

COMPARATIVE FEATURES OF ULTRASOUND ANATOMY OF THE THYROID GLAND AND ANTHROPOMETRIC PARAMETERS IN CHILDREN 7 YEARS OF AGE

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Relevance.

Thyroid disorders in infants, children, and adolescents are common and usually treatable endocrine disorders. Thyroid hormones are essential for the normal development and growth of many target tissues, including the brain and skeleton [1]. Iodine is one of the most important microelements for human life, involved in the functioning of the thyroid gland, providing the formation of hormones (thyroxine and triiodothyronine). Insufficient intake of iodine in the body leads to disruption of thyroxine synthesis. This causes a compensatory diffuse enlargement of the thyroid gland as a result of its hyperfunction, and the so-called goiter develops with hypothyroidism, accompanied by a slowdown in metabolism, growth retardation and mental development of children [2]. Thyroid hormones are essential for the normal development and growth of many target tissues, including the brain and skeleton [3].

Purpose:

To carry out a comparative characteristic of the size of the thyroid gland and the parameters of physical development of children of 7 years of age.

Material and methods.

- 30 schoolchildren at the age of 7 were examined. Each age group consisted of 15 boys and 15 girls.
- To assess the size of the thyroid gland, its ultrasound examination was performed using an ultrasound scanner in the SONOACE R3 apparatus-RUS linear (7.5 MHz) and convex (3.5 MHz) sensors.
- The anthropometric study included measurements of body length, body weight, and chest circumference.

Results and discussion.

As a result of the research, it turned out that the width of the thyroid gland in girls of 7 years of age varied from 9.1 mm to 12.4 mm, on average 11.5 ± 0.25 mm, and in boys of the same age from 9.2 mm to 12.1 mm, on average 10.8 ± 0.22 mm.

The thickness of the thyroid gland in 7-year-old girls ranges from 10.6 to 14.2 mm, averaging 13.6 ± 0.27 mm, and in boys from 10.5 to 15.0, on average it is 14.2 ± 0.35 mm. The length of the thyroid gland in girls ranged from 36.1 mm to 72.2 mm, on average 57.9 ± 2.77 mm, in boys of the same age from 40.0 mm to 76.0 mm, on average 62.3 ± 2.77 mm.

The volume of the thyroid gland in 7-year-old girls varied from 2.8 cm³ to 4.8 cm³, averaging 4.3 ± 0.15 cm³, in 7-year-old boys it ranged from 2.5 cm³ to 5.1 cm³, averaging 4.6 ± 0.20 cm³.

As a result of the research, it was found that the height of 7 year old male children is in the range from 133.9 cm to 139.9 cm, averaging 130.3 ± 0.46 cm. The body weight ranged from 23.6 kg to 34.7 kg, on average was equal to 25.9 ± 0.85 kg. The chest circumference ranged from 66.5 to 69.2 cm, on average - 68.9 ± 0.20 cm. Also, the height of 7 year old girls varied from 133.9 cm to 141.0 cm, on average 136.6 ± 0.55 cm, body weight ranged from 29.6 kg to 32.9 kg, on average was 28.1 ± 0.25 kg, chest circumference on average - 65.2 ± 0.15 cm (from 64.4 cm to 66.3 cm).

Conclusions:

The data obtained were grouped according to different criteria: gender, age, height, body weight. It turned out that the volume of the thyroid gland is equally closely correlated with both height and body weight. It was also found that the nature of the dependence of the volume of the thyroid gland on the height or body weight is completely unaffected by the patient's gender. However, to establish the diagnosis of hypo- or hyperplasia of the thyroid gland only on the basis of the fact that the volume of the organ goes beyond the boundaries of the tabular norms, one should be very careful. For a reasonable diagnosis, it is necessary to take into account the entire complex of clinical and laboratory information.

Literature

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