Established that in children with overweight and obesity there were external eating behavior changes and emotional eating behavior changes. This problem needs psychological correction with children and their families.
Key words: *children, obesity, overweight, eating behavior.*

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SONOGRAPHIC PARAMETERS CORRELATION OF SPLEEN WITH ANTHROPO-SOMATOTYPOLOGICAL BODY INDICATORS OF PRACTICALLY HEALTHY WOMEN FROM PODILLYA OF FIRST MATURE AGE

Summary. *The article presents the results of a study of correlations sonographic parameters of spleen with anthropo-somatometric indexes of 154 practically healthy women in age from 22 to 35 years from Podillya. Installed multiple statistically significant, mainly weak direct links between sonographic and spleen size and derived from these parameters, and overall, longitudinal (except height finger points), covering size, diameter of the body (mostly anteroposterior chest size, width of shoulders, inter-ridge and between-swivel distances of pelvis), muscle, fat and bone components of body weight and mainly weak feedback with ectomorphic component somatotype by Heath-Carter. Only for splenic index set multiple statistically significant, mainly weak reverse, connections between the lateral dimensions of the head, face and half of spanning size of the body.*
Key words: *correlation, sonography of spleen, anthropo-somatotypological performance, healthy women.*

Introduction

Spleen - an organ which is involved in blood formation and blood supply of the body. A large number of anatomical and topographical features and many functions conjugation in a relatively small amount of organ explain the change in response to a wide range of factors: infectious, immune, hemodynamic, and so on. But they all lead to changes in the size of spleen and its density. It's a reflection of disease pathologies that are in other organs. Therefore, changed ultrasound morphometric parameters of spleen normally allow specifying not only its disease but also the pathology of other organs and systems [3, 5].

The most optimal and correct position of the anthropological approach is to identify the correlation relationships between the size of the spleen and anthropometric data individually of an investigated. It is necessary to study their characteristics, size and direction, as well as to evaluate its accuracy [8, 11]. Establishing correlations, in their turn, is the basis for conducting regression analysis, allowing you to imagine a relationship between observable variables in the equation, ie analytical form, identify trends changing characteristics, trends and predict the value of biomedical parameters [9].

Purpose - to establish features of links between the sonographic parameters of spleen and anthropo-somatic indices of practically healthy women from Podillya of first mature age.

Materials and methods

On the basis of Research center of National Pirogov Memorial Medical University, Vinnytsya within the general university scientific subjects studied sonographic parameters of the spleen in 154 healthy women of Podillya age from 22 to 35 years using ultrasonic diagnostic system CAPASEE model SSA-220A (Toshiba, Japan), convex probe PVG-366M 3,75 MHz and diagnostic ultrasound system Voluson 730 Pro (Austria), 3,5 MHz convex transducer. The examination and ultrasound biometry of the spleen performed by the conventional method of left inter-costal access in the frontal plane along the longitudinal axis of the spleen or oblique in two mutually perpendicular planes of scanning [6]. We determined the length, width, height, spleen, an area of its longitudinal and cross-sectional tissue density acoustic indicator spleen, splenic vein diameter. According to the formula A.I. Derhachev [5] calculated spleen volume (volume = 0.52 x length x width x height) and splenic index (splenic index = length x width).

Anthropometric survey performed by V.V. Bunak [4]; somatotype evaluation was carried out by a mathematical scheme J. Carter and B. Heath [12]; the absolute amount of fat, bone and muscle components of body weight was calculated by the formula J. Matiegka [15] and muscular components in addition - using formulas of the American Institute of Nutrition (AIH) [14].

Assessment of correlation sonographic parameters of spleen with anthropo-somatometric performance in practically healthy women from Podillya implemented using a licensing package "STATISTICA 6.1", using statistical parametric Pearson.

Results. Discussion

Analysis of sonographic parameters significant correlations of spleen with indicators structure and size of the body in practically healthy women of Podillya first mature age showed the following distribution ties with *spleen parameters* - 263 reliable connections of possible from 531 (49.5%), of which 46 - 8 7% of direct medium strength; 200 - 37.7% weak direct effect; 3 - 0.6% of the average reverse effect; 14 - 2.6% reverse weak force.

