Background

While published analyses of clinical outcomes have been steadily increasing, the availability of published cost-effectiveness analyses remains relatively scarce.

Methods

Study design: Retrospective chart review of clinical outcomes from our own patient charts.

Duration: Previous 4 year period.

Inclusion criteria: Subjects in whom chronic neuropathic pain of the trunk and/or limbs was treated with the Boston Scientific Precision™ SCS system and one or two Linear™ 8-contact leads, placed epidurally to achieve paresthesia concordance of their primary area of neuropathic pain.

Exclusion criteria: SCS trial failure or >50% missing data.

Number of subjects: 46 (23 male, 23 female)

Clinical endpoint: Patient-reported pain rating on a visual analog scale (VAS) and direct costs before and after SCS implant procedure.

Additional data: Age, gender, diagnosis, duration of implant.

Analyses: Cost-effectiveness was assessed by estimating effectiveness in terms of VAS pain reduction. The incremental cost-effectiveness ratio (ICER) represents the additional cost incurred by the payer to obtain a reduction of 1 point in the VAS score with intervention (SCS) compared to Standard Medical Care (SMC).

Results

The median pain reduction in VAS from pre- to post-procedure was 3.0 points. This improvement in pain score is both clinically significant and statistically significant (P<0.0001).

The median direct costs prior to SCS were $3,438/year, compared to $2,012/year post-permanent implant procedure, adjusted for the duration of follow-up.

This annual cost reduction of approximately 42% is statistically significant (P = 0.0007). With a mean per-patient SCS cost of $31,530, the ICER of SCS was $11,250 compared to SMC.

Conclusions

Our study suggests that SCS provides both a clinically significant and cost-effective reduction in pain, when compared to SMC, over the patient’s lifetime.

References


Results of clinical studies may not necessarily be indicative of clinical performance.