CONTRIBUTIONS TO ENURESIS STUDY OF A GROUP OF CHILDREN FROM DOLJ

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INTRODUCTION

Enuresis, the affection characteristics of childhood, which resides in the involuntary nocturnal pee, has major social consequences, the fact that this disorder is passed on school efficiency, negative behavior and adaptation of the child in the family and in the colectivity, affecting the character development and personality.

This study proposes a complex, comprehensive, clinical and paraclinical observation of a batch of 3090 children from Dolj, aged 5-13 years, to the early discovery of enuresis.

From initial batch of children examined, a number of 217 children have experienced a form of enuresis.

They were subjected to a thorough clinical examination, complete with a neurological and psychological exam, then investigate paraclinical through EEG, ORL exam, laboratory, pelvic radiologic exam and abdominal ultrasound.

This research has aims to determine incidence enuresis to the children in Dolj and consequences of this disease in patients between the ages of 5-12 years.

Prevention of this disease can be possible by minimizing the appearance of likely factors such as prematurity, adenoiditis, chronic urinary infections.

This study aims, in the end, increasing quality of life, harmonious physical and mental development of the enuretic child.

GENERAL PART

1. MICTION

In this chapter shall expose miction as reflex, voluntary control of miction and neurological miction disorders (Popoviciu, Hâulică, 1982; Teodorescu E, Badiu G, 1993; Greger, 1996; Guyton, Hall JE, 2000)

2. ENURESIS

Bedwetting is a feature of the age, such as in childhood, involuntary emission of urine, which can occur at night and/or day. (Norgaard JP, Djurhuus JC, 1993) Nocturnal bedwetting is defined by persistent involuntary nocturnal mictiunilor with a frequency greater than two episodes in a month in a child over the age of 5 years (Butler R.J., Holland P., 2000). It is an act, involuntary, repeated mictional unconscious, which persist or appear after age at which maturing were normally maded. In the literature stands, prevalence of enuresis is 10-20% to children aged 5 years, enuresis prevalence reducing it with age. (Popescu V., 1999). Bedwetting enuresis is classified into primary and secondary enuresis (Schwartz W., 2000)

3. NEUROLOGICAL EXAMINATION, PSYCHOLOGICAL AND NEUROPHYSIOLOGICAL TESTS IN CHILDREN WITH ENURESIS

This chapter describes at length the child's neurological exam, which is different from that of the adult. (Kalles A, et. al, 1977)
Neurological examination of children with enuresis is necessary to capture a deficit neurological maturation or to detect a secondary enuresis. The main differential diagnosis is made with the neurogene urinary bladder. (Kajivara M, et.al, 2006)

Psychiatric examination of the child differs depending on age, using the criteria and rating scale, specific age groups. Within the psychological exam enter the interview with parents, with the child and with the child's teachers.

An important chapter refers to non-invasive exploration: EEG, polisomnography neurophysiological, computer tomography, nuclear magnetic resonance.

4. IMAGING EXPLORATIONS OF KIDNEY

This chapter presents a number of useful investigations in diagnosis and determining the etiology of enuresis in particular and was not intentionally a description in detail of all methods. Discussing about pelvic radiography, ultrasound, kidney urography.

SPECIAL PART (PERSONAL CONTRIBUTIONS)

5. AIMS AND OBJECTIVES

The present research aims to determine the incidence of enuresis to children from Dolj and the consequences of this illness in the lives of patients in age between 5-12 years. This study will aim, in the end, increase the quality of life, the harmonious development of the enuretic child's physically form and mental.

6. MATERIAL AND METHODS

THE STUDIED GROUP

I got in a lot of the initial study 3090 children, from kindergardens and schools from Craiova and children who were presented at hospital Neuropsychiatry Craiova and the local Hospital of Segarcea, from which the following clinical and paraclinical examinations carried out over a period of 5 years (2008-2012) have been diagnosed with a type of enuresis (primary or secondary) in a number of 217 patients (7,02%).

THE DISTRIBUTION OF PATIENTS BY AGE GROUP

From children with enuresis studied, the most numerous, were a number of 174 (80,18%) children aged 5-7 years. The age category between 8-10 years have been registered 36 (16,59%), and 7 children (3,23%) were aged 11-13 years. Minimum age of patients examined was 5 years, while the maximum age was 13 years.

