TRANSCUTANEOUS PARASACRAL ELECTRICAL STIMULATION VERSUS OXYBUTYNIN IN THE TREATMENT OF OVERRACTIVE BLADDER IN CHILDREN: A RANDOMIZED CLINICAL TRIAL

Fabio Quintiliano; Marilia Moraes; Caroline Cunha; Maria Luiza Veiga; José Murilo Netto; Patrícia Lordêlo; Ubirajara Barroso.

1- Division of Urology, Pediatric Urology Sector, Center for Voiding Disorders of Children (CEDIMI), Bahiana School of Medicine and Public Health (EBMSP)

2- Division of Urology, Pediatric Urology Sector, Universidade Federal de Juiz de fora

Introduction / Aim of Study

Overactive Bladder is characterized clinically by urgency that may be followed by daytime incontinence, frequency and holding maneuvers. Antimuscarinics (Oxybutynin) are frequentenly used treat OAB in children. However, there no studies that compare the effectiveness of oxybutynin compared with electrical stimulation. Therefore, the aim of this study was compare the effectiveness of two treatment methods (Oxibutynin vs TPES) for overactive bladder (OAB) in children by comparing intra and inter groups in a randomized clinical trial.

Materials and Methods

We evaluated 9 boys and 19 girls aged 6.4 ± 2.18, who were divided into Group A (Transcutaneous Parasacral Electrical Stimulation, TPES with placebo) and Group B (oxybutynin and sham – scapular electrotherapy). A total of 20 sessions, 20 minutes each, three times a week associated with syrup, a daily dose of 0.3 mg/kg/day every 12 hours were administered. The criteria used to assess the success rate were as follows: a) Rate of complete resolution of symptoms; b) Visual Analogue Scale (VAS) (0-10); c) DVSS; d) voiding diary records; e) ROME III; and f) description of the frequency of side effects in both groups.

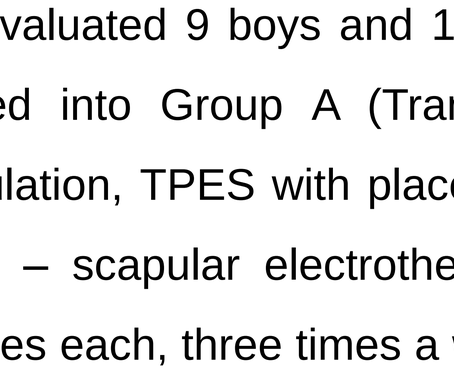

Figure 1: Patient using the surface electrodes on the scapula and parasacral. (File CEDIMI)

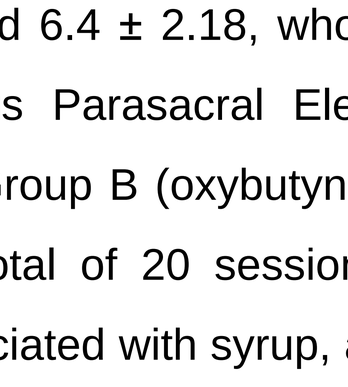

Figure 2: Placebo and Oxybutynin (File CEDIMI)

Results

	Total 28 (100%)	TPES 13 (46%)	Oxybutynin 15 (54%)	Fisher
Complete resolution	09 (32)	06 (46)	03 (20)	0.204
Partial resolution	17 (61)	07 (54)	10 (67)	
No response	02 (7)	0	02 (13)	

Constipation	Yes	No	p
Pre	06	07	0.031*
Post	0	13	
Oxybutynin			
Pre	09	03	0.073*
Post	05	07	

Group A showed no side effects and 58% of patients in Group B presented dry mouth (p = 0.002), 25% hyperthermia (p = 0.096) and 50% hyperemia (p = 0.005), and 13.3% of patients discontinued treatment in Group B. All patients in Group A, 13 (100%), and 13 (87%) patients in Group B would recommend and repeat treatment.

Conclusion

TPES was effective was oxybutynin in the treatment of overactive bladder in children, but more effective against constipation, and no detectable side effects were found. Already oxybutynin was more effective in reducing voiding frequency. Satisfaction and adhesion to the two treatment methods were similar

References

1-Neveus T, von GA, Hoebeke P, Hjalmas K, Bauer S, Bower W, et al. The standardization of terminology of lower urinary tract function in children and adolescents: report from the Standardisation Committee of the International Children's Continence Society. J Urol 2006 Jul;176(1):314-24

2- Lordêlo P, Teles A, Veiga ML, Correia LC, Barroso U Jr. Transcutaneous electrical nerve stimulation in children with overactive bladder: a randomized clinical trial. The Journal of Urology 2010; 184: 683-689

3- Deng YJ, Ma G, Guo YF, Wang LX, Zhu HB, Chen CJ. Comparisons of the efficacy and safety of tolterodine and oxybutynin in children with idiopathic overactive bladder.Zhongguo Dang Dai Er Ke Za Zhi 2011 Jan; 13(1):26-28.