

Retrograde Spinal Cord Stimulator Placement as Salvage Therapy

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BACKGROUND

Spinal cord stimulators (SCS) are a well studied pain management treatment options for patients with postlaminectomy syndrome.

Patients with prior lumbar surgeries may have extensive adhesions and changes to the epidural space that make anatomical placement of traditional percutaneous spinal cord stimulator leads challenging.

The retrograde approach for SCS placement offers an alternative salvage technique to the interventional pain provider.

PATIENT HISTORY

A 58yo man with postlaminectomy syndrome presented with pain in his bilateral lower extremities and left shoulder.

His past surgical history included C5-6 ACDF, L2-5 laminectomy, L4-5 cyst excision, and a right total hip arthroplasty.

He was seen by an orthopedic spine surgeon. Concern that the next surgical option for treatment would entail a major T10-pelvis fusion. Referred to pain medicine to explore neuromodulation.

Baseline activity level: full time working on a farm, very active. Concerned about not being able to perform challenging manual labor tasks due to severe, constant pain.

PROCEDURE



Pictures of
SCS lead
placement



RESULTS

Patient reported 85-95% pain relief of his back, leg, and shoulder.

At his six-month follow-up: Pain present <25% of the day compared to 100% previously.

Better mood, improved sleep quality, and decreased oral pain medication utilization.

Able to handle his ranching lifestyle demands with reduced pain.

DISCUSSION

The retrograde SCS approach is an excellent salvage approach for use when traditional anterograde lead placement is not able to be attained due to anatomical challenges and/or barriers.

The transgrade approach has been documented in the technique in DRG electrode placement (4).

The use of both anterograde and retrograde placement approaches in the same stimulator implant is rare and not previously published in case reports or series (5).

We chose a closed loop system for its superior therapeutic outcomes due to enhanced feedback mechanism and pain relief by maintaining the ECAP amplitude, with lower errors between input and output and decreased impact of external noise (6).

CONCLUSIONS

This combined retrograde and anterograde lead placement is an alternative approach for patients with a history of multiple spine surgeries and anatomical variations/difficulties. It is a useful and appropriate salvage technique for percutaneous SCS lead placement.

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