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Title (type in  
CAPITAL  
LETTERS)SACRAL NEUROMODULATION LEAD PLACEMENT  
USING ELECTRODIAGNOSTIC TECHNIQUES

Aims of Study. Sacral neuromodulation is a new surgical treatment option for patients with refractory urge incontinence and other forms of chronic voiding dysfunctions. Surgical implantation of a lead stimulating a sacral nerve is performed if initial percutaneous stimulation testing yields a successful response.

75 to 80 % of implanted patients have success. However, up to 50% of patients are denied implantation because of failure to improve with the initial test stimulation. Lead placement for both testing and implantation is currently monitored by subjectively assessing motor and sensory biological responses to lead stimulation of sacral nerves. Anatomic localization is made by x-ray. The addition of electrodiagnostic techniques to the lead placement methodology was evaluated to see if the number of patients denied implantation could be decreased, and to improve lead localization during implantation.

Methods. Lead placement is monitored by a nerve conduction study performed by recording the response in the urethral skeletal muscle resulting from lead stimulation of sacral nerves.

Results. Seven of fifteen patients had changes in the nerve selected for lead placement for percutaneous test stimulation based upon the response of the electrodiagnostic test. Six of these seven patients had similar biological responses, so the nerve conduction study led to changes in the nerve selection whereas the biological responses were undifferentiated. With this modality, 20 % of the patients failed to improve. Electrodiagnostic techniques during surgical implantation led to precise localization of the lead. With precise functional localization, x-ray was unnecessary.

Conclusion. Incorporating electrodiagnostic techniques may further improve the efficacious outcome of sacral neuromodulation therapy.



Category No.

Video  
Demonstration

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