

ABSTRACT

Overactive Bladder syndrome (OAB) is a common condition defined as urgency to void, that may be accompanied by frequency and nocturia , with or without urge urinary incontinence.

The aim of this study was to evaluate the efficacy of percutaneous tibial nerve stimulation (PTNS) for the treatment of complaints related to overactive bladder syndrome: urinary urgency, urinary frequency, urge incontinence (UI) in our population

We also wished to evaluate the efficacy and acceptance of use of PTNS as a treatment modality, compared to medical treatment with anti-muscarinics or more invasive methods such as neuromodulation.

Several authors have shown that patients' bladder control can be improved by stimulating the tibial nerve near the ankle and altering the function of the sacral nerves that control bladder function.

METHODS

Three hundred and seventy-seven consecutive patients with symptoms related to overactive bladder syndrome, refractory to anti-muscarinic therapy, were enrolled in this study. Written informed consent was obtained for each patient.

Patients underwent 12 PTNS sessions each: once weekly sessions comprising bilateral tibial nerve stimulation, with each session lasting 30 minutes. (1)

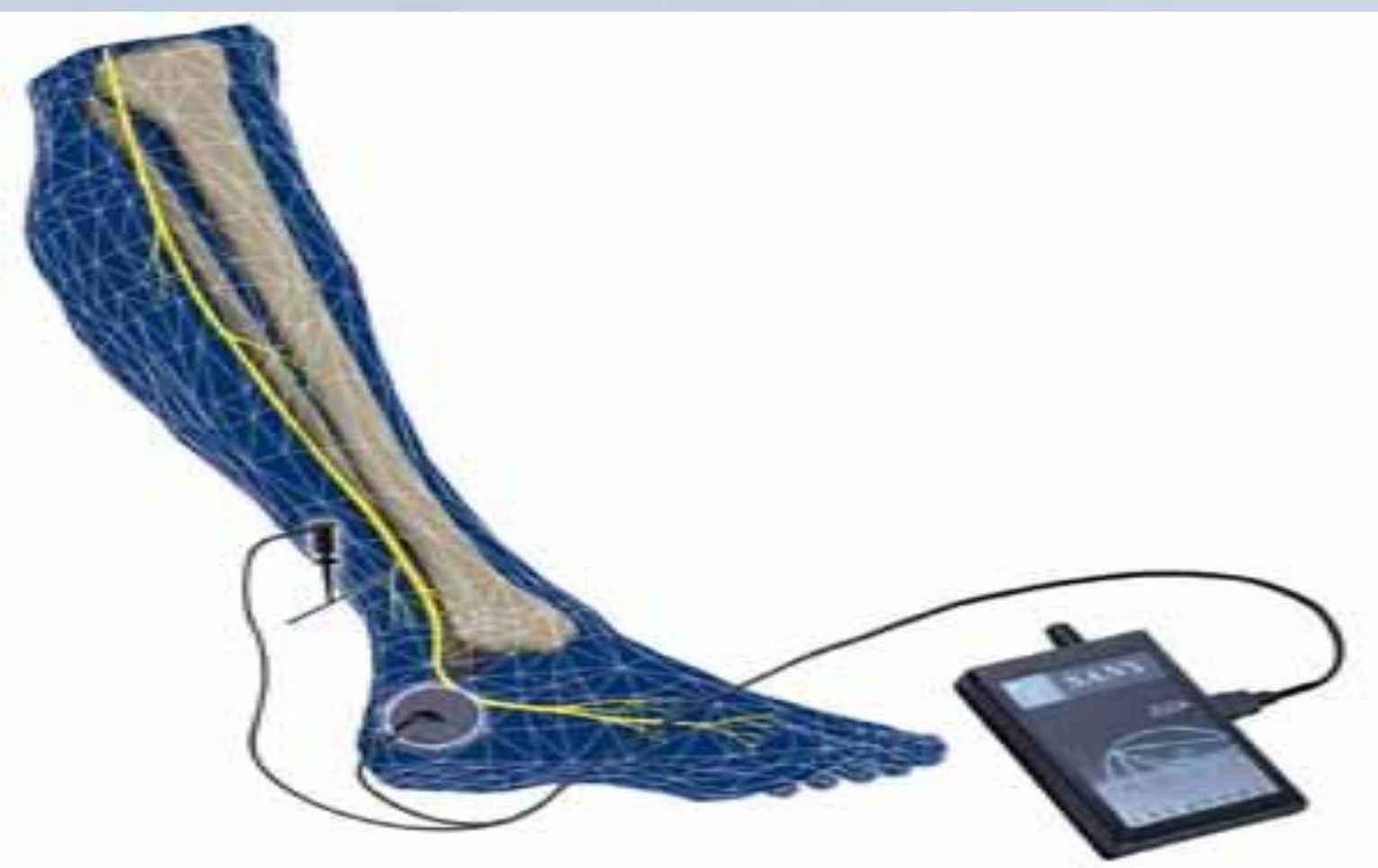
The system we used consists of a small 34-G needle electrode, surface electrode, lead wire and handheld electrical generator. The percutaneous needle is inserted approximately 5cm cephalad to the medial malleolus. After the lead wire and electrode are attached, the Stimulator is turned on and amplitude is slowly increased until the patient's large toe starts to curl, the toe digits fan out, or the entire foot extends, indicating proximity to the nerve bundle.

The stimulator produces an adjustable electrical pulse that travels up to the sacral nerve plexus via the tibial nerve. Amplitude is then reduced slightly and treatment is continued for 30 minutes.

Frequency/volume charts and I-QOL and SF – 36 questionnaires were completed at 0 and 12 weeks.

