A Comparison of Pain Relief from Spinal Cord Stimulation between Patients with and without Failed Back Surgery Syndrome

Stayner R1, Vander Velden H2, Nygaard M2, Xiong H2, Weaver T2
1 Nura Pain Clinic, Minneapolis, MN USA; 2 Medtronic Post Approval Clinical Surveillance (PACS), Minneapolis, MN USA

Introduction

Spinal cord stimulation is often used to treat patients with residual back or leg pain after lumbar spine surgery. This is often referred to as failed back surgery syndrome (FBSS). Few large-scale studies have been published to document the efficacy of SCS to treat back and leg pain for patients without a history of back surgery. The purpose of this study is to evaluate the outcomes in patients with back and leg pain and compare patients with previous back surgery and patients without previous back surgery.

Materials and Methods

A retrospective analysis was performed using the Medtronic Product Surveillance Registry data (cutoff date: April 30, 2021). Of the 6,012 patients in the SCS arm of the registry, 4,022 met the treatment indications of interest and had data regarding history of back surgery. Treatment indications for those without previous back surgery were Degenerative Disc Disease, Radicular Pain Syndrome, or Combination Back and Leg Pain.

Results

Compared to baseline, both patient groups had statistically significant increases in EQ5D index scores at 6 and 12 months and EQ5D VAS scores at 6 months; they also had statistically significant reductions in ODI, leg pain, and back pain scores at 6 and 12 months. At 12 months, the back pain mean score of patients without previous back surgery was significantly lower than patients with previous back surgery (P value=0.03); the EQ5D index mean score of patients without previous back surgery was significantly higher than patients with previous back surgery (P value=0.03).

Conclusion

1. SCS appears to be an effective treatment to reduce neuraxial pain, increase function and increase quality of life for patients who have back and leg pain with FBSS as well as patients who have not undergone corrective back surgery.
2. Patients who have such pain, but no previous back surgery, may benefit from spinal cord stimulation before undergoing much more invasive corrective spine surgery to treat pain.