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THE ROLE OF THE NEUROMETER CPT/C IN SACRAL NEUROMODULATION OF THE BLADDER

Hypothesis / aims of study

The aim of the current research project is to study the role of the neurometer as a tool to predict responders to sacral neuromodulation therapy (SNM).

Study design, materials and methods

This is a prospective, open study in male and female patients, aged 18 and over with voiding dysfunction (refractory overactive bladder (OAB), non-obstructive retention and/or frequency urgency syndrome). The first group who are undergoing a screening test trial with percutaneous nerve evaluation (PNE) to determine whether they are candidates for SNM. Prior to PNE testing, all patients will be tested for pain tolerance test (PTT) using the electro-diagnostic Neurometer CPT/C device. Patients who are responders to PNE testing will undergo to SNM implant. Non responders will undergo for a staged implant. The second group have an SNM already implanted for voiding dysfunction. During the routine office follow up, those patients implanted with Interstim will be tested for pain tolerance test (PTT) using Neurometer CPT/C device.

All the testing using the neurometer CPT/C were performed the day of the PNE (in first group) and the day of routine follow-up visit (in the second group). All the result were of the neurometer were kept blinded from the results of the PNE and those of the outcome of the follow-up visit by separate operators.

Results

We recruited a total of 123 patients. The results presented here include 110 patients who completed the study. Forty eight patients in the first group. 62 patients in the second group. The statistical analysis used was as follows:

Group 1. Simple linear regression analysis and the linear discriminate analysis was performed. It was found that for patients without the SNM implant with a combined CPT/CPD of 800 and above, the Neurometer could predict the trial test screening results with an accuracy of 71%

Group 2. Same analysis and tests were conducted for patients with the SNM implant and the results showed that if the patient had a combined CPT/CPD of 600 and above, the Neurometer could predict the patients satisfaction or dissatisfaction of the patients with the SNM implant with an accuracy of 72%.

Concluding message

Neurometer may play a role in predicting test trial positive responders and the predict the patients satisfaction after implant.

Disclosures

Funding: Medtronic **Clinical Trial:** Yes **Public Registry:** No **RCT:** No **Subjects:** HUMAN **Ethics Committee:** the Research Ethics Board of the University Health Network (No. 14-8196) **Helsinki:** Yes **Informed Consent:** Yes