

# Transcutaneous Posterior Tibial Nerve Stimulation: Non Invasive Approach for Faecal Incontinence : **Where Do We Stand?**

By

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# Faecal Incontinence

- True prevalence is unknown
- It is encountered daily in our OPD.
- Multi magnitude problem with social and health impact.
- Multidisciplinary approach is required.

# Neuro-Stimulation

- Neurostimulation remains the mainstay of treatment for patients with faecal incontinence who fails to respond to available conservative measures.
- Sacral nerve stimulation (SNS) is the main form of neurostimulation that is in use today.
- SNS for faecal incontinence remains a time tested treatment with more than 50 series reporting on its use
- Technically and financially demanding.

BUT IT IS HERE TO STAY

# More Neurostimulation

- Posterior tibial nerve stimulation (PTNS) remains a relatively new entry in neurostimulation.
- Patient friendly.
- Safe .
- Cheap .
- Percutaneous VS Transcutaneous route.

# TPTNS

- delivered using surface electrodes.
- TPTNS modulates the sacral nerve plexus indirectly via the posterior tibial nerve
- Exact mechanism of action has yet to be understood.
- Used to treat overactive bladder, urinary incontinence and faecal incontinence.

# Dilemmas in Treatment Protocols

- There remains a lack of an effective and standardised treatment protocol for both percutaneous and transcutaneous PTNS.
- Shafik et al in 2003 reported giving 30 min of percutaneous PTNS stimulation on alternate days for a period of four weeks.
- now a general consensus that patients require 12 wk of continuous treatment and that each treatment episode should last 30 min, there is no uniformity on how this should be given.
- Studies have given a single 30 min session of PTNS once a week for 12 wk while others have given two 30 min sessions a week for 6 wk

# Dilemmas in treatment protocols

- Follow up protocol.
- The need for top up.
- Efficacy ?



# Our study

- Prospective study
- Recruited patients with FI
- Over the last year.

# Inclusion Criteria

- FI lasting more than 3 months, with FI defined as more than one incontinent episode on average per week.
- failure of conservative treatments.
- $\geq 18$  years of age.
- Able to consent and understand the treatment.

# Exclusion Criteria

- congenital anorectal malformation
- previous colorectal resection
- pelvic irradiation
- rectal prolapse
- external anal sphincter defect exceeding 90 degrees in circumference
- implanted pacemaker or defibrillator
- pregnant or intention to become pregnant; complete
- neurological disease (in <6 months);
- Chronic Diarrhoea
- IBD

# All patients were subjected to

- Full history .
- Endo Anal US to define the sphincter damage.
- Wexner score assessment prior to the sessions.
- Wexner score assessment after completion.
- TPTNS Sessions for 40 mins every session twice a week for 6 weeks.

# Technique

- 12 stimulation sessions delivered through two surface electrodes: - negative electrode placed behind the medial malleolus - positive electrode 10cm proximal.
- Correct positioning determined by halux reaction.
- Stimulation protocol was fixed frequency of 10 Hz, pulse width 200ms in continuous mode for 40 minutes.
- Stimulation intensity determined by participant comfort level

# Results

- We recruited 12 patients.
- 8(66%) females /4 (44%)males.
- Range of age: 33(25-58).
- History of Vaginal delivery 5 (40%)
- Previous episiotomy: unknown
- Previous tear :unknown
- Previous anal surgery : 3(25%)
- Sphincteric injury: 1(8%)
- Mean Wexner Score: 13, Range:6.

- 2 Patients were excluded , one due to failure of compliance, other one due to reaction at the site of the adhesive pads.
- post treatment the mean Wexner score : 6
- Patients showed improvement in there scores : 6(60%).
- After 3 months : the mean Wexner score : 7
- After 3 months no recurrence of symptoms .

# Limitations

- The number of patients recruited
- The FiQol is not included.
- Longer period for follow up.



# Conclusion

- TPTNS is a safe route for neuro stimulation but more structured work is needed and the need to recruit more patients as well.
- More clinical trials to be designed

**Thank You**