Enuresis in children in Tikrit city

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Abstract

To determine the pattern of enuresis in children who consult the pediatric outpatient clinic in Tikrit Teaching Hospital for management, a cross-sectional study was carried out on a randomly selected sample of (50 enuretic children) and compared with a control group (50 healthy subjects) during the period 1st of May-30th of November 2006. Thirty two patients of them 64% were males. Primary nocturnal enuresis was the commonest type in 41 (82%), enuresis commonly affect children in the age group 5-10 years, were 40 of (80%) patients. Urinary tract infection was found only in 11 patients 22%. Sixty two percent of patients had positive family history of enuresis and 34 patients (78%) had history of stressful event prior to the onset of enuresis. Enuresis had no relation with growth or developmental delay, hyposthenurea, and glucoseurea.

Introduction

Enuresis is one of the most common and perplexing problems brought to the attention of the pediatrician. It is estimated that around 10-20% of 5-year-old children wet the bed at night. However, by adolescence only 1% continue to have this problem[1]. Enuresis defined as the voluntary or involuntary repeated discharge of urine in to the clothes or bed after a developmental age when bladder control should have been established. Diagnosis of enuresis is made when urine is voided twice a week for at least three consecutive months or clinical significant distress occurs in areas of child's life as a result of wetting [2].

Enuresis is primary if the child has never been continent of urine for a prolonged period and which constitute 85% of the cases and secondary when incontinence recurs after a prolonged period of continence 3-6 months [3,4]. Nocturnal enuresis is often used to mean wetting during nighttime and sleep, the daytime wetting is termed diurnal enuresis. Less than 10% of all children who have nocturnal enuresis wet in daytime and diurnal enuresis infrequently occur without nocturnal enuresis [5].

Both primary and secondary can be caused by maturational, organic, and psychological problems but many authorities think that secondary enuresis is less likely to be due to a simple maturational factor [3]. To determine the epidemic-etiological characteristics of enuretic patients attending Tikrit teaching hospital and compare it with a control group, the relation of enuresis with growth pattern, family history, and the distribution of enuresis cases in relation to UTI, glucosurea, hyposthenuria, low specific gravity, psychological problems, and radiological findings.

Patients and Methods

A cross-sectional study done on a simple randomly selected sample of enuretic children older than age of 5 years who consult the pediatric outpatient clinic in Tikrit teaching hospital for management during the period 1st of May-30th of November 2006 in comparison with a control group of healthy subjects. History and information were taken from every enuretic child through a special questionnaire. Complete physical examination concentrating on growth pattern, renal mass and neurological examination. Every enuretic child was investigated for urinalysis, urine culture and sensitivity, urine sugar, urine specific gravity using dipstick. A plane abdominal radiograph done for patient with secondary enuresis who were older than 12 years.

The analyses of data were done by *P-value* and Chi-square. The results are significant if P. value < 0.05.

Results

In the present study, of the total of fifty enuretic children, 32 (64%) of them were males and 18 (36%) were females.

Type of enuresis; 40 (80%) of the sample had primary enuresis and the secondary type (20%). Nocturnal enuresis found in 41(82%) and diurnal enuresis in 8 (16%) of the sample, and only one (2%) child had both. While 15 (30%) of enuretic children their enuresis due to organic causes, 35 (70%) of the sample had non-organic cause.

Positive family history of enuresis found in 31 (62%) enuretic children. Enuresis commonly affect children (80%) in the age group 5-10 years, in comparison to the age group >10 years (20%). Urinary tract infection was found in 11 children (22%) with enuresis as shown in table 1. Psychological underlying causes; found in (78%) of cases; punishment by parent was the cause in 34 (68%), new baby 4%, new home 4%, and new teacher 2% as shown in table 2. Glycoseurea was found in 2 (4%) of children in comparison to 4 (8%) in the control group as shown in table 3.

The developmental delay and abnormal neurological examination was found only in one (2%) of cases in comparison to 2 (4%) in the control group and this reflect non significant association. Enuresis had no relation with growth or developmental delay table 4, hyposthenurea, and glycoseurea. All of the enuretic children showed normal results of specific gravity, radiological and sonographic studies.

Discussion

Enuresis is the involuntary passage of urine into the bed clothes or underground [6]. Most of enuretic children were males (64%), which is similar to results of Jeffery [3] which showed that boys outnumber the girls by 2:1 and to results of Tom which showed that boys are affected twice as girls [7]. Primary enuresis constitutes about 80% while the secondary type constitutes only 20%.

This is similar to other study by Garfinkel which shows that primary enuresis present in 90% of cases [8]. Most of our study cases are of nocturnal type (82%) , while the diurnal type is occur only in 16% of cases only and this is consistent with Alon study [9] which shows that nocturnal enuresis occurs in 90% of cases. This may be due to the fact that enuresis may be due to decrease in bladder capacity in affected children [2, 6] so that during the day the baby can withhold urine when he is awake and can noticed the need to urinate easily than at night during the deep sleep, and also that during the day the baby is under the supervision of their mothers while at night the baby pass urine involuntarily without telling his mother.

In the present study, it was found that non organic causes constitutes about 70% of all the study cases while organic causes is seen in 30% of the cases only. This figure is higher than what Jeffery was found[3] that the organic causes are seen only in 5% of all cases of enuresis.

This may be due to that most cases of enuresis are of primary type which is due to the developmental delay or maturation lag of sphincter control rather than due to organic causes [6]. Family history of enuresis was found in 62% of the cases, the finding which is consistent with Bakwin H. who found that most cases of enuresis have positive family history of enuresis especially in their fathers [10].

This may be due to the fact that there is genetically determined delay in acquiring sphincter control in two third of children with enuresis having an affected first degree relative [7]. These results are differ from that seen by a study done at United Arab of Emarates[1] which shows that family history is positive in only 6.2%, this difference may be due to difference in the population and the sample size.

Enuresis is commonly affect children aged 5-10 years 80%. This results is similar to Tom and Valsamma[1,7] which show the same age affection. This may be due to that enuresis is due to delay in maturation of bladder sphincter control which occur mainly in children less than 10 years age, while, after age of 10, the control of bladder sphincter get mature so that there is a decrease in the incidence of enuresis[6]. Psychological causes constitute about 78% of the study cases while urinary tract infection was found in only 22% of cases. This is similar to the result seen by Jeffery and Tom[3,7] who found that the psychological stress have significant effect on enuresis.

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Table 1. Frequency distribution of enuretic children according to presence of UTI in comparison with the control group.

UTI	No. cases UTI	Percentage	No. children in control group	Percentage
+ve	11	22%	22	44%
-ve	39	78%	28	56%
Total	50	100%	50	100%

Table 2. Frequency distribution of enuretic children according to presence of stressful environmental events. in comparison with the control group.

Stressful environmental events.	No. cases	Percentage
Punishment by parent	34	68%
New baby	2	4%
New home	2	4%
New teacher	1	2%
absent	16	22%

Table 3. Frequency distribution of enuretic children according to glucosurea in comparison with the control group.

Urine sugar	No. cases	Percentage	No. cases of control	Percentage
+ve	2	4%	4	8%
-ve	48	96%	46	92%
Total	50	100%	50	100%

Non significant

Table 4. Frequency distribution of enuretic children according to presence of developmental delay as a cause of enuresis in comparison with the control group.

Developmental delay	No. cases	Percentage	No. cases of control	Percentage
+ve	1	2%	2	4%
-ve	49	98%	48	96%
Total	50	100%	50	100%