Introduction

Transcutaneous electrical tibial nerve stimulation (TTNS) is a non-invasive technique that has been shown to be effective in the treatment of symptoms of the Overactive bladder syndrome (OAB), demonstrating positive results in urinary symptoms and quality of life (QoL), especially in patients resistant to drug therapy (1). TTNS is a peripheral neuromodulation, where the access to the sacral plexus is indirectly done by means of intermittent electrical stimulation of this nerve, which aims to stimulate the sacral plexus through the articular fibers of the tibial nerve, mixed nerve containing L5-S3 fibers. The stimulation of the articular nerve can therefore lead to the inhibition of sympathetic hyperactivity, bladder reeducation, pelvic foot muscle training and biofeedback training (3). Considering the high prevalence of OAB in older women, the negative impact on QoL and the high use of medications in older women to opt for non-invasive, painless treatments and that do not involve vaginal manipulation, and also because it is an effective conservative treatment, we opted for the use of transcutaneous electrical nerve stimulation in peripheral pathway. We conducted a pilot study to evaluate the effects of TTNS associated with BT in the treatment of OAB in older women, comparing the effects of exclusive BT recommended treatment as Guidelines in adults.

Methods

This is a pilot study with randomization of two groups: G1 (behavioral therapy) and G2 (transcutaneous electrical tibial nerve stimulation associated with behavioral therapy), with blind evaluator and comparison between groups. The inclusion criteria were female gender, age between 60 and 80 years, with the presence of urinary dysfunction identified by the score greater than or equal to 8 points in OAB-VB (Overactive Bladder Awareness Tool) questionnaire. We excluded women with lower urinary tract infection, identified by urine test, history of treatment for OAB in the last 6 months, baseline neurological diseases, history of genitourinary neoplasia, previous pelvic reconstructive surgery, or involvement of the vaginal osmull, cardiac pacemaker or use of medicine for OAB.

The analyzed variables of the study were urinary habit, through the bladder diary (BD) of the days, symptoms and degree of discomfort of the OAB through the ICIQ-OAB (International Consultation on Incontinence Questionnaire Overactive Bladder). The treatment of the G1 consisted of 2 sessions of BT, were passed orientations in the proper position for urination, always seated, with legs apart, trunk forward, elbows supported on the knees and use of a foot support in order to maintain greater hip flexion; programmed urination, patients should try to postpone the urination to the maximum, trying to reach an interval of 2 hours; avoid the ingestion of liquid 2 hours before bedtime in order to avoid episodes of nocturia and avoid the consumption of irritants food and beverages to the bladder. The G2 performed 8 sessions (2x per week) of TTNS associated with 2 sessions of BT. The following parameters were fixed for electrical nerve stimulation F = 10 Hz, T = 200 μs, I = 30 min and maximum intensity tolerated by the patient. For the normality analysis, Shapiro Wilk was used with non-normal distribution for all dependent variables. The Mann-Whitney U test was used to analyze homogeneity between groups and for analysis before and after intergroup. The Wilcoxon Test evaluated the intra-group comparison analysis. A significance level of 0.05 was considered. To evaluate the power of the test used in the study was applied the post hoc analysis which demonstrated a power of 0.89 with an effect size of 0.29.

Results

Were selected by convenience, 37 older women with OAB, who were considered eligible for the study, but 7 patients were excluded by: neurological disease (2), severe genital prolapse (2), history of physiotherapeutic treatment for OAB (2) and drug treatment for OAB (1). Were randomized 30 patients, 13 in G1 and 17 in G2. Ho, at the end of the treatment, after dropouts and incomplete data on the evaluation forms in both groups, 19 patients were composed of the final sample (G1 = 8 and G2 = 11).

TTNS associated BT showed significant improvement in the reduction of symptoms of OAB and the degree of discomfort of symptoms, assessed by the ICIQ-OAB and in episodes of urgency incontinence and nocturia evaluated by BD, when compared to isolated BT in older women in the community with OAB.

Conclusions


References