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Title (type in CAPITAL LETTERS)	SACRAL NEUROMODULATION TWO STAGE IMPLANT EXPERIENCE

Introduction

Permanent implant of a sacral quadripolar electrode, monolateral or bilateral, to obtain a continuous modulation of neural control systems of lower urinary tract, is actually the elective treatment for functional disorders such as some forms of urinary retention or detrusor hyperactivity or perineal and pelvic pain when non invasive methods of neuromodulation are ineffective.

Aim of this paper is to evaluate the advantages in using the "two stage approach" for the definitive implant (1).

Materials and Methods

From November 1995 to February 99, 27 patients (5 male, 22 female) were submitted to a definitive sacral neuromodulation implant with quadripolar monolateral electrode in S3 in 26 and bilateral in 1. 14 subjects presented urinary retention (complete in 11), 10 detrusor hyperactivity (9 instability, 1 hyperreflexia), 2 pelvic pain and 1 sensory disorder.

The use of percutaneous subchronic test (PNE) showed an improvement of symptoms from 80 to 100% in 13 patients after two consecutive tests. In 14 patients, from december 1997 to february 1998 we performed a two stage implant, in 6 patients where the original PNE had failed to improve parameters more than 50%, and in 8 patients in which we had an high percentage of results in the first PNE. In this second group the aim was to control the result for a long period, before the implantation of IPG and to reduce operating time and narcosis. We used the two stage method in 9 urinary retention, 4 bladder overactivity (3 instability - 1 hyperreflexia), 1 pelvic pain.

Time between the first and the second stage of the implant was from 6 to 31 days (mean 18 days), with a continuous report at home of micturition diary and in 5 cases with an urodynamic control before the second stage.

All patients underwent the second stage (implant of IPG and extension) under local anaesthesia (naropina); only in one case under neuroleptoanalgesia.

Results

In all cases we performed the second stage because of a complete result by means temporary stimulation of the definitive lead. Only in one young patient with a complete urinary retention we had a good result during the first stage and again complete retention after the second stage of the implant. The study of the patients by means of psychometric test showed a psychopathological situation. No patients had infections between the first and the second stage, or after the second stage. In one case we had a precocious allergy to IPG that was explanted and actually the patient is waiting for the implant of a new covered stimulator.

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Conclusions

The use of two stage implant in neuromodulation technique permits some advantages: the first is the possibility to perform a real trial in patients where PNE has a low percentage of results or for technical failure or for precocious displacement and actually the alternative of new testing wires is related to this problem, the second is reduction of time of general anaesthesia (only during the first stage) and a better use of time in operatory room (mean time for lead implant is 50 minutes). In this serie of patients we had not infective problems using a severe control before, during and after the operation of sterility.

R.A Janknegt, E.H.J Weil, P.H.A. Eerdmans

Improving neuromodulation technique for refractory voiding dysfunctions: two stage implants
UROLOGY 49:358-362, 1997