

Spinal Cord Stimulation for Visceral Pain associated with Medullary Sponge Kidney

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INTRODUCTION

The purpose of this research is to provide evidence that spinal cord stimulation via ventral lead placement can offer potent analgesia for visceral pain pathologies.

CASE PRESENTATION

- 62 Y M with chronic intractable visceral pain secondary to recurrent nephrolithiasis due to his medullary sponge kidney disease (MSK)
- Had failed conservative treatment including physical therapy, NSAIDs, multiple neuropathic agents, and opioids
- Pain rated 8-9/10, worsened with activity, and daily opioid consumption of 90 MMED
- 7-day SCS trial with a dorsal lead at T8 and ventral lead at T10 resulted in 75% reduction in pain scores.
- During permanent placement, neurosurgeon incorrectly implanted both leads in dorsal epidural space (T8 and T10). Pt endorsed only 20% pain relief.
- Lead placement was revised with correct placement of dorsal lead at T8 epidural space and ventral lead at T10 epidural space.
- Following correct revision, pt endorsed 80% pain reduction which continued up to 12 months of follow up and his daily opioid consumption significantly decreased from 90 MMED to 30 MMED.

DISCUSSION

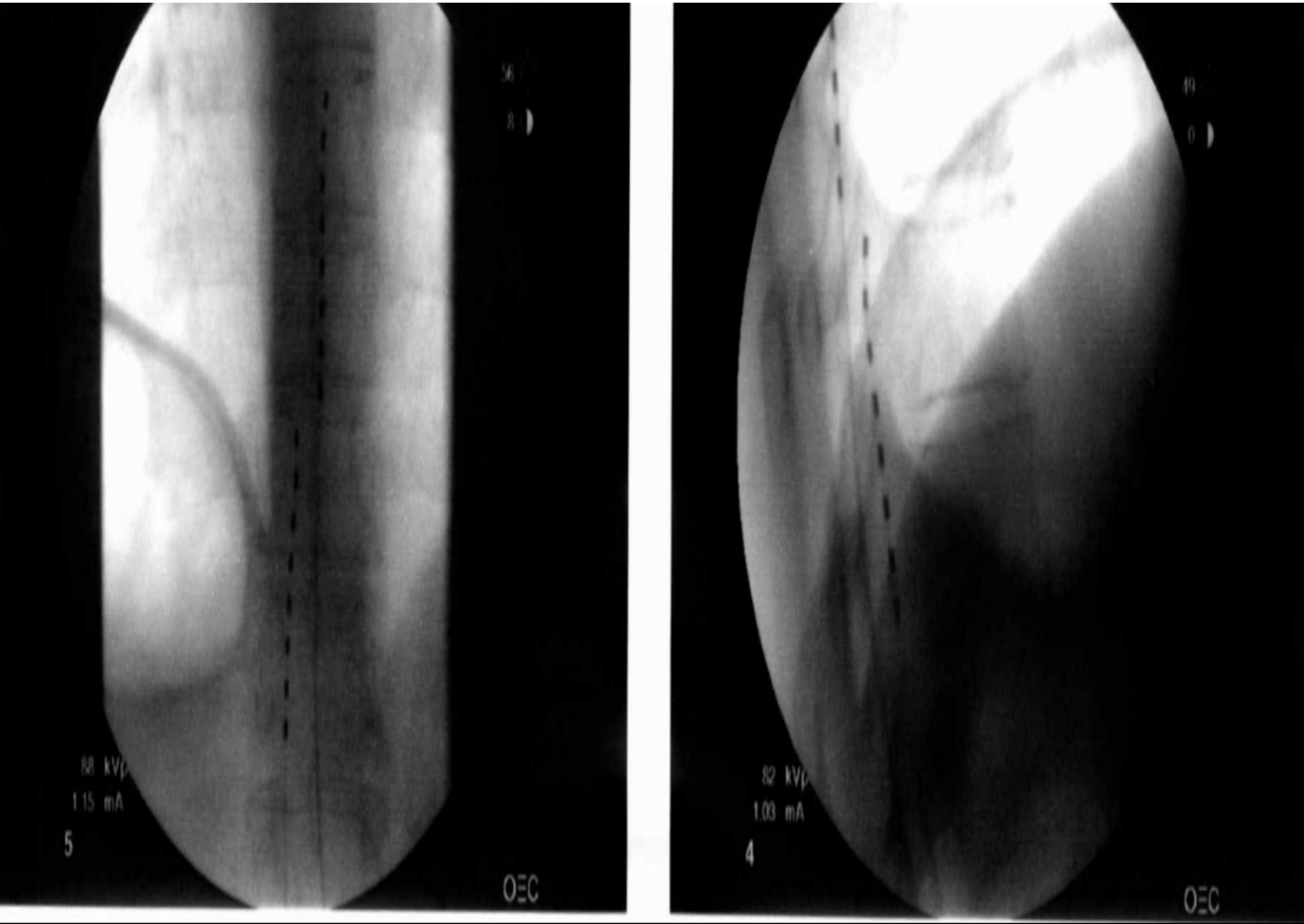
The authors present the first known case of SCS for pain due to Medullary Sponge Kidney disease (MSK). This report adds to the growing body of literature supporting the use of SCS for treating visceral organ pain, while also illuminating the utility of ventral lead placement for treating visceral pain. As the focus in clinical practice continues to increase towards non-opioid measures to treat pain syndromes, advancements in SCS utility will help us decrease opioid consumption. Our research also lends support for the need for studies with larger sample sizes to further validate the utility of ventrally placed spinal cord stimulators in treating visceral pain pathologies.



Spinal cord stimulation with ventral lead placement can provide effective analgesia for visceral pain.



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AP and Lateral fluoroscopic images of final lead placement

Intervention	Lead Placement	Visceral Pain	Time	Opiate Use
Spinal Cord Stimulation (SCS) Trial	(1) T8 – dorsal epidural space (2) T10 – ventral epidural space	75% reduction	7 days	Decreased
SCS Permanent Placement (w/ Neurosurgeon)	(1) T8 – dorsal epidural space (2) T10 – dorsal epidural space	20% reduction	2 weeks	No change
SCS Lead Revision	(1) T8 – dorsal epidural space (2) T10 – ventral epidural space	80% reduction	12 months at Follow Up Appointment	Decreased 90 MMED to 30 MMED