I agreed division of the patients studied in three groups of age:

- from 5-7 years – the first group, the primary is the bedwetting augmented;
- from 8 to 10 years – the second group, in which the primary enuresis as frequency decreases;
- from 11-13 years – the third group, where the bedwetting is sporadically, usually a secondary enuresis.

The average age of the studied lot was 6,27 years without significant differences for the sexes.
From children with enuresis (217 patients), the majority, 152 were boys (70.05%) and 65 (29.95%) were girls.

Children examined in total are represented by children with enuresis (217 children) and the batch of children without enuresis (2873 children) that together make up the great group initial 3090 examined children. So you may find that the batch of children with enuresis there is a shootout between the two sexes, the number of boys (70.05%) are predominant, compared with girls (29.95%), while in the batch of children without enuresis the distribution by sex is approximately equal (52.80% girls and 47.13% boys).

**THE DISTRIBUTION OF PATIENTS ACCORDING TO THE ORIGIN**

Of the 217 patients studied, 53 children (24.42%) come from the urban environment and 164 (75.58%) are from rural areas. A predominance of enureti children from rural areas, probably due to a socio-economic level low and a personal hygiene deficient.

**THE DISTRIBUTION OF PATIENTS DEPENDING ON THE TYPE OF ENURESIS**

From children with enuresis review (217 patients), the majority (171 patients = 78.8%) were primary enuresis and only 46 (21.2%) have submitted secondary enuresis.

Have been identified with secondary enuresis a number of 46 children. Illnesses encountered were the following: 31.8% spasmophily; chronic adenoidity 27.19%; Spina bifida 18.89%; urinary infections 14.29%; 98% neurosis; hyperglycemia 6.91%; psychosis 6.91%; epilepsy 5.07%; behavioral disorders 4.61%; attention disorder with hyperactivity (ADHD) 4.61%; nephrotic syndrome 3.69%

You can find in the group studied, a predominance of nocturnal primary enuresis characteristic of children with ages below 5 years compared with children bedwetting diurnal (diurnal mictional emergencies) or mixed, corresponding to secondary enuresis, met in children older than 7 years.

I noted that primary bedwetting prevails (78% of the group studied) compared with bedwetting secondary present to 22% of the examined; also prevalent as boys and the environment, the countryside.

**THE DISTRIBUTION OF PATIENTS ACCORDING TO THE SEVERITY OF THE ENURESIS**

Bedwetting can be classified depending on the gravity, means how often the child wet the bed linen in:

1st degree – enuresis episodic (baby wet underwear on the occasion of some infections or family stress periods); It was reported in 15 patients (6.91%),

grade II-flashing (the period between mițuni less than 6 months); 26 children (11.98%),

grade III-rare with nocturnal mițuni in 1 or 2 a week; to 58 patients (26.73). 

grade IV – continuous with enuresis, involuntary nocturnal pee every night; (118 patients, 54.38%)

It is found that as age increases, gravity enuresis decreases significantly. The frequency of serious cases decreases as age increases.

Prematuritatea is considered one of etiopathogenic factors of enuresis. From the total of 217 children with enuresis, only a number of 81 children (37.33%) presented at birth prematurity.
METHODS OF STUDY

Medical history included: heredocolaterale history, personal history, personal history physiological pathological, disease history.

- Objective exam
- neurological and psychiatric exam
- psychological evaluation involves determining the coefficient of intelligence, personality tests for assessing child
- psychologist used Samples: test of drowing a tree; the drawing of the family; Sample design of a man
- Electroencephalography
- lombosacrat X-ray
- abdominal Ultrasound
- Laboratory Examinations: summary of urine, urea, electrolytes in blood, blood sugar, calcium blood level, blood count.

7 RESULTS

ORL exam related results
To a significant number, 27% of children with enuresis from the group, I detected the presence of chronic adenoidity

Results related to neurological examination at group studied
I found that the neurological exam performed in children with enuresis was within the normal range at 77,88% of the consignment examined

Results regarding psychiatric exam in batch of children with enuresis
Of the total of 217 children with enuresis, 132 (60,83%) were considered within the normal range and 85 children (39,17%) have submitted psychiatric manifestations.

Results relating to the determination of the type of personality in children enuretici
Regarding the determination of the type of personality in enuretic children we noted a passive personality prevalent in interiorisated children, coming from families with low socioeconomic level.

