Comparative Characteristics Of Ultrasound Anatomy Of The Thyroid Gland And Physical Development Of Children In The Second Period Of Childhood

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ABSTRACT

At present, an important and long-term task of medicine is to shift the focus from the study of diseases to the promotion of its health, thus the need for detailed information on the baseline health status of the population.

Keywords: thyroid gland, hormones, children, anatomy

Introduction. The study of the normal structure of the human body is impossible without taking into account its age and constitutional features. Numerous works have proved the relationship between the features of physique and reactivity of the organism, metabolism, dynamics of ontogenesis, endocrine indices, individual-psychological qualities of personality, which indicates that somatotype can act as a basis for constitutional diagnostics.

The role of the thyroid gland (thyroid) for the organism is great. Thyroid hormones influence lipolysis, participate in the regulation of morphogenesis, metabolism on mental functions. Along with sex hormones, thyroid hormones affect skeletal differentiation, linear growth. Thyroid pathology occupies one of the leading places in the structure of endocrine pathology both among adults and children. A number of studies over the last decade confirm that the most common thyroid pathology is diffuse euthyroid goitre, which in many regions of Russia exceeds 5% of the population and is combined in most cases with iodine deficiency. Women and pubertal girls are more often affected by this pathology. On average, 17% of women have thyroid disease before pregnancy, which often leads to menstrual dysfunction and reduced fertility. At the initial stage, the disease is characterised only by an increase in the size of the organ. Therefore, knowledge of variants of the norm of thyroid gland size for different age groups allows to distinguish between norm and pathology, which is especially important in adolescence and during the formation of reproductive function.

It is known that with a typical structure of the thyroid gland (thyroid gland) its volume within one age group varies. The most objective method for assessing the size of the thyroid gland is the method of ultrasound morphometry, which allows to specifically study the features of the structure of the gland,

to estimate its volume, integrally reflecting the size of the gland as a whole. The volume of the thyroid gland in turn, in conjunction with clinical and anamnestic data, indirectly, allows us to judge the functional state of the organ.

There are a number of works indicating the relationship between the size of the thyroid gland and the parameters of physical development. At the same time, it is now generally accepted to assess the thyroid volume in adults (over 18 years of age), taking into account the age criterion and sex. For women, the normal thyroid volume is considered to be within 18 ml. For the age group of 16-18 years there are no generally accepted norms at present.

Despite the close interest to the problem of studying the ultrasound morphology of the thyroid gland depending on the type of constitution, there is insufficient data in the literature devoted to the study of anatomical features of the thyroid gland depending on the type of constitution in a population of women without pathology of the organ.

Taking into account the insufficient study of ultrasound morphology of the thyroid gland in women depending on the type of constitution, the aim of the present study was set.

Aim of the study: Investigation of correlation of morphometric characteristics and anthropometric parameters of ultrasound anatomy of the thyroid gland in children.

Materials and methods of research: Healthy boys and girls from infancy to 12 years old, permanently residing in Samarkand were selected for scientific research: children of maternity department of Samarkand district medical association, pupils of private pre-school educational institution, children in schools No. 1 and 51 of Samarkand .A number of high school students were organised. Ultrasound diagnosis, anthropometric indicators and statistical indicators.

RESULTS: The highest growth rate of morphometric indices of thyroid gland morphometrics in children at ultrasound examination corresponded to different periods of childhood depending on nutritional and sexual characteristics. In boys, gland lobe width during lactation (60.0%), right lobe length during the 1st period of childhood (47.1%), left lobe length during childhood (48.0%) show the highest growth rates, while in girls, left lobe thickness (100.0%), gland length (62.5%) and gland width (75.0%) increased according to menstruation. That is, taking into account the age and sex characteristics of children, there is a strong correlation between these indicators, which can be explained by the anatomical variability of the gland: g-0.9 between thyroid gland size and body weight. gana, height and length of upper and lower limbs; between thyroid gland volume and breast circumference measurements g is 0.8, and between thyroid gland volume and head circumference measurements g is 0.7.

Conclusions: The dynamics of physical development indicators of children of all age groups differed by age, the greatest difference was found between boys 2, 3 and 5 years ($r<0.001$) and girls 2,3,7, 12 years. ($p<0,001$). The greatest increase in breast size was observed in boys and girls during breastfeeding (31.6%-41.9%).In both sexes in the second period of childhood, the upper musculature increased 2.9 times and the lower musculature 3.4 times compared to puberty.

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