

Pain with Spinal Epidural Lipomatosis

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Background & Objective

- Evidence in the treatment of spinal stenosis with concurrent spinal epidural lipomatosis (SEL) with epidural infiltrations is very limited
- This study aims to fill the gap in evidence regarding pain relief in patients with spinal stenosis and concurrent SEL by comparing epidural steroid injections (ESI) with multimodal pain medications, including opioids, muscle relaxants, and prescription strength anti-inflammatories.

Methods

Study Design

- This was a **retrospective single-center study** at a Pain and PM&R outpatient clinic.
- Pre-intervention pain scores of patients with MRI-confirmed spinal epidural lipomatosis (SEL) were collected
- Post-intervention pain scores were collected and divided into 3 groups:
 - Epidural Steroid Injection Alone
 - Multimodal Pain Medications Alone
 - Combination of ESI and Multimodal Pain Medication

Participants

- 57 patients with lower back pain and MRI-confirmed spinal epidural lipomatosis (SEL) were included in the study. Patients taking only over-the-counter medications were excluded.

Main Outcome Measures

- The main outcome of this study is the improvement in pain score for each group after intervention. Baseline pain scores measured using the Visual Analog Scale (VAS) during the initial encounter.
- Pain score post-ESI was collected 1-2 weeks post-procedure. Pain score post-medication was collected following initiation or change

Results

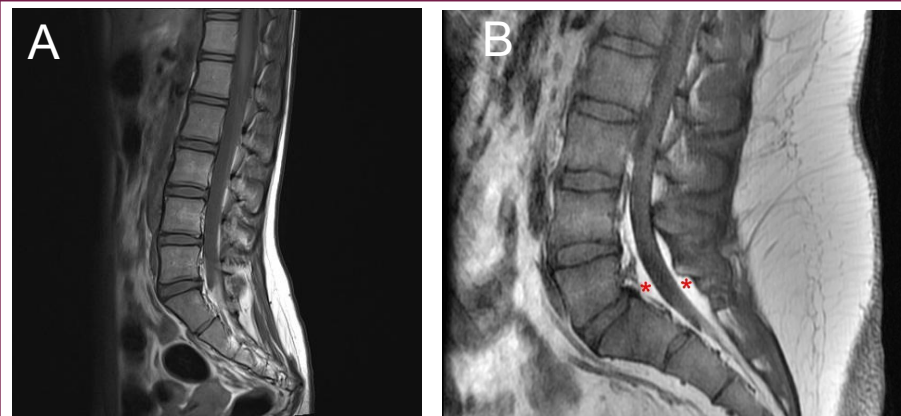


Figure 1. (A) Normal lumbar spine MRI.² (B) Lumbar MRI with SEL (red asterisks).³

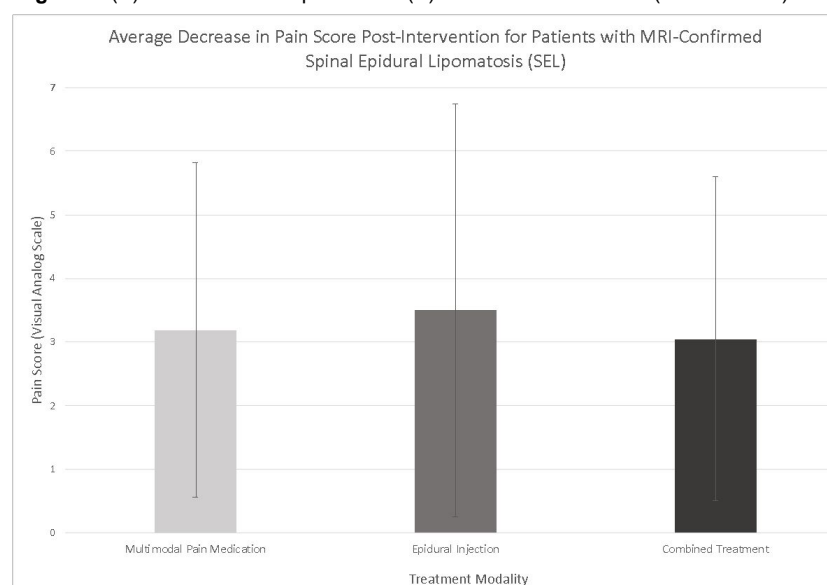


Figure 2. Average decrease in pain score post-intervention for the three treatment groups.

Conclusions & Implications

Key Findings

- T-test of unequal variance was used to compare all 3 groups. The study found no statistically significant difference in average pain score improvement between the ESI, multimodal pain medication, and combined treatment groups.

Conclusions/Implications

- Interventional pain procedures, such as ESI, are often contraindicated in patients with concurrent SEL due to the belief that:
 - 1.) the epidural fat in the spinal canal will lead in the failure of providing analgesia and
 - 2.) ESI may accentuate adipose deposition in the epidural space, further worsening pain and neurological symptoms. [1]
- This study suggests that multimodal pain medications may be as effective as ESI in managing lower back pain in patients with SEL, offering a potentially safer alternative with reduced procedural risks.

References

1. Rustom DH, Gupta D, Chakraborty S. Epidural lipomatosis: A dilemma in interventional pain management for the use of epidural Steroids. J Anaesthesiol Clin Pharmacol. 2013 Jul;29(3):410-1. doi: 10.4103/0970-9185.117070. PMID: 24106381; PMCID: PMC3788255
2. Image obtained from <https://radiopaedia.org/cases/normal-mri-lumbosacral-spine>
3. Image obtained from <https://radsource.us/spinal-epidural-lipomatosis-review-visceral-fat-deposition-obesity/>