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**Title:** PERCUTANEOUS STIMULATION OF THE POSTERIOR TIBIAL NERVE FOR THE TREATMENT OF DETRUSOR HYPERREFLEXIA

**Aims of Study:**

Recently, percutaneous neurostimulation of the posterior tibial nerve has been introduced as a less invasive form of neuromodulation for the treatment for urgency, frequency and urge incontinence. Aim of our study was to evaluate the efficacy of this treatment in detrusor hyperreflexia.

**Methods:**

14 patients (6 women, 8 men) were enrolled in a 12 week prospective study. Mean age was 52 years. Patients were affected by detrusor hyperreflexia secondary to multiple sclerosis (4), myelitis (5), incomplete spinal cord injury (2), stroke (1) or Parkinson's disease (2). All patients had urgency/frequency and urge incontinence episodes. 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 200µsec; frequency 20 Hz; adjustable current 0-10mA). At 0 and 12 weeks the following parameters were recorded: voiding frequency, the number of leakage episodes per 24 hour and quality of life score (SF-36 and I-QoL).

**Results:**

Results are reported in the table.

	Mean (+/- SD)		
	0 weeks	12 weeks	p-value
N=18			
voiding frequency	15 (+/-4)	8 (+/-2)	0.00
leakage episodes	6 (+/-3)	2 (+/-1)	0.00
I-QoL	40 (+/-12)	66 (+/-15)	0.00
SF-36	39 (+/-20)	48 (+/-18)	0.01

9/14 patients (64%) continued the treatment on a patient specific tapering protocol, having showed a clinical improvement >50%. 5 patients (36%) became dry. It is worthy to note that the three patients with pure supra-pontine lesion did not show any improvement, while in the other group of patients the percentage of success is 82%.

**Conclusions:**

Percutaneous afferent stimulation of the posterior tibial nerve is an effective, non-invasive option to treat detrusor hyperreflexia. Improvement was seen in clinical parameters as well as in subjective QoL-data. The treatment seems to be more effective in patients with spinal cord lesions.

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