

#567 PRACTICAL CLINICAL APPROACH TO PRIMARY NOCTURNAL ENURESIS IN CHILDREN:

TEN YEAR FOLLOW-UP

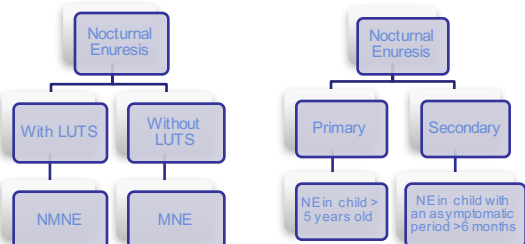
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Introduction

According to ICS Nocturnal Enuresis (NE) is defined as the complaint of involuntary voiding that occurs at night during the main sleep period.



Classification of NE.

LUTS: lower urinary tract dysfunction. NMNE: non monosymptomatic enuresis. MNE: monosymptomatic enuresis^{1,2}.

NE is almost twice as common in boys rather than girls. Approximately 15% of 5 years-children have NE, with most children (80%) diagnosed with primary enuresis. In 15% of cases it is resolved spontaneously, but it can persist until adulthood².

NE has a multifactorial etiology and it may benefit from different treatment strategies.

The aim of our study is to give to pediatricians the tools for improving therapeutic strategies for individuals diagnosed with NE.

Methods

The retrospective study group included 151 children (99 boys and 52 girls, mean age $9 \pm 2,2$ years) who experienced primary nocturnal enuresis and achieved complete resolution with different therapeutic approaches (behavioral approach, enuresis alarm or desmopressin), followed up between 2009 and 2019. The most important diagnostic step in the evaluation of a patient with NE is a thorough medical history to assess the presence of LUTS. Out of 151 children, 55 had a clinical diagnosis of NMNE. For these patients it was first identified and treated the day time problem with frequency/volume charts. A general inspection with a neuro-urological examination, as well as a urine dipstick were performed on all patients to exclude anatomical abnormalities, urinary tract infections and glycosuria. Behavioural approach (BA) was the first line approach in all of the study groups: it consists of instructions for a proper hygiene in voiding (reduce fluid intake before 1 to 2 hours before bedtime and empty bladder immediate before sleeping), reinforcement of motivation and a dry/wet night calendar. Other therapeutic strategies were the addition of enuresis alarm (EA) or pharmacological treatment (desmopressin) in patients that did not responded to BA.

Results

100 out of 151 (66,2%) children achieved a complete success receiving only BA therapy. The mean age of these patients was $8,8 \pm 2,1$ years old and 60 (60%) were male and 40 (40%) were female. The proportion of females who achieved success with BA was 77% (40/52) compared to 60% of males. The mean time of resolution was $8,1 \pm 5,7$ months.

Out of 151 patients, 34 (22,5%) received BA and EA therapies, and the resolution therapy for all children was EA. The mean age of these patients was $9,7 \pm 2,2$ years old. Out of these 34, 27 (79,4%) were male and 7 (20,5%) were female. The mean time of resolution was $5,3 \pm 4,9$ months.

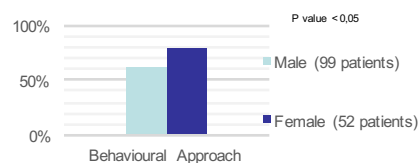
Results

	PATIENTS	RESOLUTION THERAPY		
		BEHAVIOURAL APPROACH	ENURESIS ALARM	DESMOPRESSIN
BOYS	99	62 (63%)	30 (30%)	7 (7%)
GIRLS	52	41 (79%)	10 (19%)	1 (2%)
TOTAL	151	103 (68%)	40 (26%)	8 (6%)

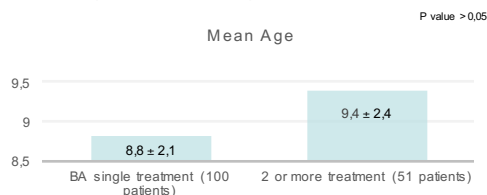
Resolution therapy in the study group

10 out of 151 (6,6%) patients received all three treatments and 6 out of 10 (60%) resolved NE with EA, 3 of 10 (30%) with desmopressin and only 1 out of 10 (10%) with BA. The mean age of these 10 children was $9,8 \pm 2,3$ years old, 7 (70%) were male and 3 (30%) were female. The mean time of resolution was 13 ± 22 months. 7 out of 151 (4,6%) patients received BA and desmopressin and in 5 out of 7 (71,4%) the resolution therapy was desmopressin. The mean age of this study group was $11,3 \pm 2,2$ years old with 5 (71%) males and 2 (29%) females. The mean time of resolution was $12,3 \pm 11,4$ months.

Out of 52 girls who were included in the study, 41 (79%) achieved complete success with BA; of 99 boys, 62 (63%) had a full resolution of NE with BA. The difference between female and male in the response to BA is significant (p value $< 0,05$).



There was a difference in mean age at diagnosis between patients who underwent a simple BA and patients who received more than one therapeutic approach: in the first group the mean age was $8,8 \pm 2,1$; in the second one the mean age was $9,4 \pm 2,4$. The difference in the mean age was not statistically significant (p value $> 0,05$).



Conclusions

The treatment of NE remains a challenge for pediatricians and our results support the concept that a multidisciplinary and personalized approach is necessary for achieving success in the treatment of children with NE. NE is a disorder with emotional, relational and psychological consequences that often requires more medical care and time and long term BA can be a valid alternative to pharmacological therapy and EA, that still represent the two recommended treatments³.

References

1. Nevéus T, von Gontard A, Hoebcke P 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 (ICCS). J Urol 2006;
2. DiBianco John Michael, Morley Chad, Al-Omar Osama. Nocturnal enuresis: a topic review and institution experience. Avicenna J. Med. 2014 Oct
3. DecTekgulSNR, HoebckeP, CanningD, BowerW, vonGontardA. Diagnosis and management of urinary incontinence in childhood. 4th International Consultation on Incontinence. Committee 92009 14 October 2016