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## Effectiveness of Percutaneous Tibial Nerve Stimulation in Overactive Bladder Management: A Regional Center Retrospective Analysis

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### Objective

To retrospectively review the effectiveness of percutaneous tibial nerve stimulation (PTNS) treatment in overactive bladder(OAB).

### Patients & Methods

Twenty-eight patients with OAB symptoms who have failed conservative treatments including two anti-cholinergic medications were included. Patient with cardiac pacemaker, skin disease at the site of stimulation and neurogenic etiology were excluded. PTNS was commenced with a 12-week induction phase of weekly treatments, followed by monthly maintenance therapy for responders. Objective outcomes were assessed using validated instruments—Overactive Bladder Symptom Score-HKC(OABSS-HKC), Urogenital Distress Inventory-6(UDI-6), and Incontinence Impact Questionnaire-7(IIQ-7), which were supplemented by patient-reported outcome as subjective measurement. Longitudinal follow-up occurred at 4-, 8-, and 12-week intervals after treatment began, with additional endpoint assessment for maintenance therapy recipients. Wilcoxon signed-rank test was used for analyzing paired percentage improvements.

### Results

Twenty-three patients completed the 12-week induction phase with thirteen (56.5%) responders identified. Nine proceeding to maintenance therapy with a median follow-up of 15.1(IQR 8-16.1) months. Among treatment responders (n=13), the UDI-6 decreased from 9.4 to 6.6 points (30.6%, p=0.003), IIQ-7 reduced from 11.7 to 7.8 points (33.3%, p=0.032), and OABSS-HKC reduced from 9.1 to 6.7 points (26.8%, p=0.01).

Subjective symptomatic improvements were demonstrated across all urinary domain (p<0.001) among all responders: nocturia showed the greatest mean percentage improvement at 58.3% followed by overactive bladder symptoms at 56.2%, frequency at 52.3%, urgency at 50.8%, and urinary incontinence at 48.2%

### Conclusion

PTNS demonstrated significant efficacy in treating OAB symptoms, with 56.5% of patients achieving improvements across validated outcome measures and sustained symptom relief during maintenance phase.