

Percutaneous Neuromodulation Therapy for Low Back Pain Patients with Subacute Radiating Pain

Joanne Borg-Stein MD Richard Seroussi MD, MSc Bradford Fowler MSc Bradford E. Gliner MSc

Presented at the Association of Academic Physiatrists, Annual Educational Conference

Las Vegas, Nevada • March 1, 2002

Introduction:

Percutaneous neuromodulation therapy (PNT) is a standardized method of delivering percutaneous electrical stimulation, a treatment previously validated for chronic low back pain (LBP) patients in randomized, controlled crossover trials. We performed a prospective multicenter open-label trial of PNT for LBP patients with subacute radiating pain.

Methods:

Our study had two components: 1) a single-center pilot study with 9 patients, and 2) a multicenter study with 81 enrolled patients. Patients with buttock and/or leg pain duration of 1-6 months, self-rated as at least 4 on a visual analog scale (VAS) of 0-10, were recruited from clinical practice or advertisement. PNT was administered once a week for at least 4 weeks, and consisted of a 30-minute session with the patient prone, receiving electrical stimulation through 5 percutaneous electrode pairs inserted 3 centimeters into the lumbar paraspinal tissues. Outcome measures included visual analog scores (VAS) for pain, sleep and activity, as well as an Oswestry Disability Questionnaire.

Results:

For the pilot study, 1 patient was excluded due to poor cognition. For the remaining 8 patients at 5 weeks, average radiating pain improved 52% from 5.8 + 1.6 to 2.8 + 2.5 (P = 0.03); activity improved 48% from 6.2 + 1.9 to 3.2 + 3.1 (P = 0.01); and Oswestry improved 38% from 48 + 14 to 30 + 27 (P = 0.02). Preliminary analysis of the multicenter study suggests a similar profile of benefit and will be reported at the time of conference proceedings.

Conclusion:

PNT appears to be promising for treating LBP patients with a subacute duration of radiating pain. Longer-term follow-up of these patients will further characterize the clinical utility of PNT.
