

Diversifying the Approach to Fluoroscopic Guided Thoracic Epidural Steroid Injections in Patients with Complex Surgical Factors

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Introduction

Thoracic epidural steroid injections (TESIs) are utilized for the treatment of disc herniation, post-surgical spine syndrome, spinal stenosis and post-thoracotomy pain syndrome. The standard procedural approach for a TESI is in the prone position. Successful epidural steroid injections (ESIs) are a cost-effective option for patients to achieve pain relief, restore function, and return to physical therapy when indicated. Complex surgical factors can be a contraindication to TESI placement due to limitations in patient positioning.

Objectives

- Identify appropriate indications for TESI placement based on a patient’s medical and surgical history and severity of symptoms.
- Discuss how complex surgical factors can lead to limitations in patient positioning for steroid injections.
- Emphasize the importance of diversifying one’s approach to the current standard of care of ESIs to ensure appropriate patient access.

Case Description

44-year-old male with a past medical history significant for coronary artery disease status-post CABG, degenerative disc disease and radiculopathy who presented for a T6-T7 ESI. Patient’s surgical course was complicated by a nonunion closed sternal plating along the fifth, sixth, and seventh ribs. Conventional TESI administration in the prone position was precluded due to the patient’s mobile chest plate and inability to lie flat. We broadened our approach to traditional positioning and utilized fluoroscopic guidance to perform the TESI in the seated position with constant communication between our X-ray technician and the pain physician. Once in the seated position, the lateral foraminal space between T6-7 was identified under fluoroscopic guidance and local anesthesia was administered. By manipulating the C-Arm around the patient, we were able to achieve precise needle placement and medication delivery. The epidural space was accessed using the loss of resistance technique, and 1mL of contrast was administered in the epidural space with excellent spread from T5-8 space bilaterally. The steroid was administered with no complications and the patient was discharged home in good condition.

Discussion

ESIs remain an effective option to managing chronic radicular pain of various etiologies and often bypass the need for operative management. To date, there is a paucity of literature exploring fluoroscopic-guided ESI placement in the seated position. There is strong evidence showing the loss of resistance technique when performed blindly may not be sufficient for ensuring needle placement. The use of epidurography improves the accuracy of both needle placement and medication delivery. Our case serves as an example of how expanding upon the current standard of care for ESI can continue to ensure appropriate patient access to these interventions despite limitations as it relates to patient positioning.

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