

Ronnie Stotts, MD

Keyin Lu, MD

Gulshan Doulatram, MD



INTRODUCTION

Spinal cord stimulation (SCS) has been used successfully to provide pain relief in various conditions (1).

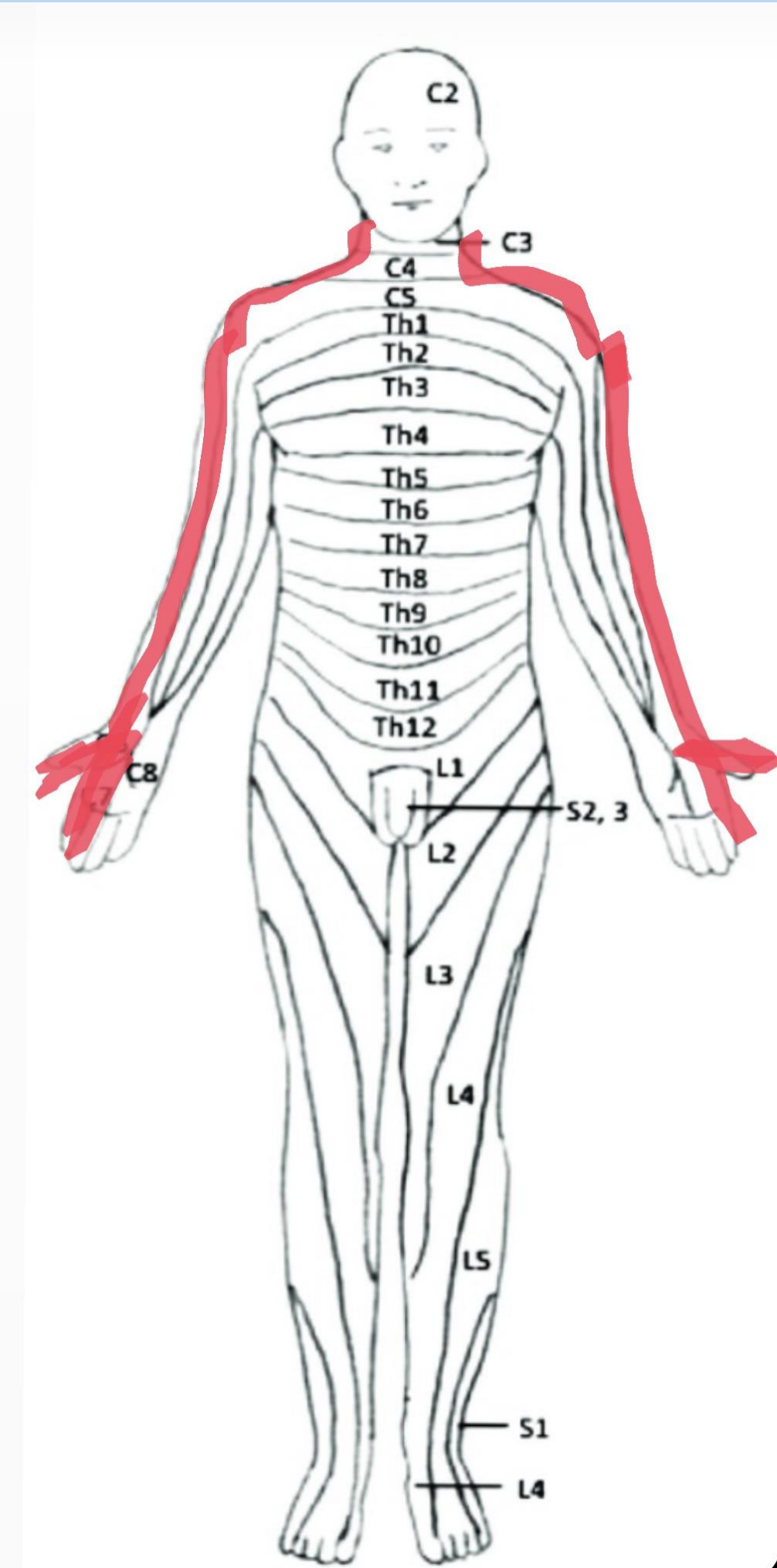
- In cervical post-laminectomy syndromes, there is data leaning towards efficacy in cervical spinal cord stimulation (2, 4).
- Some data suggests not only pain relief but also motor improvements post spinal cord injury with spinal cord stimulation (3).
- In this case report, we describe a patient who had spinal cord injury with new neurological deficits after failed cervical surgery and achieved significant relief of the pain after placement of spinal cord stimulator.

