871

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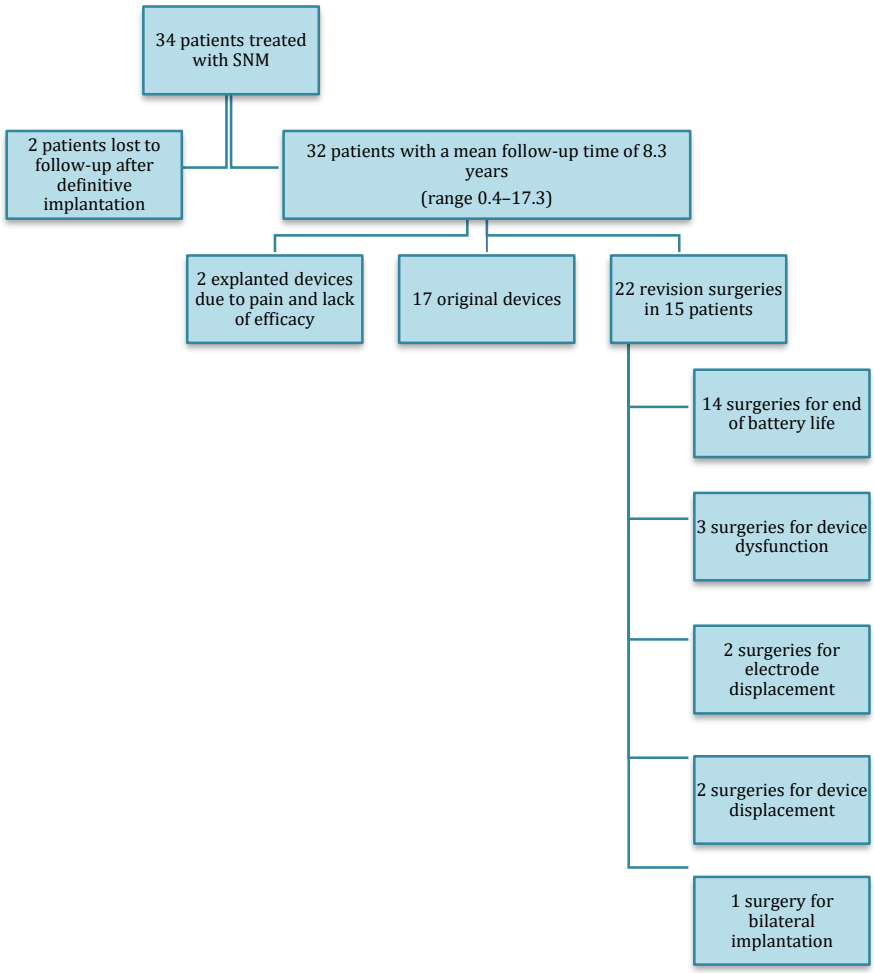
LONG-TERM FUNCTIONAL OUTCOMES OF SACRAL NEUROMODULATION FOR THE TREATMENT OF IDIOPATHIC OVERACTIVE BLADDER

Hypothesis / aims of study
To assess the long-term functional outcomes of sacral neuromodulation (SNM) in the treatment of refractory idiopathic overactive bladder (IOAB) and to determine predictive factors for success.

Study design, materials and methods
This original monocentric retrospective study included all consecutive patients suffering from IOAB and treated by SNM at a single tertiary care center, between December 1996 and December 2004. Data regarding patient demographics, past medical and surgical history, bladder diary, early postoperative complications <30 days according to the Clavien-Dindo classication as well as revision and explantation rates were reported. Treatment success was defined as an improvement ≥50% of any clinical parameter. A Student-t test was used to compare the number of pads used per 24 hours (before versus after implantation). A univariate logistic regression was used to identify predictive factors for success among age at implantation, surgical history, presence of stress urinary incontinence, number of preoperative pads used per day, duration of urinary symptoms before implantation, motor and/or sensitive response during SNM test and duration of testing period. A p-value <0.05 was considered significant.

Figure 1: Outcomes of implanted SNM devices.



Results
Overall, 34 patients (31 women and 3 men), with a mean age of 55.0 years (range 25.3-79.5) were included. Eighteen/34 (52.9%) patients already had surgeries for the treatment of urinary incontinence. The mean duration of urinary symptoms before SNM implantation was of 109.5 months (range 12-528). Immediately after definitive implantation, 2/34 (5.9%) patients were lost to follow-up. An early postoperative complication, classified as Clavien-Dindo grade I (pain), occurred in 1/32 (3.1%) patient. After a mean follow-up of 8.3 years (range 0.4-17.3), SNM was considered successful in 20/32 (62.5%) patients. Moreover, 31/32 (96.9%) patients reported having a significant improvement at their first follow-up visit at 3 months postoperatively. The efficacy eventually failed in 12/32 (37.5%) patients after a mean of 4.3 years (range 0-12) after definitive implantation. The mean number of pads used per 24 hours was significantly decreased (4.1 preoperatively versus 1.8 at the last follow-up visit, p=0.02). Figure 1

illustrates the outcomes of the SNM devices for all 34 patients. Device explantations occurred in 2/32 (6.2%) patients due to pain and lack of efficacy. Twenty-two revisions surgeries were performed in 15/32 (46.9%) patients. The first revision surgery occurred after a mean of 6.2 years (range 1-10) after implantation. The reasons for the revision surgeries were the following: end of battery life (n=14/22, 63.6%), device dysfunction (n=3/22, 13.6%), electrode displacement (n=2/22, 9.1%), device displacement (n=2/22, 9.1%) and bilateral implantation (n=1/22, 4.5%) for decreased efficacy. No significant predictor for success was identified.

Interpretation of results

In our study, the long-term SNM succes rate of 62.5% is slightly lower than what has been reported in the literature (68.0-76.5%). This may be explained by our longer follow-up time. Probably for this same reason, the surgical revision rate in the current study (46.9%) is higher compared to the rates reported by others (22.6-33.3%). Some authors found that an age <55 years was a predictor for the long-term success of SNM [1]. We did not identify predictors for success in this current study, which is consistent with other previously published studies [2,3].

Concluding message

Long-term data on implantable medical devices are currently needed. With a mean follow-up time of 8.3 years, SNM has a moderate efficacy of 62.5% for the treatment of refractory IOAB. Moreover, it is a well-tolerated and minimally invasive therapy.

References

1. Sherman ND, Jamison MG, Webster GD, Amundsen CL. Sacral neuromodulation for the treatment of refractory urinary urge incontinence after stress incontinence surgery. Am J Obstet Gynecol. 2005 Dec;193(6):2083–7.
2. Weil EH, Ruiz-Cerdá JL, Eerdmans PH, Janknegt RA, Bemelmans BL, van Kerrebroeck PE. Sacral root neuromodulation in the treatment of refractory urinary urge incontinence: a prospective randomized clinical trial. Eur Urol. 2000 Feb;37(2):161–71.
3. Donon L, Robert G, Ballanger P. Sacral neuromodulation: results of a monocentric study of 93 patients. Prog En Urol. 2014 Dec;24(17):1120–31.

Disclosures

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