

Title:

A Case Report of Selective Skip Laminectomies and Subsequent Catheter Irrigation of a Holospinal Epidural Abscess

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Conflicts of Interest: None to disclose.

Background: The etiology of HEAs is not always clear, however postulated to be from hematogenous seeding or direct spread from local abscesses; furthermore, upon invading the spinal epidural space, the infection is free to spread along the length of the spinal canal; however, it is prevented from spreading to within the cranium due to the tethering of the dura mater to the foramen magnum [3,4,5,6].

Case: Our patient was a 60-year-old male who presented with altered mental status, neck pain, and fever. MRIs revealed an epidural abscess running from the cervical spine through the lumbar spine with concomitant compression of the spinal cord, as well as numerous paraspinal musculature abscesses and a retropharyngeal/prevertebral abscess. The patient was started on broad-spectrum IV antibiotics; however, his condition continued to deteriorate. The decision was made to perform a surgical debridement. Laminectomies were performed at vertebrae T4 and T10, and catheters were then run cranially and caudally through these points to access the length of the spinal canal. An antibiotic solution was used to then irrigate the epidural space; meanwhile, the patient was cycled between Trendelenburg and Reverse-Trendelenburg to facilitate the drainage of the purulent material. This material was biopsied and tested positive for methicillin-resistant *Staphylococcus aureus*; furthermore, the decision was made to keep the patient on vancomycin postoperatively. He was kept on antibiotics until his inflammatory markers improved. He recovered fully, and at 3 months follow-up, his wounds had healed completely, was able to ambulate without assistance, and had 5/5 strength in his extremities.

Discussion: Regarding treatment, broad-spectrum antibiotics are virtually always indicated upon diagnosis with any SEA. Furthermore, if fulminant neurological impairment is present, emergency decompression of the spine is indicated. Multiple methods of decompression have been described. In some instances, laminectomies of the entire vertebral column were performed to access the epidural space along the entire length of the spine [3]. This procedure has the benefit of avoiding destabilization of the vertebral column, which can occur when laminectomies are performed on all vertebrae. Outcomes varied by case, in which some patients had complete resolution of their neurological deficits, while others retained permanent deficiencies [3,4,5,6,7,8]. Generally, patients presenting with neurological defects who are treated with early, aggressive medical care before severe compression can occur tend to achieve the greatest improvements in their symptoms [4,7,9].

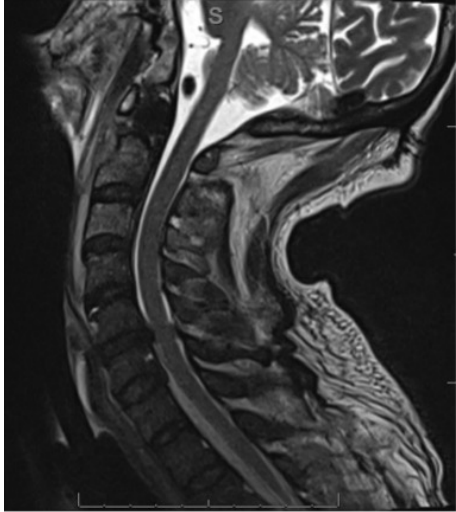


Fig. 1 shows T2WI sagittal MRI revealing fluid in the epidural space along the length of the cervical spine.



Fig. 2 shows T2WI sagittal MRI revealing fluid in the epidural space along the length of the thoracic spine.



Fig. 3 shows T2WI sagittal MRI revealing fluid in the epidural space along the length of the lumbar spine.



Fig. 4 displays the irrigation of the epidural space in both cranial and caudal directions via a laminectomy at T4.

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