

DOES POSTERIOR TIBIAL NERVE STIMULATION (PTNS) WORK IN CLINICAL PRACTICE? A THREE YEAR SERVICE EVALUATION OF IT'S USE IN THE MANAGEMENT OF DETRUSOR OVERACTIVITY IN WOMEN

Hypothesis / aims of study

The aim of this service evaluation was to establish the clinical and subjective outcomes of the use of PTNS in women with detrusor overactivity(DO) since its introduction three years ago.

Study design, materials and methods

The PTNS programme was established in April 2010. A local database to collect baseline data with ongoing reported outcomes at each visit was updated prospectively. All patients prior to starting the PTNS programme had completed a three day bladder diary, had had urodynamic proven DO and previous treatment with at least two antimuscarinics or deemed to have a contraindication to medical treatment. All the patients prior to treatment completed an Incontinence Impact Questionnaire (IIQ)¹ and verbally agreed to commit to 12 weeks of treatment. A three day bladder diary was repeated in week 11 and a repeat IIQ. Clinical outcomes were assessed based on 6 markers of success: Day time frequency, Nocturnal frequency, Minimum Voided Volume, Maximum Voided Volume, No incontinence rates and a Visual Analogue Score (VAS) of improvement (0 = no change to 10 = Great improvement).

Subjective outcomes were based on two Quality of Life validated questionnaires. The IIQ as mentioned above and the second questionnaire, filled in by the patients in week 11, was the Patients Global impression of Improvement (PGI-I)². Data collection was from the local Urogynaecology database. Data was entered into Excel and the paired t-Test and Chi Square test were used for statistical analysis.

Results

At the time of submitting this abstract there were 60 patients in the programme, six of which had just started treatment. The mean age of patient was 56 years (37 – 85), average Body Mass Index (BMI) was 28.5 (20 – 45) and 91% were multiparous. The predominant Urodynamics diagnosis was DO (70%) and 30% had mixed incontinence. Eighty six percent of patients who had DO were incontinent. Seven patients did not complete treatment and reasons for non completion were: pain and swelling at needle site (n=3); b. Non attendance (n=2); anxiety (n=1); declined further treatment after 2 visits (n=1).

The number of patients who completed 12 weeks of treatment was 47. This group is subdivided into 3 groups: A) No response to treatment: 11 patients (23%)

B) No top-ups required: 6 patients (13%)

C) Ongoing top ups: 30 (64%) patients in the top-up group.

The clinical markers of success are listed in the table below (table 1):

	Pre	Post	P Value
Mean Daytime frequency	9 (4 – 24)	7 (4 – 19)	*
Mean Nocturnal frequency	2 (0 -6)	1 (0 – 5)	*
Mean Min. Voided volume	84 (5- 300)	123 (10 – 200)	*
Mean Max. Voided volume	370 (130 – 780)	421 (100 – 1000)	NS
No incontinence (46 patients)	3 (7%)	19 (41%)	*

* = p < 0.05; Paired t test or X² ; NS = not significant

The sixth marker of success was the VAS with a range from 0 (no change) to 10 (Great improvement). Seventy four percent of patients (34/46) scored 5 and above.

Subjective outcomes were measured by a PGII questionnaire which was completed in week 11 of treatment the results were:

No change 15% (7/46)
 A little better 30% (14/46)
 Much better 37% (17/46)
 Very much better 18% (8/46)

The second subjective measurement was the IIQ completed pre treatment and in week 11 of treatment, the results are listed below (table 2):

Domains	Pre - scores	Post - scores	P-Value
Physical Activity	52	31	*
Travel	57	33	*
Social Relations	40	22	*

Emotional health	54	31	*
Composite	202	116	*

* = $p < 0.05$; Paired t test

Interpretation of results

The majority of women (86%) in the PTNS programme had DO with incontinence which suggests that these women had a severe form of overactive bladder symptoms. Most patients would not expect to see a benefit in terms of reduction of symptoms until week 6 of the programme. Majority (75%) of patients saw a subjective improvement in symptoms as indicated by the VAS and PGII scores. Also most objective parameters appeared to significantly improve following treatment.

Concluding message

Our service evaluation has shown that PTNS is a valuable addition as a choice of treatment for severe DO. The success of outcomes may be due to our strict criteria of entry into the programme. The programme is provided by a dedicated team who have perfected the technique of PTNS and are experienced in tailoring the correct dose of stimulation on an individual basis. This level of expertise is supplemented by running workshops, training our colleagues and continuing with personal professional development in this area of lower urinary tract dysfunction.

Category: Incontinence/Voiding Dysfunction/LUTS

Keywords: Female, Neuromodulation, Detrusor overactivity, Incontinence, Quality of life

References

1. Shumaker, S.A., et al, Health-related quality of life measures for women with urinary incontinence: the Incontinence Impact Questionnaire and the Urogenital Distress Inventory (1994) Qual Life Research, 3: 291 - 306
2. Yalcin I. and Bump RC. Validation of two global impression questionnaires for incontinence (2003) Am J Obstet Gynaecol 189: 98 - 101

Disclosures

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