Results regarding the psychic development of the children with enuresis
The psychic development of the children with enuresis research, I noted the mental delay just to 25 children (11,52%) of the group studied.

Results serum calcium values related to the consignment examined
I found that more than a quarter of children with enuresis (31.80%) have blood level of calcium under normal, being diagnosed clinical and EEG with slight spasmoilie.

Results relating to summary examinations of urine from the batch of patients
I have found pathological changes of summary of urine at less than a quarter of the children enuretici (15,67%) These kids have developed a secondary enuresis in which the largest percentage is represented by chronic urinary infections
Electroencephalographic exam results relating to the batch of children with enuresis

58.99% of children examined had EEG in the normal range. The 78 children (35.94%) of the group studied I noted on EEG a irritative routes, and 11 children (5.07%) aspects of comitiality. Irritative on EEG paths have been found especially in children with spasmoilie. Those with epilepsy have shown characteristic downloads on EEG during emission of urine in the night.

Results concerning the radiologic examination to the studied
If the batch of children taken into study for enuresis up to 18.89% (41 patients) was identified for spina bifida occulta.

Results relating to treatment and its outcome to the studied
Nefarmacologic treatment (diet, micițională education, motivational therapy, psychotherapy) was used at 75.58% of patients, to speed up the maturation of the mechanisms involved in the process, the remaining 24.42% benefiting only specific treatment as in the case of enuresis associated with epilepsy, or if nefarmacologic treatment was not enough. Treatment of urinary infections was made with antibiotics according to the results of antibiogram.

In the nemedicamentoase therapy, children have benefited from the conditioning therapy, psychotherapy, reflex motivational therapy, re-education vesical therapy. All had respected diet restricted fluid intake after 18.

The largest percentage of healing is at early ages and in the first 2-3 years of treatment.

The age group of 5-7 years, with an increased proportion of children with primary enuresis, healing in the first year of treatment is the most, after which it decreases. The age group of 8-13 years, where the percentage of children with secondary enuresis is greater, healing is delayed and incomplete.

8. CORRELATIONS
By performing test Chi square, we found a significant statistical correlation between:
• enuresis gravity and anomalies found at neurological examination
• between gravity enuresis and EEG changes
• Between gravity enuresis and the presence of psychic changes
• Between gravity enuresis and the presence of psychological factors of family stress and
Calculating the OR parameter ("odds ratio" is the ratio of chances), I found the chance to get a response to treatment in less than 3 years is 13.34 times greater for patients under 8 years than for those over 8 years. Because the confidence interval for this parameter may be 31 up to 33.47, retrieves the value 1, which would show a lack of statistical meanings, we can say that the result obtained is valid in terms of statistical significance.

9. DISCUSSIONS
Discussions relating to the children studied
In the present study, the batch of children with enuresis represented 7.02% of total batch of 3090 monitored children aged 5-13 years. This percentage is similar to that of literature(Popoviciu, Hâulică, 1982; Kajivara M et al.2006).
I also found that male sex was prevailed to the studied (70.05%), similar to what is quoted in the literature (Lazar D, 1999) as they prevailed and the age group 5-7 years as well as rural areas.

In the present research, 78.8% were with primary enuresis and rest with secondary enuresis. In literature, (Popoviciu, Hăulică, 1982; Meilă P Maher St., 1988), primary enuresis was noted in 75-80% of cases.

**Discussions relating to psychiatric and neurological exam EEG at the studied**

Irritative EEG routes met at a number of 37 children (17.05%), corresponding to the enurezisului type IV with enuretice daily episodes. As the seriousness of the enuresis decreases, the frequency of the irritative trails on the EEG decreases.

**Discussions relating to treatment**

In the present study, nonfarmacological treatment was used for 75% of enuretic children. After Butler R, et. al (2005), a study carried out in Bristol on a number of 8151 children, results were obtained in 12% of cases by using nonfarmacological methods and 13.1% of the cases through the use of pharmacologic treatments alone. After S. M and M. Nănulescu (2006), spontaneous healing percentage is 15% per year.

**10. CONCLUSIONS**

1. The present study was made for a period of 5 years (2008-2012) a consignment of 217 children with enuresis aged between 5 and 13 years old, in Dolj. The Group was selected from a number of 3090 children in kindergardens and schools in Craiova and Segarcea and children why were presented for a review to the Infantile Neuropsychiatry Craiova Hospital. From children with enuresis, majority (70.05%) were boys, predominantly in the age group of 5-7 years (80.18%) and country (75.58%).

