Abstract 396: EFFECTS OF PERCUTANEOUS TIBIAL NERVE STIMULATION ON LOWER URINARY TRACT SYMPTOMS AND QUALITY OF LIFE IN PEDIATRIC OVERACTIVE BLADDER (OAB)

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Hypothesis / aims of study

Non-neurogenic overactive bladder (OAB) is a complex pathology of children that can significantly impact their quality of life. Common Low urinary tract symptoms (LUTS) in OAB include urinary urgency, frequency, and nocturia, with or without urgency urinary incontinence.
As 20% of children are refractory to conventionnel treatments (anticholinergic drugs, pelvic rehabilitation, and behavioural therapy); [1] Percutaneous Posterior Tibial Nerve Stimulation (PTNS) proved a positive effect in treating refractory LUTS in non-neurogenic OAB. [2,3]
The aim of our study is to evaluate the efficacy of PTNS in treatment of non-neurogenic OAB symptoms in children and its influence on enhancing their quality of life.

Study design, materials and methods

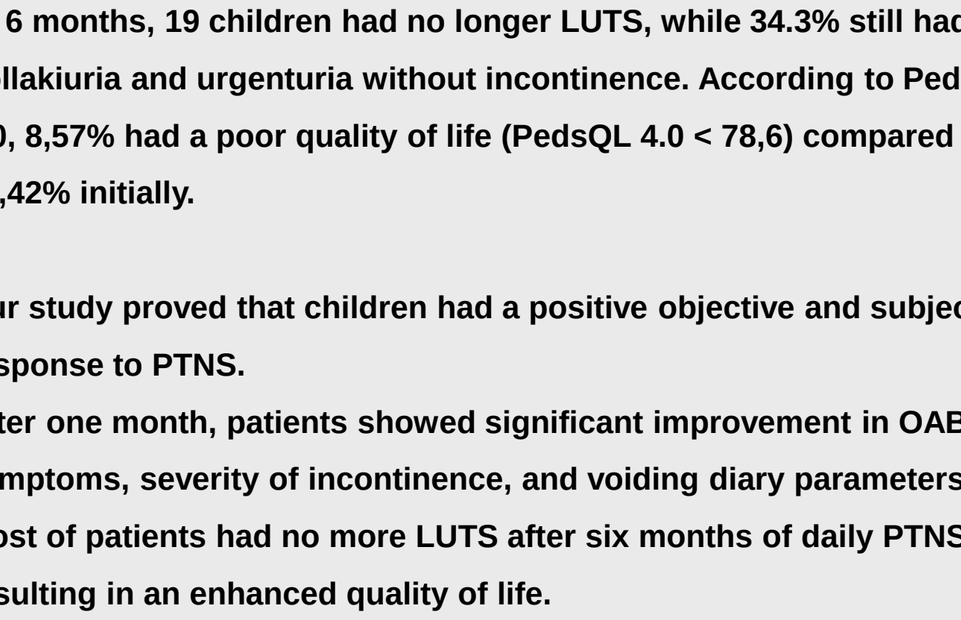
This was prospective and a single-centre study including 35 children with non-neurogenic OAB refractory to conventional treatment. Exclusion criteria were neurogenic bladder, detrusor overactivity on cystomanometry, current anticholinergic therapy, defecation disorders, dysfunctional voiding, urinary tract infection, lower urinary tract surgery, and LUTS secondary to anatomical abnormalities (posterior urethral valves…)
A daily 20 minutes PTNS session was given (5 times a week, frequency 10 hz). After informed consent of patients, The efficacy of PTNS was evaluated initially, in the short (1 month) and medium term (6 months), using a voiding diary for 3 days as an assessment tool for OAB symptoms, and the Pediatric Quality of Life Inventory (PedsQL 4.0) for quality of Life's evaluation

Results and interpretation

We had a total of 21 girls, 14 boys. Mean age was 11.4. three-days voiding diary was completed. 4 children did not complete the follow up. Initially, all patients had urinary urgency, pollakiuria and nocturia. 42,85% had urgency urinary incontinence.
Evaluation at 1 month showed that mean number of voids daily (NV) decreased from 12 to 7 , average voided volume (AVV) increased from 110 to 195 ml, 62,85% patients reported no incontinence after PTNS, whereas 14,38%, 17,14%, and 5,7% patients had mild (< 1/ week), moderate (∑ times / week), and severe incontinence (daily), respectively. At 6 months, 19 children had no longer LUTS, while 34.3% still had pollakiuria and urgenturia without incontinence. According to PedsQL 4.0, 8,57% had a poor quality of life (PedsQL 4.0 < 78,6) compared to 31,42% initially.

Our study proved that children had a positive objective and subjective response to PTNS.
After one month, patients showed significant improvement in OAB symptoms, severity of incontinence, and voiding diary parameters. Most of patients had no more LUTS after six months of daily PTNS resulting in an enhanced quality of life.
However, the current study is subject to few limitations as it has relatively short follow-up period.

Figure 1: Comparison of Children's quality of life (PedsQL scale 4.0) before and after PTNS treatment in pediatric overactive bladder



Conclusions

The use of PTNS as a safe, effective, and non-invasive therapy should be a good alternative in the treatment of non-neurogenic overactive bladder in children when conventional treatments have failed..

References

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