



## **STRUCTURE AND CLINICO-LABORATORY CHARACTERISTICS OF THYROMEGALIES IN CHILDHOOD**

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Thyroid gland diseases are the most common endocrine disturbances in childhood. Our aim was to summarize the clinical material concerning thyroid gland pathology for a 5-year period in the Department of Pediatrics and to determine the structure, clinical characteristics and some paraclinical parameters in children with thyromegaly.

In 1986-1991, a total of 182 children with thyroid gland pathology have been investigated in the Department of Pediatrics, Medical University of Varna. Of them, 137 children have been consulted and ambulatorily examined but 45 ones have been hospitalized in the Fourth Pediatric Clinic. We have determined thyroid hormonal levels, TSH, bone age, FNAB, and other parameters. Echography of the thyroid gland as well as other necessary investigations have been also performed.

We established more significant thyroid abnormalities in 145 patients requiring hormonal diagnosis and additional examinations. There was a congenital hypothyroidism diagnosed at newborn age and in early infancy in 9 cases. Medical aid was looked occasionally for because of thyroid gland enlargement in 135 children. This group was analyzed in the present paper.

Age-sex structure of thyromegaly patients indicates a dominance of girls (in 86,7 % of the cases) over the boys. Age dynamics demonstrates in both genders a sharp elevation of patients' number at puberty (between 12 and 13 years of age) some earlier in girls than in boys. Strumas of 2<sup>nd</sup> degree prevail (in 115 cases, or 85,18 %) (i. e. a visible struma at normal neck position) followed by these of 3<sup>rd</sup> degree (in 12 cases or 8,89 %), and these of 1<sup>st</sup> degree (in 8 or 5,93 %). This distribution can be explained by the clinical character of our contingent and indicates that thyroid gland hyperplasia does not reach up large size in childhood. Struma distribution according to nosological units proves convincingly that cases with diffuse juvenile struma prevail (in 74,81% of the cases) followed by Hashimoto's autoimmune lymphocytic thyroiditis (in 9,63 % of the cases). Basedow's disease, nodular strumas and other thyroidites occupy a considerable lower part in the structure of thyromegalies in childhood. We considered an juvenile struma in 101 cases presented with: dif-

fuse struma of 1<sup>st</sup> and 2<sup>nd</sup> degree with soft-elastic consistence, echographically homogenous and without any data of hypothyroidism. There is a slight hyperthyroid symptomatics (e.g. neurosis, sweating, rapid growth in height, slight tachycardia) in some girls. These symptoms are typical mainly of children at puberty. Hormonally, there are seldom functional abnormalities. Mean T<sub>3</sub> level is 2,00 nmol/l, mean T<sub>4</sub> one is 113,98 nmol/l, and mean TSH one is 1,93 UI/l. Nodular strumas occur seldom in childhood. According to our material, they account for 8,15% of the cases. Their diagnosis requires a careful examination. We used Reiter's et al. (1981) schedule in our screening: any child with nodus undergoes echographic examination followed by scintigraphy and FNAB. There are clinical and paraclinical data about lymphocytic thyroiditis in 13 children (9,63% of the cases) with strumas presented by: solid struma involving interlobar space, sometimes with granular surface, clinical and biochemical signs of hypothyroidism, echographically hypoechogetic and non-homogenous struma. FNAB confirmed the diagnosis in any suspected cases. Diagnosis is made in the early hyperthyroid stage and proved by classical lymphocytic infiltration revealed with FNAB in 2 children. Thyroid gland enlargement of 2<sup>nd</sup> and 3<sup>rd</sup> degree prevails. Struma is diffuse and most commonly solid (in 61,53 %). However, it is soft in 38,47 % of the cases which are with short duration of the disease. Glandular surface is smooth in 46,2 % but rough and granular in 53,8 % of the cases. Most children (61,54 %) are euthyroid. Clinical and paraclinical data of an acquired slightly expressed hypothyroidism are found in 2 cases (15,38 %). Three children (23,08 %) are euthyroid with normal basal T<sub>3</sub> and T<sub>4</sub> levels although TSH values are elevated over 5 UI/l, i.e. there is a "biochemical hypothyroidism". Lack of manifested severe hypothyroidism even after a long-lasting evolution is considered a significant peculiarity of Hashimoto's thyroiditis development in children. Basedow's disease is relatively rare - only in 6 children (in 4,44 % of the cases). Neurosis, sweating, weight loss, easy fatigueness, struma, tachycardia, warm and damp skin occur in all children while other symptoms are less frequent. Mean T<sub>3</sub> level is 3,88 nmol/l; mean T<sub>4</sub> one - 258,3 nmol/l, and mean TSH one - 0,36 UI/l. We do not observe thyrotoxic crises at all.

We conclude that thyroid diseases affect predominantly girls at puberty. They are presented mainly by euthyroid juvenile strumas and by Hashimoto's autoimmune thyroiditis.