Case Report

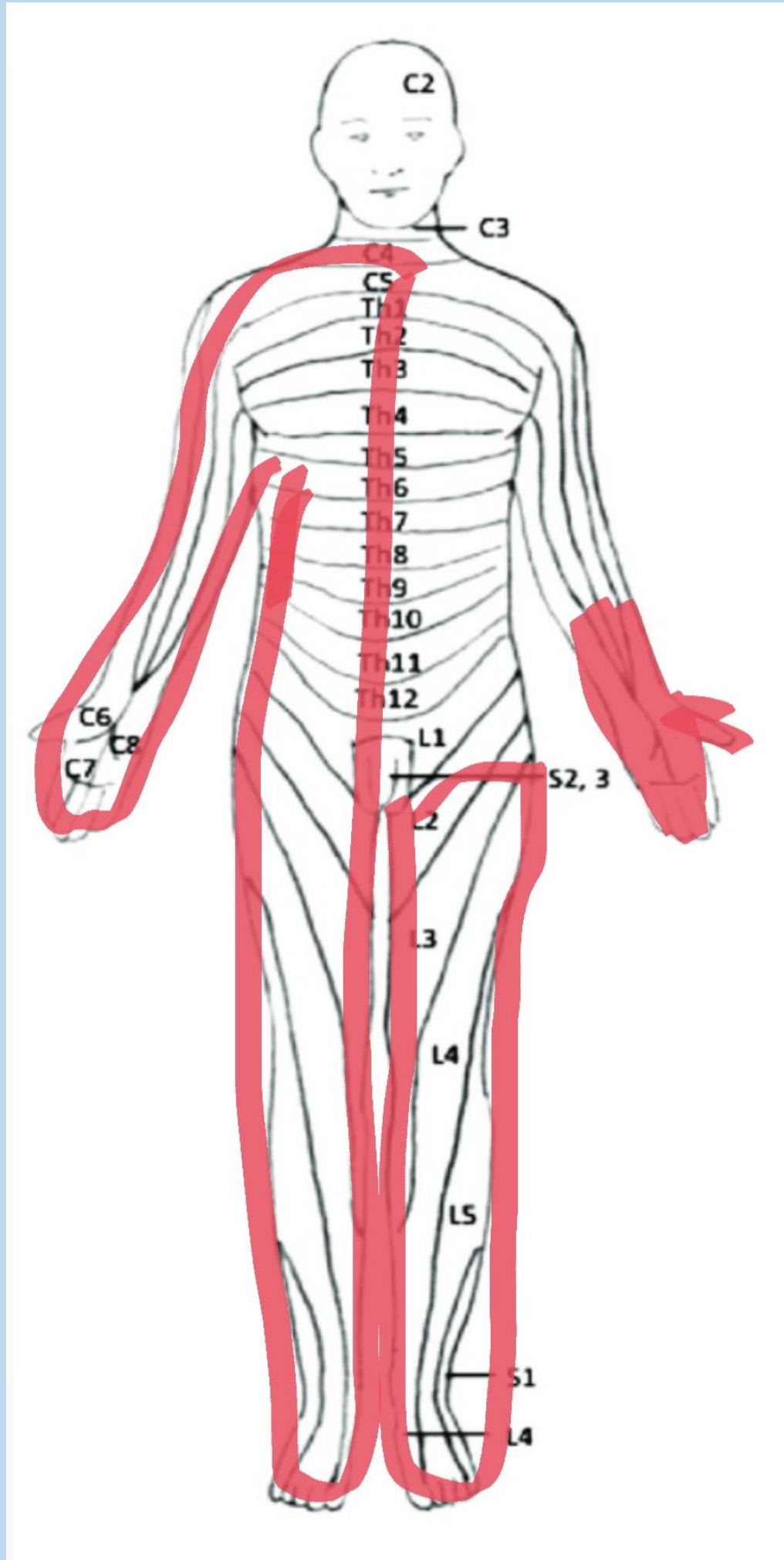
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- PMH of HTN, DMII, cervical spondylosis with myelopathy, chronic pain
- Status post C5-6 and C6-7 disc arthroplasty May 2020
 - Intraoperatively there were changes in MEP signals and significant bleeding
 - Postoperatively, initially had significant left arm weakness and sensory changes in the C6 distribution
- Over the next 4 months, she lost sensation of her right arm and leg
- MRI showed no neural foraminal narrowing of the cervical spine
- EMG showed no neuropathy
- No improvement with PT or medical management
- Presented to pain clinic with unresolved RUE and RLE pain, weakness and loss of sensation occurring after unsuccessful cervical surgery

