

## POSTERIOR TIBIAL NERVE STIMULATION AND OVERACTIVE BLADDER IN MEN: IS IT POSSIBLE TO GET GOOD RESULTS?

Overactive bladder has a severe impact on quality of life with similar prevalence on men and women. However, men over 45 years old may present bladder outlet obstruction (BOO) as the cause for the overactive bladder.

There are many treatment modalities, but all of them have specific problems and adverse effects. In the last years, posterior tibial nerve stimulation (PTNE) has been described as a non-invasive treatment option with good results. In the present study, we investigate the effect of PTNE in a very selected population of men with overactive bladder and without BOO.

### Study design, materials and methods

From February 2007 to July 2009, we perform a cohort study to evaluate men with overactive bladder symptoms treated by means of PTNE. Exclusion criteria were urinary tract infection, urodynamic demonstrated bladder outlet obstruction (bladder outlet obstruction index > 40), diabetic neuropathy, major neurological problems and cognitive problems. Patients receiving anticholinergic were washout for 6 weeks.

All men were treat with PTNE twice a week, during six weeks. The PTNE was performed using surface electrode with a 12 Hz frequency, pulse width 200 microseconds and duration of 30 minutes each session. Stimulation was performed with patient in supine position with extended legs. Four surfaces electrodes were positioned bilaterally in the back region of medial tibial talus (anklebone) and in the foot arches. Patients were evaluated at baseline, 1 week and 3 months after intervention. All patients were evaluated by means of clinical history, International Prostate Symptom Score (IPSS), Overactive Bladder Questionnaire Short Form (OABq-SF), Incontinence Quality of Life (IQoL) and a 3 days voiding diary.

### Results

We evaluated 43 men with mean age of 60.3 +/- 13.7 years old. After 1-week follow-up, we observed significant improvement in all questionnaires analyzed (table 1). However, at 3 months the overactive bladder symptoms determinate in the OABq score returned to the baseline values (table 2).

**Table 1.** Comparison of IPSS, OABV8 and IQoL at baseline and 1 week after treatment.

Questionnaires	IPSS	OAB-q	I-QoL
Baseline Mean (SD)	18.1 (8.6)	25.3 (8.3)	67.0 (23.5)
1 week after treatment Mean (SD)	14.5 (8.9)	19.6 (9.8)	76.0 (22.4)
<b>p</b>	0.003	<0.001	0.002

**Table 2.** Comparison of IPSS, OABV8 and IQoL at baseline, 1 week and 3 months after treatment.

Questionnaires	IPSS	OAB-q	I-QoL
Baseline Mean (SD)	18.1 (8.6)	25.3 (8.3)	67.0 (23.5)
1 week after treatment Mean (SD)	14.4 (9.4)	19.7 (9.5)	77.4 (23.9)
3 months after treatment Mean (SD)	15.2 (9.7)	23.3 (9.2)	75.4 (20.9)

In the 3 days voiding diary, we observed a significant decrease of urinary frequency. However, there was a significant decrease on the urinated volume.

In the same way, patients also decrease the fluid intake. These data can be observed in table 3.

**Table 3.** Voiding diary after 1 week treatment

<b>Voiding diary (24h)</b>	<b>Urinary frequency (24h)</b>	<b>Urinated Volume (ml/24h)</b>	<b>Fluid intake (ml/24h)</b>
Baseline Mean (SD)	11.8 (4.9)	1.751.2 (869.1)	1.480.3 (673.9)
After treatment Mean (SD)	9.9 (4.4)	1.485.2 (727.7)	1.359.0 (718.2)
<b>P</b>	0.006	0.017	0.213

#### Interpretation of results

Immediately after the 12 sessions of PTNE there is a significant improvement in the overactive bladder symptoms and the bladder diary demonstrate a decrease in frequency. However, these results should be analyzed with caution. We also observe a decrease in the urinated volume, despite of patients were not been instructed to perform any behavior modification during the study. Thus, the symptoms improvement may be associated with patients decrease in fluid intake during the treatment, regard any medical advice. Bladder diary data should be present along with urinated volume to allow adequate analyses.

#### Concluding message

Patients with OAB demonstrate some improvement in their symptoms after 12 sessions of PTNE, but it seems to recur in early follow-up. All data regard overactive bladder treatment should be analyzed along with pre and post treatment urinated volume, since the patients tend to reduce the fluid intake, as they better understand the disease.

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<b><i>What were the subjects in the study?</i></b>	<b>HUMAN</b>
<b><i>Was this study approved by an ethics committee?</i></b>	<b>Yes</b>
<b><i>Specify Name of Ethics Committee</i></b>	<b>Comite de Etica Universidade Federal de São Paulo- UNIFESP</b>
<b><i>Was the Declaration of Helsinki followed?</i></b>	<b>Yes</b>
<b><i>Was informed consent obtained from the patients?</i></b>	<b>Yes</b>