

Novel technique to enhance flow of medication during cervical interlaminar epidural steroid injections

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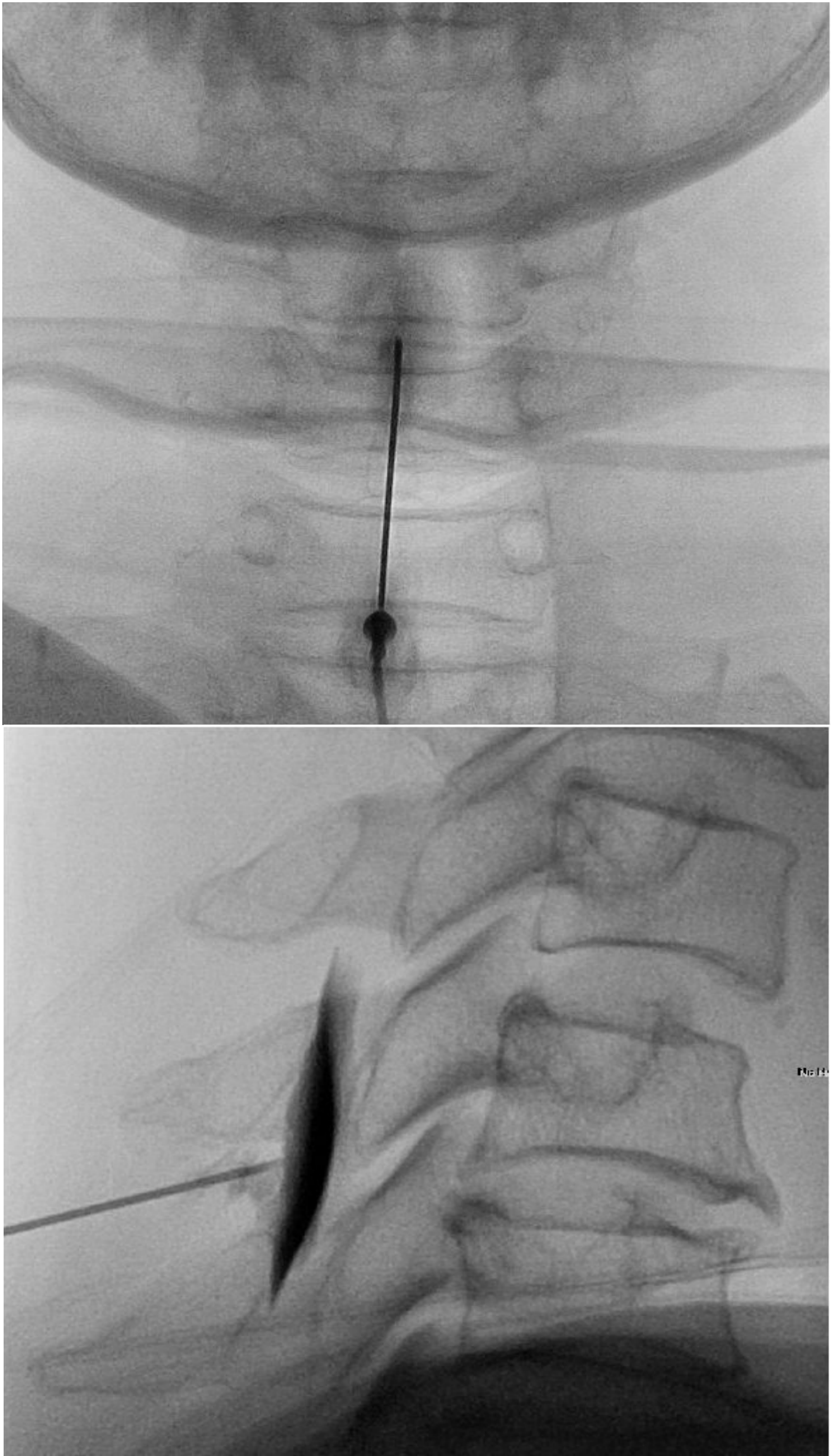
INTRODUCTION

- Epidural steroid injections (ESI) are widely used interventional pain procedures to treat conditions like radiculopathy and spinal stenosis.
- Cervical ESIs were previously performed via transforaminal or interlaminar approaches; however, transforaminal cervical epidural injections have declined due to risk of brain and spinal cord infarction from intravascular uptake of particulate steroids[1], leading to the interlaminar approach as the standard.
- This study proposes an alternate technique to enhance the efficacy of interlaminar cervical epidural injections.

DISCUSSION

- Interlaminar ESIs achieve good penetration into the anterior epidural space[2,3], with average cephalad and caudal spread of 1.28 and 0.88 vertebral levels, respectively[4]. However, lateral flow toward affected nerve roots remains limited.
- Conversely, transforaminal injections, which follow a lateral-to-medial path, provide a more direct flow around the nerve root.
- Baricity, density of a medication in relation to the cerebrospinal fluid, and posture can affect medication distribution[5].
- We propose that after medication delivery and needle removal, patients **rotate their neck contralateral to the symptomatic side**. This position allows the medication to flow around the targeted nerve roots, potentially enhancing therapeutic outcomes.

FIGURE



CONCLUSION

- Due to serious intravascular risks, cervical transforaminal ESIs are less favored.
- Interlaminar cervical ESIs provide good anterior epidural access with moderate superior and lateral spread but less optimal lateral nerve root coverage.
- We suggest that simple contralateral neck rotation post-injection may improve medication distribution around nerve roots and enhance clinical effectiveness.

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