SAN DIEGO—Treatment of chronic noncancer pain with spinal cord stimulation is more likely to be successful when started within two years, according to a retrospective study presented at the 2006 annual meeting of the American Academy of Neurology.

Gary Hunter, MD, and colleagues at the University of Saskatchewan in Saskatoon, Canada, reviewed the results of spinal cord stimulation in 410 patients with chronic pain (252 males; mean age, 54 years). The most common indication for the treatment was failed back syndrome (n=220). Other indications included peripheral vascular disease (n=52), complex regional pain syndromes I and II (n=32), multiple sclerosis (n=19), peripheral neuropathy (n=17), spinal cord/cauda equina injury (n=15) and miscellaneous (n=55). Patients were followed for a mean of 97.6 months using the Visual Analogue Scale, Beck Depression Inventory and Oswestry Disability Index.

Of the full patient population, 328 subjects (80%) experienced a successful trial period of stimulation (>50% pain relief) for four to seven days and received implanted stimulators. Overall, 59.3% of patients achieved long-term pain control. The device was removed if it was not effective.

An inverse relationship was observed between the duration of pain before implantation and successful pain control. For example, patients who had pain for <2 years before implantation had a success rate of >80% compared to patients with pain for >15 years, who had a success rate of <10%.

Interestingly, the other prognostic factor was the presence of third-party coverage; those patients who had workers' compensation insurance were less likely to improve relative to those without this type of insurance.

Adverse effects included displaced electrode (21.5%), fractured electrode (5.9%), hardware malfunction (4.9%), subcutaneous hematoma (4.4%), infection (3.4%), insulation damage (2.2%), discomfort with the pulse generator (1.2%), electrical leak (1%), rotation of pulse generator (0.7%) and cerebrospinal fluid leak (0.5%).

Comment From the Field

Walter Strauser, MD, agreed that spinal cord stimulation can be a useful modality for the right patients but cautioned that identifying that group is an ongoing challenge. "I see a lot of patients who turn off the stimulators after two to three years because the initial beneficial response is not sustained. The data are still very limited for spinal cord stimulation despite the fact that it has been in use for decades," said Dr. Strauser, Associate Medical Director for the Pain Rehabilitation Services at Sharp Memorial Hospital, San Diego.

In addition, Dr. Strauser said the association between success rates and third-party coverage makes him "skeptical about the value of this therapy—a view that may be biased by caring for injured workers who may tend not to improve due to multiple psychosocial factors that may prolong their disability independent of the disease process," Dr. Strauser explained.

—Andrew N. Wilner, MD