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DIAGNOSTIC THYROID DISORDERS IN CHILDREN AND ADOLESCENTS

Abstract: The assessment of thyroid function is the most frequently applied endocrine investigation in children and adolescents. Thyroid function tests are usually performed in order to exclude hypothyroidism as a possible cause of growth disorders, obesity, mental retardation or muscular hypotonia. Disturbances in thyroid function – hypothyroidism or hyperthyroidism – can be diagnosed in the majority of patients by measuring basal concentrations of the serum thyrotropin and thyroxine. Interpretation of results of thyroid function tests is based on a thorough knowledge of thyroid physiology from fetal to adulthood and age-specific reference data.

Diagnosis of congenital primary hypothyroidism in Western societies and our country is based on neonatal screening programs. The detection rate depends on the quality control of the screening program and a missed diagnosis is usually not due to laboratory pitfalls but to logistical problems in the pre- or post-analytical period.

The method of choice for the evaluation of thyroid growth is the investigation of thyroid gland by ultrasound. Thyroid volumes are dependent on age, sex, height and weight and most importantly on the iodine intake of a given population. The most frequently performed methods for the assessment of the cause of a thyroid disorders are thyroid autoantibodies, thyroglobulin, calcitonin, iodine measurement in urine, radioisotope studies and from recent times, molecular genetic testing.

Key words: thyroid disorders, diagnosis, children, adolescents

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