2. In the group studied, 78.8% were with primary enuresis, the rest being children with secondary enuresis (spasmoflie 31.8%, chronic adenoidity 27.19%, spina bifida 18.89%, urinary infections 14.29%, nephrosis 11.98%, hyperglycemia 6.91% psychosis 6.91%, epilepsy 5.07% behavior disorders 4.61%, attention disorder with hyperactivity (ADHD) 4.61%, nephrotic syndrome 3.69%), the most numerous (54.38%) with enuresis of grade IV, the predominant male sex and a vast group of 5-7 years.

3. From the total 217 children with enuresis, 81 children (37.33%) presented at birth prematurity.

4. The group of children has been reviewed completely, clinical, insisting on neurological and psychic examination which consisted in conducting psychological tests for assessment of intelligence and personality of the child. Were made ORL examinations, EEG, lombosacrat radiography as well as renal ultrasound scans for anatomical anomalies interceptions. The detection of cases of secondary enuresis involved and carrying out laboratory investigations (blood count, blood glucose, rate of blood calcium, urea, creatinine, summary of urine).

5. At 59 children (27.19%) from studied, we found the presence of chronic adenoidity which would explain uncontrolled pee during sleep, due to apnea and cerebral hypoxia.

6. Neurological examination was within the normal range at 77.88% of the group studied. In percentage of 6.91% I found bone-tendon hiperreflectivity, pyramidal signs of impairment in 9.22% of cases, nystagmus in 3.69% of cases, cerebellar syndromes to 2.3% of the children of the group.
7. The results of the psychiatric examination at the children studied showed that 132 children (60.83\%), were located within the normal range and 85 children (39.17\%) have had psychic manifestations (neurosis 11.98\%, mental delay 11.06\%, psychosis 6.91\%, behavioral disorders 4.61\%, ADHD in 4.61\% of cases). These psychiatric changes were related high statistically significant with gravity of enuresis.

8. I noted that to 117 kids with enuresis (53.92\%), one-parent families or broken parents alcoholics, family disastrous economic situation, mothers deficient psycho-affective. These stressors have family correlated statistically significant and with the gravity of enurezisului (type IV), this type is characteristic of children with ages, most affected by the emotional shortcomings. I have found no correlation between index of intelligence and severity of enuresis.

9. In terms of the type of personality, mostly of the group studied with enuresis (67.28\%) have had a passive personality being interiorizaţi, coming from a family with low socioeconomic level.

10. The psychiatric examination showed the mental retardation only to 25 children (11.52\%).

11. Electroencephalographic exams showed: to 35.94\% of the group studied a route irritativ, statistically significant with the presence of enurezisului type IV, and in 5.07\% epilepsy layout. Irritative on EEG paths have been found especially in children with spasmodie confirmed clinically and biologically and through values of serum calcium below normal.

12. At 41 patients (18.89\%) was identified for spina bifida occulta through radiological examination.

13. Ultrasound examination identified to children with secondary enuresis changes at 19.57\% being represented by small, atrofici kidney, hydronephrosis, duble ureterus, kidneys with microstones, unique congenital kidneys.

14. Treatment performed at the batch of children was without drugs at 75.58\% and pharmacologically to 24.42\% of the cases. The largest percentage of healing was at early ages, in the first 2-3 years of treatment and in particular through therapy without drugs and at category 5-7 years.

15. The final conclusion: In the present work we achieved a complex clinical and parclinical study of a group children with enuresis from Dolj, using neurophysiological methods and specialized psychiatric, electroencephalography, laboratory exams, ultrasound, renal study little mentioned in the literature.

- The originality of my present work were the study of prevalence and peculiarities of enuresis in Dolj, highlighting the increased frequency of the disease in rural areas, where socioeconomic conditions are very low, with children neglect affective and healthcare, at low treatment leading in some cases to the late and incomplete healing.

- Stressed the importance of the treatment with no drugs successful in healing the children, especially in the age group of 5-7 years, compared with pharmacological therapy. A prophylaxis of enuresis in children, in particular by increasing the standard of living and health education particularly suitable in the countryside.
11. REFERENCES

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