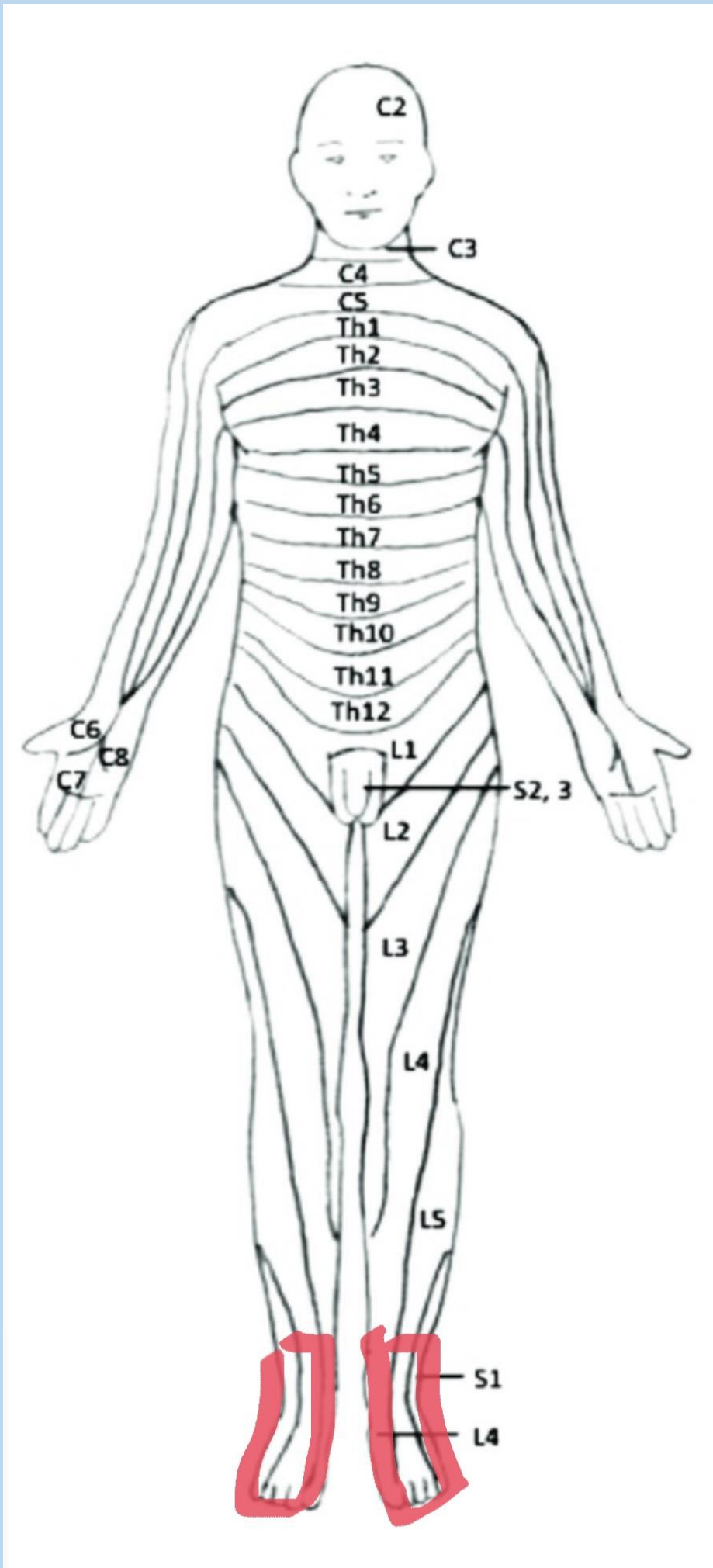
Spinal cord stimulator is a reasonable option for spinal cord injury as a complication of cervical spine surgery.



