A PILOT STUDY OF TRANSCUTANEOUS MAGNETIC STIMULATION IN CHILDREN WITH OVERACTIVE BLADDER.

Hypothesis / aims of study
This prospective pilot study evaluated the efficacy and safety of transcutaneous magnetic stimulation (TMS) with an interferential device in children with overactive bladder (OAB). Children with OAB are often treatment resistant. TMS has been successful in some OAB cases.[1,2] Almost infinite variations exist for TMS, with respect to application site, frequency and current settings. This original study presents an optional method of TMS in children with OAB.

Study design, materials and methods
48 children aged 6-14 years with OAB diagnosed by urodynamics failing standard management were treated with TMS. TMS was added to treatment as usual. Patients were kept on the same regimen (medication and dosage) as they were before study initiation. TMS was administered with magnetic coil placed in the sacral, perineal and suprapubic region over the bladder twice daily for 20 minutes per site for four weeks. Patients were monitored for four weeks before and after TMS therapy. Baseline measurements prior to the commencement of the treatment included: urinary control assessment form, PedsQL questionnaires and weekly urinary diaries.

Results
Compared to baseline, there was a significant decrease in the number of urinary urgency and incontinence during TMS therapy (p< 0.05). Similarly, there were significant improvements in urinary control and both the parental and children quality of life scores after TMS treatment. Instead, most patients reported a non-significant improvement in abdominal pain.

Interpretation of results
Compared to the traditional TMS with only directed across the sacral region, we used alternative method with magnetic coil application to the sacral, perineal and suprapubic region over the bladder. By the new TMS, we were able to achieve statistically significant results increasing urinary control in children with OAB. The trend for improvement in quality of life was also demonstrated. This new method of TMS warrants further assessment in a randomised control trial comparing new coil placement versus traditional sacral placement.

Concluding message
TMS in the sacral, perineal and suprapubic region is a safe and optional method in children with OAB. It warrants further evaluation in a randomised, controlled trial.

References

Disclosures
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