

INTRODUCTION

- Spinal cord stimulator (SCS) is a well-known therapy for chronic spinal pain syndromes [1]
- SCS systems include epidural leads (percutaneous or paddle) with electrodes, programmer and an IPG
- Despite being an effective and safe intervention, complications exist with a mean estimated incidence of 35% [2]
- Lead fracture is one of the more common complications, with a mean incidence of 6% [3]

CASE

- Our case involves a 44-year-old male with a history of lumbosacral degenerative disc disease, lumbar radiculopathy status post L4-S1 fusion, type 2 diabetes, mild cognitive impairment, obesity and schizoaffective disorder
- He presented with worsening lumbar back pain and lower extremity radiculopathy after placement of a SCS
- The initial implantation was successful with bilateral leads inserted at the T11-12 interspace via the left paramedian approach and advanced to the upper T8
- The patient reported over 80% relief in the weeks following the placement
- Three months later, he reported worsening pain and loss of relief from the SCS. He denied infection, bleeding, new muscle weakness, bowel or bladder incontinence and saddle anesthesia
- The SCS was unable to be reprogrammed secondary to a high impedance, and lead fracture was suspected. Only three contacts of 16 total were functional

CASE

- The decision was made for a lead revision
- A left paramedian incision was made, multiple lead fractures within each lead were noted. One lead was easily removed, and two fractures were visualized within the lead
- The other lead was gently pulled back and examination revealed the metallic lead in the lumen was discontinuous and the clear sheath extended several centimeters into the fascia making intact removal unlikely
- The incision was therefore extended cephalad and once the portion of the lead with metallic material within it was visible, this was grasped with a DeBakey and gently pulled out with the lead intact
- Approximately 5 different lead fractures were noted on the lead



Fig 1: X-Ray of Thoracolumbar Spine, AP view



Fig 2: Discontinuous metallic lead the with clear sheath extended

DISCUSSION

- This case describes a known complication of SCS placement, lead fracture
- The abrupt cessation of previously excellent clinical results is a hallmark feature of this complication
- One similar case report discussed a complication that occurred with damage to the insulation coat of a lead likely causing increased tension thus resulting in lead fracture [4]
- Our case raises awareness that the acute, complete loss of pain relief after an effective SCS placement should raise a high suspicion for lead fracture
- Early identification can minimize gaps in pain relief and lead to improved patient care and satisfaction

REFERENCES

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