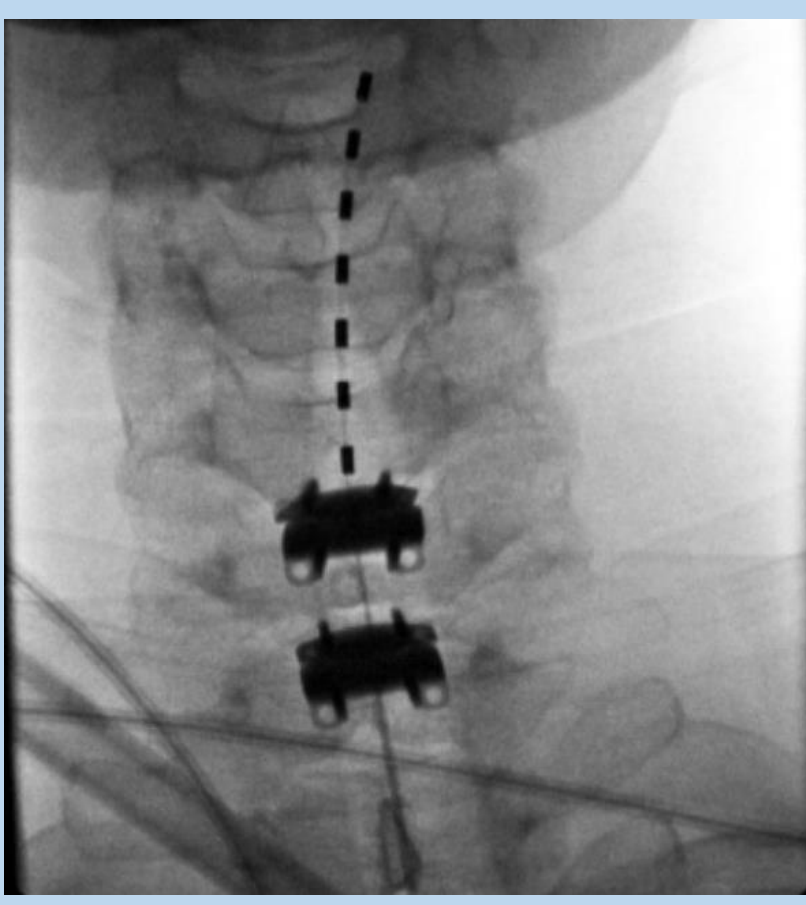
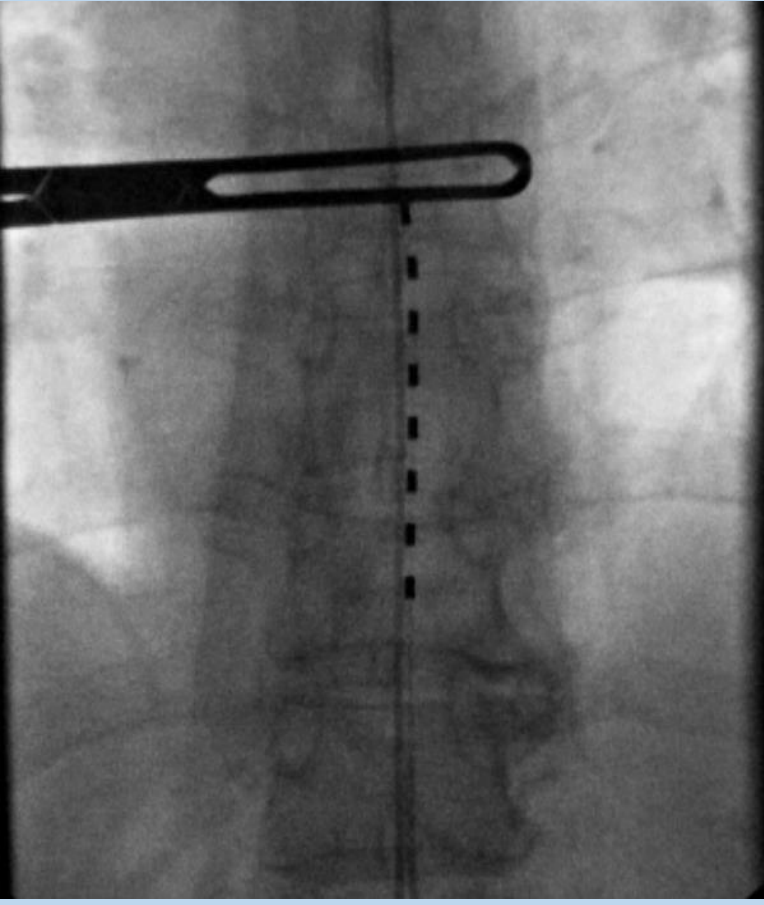
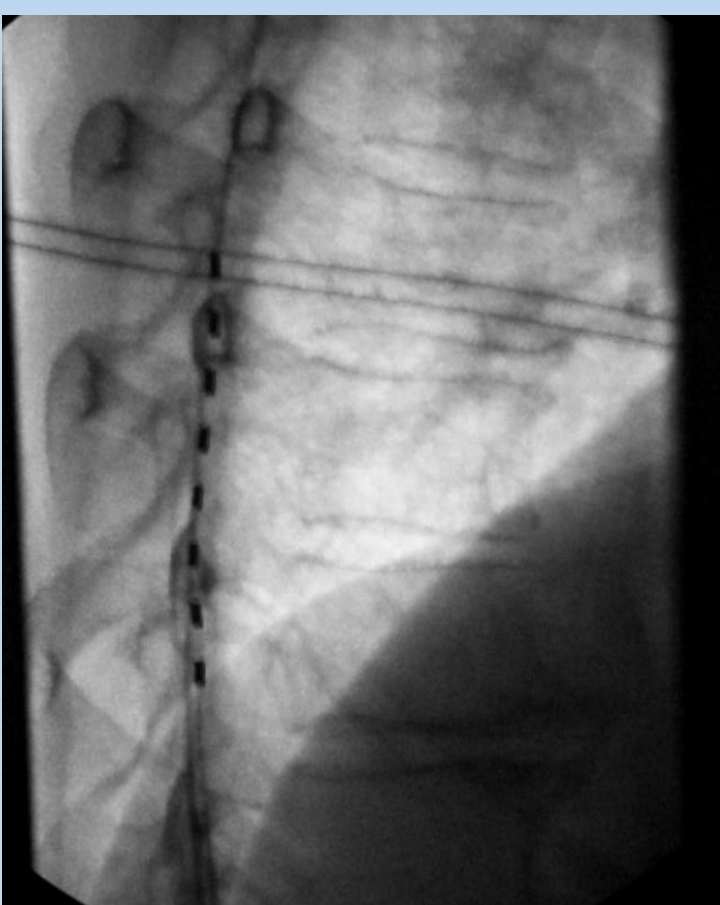
Prior to cervical spine surgery, patient's pain distribution in red (bilateral neck radiating down in C6 and C7 distribution).



