

## **Posterior Tibial Nerve Stimulation (PTNS) for Treatment of Non-Neurogenic Detrusor Overactivity and Chronic Pelvic Pain**

**Introduction and Objective:** To assess the efficacy of Posterior Tibial Nerve Stimulation ( PTNS ) in treatment of lower urinary tract filling symptoms (urgency, frequency, urge incontinence) and chronic pelvic pain in patient with Non Neurogenic Detrusor Overactivity and /or chronic pelvic pain unresponsive to medical therapy.

**Materials and Methods:** It is a prospective single centre study. The study was conducted in the Neurourology unit at King Fahad Specialist Hospital-Dammam, Saudi Arabia. Between March 2010 to end of February 2012, a total of 30 patients with Detrusor overactivity (urgency, frequency with/without incontinence) and/or chronic pelvic pain unresponsive to medical therapy underwent PTNS therapy using Urgent PC kits weekly for a total of 12 sessions (30 minutes sessions each). Patients who were considered as success completed another twice/month sessions for three months then once/month sessions for another 6 months (total of 12 months therapy). All patients had baseline investigations (urine analysis, serum Creatinine, Urodynamic study, Renal Ultrasound). Each patient had to fill a voiding diary, quality of life questionnaire and pain scale at the beginning of therapy (week 0) and after completion of the initial therapy (week 12). The analyzed variables included: daytime and nighttime voiding frequency, voiding volume, number of and estimated amount of urine leak episodes and attacks of pelvic pain. These variables were recorded in a data capture forms using SPSS 14 program. Data were retrieved from standard voiding diary (Arabic form) as recommended by ICS guidelines. Our primary objective outcome was at least 50% reduction in one or more variables in addition to patient satisfaction to consider therapy as successful.

**Results:** All 30 patients completed at least the initial 12 sessions. No one stopped therapy due to side effect or pain related to the treatment. Ten are males and 20 are females (1:2). Age ranged from 19 years to 80 years (mean age 32). Mean voids per day decreased from 11.3 to 7.1 (-37.1%). After treatment, 63% of participants rated themselves as much better or better in term of pelvic pain; more than 68% were completely or somewhat satisfied. Nocturia episodes were significantly reduced post therapy (mean = -0.70 vs. -0.32 episodes/night;  $P = .05$ ). There were greater reductions in maximum urgency attacks/day (mean = -0.44 vs. -0.12;  $P = .02$ ).

**Conclusion:** This study demonstrates that percutaneous tibial nerve stimulation (PTNS) could be considered as a safe and effective therapy in Non Neurogenic detrusor overactivity and/or chronic pelvic pain patients who failed medical treatment. Cost effectiveness and long term effects need to be evaluated with longer follow-up and higher number of patients to assess the feasibility of considering PTNS therapy as an alternative treatment to medical therapy.