

## Closer Is Better: Interlaminar ESI Is More Effective at C6-7 than C7-T1: A Case Report

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### Introduction

The C7–T1 interspace is generally preferred for cervical interlaminar epidural steroid injections (ESIs) because the posterior epidural space is widest at this level, allowing safer needle access. However, cervical degeneration primarily occurs above the C7–T1 level, causing injectate to not adequately reach more cephalad segments, suggesting that interlaminar ESIs might be more effective at C6–7 than at C7–T1.

We present a case of central cervical spinal stenosis that was refractory to conventional C7–T1 interlaminar ESIs that showed significant pain relief following a targeted injection at C6–7.

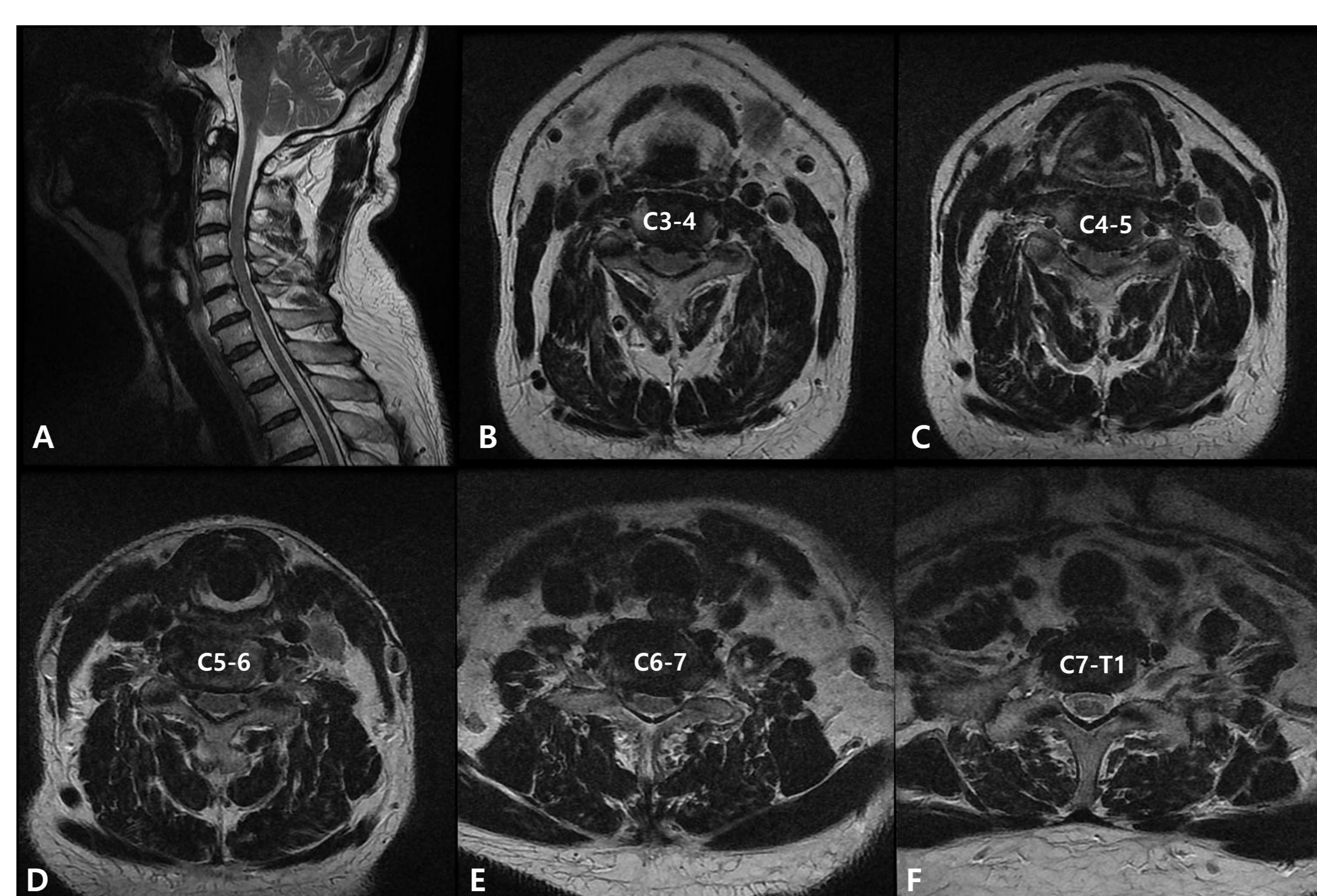
### Case Presentation

A 71-year-old male presented with chronic non-radiating posterior neck pain and bilateral interscapular pain (numeric rating scale [NRS]: 7) for 2 years. Cervical MRI revealed multi-level central canal stenosis from C3–4 to C6–7 (Figure 1). The patient had previously undergone 4 sessions of interlaminar ESIs at the C7–T1 level at another clinic which provided no pain relief. An additional C7–T1 injection at our hospital was also ineffective.