3 years after cervical spine surgery, on presentation to pain clinic, her distribution of burning pain and allodynia. Additionally, patient had difficulty balancing and walked with a cane.



Pain distribution at 2 weeks post spinal cord stimulator placement



Images from intraoperative permanent lead placement

Case Report (cont'd)

- When she presented to clinic, deficits had progressed to burning pain and allodynia of the right half of her body, left arm, left hand, and left leg. She had difficulty balancing, walked with a cane, and experienced spasms in her hands.
- She was offered a spinal cord stimulator trial and underwent successful trial lead placement.
- Trial Lead placement
 - the upper part of the C3 vertebral body at midline
 - upper part of T8 vertebral body midline.
- She reported 100% pain relief in upper extremity and 80% improvement in lower extremity.
- She received her spinal cord stimulator permanent lead placement
- Final lead placements
 - upper portion of C3 vertebral body on the right
 - lower portion of the T7 vertebral body on the right.
- Two weeks post SCS permanent lead, she reported relief from neck to past the knee, states that ankle and foot are not covered with plans to adjust SCS settings.

Discussion

In this case study, we present a case of successful resolution of upper and lower extremity pain, allodynia, and lack of proprioception after a complicated C5-6 and C6-7-disc arthroplasty accompanied with spinal cord injury. SCS is a reasonable option for spinal cord injury as a complication of cervical spine surgery.

References

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