

PTNS INCREASES TIME TO FIRST NOCTURNAL VOID AND REDUCES EPISODES OF NOCTURIA IN PATIENTS WITH OAB AND NOCTURIA.

Hypothesis / aims of study

Percutaneous tibial nerve stimulation (PTNS) is an effective treatment for overactive bladder syndrome (OAB) (1). Patients with OAB often suffer from nocturia. Nocturia is defined by the ICS as the complaint that the individual has to wake at night one or more times to void (2). First uninterrupted period of sleep (FUPS) refers to the interval before an individual awakens to urinate for the first time during a night of sleep (3). Short time to first void, or FUPS, in patients with nocturia is associated with lower whole-night sleep quality and impair cardiometabolic health (3). This study is the first to describe the effect of PTNS in patients with OAB and nocturia. This is also the first report in which FUPS is used as a parameter to describe the effect of PTNS on nocturia, besides episodes of nocturia.

Study design, materials and methods

We performed a retrospective analysis of a cohort of patients treated with PTNS for OAB in 2015 and 2016 in our hospital. All patients were asked to complete a 3-day voiding diary at baseline and after 12-weeks of PTNS treatment. Parameters extracted from the voiding diaries were FUPS, nocturnal polyuria index (NPI) and episodes of nocturia. FUPS was determined by the time a patient went to bed to the time of the first episode of nocturia in minutes (3). NPI was defined as nocturnal urine volume of 0.33 or more of total 24 hours urine volume (2). Statistical analysis was done using a paired students t-test.

Results

Of all included patients (n=69), 14 were male and 55 were female and mean age was 66.7±11.7. In total 58 patients had nocturia and 32 had nocturnal polyuria.

	FUPS at baseline	FUPS at 12 weeks	p-value	Episodes of nocturia at baseline	Episodes of nocturia at 12 weeks	p-value
Total group (n=69)	211.8 (±141.9)	247.0(±147.6)	0.08	2.2 (±1.7)	1.9(±1.7)	0.06
Nocturia group (n=58)	159.6(±77.7)	203(±108.3)	0.02 *	2.6(±1.6)	2.4(±1.7)	0.004*
Nocturnal polyuria group (n=32)	173.7(±99.3)	190.7(±90.4)	0.50	2.5(±1.5)	2.6(±1.5)	0.87

Table 1. FUPS and number of episodes of nocturia before and after 12-weeks of PTNS treatment. FUPS in minutes ±SD, number of episodes of nocturia ±SD. *p<0.05.

Interpretation of results

In patients with OAB with nocturia, PTNS reduces episodes of nocturia and increases the FUPS. An increased time to first void may improve quality of sleep and may improve cardiometabolic health. In patients with nocturnal polyuria, PTNS has no beneficial effect on episodes of nocturia or FUPS, probably because of a different pathophysiological mechanism.

Concluding message

PTNS increases time to first nocturnal void and reduces total episodes of nocturia in patients with OAB and nocturia, but not in patients with nocturnal polyuria.

References

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Disclosures

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