

## Holospinal Epidural Abscesses – Retrospective Review of a Single Institution's Experience

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### Introduction

Holospinal epidural abscesses (HEA) affecting the cervical, thoracic, and lumbar spine are rare. We present the largest ever reported series of HEA cases.

### Methods

Billing records were queried for patients from 2011-2016 with diagnosis codes for spinal abscess. Charts were reviewed to find patients with HEA, totaling 8 patients. Information was collected on medical history, blood and epidural pathogens, symptoms at presentation, abscess location, presence of mass effect, surgical procedures, treatment regimens, and neurological outcomes.

### Results

Eight patients with HEA were treated at our institution in the past five years; all underwent surgery. One (12.5%) underwent laminectomy of the entire spinal column, one (12.5%) had focal laminectomies at the area of mass effect, and six (75%) underwent skip laminectomies. Half required reoperation at other levels. Ultimately, five (62.5%) had decompression in all three regions of the spine, two had thoracolumbar decompressions, and one underwent cervical decompression. Average number of laminectomies was 8.6. Neurologically, 50% of patients improved, 37.5% remained stable, and 12.5% worsened. There was no difference in outcome between patients who underwent skip versus panspinal laminectomies. No differences in outcomes were noted in timing from presentation to surgery (median 5.3 hours), location of mass effect, dorsal versus ventral abscesses, or initial symptoms. Of the four patients who had cervical laminectomy without fusion, two developed post-laminectomy kyphosis requiring fusion.

### Conclusions

There was no difference in outcomes between skip versus panspinal laminectomies for HEA. Most patients ultimately required decompression of their cervical, thoracic, and lumbar spines, suggesting that doing this in the first operation would be beneficial. Cervical instability occurred in half the patients who underwent cervical laminectomies without fusion, and there were no adverse outcomes in the patients who were fused in the setting of infection. Thus, one may consider performing instrumented fusion up front in these cases. For lower cervical abscess, an alternative option to cervical laminectomy, and subsequent fusion, is to perform an upper thoracic laminectomy

### Holospinal Epidural Abscess



An MRI reveals predominantly dorsal HEA with T2 signal that is hyperintense relative to surrounding tissues (A-C). Post-gadolinium imaging reveals rim enhancement with a hypointense core, most consistent with liquid pus (D-F).

### Learning Objectives

- 1) Describe the importance of upfront multi-level skip laminectomies for treatment of panspinal epidural abscess
- 2) Discuss in small groups the consideration for upfront posterior cervical fusion following cervical laminectomy for evacuation of epidural abscess
- 3) Identify the most effective treatment for panspinal epidural abscess