

THE ROLE OF POSTERIOR TIBIAL NERVE STIMULATION IN THE TREATMENT OF REFRACTORY MONOSYMPTOMATIC NOCTURNAL ENURESIS. A PILOT STUDY.

Hypothesis / aims of study

This study was designed to evaluate the potential clinical and urodynamic effects of PTNS for treatment of patients with refractory monosymptomatic nocturnal enuresis (MNE).

Study design, materials and methods

We recruited 28 patients with refractory primary MNE. The mean age of them was 13.9±3.8 years (range 9-19 years). Patients were randomly divided into 2 equal groups. The first one (Group I) received a weekly session of PTNS for 12 weeks while group II was the placebo group. Evaluation was done for both groups at baseline and at the end of the last session to compare the clinical and the urodynamic findings. In addition, a clinical assessment was also reported at 3 months after the last session. Response to treatment was assessed as outlined by the International Children's Continence Society Standardization (ICCS).

Results

The two groups were comparable regarding the baseline clinical and urodynamic data. In both groups there were 13 patients (46.4%) with detrusor overactivity and 15 cases (53.5%) had reduced maximum cystometric capacity (MCC). The procedure was performed easily without any reported adverse effects. In group I we found that the average number of wet nights (2.1) in the first week after the last session was significantly ($p=0.002$) lower than that of the base line (4.7). On the other hand in group II this difference was statically insignificant. In addition, compared to placebo the number of wet nights after treatment was significantly lower in the active group ($p=0.018$). 11 patients (78.6%) in the active group had partial or full response and only 2 cases (14.3%) in the placebo group had partial response. The urodynamic studies revealed that all of the first desire, strong desire and MCC were improved significantly ($p=0.002, 0.01, 0.001$ respectively) in the active group only (Table 1). Lastly, at the 3 months' follow-up the total number of patients with partial or full response in the active group decreased from 11 (78.6) to 6 (42.9%).

	Group I			Group II		
	Baseline	After PTNS	P	Baseline	After Placebo	P
1st desire to void	148.46±25.89	177.71±35.48	0.002	153.50±21.65	154.14±20.71	0.59
Strong desire to void	260.43±84.18	283.64±72.03	0.01	271.79±75.43	276.07±72.86	0.94
MCC	291.21±86.82	309.64±73.47	0.001	322.21±76.04	323.57±77.44	0.56
Number of wet night/week	4.7	2.1	0.002	5.1	4.7	0.06

(Table 1) Comparison between the clinical and urodynamic assessment between both groups before and after treatment

Interpretation of results

In this study we demonstrated that PTNS can be effective in some cases of MNE that failed the previous standard therapies. This line of treatment was not tried before in the treatment of MNE, however it had been successfully used in both children and adult for the treatment of various refractory bladder disorders (1, 2, 3). The early promising results of this study encouraged us to hypothesize that PTNS might be effective in the treatment of refractory primary MNE in whom nocturnal polyuria is not an etiological factors but the main underlying pathogenesis were detrusor overactivity and/or small bladder capacity. However, lower response rates at 3 months follow-up suggest that PTNS may have a temporary efficacy and its effect decreased gradually by time.

Concluding message

Based on the preliminary results of our study, PTNS can treat patients with refractory MNE. However, the deterioration of some responders with time carries important questions about the long term efficacy of this therapy and the need of more maintenance sessions.

References

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Disclosures

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