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Title: PERCUTANEOUS STIMULATION OF THE POSTERIOR TIBIAL NERVE FOR THE TREATMENT OF URINARY RETENTION

Aims of Study:

Aim of our study was to evaluate efficacy of percutaneous neurostimulation of the posterior tibial nerve in patients with urinary retention, caused by detrusor hypocontractility.

Methods:

21 patients (17 women, 4 men) were enrolled in a 12 week prospective study. Mean age was 50,2 years. All patients had pathologic post-void residual urine (> 100 ml) and were performing at least 1 intermittent catheterization per day. All patients showed a urodynamic pattern suggestive for detrusor hypocontractility and only one male patient presented with bladder outlet obstruction. A needle was inserted 5 cm cephalad to the medial malleolus and connected to a stimulation device for 30 minutes at weekly sessions (pulse width 200 µsec; frequency 20 Hz; adjustable current 0-10mA). At 0 and 12 weeks the following clinical and urodynamic parameters were recorded: number of catheterizations per day, voided volume per micturition, post-void residual urine, maximum flow (Qmax), detrusor pressure at maximum flow (PdetQmax). Results were statistically compared.

Results:

Results are reported in the table.

	Mean (+/- SD)		
Patients = 21	0 weeks	12 weeks	p-value
N° of cath. per day	2,3 (+/-1)	1,0 (+/-0,6)	0,01
voided volume (ml)	199 (+/-64)	216 (+/-65)	0,119
residual urine (ml)	217 (+/-121)	125(+/-111)	0,00
PdetQmax (cmH2O)	19 (+/-10)	29 (+/-12)	0,00
Qmax (ml/s)	8 (+/-3,6)	11 (+/-6,2)	0,023

16/21 patients (76%), showing clinical improvement >50%, continued treatment on a patient specific tapering protocol. 9/21 patients (42,8%) stopped intermittent catheterization.

Conclusions:

After percutaneous stimulation of the posterior tibial nerve we found an improvement in urodynamic as well as in clinical parameters. This treatment seems to be an effective, non-invasive option for patients with urinary retention, due to detrusor hypocontractility.

Source of funding: none.