Success was analysed by using subjective and objective criteria.

Overall subjective success was defined as improvement in QOL scores between questionnaires completed before treatment and at 12 weeks and the willingness to continue treatment, whereas objective success was defined as a significant decrease (to <50%) in the total number of leakage episodes..



RESULTS

All patients completed 12 weeks treatment indicating the high acceptability of this treatment modality.

QOL scores also showed a significant improvement in all spheres corresponding to the decrease in urinary frequency, urgency and incontinence episodes.(subjective success).

Two hundred and fifty-two of these patients (67%) were objectively responders after 12 sessions.

Only eight patients (2.1%) did not show a significant decrease (<50%) in total number of leakage episodes.

In 17 patients (4.5%) no significant improvement was observed. These patients also showed a low initial SF36 score.

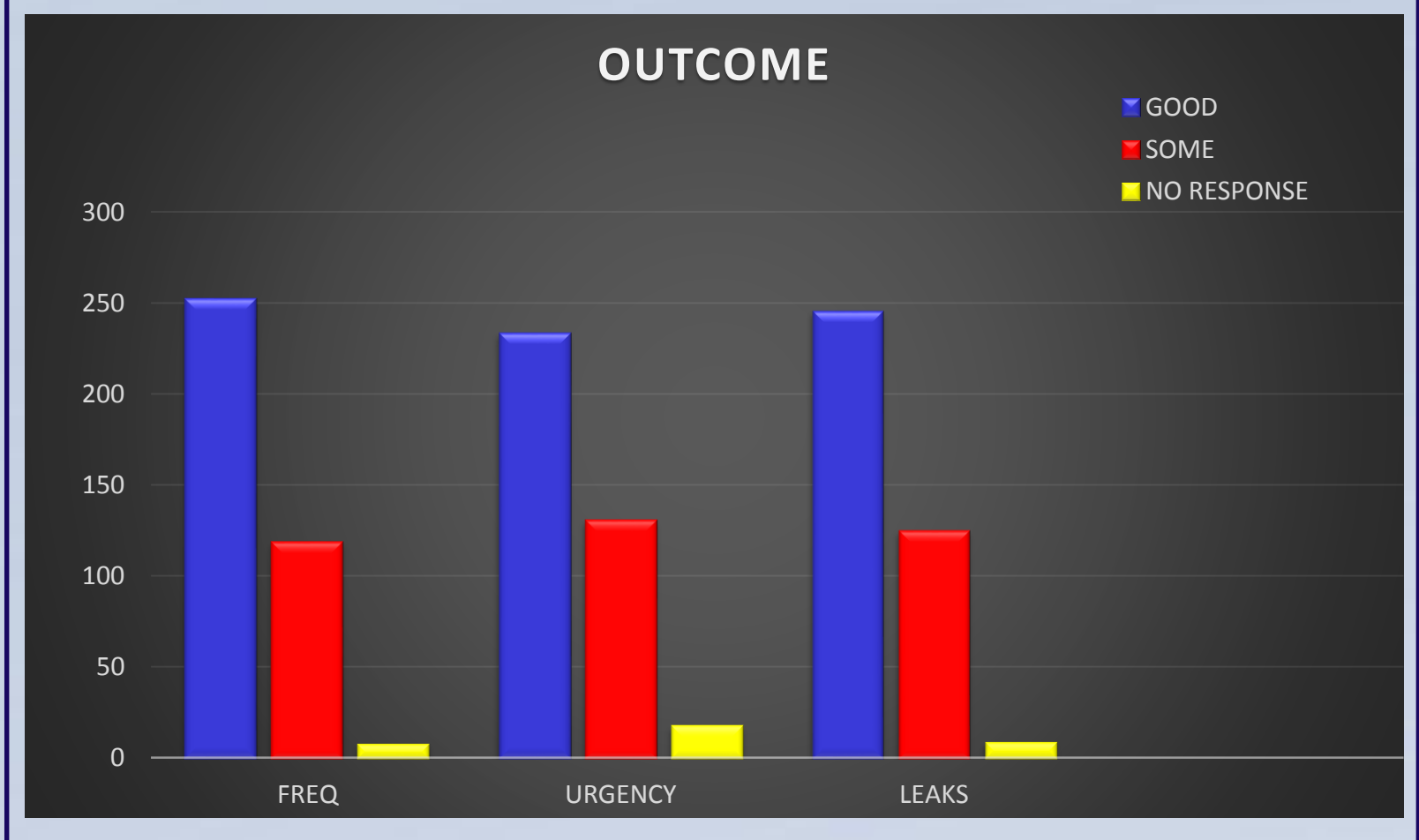
All patients were offered maintenance therapy with repeated PTNS sessions.

Two thirds of our patients showed significant decrease in the frequency, urgency and number of leakage episodes. Only 2 % of patients showed no decrease in their frequency and no change in the number of leakage episodes.

Almost 5% of patients showed no improvement in symptoms. This corresponds to the number of non-responders seen in the published data. (2)

Compliance with treatment was 100%, indicating that the treatment modality is well accepted and tolerated by patients.

Quality of Life scores also showed a significant improvement in patients' symptoms and overall quality of life. Importantly patients who had a poor response or no response to PTNS had initial low SF-36 scores. This might be a good prognostic tool to assess the response to treatment and should be evaluated further as it might help with patient selection for PTNS.



CONCLUSIONS

We conclude that posterior tibial nerve stimulation is an effective, minimally invasive option with an excellent side-effect profile, for the treatment of patients with complaints of urge incontinence as improvement was seen in subjective as well as objective parameters.

REFERENCES

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