Medium-Term Outcomes of Transcutaneous Tibial Nerve Stimulation in Patients with Refractory Overactive Bladder

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INTRODUCTION

Transcutaneous posterior tibial nerve stimulation (T-PTNS) is a non-invasive neuromodulation technique. **Aim of the study:** ***to assess the safety and efficacy of T-PTNS in patients with refractory OAB over a medium-term follow-up period.***

METHODS

This single-centre prospective study included **OAB patients** unresponsive to pharmacological therapy. Baseline evaluation included a *3-day bladder diary, urodynamics (UD), a symptom- bother VAS* (0= worst; 10= best), and the *Overactive Bladder questionnaire-Short Form* (OAB-q SF). After in-person training, patients used **T-PTNS** (Tensi+®) at home for ***20 minutes daily*** (as per protocol). ***Assessment were repeated at 1, 3, 6, and 12- months***; *UD was repeated at 12-months*. *Success* was defined as a ≥ 50% reduction in urgency episodes (with or without urgency incontinence) or ≥30% reduction in 24-hour voiding frequency.

RESULTS

Thirty-two OAB patients (6M, 26F); mean age: 61.4 ± 18.8 y.o. Mean OAB symptoms duration: 5.9 ± 3.9 years. No patient was taking OAB medication at baseline; all had a post-void residual volume (PVR) < 50 mL. ***At 3 months, urgency episodes decreased in all patients***; 28/32 ***(87.5%) improved day- and night-time urinary frequency***, and 24/32 ***(75%) reported reduced urgency incontinence episodes***. Benefits persisted at 12 months. UD showed *increased maximum cystometric capacity and volume at first uninhibited detrusor contraction* ($p<0.001$), whit stable PVR ($p>0.1$). OAB-q SF scores and VAS satisfaction significantly improved (both $p<0.001$). Overall treatment success rate was 95%. Pain decreased in the 3 patients with chronic pelvic pain (VAS, $p<0.001$). No significant adverse events occurred.

CONCLUSION

Home-based T-PTNS (Tensi+ ®) was safe and well tolerated, with sustained symptom and quality of life improvements in patients with refractory OAB.