

W.A. Scheepens, R.A. de Bie, E.H.J. Weil and Ph.E.V. van Kerrebroeck
 University Hospital Maastricht, Maastricht, The Netherlands
 UNILATERAL VERSUS BILATERAL SNS IN PATIENTS WITH CHRONIC VOIDING
 DYSFUNCTIONS

Aims of study

Unilateral sacral nerve stimulation (SNS) is effective in treating chronic refractory voiding dysfunctions as urgency/frequency, urge-incontinence, urinary retention. Studies suggest improved effectiveness of bilateral stimulation (1,2). A percutaneous nerve evaluation (PNE) is performed to test if a patient is a candidate for chronic implantation. This prospective pilot study investigated the feasibility of comparing unilateral versus bilateral SNS by means of temporary percutaneous sacral nerve evaluation.

Methods

Seven female patients with urge-incontinence (1), complete urinary retention (5) and incomplete voiding with residue (1) all refractory to conservative treatment, were randomised in a 2 arms cross-over design after a bilateral PNE procedure. Unilateral and bilateral stimulation during at least 72 hours was performed. Between stimulation periods, a two-day wash-out period was scheduled. Voiding diaries were filled in at baseline and during the entire evaluation period. In addition, subjective improvement was scored using a urologic questionnaire. Sacral X-rays were taken to confirm lead positioning or migration after PNE and at the end of the stimulation period. After ten days the leads were removed.

Results

Lead migration occurred in 3 patients, leaving analysable data of 4 patients with complete urinary retention. Mean age was 45,5 (range 27-61). Three patients started to void with SNS, and 2 of them with a residue of < 100 ml. Baseline vs unilateral = $p = 0.055$, unilateral vs bilateral, $p = 0.717$, baseline vs bilateral, $p = 0.043$.

Mean values (range)	Voided volume/void (ml)	Voided volume/24 hrs (ml)	Max voided volume (ml)	Cath volume/void (ml)	Cath volume/24 hrs (ml)	Max cath volume (ml)
Baseline	5 (0-21)	8 (0-32)	10 (0-40)	379 (295-498)	1888 (1555-2164)	628 (435-1075)
Unilateral	95 (0-215)	616 (0-1607)	178 (0-310)	210 (3-381)	896 (25-896)	314 (10-550)
Bilateral	148 (0-245)	789 (0-1904)	220 (0-400)	162 (8-350)	707 (52-1339)	328 (30-600)

Conclusions

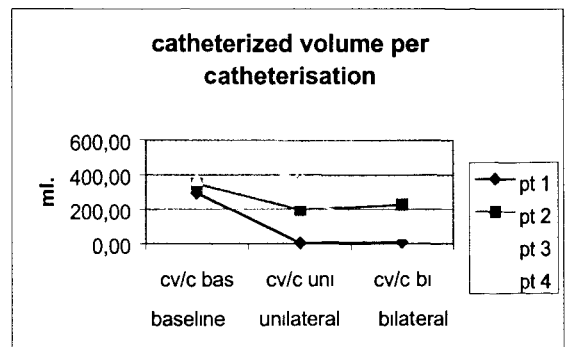
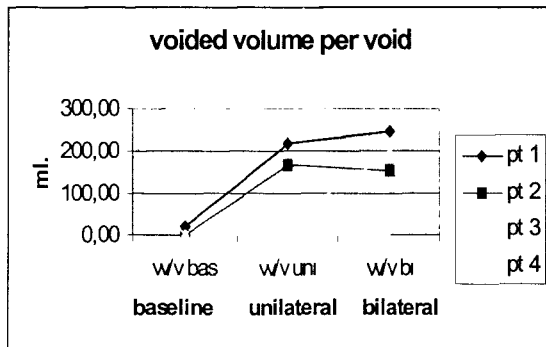
During the temporary nerve evaluation period, the effect of SNS mainly depends on correct positioning of the electrode. Lead migration occurred in 3 out of 7 patients. Results suggest additional but not significant effect of bilateral stimulation in the subgroup of patients with urinary retention. Currently, this study with the actual design is continued with a larger number of patients to test this hypothesis, and will be reported upon during the conference.

(1) Bilateral chronic sacral neuromodulation for treatment of lower urinary tract dysfunction.

J-Urol. 1998 Sep; 160(3 Pt 1): 821-4

(2) Neurophysiologische Grundlagen und klinische Anwendung der sakralen Neuromodulation zur Therapie von Blasenfunktionsstörungen.

Habilitationschrift. Wuppertal 1997



We prefer a poster-presentation

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