

Міністерство охорони здоров'я України

**ДВНЗ «Тернопільський державний медичний університет
імені І.Я. Горбачевського МОЗ України»**

МАТЕРІАЛИ

VIII науково-практичної конференції «Актуальні питання патології за умов дії надзвичайних факторів на організм»

01 жовтня – 02 жовтня 2015 року

Тернопіль2015

Shklyar A.S.

RATE DISHARMONY OF HUMAN BODY COMPOSITION IN GENDER GROUPS OF LATE CHILDHOOD PERIOD

Kharkiv National Medical University

The research was aimed at comparative study of indices of human body build and composition in the ontogenetic period of late childhood.

Materials and Methods. The research has been carried out according to the comprehensive program of obtaining, accumulation and analysis of the results, using the common conventional and novel approaches. Findings of the direct anthropometry, data of dynamometry and ultrasound bone densitometry of representative number of individuals, stratified according to characteristic of the ontogenetic period, age and gender served as the study material.

Gender differences related to the rate of ontogenetically disharmonic BMBC are not found, though the rate of male individuals was somewhat higher the relevant index among female individuals $14,6\pm 2,3\%$ and $9,2\pm 2,3\%$, respectively; $p>0,05$). The rate of ontogenetically disharmonic BMFC in gender groups varied within $8,4\pm 1,8\%$ to $14,4\pm 2,7\%$, constituting on the average of $11,0\pm 1,6\%$ of all examined people, indicating about reliably higher rate of disharmony by this body mass component among girls ($p<0,05$).

The concept of ontogenetic transitivity of osteopenic impairments in the process of growth and development in childhood assumed the physiological nature of reduction of bone mass in girls with its minimum at 11 years old, and, simultaneously, reduction of the rate of disharmonic variants of body mass by its bone component. Analysis of the factors of spatial-trabecular organization in girls, according to densitometry, showed that the BT density and bone mass is determined primarily by the membranous component of the bone, and the accumulation of bone mass in girls is a derivative of the process of accumulation of minerals mainly in membrane area of tubular bones. At the same time, reduction of the somatometric gradient of density at the age of 11 indicates in favor of relative reduction of mineralization of proper bone tissue.

The rate of ontogenetically disharmonic BMBC is reliably ($p<0,001$) higher among male individuals. In the late childhood period the rate of ontogenetically disharmonic BMBC in female individuals accounted for $8,0\pm 2,1\%$, whereas it was reliably and significantly higher (2 times) among male ($17,3\pm 2,5\%$).

Conclusions. On the basis of direct anthropometry the regularities of formation of body mass composition in the period of late childhood have been established, which become apparent by different rate of disharmonic types, especially in comparative aspect of gender groups' ontogenesis.

The findings of generalized development of aggregated anthropometric data define the areas of development of traditional methodology of anthropometry, valid advanced techniques, in particular; provides with estimation of ontogenetically disharmonic body build due to body mass components with specification of its bone component.

The assessment of ontogenetic disharmony of body mass bone, muscle and fat components, related to some morphofunctional indices has revealed correlation relationships.

The findings can explain the age differences related to the rate of initiation of functional disorders, prenosological, as well as nosologically defined pathological conditions as manifestation of general process of growth and development in postnatal ontogenesis, defining the research guidelines in the field of clinical and human topographic anatomy.