contrast.
- Procedure tolerated well, vital signs stable throughout
- Prior to discharge, patient reported bowel incontinence and rectal numbness. Evaluated in emergency room - exams revealed intact rectal tone, absent patellar and Achilles reflex.
- MRI showed no cord compression or cord signal abnormality.
- Symptoms resolved within 1-2 hours, returning to baseline.

Patients undergoing epidural steroid injections, especially with pre-existing spinal stenosis, should be carefully monitored and evaluated for adverse events.

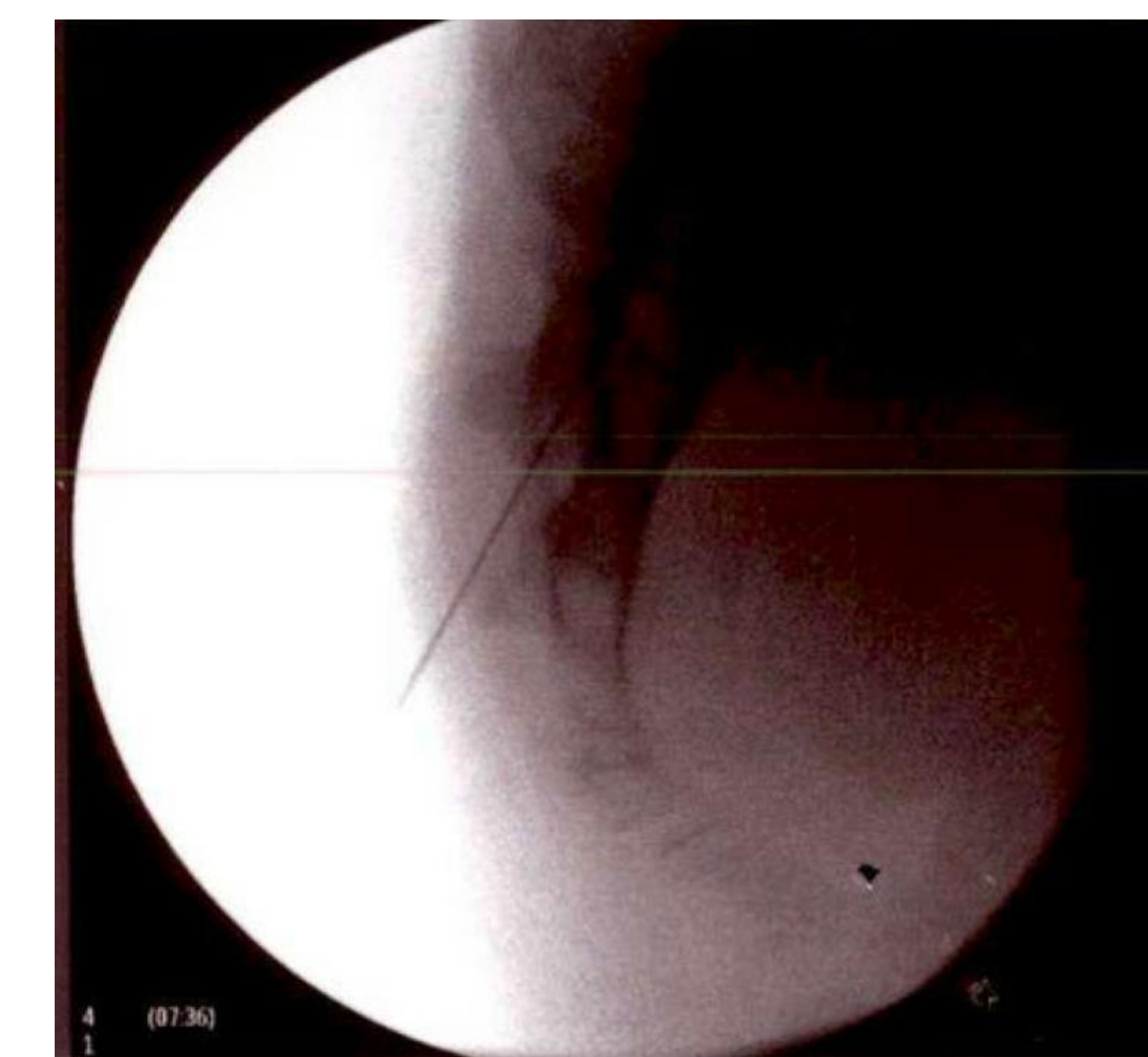


Figure 1 and 2: Fluoroscopic images of caudal epidural showing characteristic spread of contrast

DISCUSSION

- Caudal epidural steroid injections are an effective and low-risk procedure for treating back pain due to spinal stenosis². Despite a low incidence of 0.01%, major neurologic complications must be quickly recognized and treated². Adverse effects can be caused by mechanical compression, spinal infarction, chemotoxicity, vascular occlusion, infection, or fluid loculation³.
- In this case, bowel incontinence and rectal numbness resolved within two hours.
- While CES was considered, the quick resolution of symptoms and lack of imaging evidence for fluid collections suggests an alternative cause.
- No CSF or blood was noted on aspiration, therefore unlikely injection of anesthetics to the subarachnoid space.
- Local anesthetic neurotoxicity unlikely as concentration and dose of the anesthetics are considered safe.
- Even with fluoroscopic guidance, vascular injury could have occurred, leading to an infarct or transient ischemic attack.

REFERENCES

1. Manchikanti L et al. Epidural Interventions in the Management of Chronic Spinal Pain: American Society of Interventional Pain Physicians (ASIPP) Comprehensive Evidence-Based Guidelines. Pain Physician. 2021 Jan;24(S1):S27-S208. PMID: 33492918.
2. William J, Roehmer C, Mansy L, Kennedy DJ. Epidural Steroid Injections. Phys Med Rehabil Clin N Am. 2022 May;33(2):215-231. doi: 10.1016/j.pmr.2022.01.009. PMID: 35526969.
3. Bilir, Ayten, and Sacit Gulec. "Cauda equina syndrome after epidural steroid injection: A case report." *Journal of Manipulative and Physiological Therapeutics*, vol. 29, no. 6, July 2006, <https://doi.org/10.1016/j.jmpt.2006.06.005>.