

Paralyzed by Relief: A Rare Case of Transient Quadriplegia Following Cervical Epidural Injection



Introduction

- Cervical epidural steroid injections (CESI) are commonly utilized for managing neck pain related to cervical degenerative conditions, (1)
- The intended goal is to decrease inflammation and reduce pressure on the spinal cord and exiting nerve roots.
- 41% experience greater than 90% pain relief initially and 29% of patient with >50% relief at 6 months.
- Considered safe with over 200,000 performed annually in the US.
- Only 4 documented cases of paralysis from the rare complication of intramedullary spinal cord injection (3-5).
- Intralaminar and transforaminal are the most common approaches

Case Presentation

- Patient: 45-year-old female
- Relevant Medical History:
 - Hypertension, morbid obesity, migraines, myofascial pain syndrome, fibromyalgia
 - Cervical spinal stenosis with radiculopathy confirmed by EMG and prior ACDF (C5–C6) and posterior discectomy (C6–C7)
 - Remote CVA at age 15 (thrombotic, no residual deficits)
- Psychiatric History:
 - Acute grief after death of son → panic attacks and insomnia
 - Medications: trazodone, lorazepam, buspirone
- Prior Workup:
 - Hospitalized for visual changes; lumbar puncture (r/o MS) → post-dural puncture headache treated with blood patch
- Presentation:
 - Persistent cervical radiculopathy with bilateral forearm burning pain and left-hand weakness
 - Prior treatments (gabapentin, ibuprofen, trigger point injections) minimally effective
 - Four prior CESIs provided significant improvement

- Current Procedure:
 - CESI at C7–T1 under fluoroscopic guidance using loss-of-resistance with saline correct placement confirmed via contrast epidurogram (no vascular washout) Injected 15 mg dexamethasone in 4 mL solution (Figure 1)
- Immediate Complication:
 - Sudden quadriplegia with intact sensation, no bowel/bladder involvement
 - Patient remained alert, oriented, hemodynamically stable, no respiratory distress
 - Transferred to ED for evaluation
- Hospital Course:
 - Motor function returned within one hour, first on the left, then right side leading to full recovery without residual deficits
 - Labs: unremarkable; ABG showed respiratory alkalosis
 - Declined brain MRI; discharged home
- Follow-Up:
 - 1 week: increased cervical pain → imaging (CT head, cervical spine, CTA) normal, improved with ketorolac and Medrol dose pack
 - 1 month: MRI cervical spine unchanged from 1 year prior → no structural injury detected (Figure 2)



Figure 1. Cervical Epidural Steroid Injection Negative contrast epidurogram exhibited prior to steroid injection

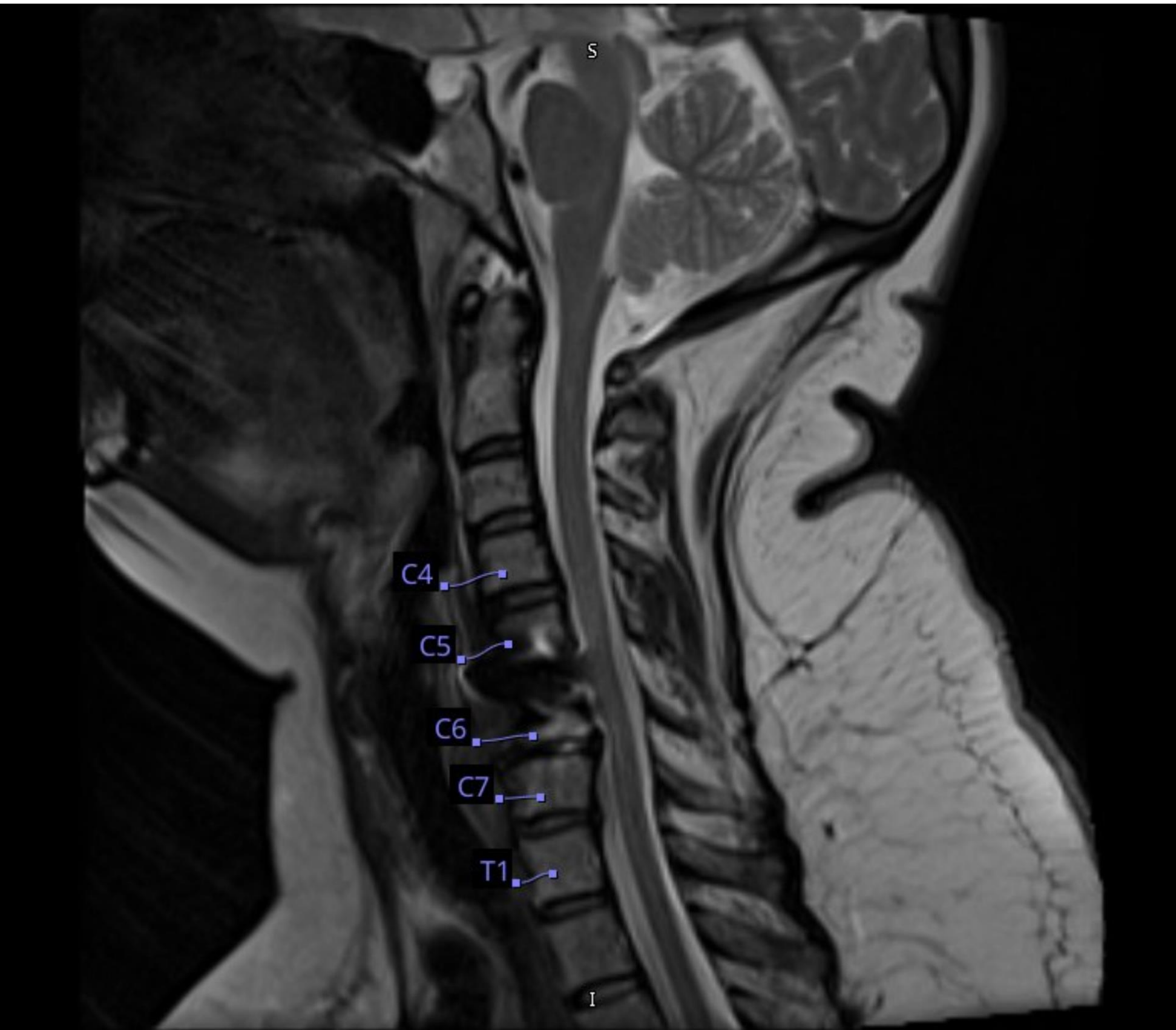


Figure 2. T2 Sagittal Cervical Spine MRI obtained 1 month after CESI demonstrating post surgical ACDF of C5-C6. No apparent tissue injury. Spinal stenosis decreased from 1 year prior

Discussion/Conclusion

- Initial differential for immediate loss of motor activity during CESI is mechanical trauma, medication reaction, or vascular injection/injury
- A negative epidurogram and prior CESI with no documented reaction make these causes unlikely but must be evaluated and excluded.
- Functional Neurological Symptom Disorder (FNSD), formerly known as conversion disorder frequently demonstrates paralysis, weakness, or sensory loss (6).
- Symptoms are typically incongruent with pattern of anatomical pattern of injury as in loss of purely voluntary motor function from a posterior approach
- Often seen in settings of stress or pain and can be self resolving (7).

References

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