Low Back Pain Relief and Patient-Specific Programming Optimization with a new 32-Contact Spinal Cord Stimulation (SCS) Surgical Lead

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Introduction

Spinal cord stimulation (SCS) has become standard in treating lumbosacral radiculopathy, with reports of up to 70% leg-pain relief (1). Historically, however, SCS has been challenging for low-back pain, attributed to less representation of the back within dorsal columns, resulting in less availability to superficial stimulation (2). It has been postulated recently that advances in surgical leads and programming capabilities would result in increasingly effective low-back pain relief (3). An example of this is the recently introduced 32-contact surgical lead. Coupled with 32-contact multiple independent current control and anatomically-based stimulation targeting algorithms, this lead allows for patient-specific programming optimization previously not possible.

Methods

We present here a multi-center, observational study of the new 32-contact surgical lead, using Precision Spectra and anatomically-based neural targeting. We examine data from 60 patients across 6 centers, including medical history, procedural information, device programming parameters, pain reduction, and disability.

Results

Clinical outcomes from 60 patients will be presented out to 6 months post-implant. Additionally, we will present the device programming parameters underlying patients' treatment, including multivariate correlation with patient pain patterns, to explore how anatomically-guided neural targeting is used to support patient-specific SCS optimization.

Conclusions

Effective treatment of low-back pain has long been challenging. New developments in SCS technology may offer previously unavailable options for low-back pain patients. Data presented here is intended to begin a discourse on the potential of new surgical leads and programming algorithms to fully address the needs of these patients.

Learning Objectives

In this multi-center, consecutive, observational study of our early experience with the new 32-contact surgical lead from 60 patients across 6 centers, the following are examined:

-medical history

-procedural information

-pain reduction

-device programming parameters

-disability

References
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2. Oakley JC. et. al., Neuromodulation. 2006. 9(3):192-203.

3. Kinfe TM., et., Neuromodulation. 2012. 15(4):402-7.

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