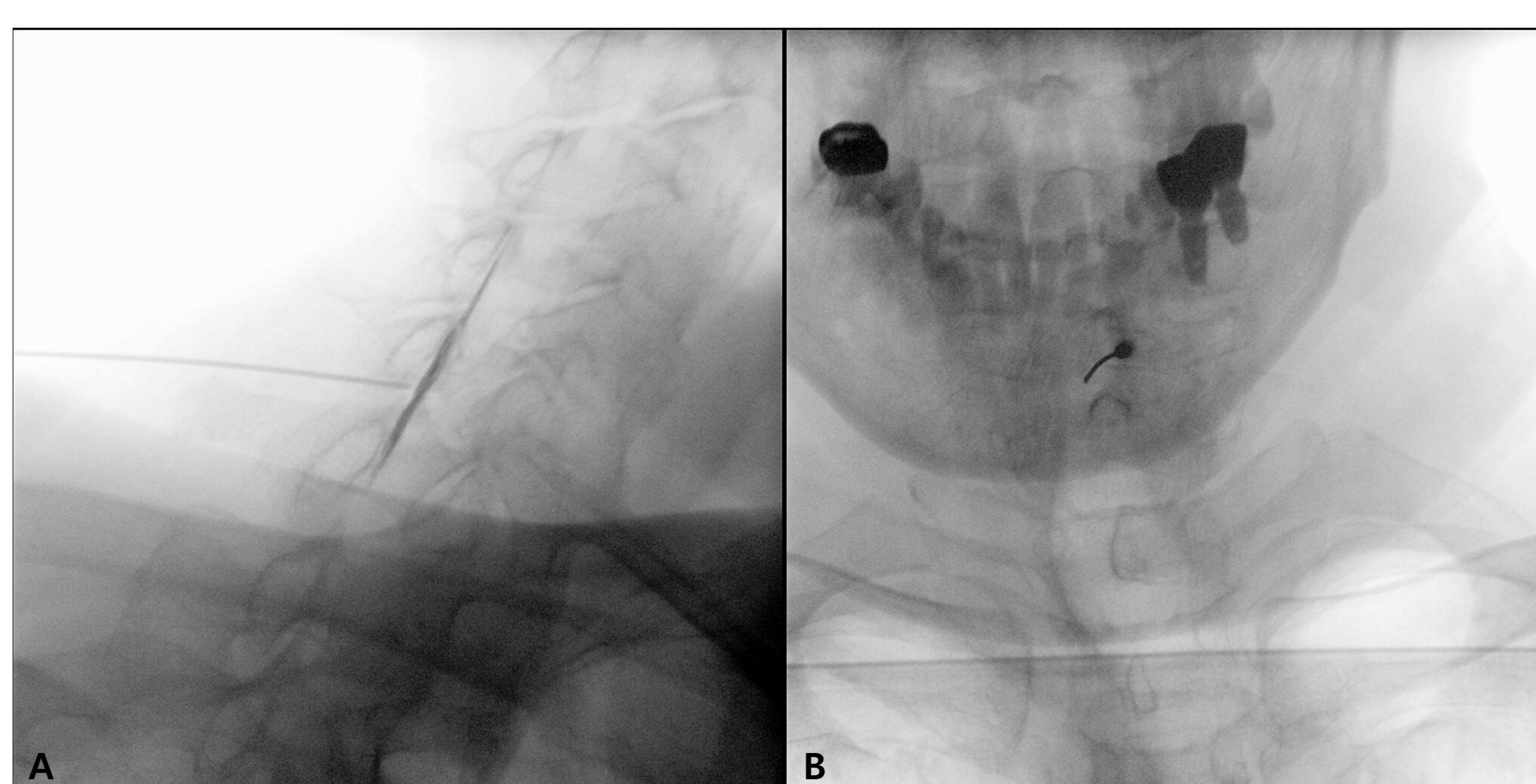
Subsequently, we performed an interlaminar ESI at C6–7 to achieve better drug delivery to the stenotic segments (Figure 2). The patient's pain decreased from an NRS score of 7 to 3 at follow-up assessments at 2 weeks, 1 month and 2 months after the C6–7 injection. By 3 months, pain returned to pre-injection level (NRS 7). A repeat C6–7 interlaminar ESI again reduced pain to an NRS score of 3. Since then, the patient has been receiving C6–7 interlaminar ESIs every 3 to 6 months with reproducible pain reduction.

### Discussion

Therefore, when interlaminar ESIs at C7–T1 provide insufficient relief, an alternative approach at the C6-7 level may be considered. However, at higher cervical levels, the epidural space narrows significantly, increasing the risk of inadvertent dural puncture or direct spinal cord injury during needle advancement. Therefore, injections at the C6–7 level should be performed with caution under fluoroscopic guidance by an experienced physician.



**Figure 1.** Cervical spine magnetic resonance imaging. (A) Sagittal and (B-F) axial T2-weighted images demonstrating multilevel central canal stenosis from C3–4 to C6–7.



**Figure 2.** Fluoroscopic images during interlaminar epidural steroid injection at C6–7. (A) Lateral and (B) anteroposterior views showing epidural contrast spread.