44

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PERCUTANEOUS TIBIAL NERVE STIMULATION IMPROVES FEMALE SEXUAL FUNCTION IN WOMEN WITH OVERACTIVE BLADDER SYNDROME

Hypothesis / aims of study

Lower urinary tract dysfunctions are often associated and can alter sexuality in both sex (1). Percutaneous tibial nerve stimulation (PTNS) is a an established treatment for overactive bladder syndrome (OAB) especially in women (2) with potential use for other disorders such as faecal incontinence and sexual dysfunction (2,3). The aim of our study was to evaluate the prevalence of female sexual function and the effects of PTNS on it, in women undergoing PTNS for OAB.

Study design, materials and methods

In our prospective study we enrolled 27 consecutive women affected by idiopathic dry-OAB, refractory to conventional treatments. Exclusion criteria were: pregnancy, history of urinary incontinence and/or chronic pelvic pain, assumption of antimuscarinics psychoactive and/or estroprogestinic drugs, history of psychiatric disorders, POP stage > 2 according to Baden-Walker system (HWS), diabetes or other endocrinlogical diseases, uro-gynecological anatomic abnormalities and/or neoplasia including endometriosis, genitourinary infections, complete denervation, absence of a stable partnership for at least 3 months, no sexual activity over the last month before the enrolment. Patients suffering of urinary incontinence were excluded to avoid interferences of incontinence episodes on sexual activity.
Sexuality was assessed by female sexual function index (FSFI): patients with a FSFI score ≤26,55 were considered as presenting a female sexual dysfunction (FSD). Patients were evaluated before and after PTNS by means of a 24-h bladder diary, OAB-q SF and FSFI questionnaires. Patients showing a reduction ≥50% of urgency episodes were considered OAB “objective responders”. Patients requiring to continue chronic treatment in order to maintain the obtained response were considered OAB “subjective responders”. Patients with a pre-treatment FSFI score ≤26,55 who showed a post-treatment FSFI score >26,55 after PTNS (if the increase in FSFI was ≥20%), were considered FSD “objective responders”.
All patients were treated by a 12 weekly 30 minutes PTNS sessions. Patients underwent electrical stimulation with an adjustable pulse intensity, a fixed pulse width of 200 ms and a frequency of 20 Hz (Urgent PC®, Neuromodulation System available from Uroplasty, Inc., Minnetonka, MN).
Paired t-student test was applied to compare bladder diaries, questionnaires scores at each baseline and at the end of the PTNS round. A p value ≤0,05 was considered significant. Correlations analysis between differences in FSFI and OAB-q SF scores were evaluated by Pearson's test. Finally, descriptive statistical tests were used to compare demographics and clinical information between the two groups.

Results

Twenty-five females out of 27 patients enrolled (92.6%) were evaluable. One woman was excluded due to absence of sexual intercourses during follow-up and one female patient dropped out the study. Fifteen out of 25 pts (60%) were considered “subjective responders” and 12 pts (48%) were considered “objective responders” for OAB. Fourteen out of 25 patients (56%) were considered affected by FSD. Baseline demographic and clinical parameters of patients are reported in table 1 for patients with and without FSD.
Validated quantification of sexual function demonstrated significant improvements in overall sexual function, arousal and desire in both groups. Results are reported in table 2. In particular, 5/14 pts (35,7%) with FSD resulted to be FSD “objective responders” with a mean FSFI score pre-PTNS of 16,16 (range 10,8-19,7) vs 31,62 (range 29,1–34,2) after PTNS. Statistically significant improvements in urinary function occurred in patients either with or without FSD. In particular, the mean number of daytime urgency episodes in 24h bladder diary decreased significantly in both groups (fig. 1); OAB-q SF change of around 30% and five patients in both groups were considered OAB objective responders. The correlation between urinary and sexual function improvement seems not significant (r=0,3); thus, the improvement of FSD seems not due to the reduction of urinary symptoms.

Table 1

Pts characteristics	NO FSD	FSD
N° of pts included	11	14
Age (mean ± SD)	50,45 ± 10,15	49,57 ± 10,14
Smokers	4 (36,4%)	6 (42,8%)
Menopause	6 (54,5%)	7 (50%)
Previous pelvic surgery	1 (9,1%)	2 (14,3%)
Previous vaginal delivery	5 (45,4%)	7 (50%)
POP stage ≤ 2 (HWS)	3 (27,3%)	4 (28,6%)
Married	7 (63,6%)	9 (64,3%)
Common law-wife	1 (9,1%)	2 (14,3%)
PVR > 150 ml @ baseline	1 (9,1%)	4 (28,6%)
Chronic therapy (> 3 months)		
Antimuscarinics	2 (18,2%)	3 (21,4%)
Antidepressants	0 (0%)	1 (7,1%)

Table 2. mean FSFI scores before and after treatments

		desire	arousal	lubrication	orgasm	Satisfaction	pain	total
	No FSD							
Pre	Mean	3.98	4.5	4.47	5.13	4.69	5.71	28.48
Post	Mean	4.91	5.18	5.35	5.35	5.56	5.78	32.13
	P* =	*0.0020	*0.0003	0.0804	0.1668	*0.0207	0.5527	*0.0005
	FSD							
Pre	Mean	1.8	2.36	2.57	3.09	2.97	3.03	15.81
Post	Mean	3.17	3.71	3.62	4.06	3.91	4	22.33
	P* =	*0.0037	*0.0089	*0.0065	*0.0112	*0.0062	*0.0019	*0.0054

*P< 0,05

Fig. 1 urgency episodes pre and post PTNS

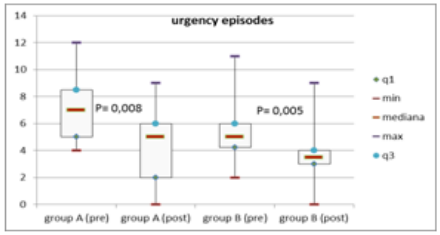
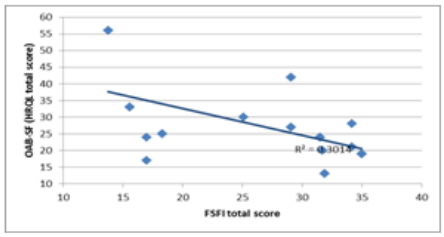


Fig. 2 Correlation between OAB-SF and FSFI questionnaires after PTNS



Interpretation of results

Our results show that a large number of women with refractory idiopathic dry-OAB treated with PTNS could be affected also by sexual dysfunction. In our series 14/25 patients (56%) were diagnosed as presenting FSD by the FSFI score. It is interesting to observe that PTNS may cause a significant improvement of FSFI in women with OAB: a total normalization of the sexual function was observed in 5/14 patients (35,7%) complaining sexual disturbances before treatment, whilst an improvement was observed in almost all patients. This improvement does not seem related to the amelioration of urinary symptoms and could be due to a direct effect of the electrostimulation therapy.

Concluding message

To our knowledge only one study investigated the effect of PTNS on sexuality in a heterogenous population (3). Our data seem to support that sexual function improvement may be directly due to PTNS effects and not mediated by an amelioration of urinary symptoms. Further studies are needed to confirm these findings.

References

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Disclosures

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