

## NEUROSTIMULATION TRANSCUTANEOUS IN FECAL INCONTINENCE

### Hypothesis / aims of study

The Fecal Incontinence (FI) has many causes as defecation habits, defecation disorders, capacity change and rectal compliance, alteration of anorectal sensation and anal sphincter dysfunction or pelvic floor. It affects 2-20% of adults and most of women over 65 years old. No surgical procedures include pelvic floor muscle training, biofeedback and electrical stimulation to improve strength and the sphincter coordination. However, the internal anal sphincter consists of smooth muscle cells that it is not strengthened by voluntary exercise. So it makes sense electrostimulation for neuromodulation (NM) of the functioning of smooth muscle. The aim was to analyze the literature neuromodulation through noninvasive electrostimulation (sacral transcutaneous application or the tibial nerve) in order to relate the effectiveness in the treatment of fecal incontinence.[1,2]

### Study design, materials and methods

Literature review in PubMed database. Inclusion criteria were articles referring to the use of transcutaneous electrical nerve stimulation of the sacral nerve (EENTNS) or the posterior tibial nerve (EENTNTP) for fecal incontinence, from 2004 to 2014. Exclusion criteria were articles with percutaneous electrical stimulation or permanent stimulation through implants, with two protocols associated therapies, studies that have not approached the isolation fecal incontinence and also performed with children.

### Results

From 9 selected articles, 7 illustrate the use of EENTNTP and 2 to EENTNS totaling a total of n 215 patients, 189 and 26 respectively. All papers show improvement, and were considered successfully to treat patients who presented values equal to or greater than 50% compared to the number of losses. So a total n of 215 patients, 101 (46.97%) had a reduction in number of losses. When analyzed in relation to the method of application of the 26 patients who received EENTNS 12 (46.15%) had relevant improvement and from the 189 who received EENTNTP 94 patients improved (49.73%).

### Interpretation of results

Among the articles that presented significant improvement was not observed any characteristic in common. The studies were different in the evaluation and treatment in relation to time and location of application and duration of treatment. Longer application and shorter duration of treatment reached significant improvement and that prolonged application produce better results. When there was a control group of presence there wasn't significant difference between the placebo and EENTNTP application. Based on this we propose a new method of treatment therapies together 3: transcutaneous electrical stimulation, electromyography and biofeedback because they rarely dysfunctions come from only one factor. All authors propose new studies and would greatly benefit the development of a protocol to be followed in future studies that addressed the comparison between the application sites and control groups.[3]

### Concluding message

Methods for transcutaneous electrical nerve stimulation although giving positive results, can not yet be considered effective for the treatment of fecal incontinence when used alone.

### References

1. 3. BOUGUEN, G. et al. Effects of transcutaneous tibial nerve stimulation on anorectal physiology in fecal incontinence: a double-blind placebo-controlled cross-over evaluation. *Neurogastroenterology e Motility*, v. 26, n. 2, p. 247-254, feb. 2014.
2. 27. VONTHEIN, R. et al. Electrical stimulation and biofeedback for the treatment of fecal incontinence: a systematic review. *International Journal of Colorectal Disease*, v. 28, n. 11, p. 1567-1577, nov. 2013.
3. 24. THOMAS, G. P. et al. Sacral transcutaneous stimulation for faecal incontinence may have a different mechanism of action to sacral nerve stimulation. *Colorectal Disease*, v. 16, n. 1, p. 68-69, jan. 2014.

### Disclosures

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