The Leeds Teaching Hospitals Trust experience of spinal cord stimulation: a retrospective evaluation in chronic pain conditions

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1. Introduction

a. Spinal cord stimulation (SCS) is used to help treat chronic neuropathic pain.

b. Prospective research shows SCS is effective and safe.

c. Leeds Teaching Hospitals NHS Trust implants approximately 180 patients/year.

Aim: This was a retrospective evaluation undertaken in the Leeds Teaching Hospitals NHS Trust that aimed to assess the efficacy and complications associated with SCS in failed back surgery syndrome (FBSS) and chronic visceral pain.

2. Materials and methods

Patients with FBSS or chronic visceral pain with fully implanted 10 kHz or Burst (n = 445)

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Patients who attended a follow-up visit (n = 431)

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Patients with currently implanted system (n = 374)

Measures:

- Baseline and follow-up scores for average pain, worst pain and quality of life (QoL).
- The occurrence of and reasons for surgical revisions and explants.

Data analysis:

- Paired t-tests/Wilcoxon signed-rank tests explored change between baseline and follow-up.
- Counts and percentages were generated for remission, response, surgical revision and explant rates.
- Intention-to-treat was used for remission and response rates.

3. Results

a.

	Average pain (VAS, cm)	Worst pain (VAS, cm)	QoL (EQ-5D-3L)
Baseline	7.31 (1.54)	8.85 (1.23)	-0.02 (0.37)
Follow-up	* 4.97 (2.31)	* 6.81 (2.42)	* 0.27 (0.44)
Mean (SD) change	-2.35 (2.36)	-2.05 (2.33)	0.29 (0.44)

b. Remission (0-3cm average pain VAS) occurred in 23% (98 of 421) of patients. ≥50% reduction in average pain occurred in 27% (108 of 398) of patients.

c. 53 patients (of 374, 14%) underwent a revision. IPG or anchor site pain was the most common reason for revision (n = 27).

51 (of 445, 11%) patients had an explant. Insufficient pain relief was the most common reason for explant (n = 42), followed by infection (n = 8) and requiring an MRI (n = 2). IPG site pain was cited as a secondary influential factor for explantation in seven cases.

4. Discussions

a. This retrospective evaluation showed SCS was effective at reducing pain and improving QoL in FBSS and chronic visceral pain.

b. Assessment of surgical revisions and explants suggests this treatment is safe in these pain conditions.

5. Conclusions

By using real-world data in a retrospective evaluation from a teaching hospital, it is hoped findings will broaden insight into the clinical practice of SCS in FBSS and chronic visceral pain.

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