

# A Rare Occurrence of Spinal Cord Infarction after Spinal Cord Stimulator Implantation: A Case Report

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## Introduction

- Spinal cord stimulation is a treatment for chronic pain of many different etiologies
- SCS is an invasive procedure that carries inherent risk
- One systematic review found the mean rate of postoperative complications for SCS to be 34.3%
- The most common complications were equipment failure, superficial infection, and pain in the stimulator components



## Case Description

An 81-year-old, retired, female weighing 130 lbs., with a complex medical history relevant for spinal cord stenosis treated surgically two years prior, underwent spinal cord stimulator (SCS) insertion and removal, leading to a spinal cord injury. An initial MRI revealed T2 hyperintensity within the spinal cord at T12-L1, possibly due to edema, with smaller areas of hyperdensity at the left lateral cord at T11-12 and within the central cord at T8-T12. No hematoma or cord compression was detected. Corticosteroids were initiated and abdominal pain improved when switching from gabapentin to pregabalin. Neurosurgery eventually recommended discontinuing steroids and initiating hyperbaric treatment. The patient also developed urinary retention requiring catheterization. A subsequent MRI revealed an extended intramedullary signal abnormality from T6 to the conus medullaris, suggestive of cord infarct. Upon admission to acute inpatient rehabilitation, the patient had left lower extremity weakness (0/5 strength), a positive Hoffman test, the patient required maximum assistance for bed mobility, and a two-person maximum assist for transfers. In acute inpatient rehabilitation, the patient required acetaminophen, methocarbamol, oxycodone, and pregabalin as needed for pain management. On her fourth day of acute inpatient rehabilitation, the patient was noted to have word-finding difficulty and asymmetric eyebrow raise, stroke code was called, and the patient was transferred to the medicine service with advanced imaging negative for acute stroke. After further medical management, she was discharged to subacute rehabilitation completing bed mobility with maximum assistance, showing minimal progress with bedside therapy.

**Outcome: The patient was lost to follow up after discharge to subacute rehab**

## Discussion

- This case highlights a rare occurrence of spinal cord infarction following SCS implantation.
- The incidence of spinal cord injury after SCS implantation is rare (0.42%). Notably, a history of cervical or thoracic spinal stenosis within a year was associated with increased odds of developing a spinal cord injury (1.99 and 4.00, respectively).
- Multiple mechanisms for injury have been reported including epidural hematoma, cord contusion, cord compression, epidural abscess, and traumatic cord injury.
- In one study, 33% of SCI was deemed to be secondary to hematoma

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## References

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