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PHYSICAL SIGNS OF ASYMMETRY: A GUIDE TO SUCCESSFUL INTERSTIM THERAPY

Hypothesis / aims of study

Sacral nerve stimulation with Interstim® has demonstrated efficacy in the treatment of refractory urinary urge incontinence and non-obstructive urinary retention. It is difficult to predict the clinical outcome. The success rates with Interstim® range from 38-76%, following technically satisfactory lead placement. Preoperative testing to identify those patients who will most benefit from Interstim has shown little predictive value. We have noticed that many patients have clinical features of asymmetry and sacral neurogenic deficits. Clinical features include asymmetry of the feet and gluteal muscle mass as well as unilateral weakness of pelvic floor muscle grip and endurance. We have reviewed our experience to determine whether physical examination findings might help to guide successful Interstim® therapy.

Study design, materials and methods

A retrospective chart review was performed on all patients treated by a single surgeon (NG) with Interstim for urinary urgency or non-obstructive urinary retention between 2001 and 2009. Those patients who demonstrated clear and consistent signs of physical asymmetry were classified as asymmetrical, and all other patients were classified as symmetrical. Primary outcome was functional success, which was defined as progression to stage II - implant of a pulse generator. A subset analysis was performed on asymmetrical patients who underwent bilateral stage I implants to determine the better side for implant.

Results

Thirty-six patients met inclusion criteria. Eighteen underwent treatment for urgency, and 18 for non-obstructive urinary retention. Twenty-three had physical signs of asymmetry, and 13 did not. There were no significant differences between the two groups in terms of age, sex or indication. Success rate was 69% in symmetrical patients and 91% in asymmetrical patients ($p = 0.09$). Among 9 asymmetrical patients undergoing bilateral stage I implants, success rate was 89% on the less well-formed side and 11% on the well-formed side ($p < 0.001$).

Interpretation of results

Clinical signs of asymmetry are very common in patients with refractory urge incontinence and non-obstructive urinary retention. In this study 2/3 of patients had clinical signs of asymmetry. The results are limited by the small study group and retrospective design, yet there is evidence that Interstim® therapy may be more effective in asymmetrical patients than in those without signs of asymmetry. In the asymmetrical group who had bilateral stage 1 implants there was a statistical difference in favor of lead placement on the less well formed side.

Concluding message

The current practice for most surgeons is guided by the sensory territory, motor threshold and reflexes in the pelvic floor and feet. Most surgeons have been taught to look for the strongest reflex and this may direct the surgeon to favor placement on the better of the two sides. When therapy fails, authors have reported improved outcomes by relocating the device to the opposite side. We suggest that the patient's physical examination findings can guide successful placement. In patients who are candidates for Interstim® therapy, we should look for signs of asymmetry. In those patients with signs of asymmetry, the clinical outcomes may be better when the lead is placed on the less versatile and less well-formed side.

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What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**Yes**
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Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**