

## CHILDHOOD ENURESIS IS A RISK FACTOR FOR BLADDER DYSFUNCTION IN ADULT LIFE?

### Hypothesis / aims of study

Has been identified an association between lower urinary tract dysfunctions in childhood and lower urinary tract symptoms in adult life [1]. In particular, the history of nocturnal enuresis in children have been commonly reported by women with detrusor instability and is associated with urinary symptoms like urinary frequency, nocturia and urge incontinence. However, a study [2] found no association of enuresis in childhood with mixed UI (MUI) and urge UI (UUI), but with stress urinary incontinence (SUI). Thus, although most studies support the hypothesis that enuresis in childhood is associated with irritative bladder symptoms, mixed UI and urge UI, there is a controversy in the literature. Therefore, the purpose of this study was to verify the relationship between enuresis in childhood and type of urinary incontinence in adults.

### Study design, materials and methods

This is a retrospective cohort study. The database used contained the records of patients (men and women) who underwent urodynamic studies in the period 1999 to 2008, corresponding to a total of 1929 records. The study included patients diagnosed with urinary incontinence, aged 18 years or more, and with no diagnoses of the following diseases: diabetes mellitus, urinary tract infection, neurological diseases and bladder outlet obstruction. For this study, childhood enuresis was defined as the involuntary loss of urine after five years of age.

A multinomial logistic regression model was adjusted for the type of UI, considering the category SUI as a reference, to evaluate the association with the following predictor variables: enuresis, gender and age. The statistical significance was assessed using 95% confidence intervals for the odds ratio (OR) and the SAS version 9.1.3 (SAS Institute Inc., Cary, NC, USA, 2002-2003) was used in data analysis.

### Results

A total of 661 patient records were analyzed, 585 (88.5%) women and 76 (11.5%) men, with mean age 54 (SD = 13.3). The general characterization of the sample is detailed in Table 1.

Table 1 – General Characterization of the sample

Characteristics		n	%
Type of UI	Stress UI	215	32.5
	Mixed UI	145	21.9
	Urge UI	301	45.5
Sex	Female	585	88.5
	Male	76	11.5
Enuresis	Yes	171	25.9
	No	490	74.1
Age	until 50	286	43.3
	>50	375	56.7

In the model adjusted multinomial logistic regression, patients with UUI were compared to those with SUI, the variables that were associated were the presence of enuresis in childhood (OR = 2.37) and age > 50 years (OR = 2.64). Comparing patients with MUI and SUI, the presence of enuresis was associated (OR = 1.77) and the age of more than 50 years (OR = 1.71). For both categories of urinary incontinence, the variable sex was not statistically associated (Table 2).

Table 2 - Results of adjusted analysis \* of the multinomial logistic regression model

	UUI		MUI		p-value	OR (IC 95%)	
	Coef. (EP)	p-value	OR (IC 95%)	Coef. (EP)			
Intercept	-	<0.0001	-	0.089(0.148)	0.464	-	
Enuresis	0.862(0.257)	0.0008	2.37(1.43 - 3.92)	0.571(0.221)	0.0096	1.77(1.15 - 2.73)	-
Male	0.603(0.331)	0.0686	1.83(0.96 - 3.5)	0.111(0.303)	0.7145	1.12(0.62 - 2.02)	-
> 50 years	0.971(0.23)	<0.0001	2.64(1.68 - 4.15)	0.535(0.183)	0.0035	1.71(1.19 - 2.44)	-

### Interpretation of results

A relation between childhood urinary symptoms and symptoms in adults provides an elucidation of the aetiology of urinary symptoms in adults and may provide the opportunity for primary and secondary prevention of symptoms of lower urinary tract in adult life [1], so it is important to know what type of urinary incontinence enuresis in children is associated.

In the present study enuresis in childhood was associated with urge UI and mixed UI, when compared with stress UI, contrary to the study of Gurbuz et al. [2] found no association between childhood enuresis and the presence of mixed UI or urge UI in adult life. However, it is in agreement with other studies that found an association with these types of UI or irritative bladder symptoms [1,3].

### Concluding message

In this study individuals with mixed UI and urge UI in adult life were more likely to have a history of enuresis in childhood than those with stress urinary incontinence.

### References

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2. Gurbuz ZA, Karateke A, Kabaca C. Enuresis in childhood, and urinary and fecal incontinence in adult life: do they share a common cause? BJU International 2005; 95:1058-62.
3. Kuh D, Cardozo L, Hardy R. Urinary incontinence in middle aged women: childhood enuresis and other lifetime risk factors in a British prospective cohort. J Epidemiol Community Health 1999; 53:453-8.

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<b><i>Is this a clinical trial?</i></b>	<b>No</b>
<b><i>What were the subjects in the study?</i></b>	<b>HUMAN</b>
<b><i>Was this study approved by an ethics committee?</i></b>	<b>Yes</b>
<b><i>Specify Name of Ethics Committee</i></b>	<b>Comitê de Ética em Pesquisa da Faculdade de Ciências Médicas da Universidade Estadual de Campinas (UNICAMP)</b>
<b><i>Was the Declaration of Helsinki followed?</i></b>	<b>Yes</b>
<b><i>Was informed consent obtained from the patients?</i></b>	<b>No</b>