

## FOLLOW-UP OF PERCUTANEOUS TIBIAL NERVE STIMULATION (PTNS) TREATED PATIENTS

### Aims of Study

Percutaneous tibial nerve stimulation (PTNS) is a technique of neuromodulation consisting in the electric stimulation of the posterior tibial nerve. This nerve closely relates to pelvic nerves for bladder and perineal floor; thus a retrograde stimulation of S3 roots and of sacral spinal cord can be obtained. Several studies on the effects of this treatment on overactive bladder syndrome have been published (1,2), while only few data are available on the results on urinary retention (3). These studies produce data on the effects observed after 12 weeks of treatment, but, on the other hand, no data on the long term follow-up are available. Aim of our study was to investigate the follow-up of the patients, affected by overactive bladder syndrome or urinary retention, responding to PTNS.

### Methods

34 patients (27 females, 7 males), who had showed clinical improvement >50% after 12 weekly PTNS sessions, have been treated with a tapering protocol of stimulations (every two weeks for three months, then every three weeks for three months, then every month for the rest of the follow-up). Patients showing a reduction or a loss of the results after the increase of time between stimulations were treated more frequently. Patients have been evaluated before the beginning of this protocol, then every three months with voiding diary and questionnaires on quality of life (SF-36 e I-QoL). Results of the first (FE) and of the last (LE) evaluation available for each patient have been considered and statistically compared.

### Results

Mean follow-up of the patients was 11,9 (6-21) months. Results of the first and the last voiding diaries and questionnaires are comparable (see table).

	Mean(SD)		
	FE	LE	p
Patients = 34			
SF-36	66 (17)	67 (18)	0,911
I-QoL	82 (14)	85 (13)	0,855
Post-void residual urine (ml)*	95 (30)	85 (40)	0,767
N. of micturitions /24 h+	7 (2)	8 (2)	0,832

Legend: \*In 22 patients with urine retention; +In 12 patients with overactive bladder syndrome.

10/34 patients (29,4%), having lost the results of the treatment, needed to be stimulated more frequently. 2/34 patients (5,8%), having permanently lost the benefits of the treatment, stopped the stimulation protocol while 11/34 patients, still maintaining the results, stopped the protocol for other reasons.

### Conclusions

Results of PTNS seem to be stable at a mean follow-up of about one year; almost 1/3 of patients need an adjustment of the stimulation frequency. Another 1/3 of the patients, still maintaining the results, dropped out the stimulation protocol: this finding indicates the need of an alternative management of the patients responding to this treatment.

### References

1. van Balken MR, Vandoninck V, Gisolf KW, Vergunst H, Kiemeney LA, Debruyne FM, Bemelmans BL: Posterior tibial nerve stimulation as neuromodulative treatment of lower urinary tract dysfunction. J Urol. 2001 Sep;166(3):914-8
2. Govier FE, Litwiller S, Nitti V, Kreder KJ Jr, Rosenblatt P: Percutaneous afferent neuromodulation for the refractory overactive bladder: results of a multicenter study. J Urol. 2001 Apr;165(4):1193-8
3. Finazzi Agrò E., Bemelmans BLH, Petta F., Vandoninck V., Micali F., Germani S., Caltagirone C., Debruyne FMJ: Percutaneous stimulation of the posterior tibial nerve for the treatment of urinary retention. Proceedings ICS 2001 Congress, Seoul, Korea ([www.icsoffice.org](http://www.icsoffice.org)).