Quantitative analysis of sonographic parameters significant correlations of spleen with indicators structure and size of the body revealed the following distribution relationships with *indicators of structure and body size: cephalometric rates* (14 - 22.2% of cephalometric indicators; of which 1.6% reliable direct medium strength; 12.7% reliable direct weak force; 3.2% reliable reverse medium strength; 4.8% reliable reverse weak force); *pervasive body size* (19 - 70.4% of the total number of total size; of them 40.7% reliable direct medium strength; 29.6% reliable direct weak force); *longitudinal body size* (20 - 44.4% of the total longitudinal dimensions; all significant direct weak force); WDE (12 - 33.3% of WDE indicators; of which, 2.8% reliable direct medium strength; 30.6% reliable direct weak force); *body diameters* (31 - 43.1% of the total number of indicators diameters of the body; of which, 2.8% reliable direct medium strength; 40.3% reliable direct weak force); *encompassing body size* (97 - 71.9% of all encompassing dimensions; of them 10.4% reliable direct medium strength; 57.8% reliable direct weak force; 3.7% reliable reverse weak force); *TSFF* (31 - 38.3% of TSFF indicators; of which, 9.9% reliable direct medium strength; 28.4% reliable direct weak force); *somatotype components by Heath-Carter* (11 - 30.6% of the total number of indicators somatotype components; of which, 2.8% reliable direct medium strength; 13.9% reliable direct weak force; 13.9% reliable reverse weak force); *performance component composition of body weight* (28 - 77.8% of the performance component composition weight; of them 22.2% reliable direct medium strength; 50.0% reliable direct weak force; 2.8% reliable reverse medium strength; 2.8% reliable reverse weak force).

Analysis of sonographic parameters reliable correlations with indicators spleen structure and size of the body healthy women found following *multiple connections*, reliable direct mainly weak (r = from 0,16 to 0,29) and medium strength (r = from 0,30 to 0,39) connections majority of sonographic parameters of spleen (except acoustic density of the spleen in longitudinal section and splenic vein diameter) with *the majority of total, longitudinal* (except height and cross-sectional area of the spleen) and *embrace body size*, more than *half of the indicators WDE* (except for thickness, height and cross-sectional area of the spleen), almost *half the diameter of the body*, more than *half of the indicators TSFF* (except for thickness and splenic index), almost all *indicators component composition of body weight, endomorphic somatotype component* (except for thickness and splenic index) and *head circumference* (except height of the spleen) and significant inverse weak force (r = from -0,16 to -0,19) connections of these spleen parameters (except thickness and height) with *ectomorphic somatotype component*; significant inverse mostly weak (r = from -0,18 to -0,29) and medium strength (r = from -0,31 to -0,56) connections acoustic density of the spleen in longitudinal section with *1/3 embrace body size, cephalometric performance and muscle component body weight by methods Matejko and AIH*, and reliable direct mainly medium (r = from 0,31 to 0,50) and the weak force (r = from 0,21 to 0,27) this parameter of the spleen connections with almost all indicators of TSFF, *endomorphic component somatotype and fat body mass component method Matejko*.

For spleen, typical early laying in the embryonic period, and at the time of birth it reaches high morphological maturity. Its relative weight and size in children, adolescents, approximately the same as in the years of youth and adulthood [17]. This explains the similarity of qualitative and quantitative characteristics of correlation parameters of the spleen with anthropometric parameters defined by domestic and foreign researchers in different age groups studied [2, 7, 10, 16].

It is logical to assume that there are gender differences correlations spleen ultrasound indices with anthropometric indicators. However, in the age aspect in common groups of men and women they are not essential as in direction and parameters in groups [1, 2].

In a small number of works installed linear correlation the size of the spleen with anthropometric indicators of body, composition component of body weight and physique primary components that are understandable way different in people with different somatotypes [2, 7, 10, 16]. This is part of the general problem of establishing correlations between the characteristics of morphofunctional organization man of reactivity and resistance to stress factors or learning about "normal reaction" of the body [11]. That is, it is possible to use the constitutional typology correlations as diagnostic and prognostic characteristics, which is the subject of our future research.

Conclusions and prospects for further development

1. In practically healthy women of Podillya installed multiple statistically significant, preferably straight weak (r from 0,17 to 0,29), the relationship between sonographic spleen size and derived from these parameters (except splenic index) and total, longitudinal (except height finger points), embrace dimensions (including head circumference), body diameters (mostly anteroposterior size of the chest, shoulder width, between the ridge and between swivel distances of pelvis), muscle, fat and bone components of body weight.

2. For splenic index set multiple statistically significant,

weak valves, connections between the lateral dimensions of the head, face and half of the embrace size of the body.

3. Sonographic size of the spleen and derived from them parameters much better in quantitative and qualitative terms correlate with anthropometric indices and somatic than the diameter of splenic vein.

Prospects for future research is to study constitutional features links between sonographic parameters of spleen and anthropo-somatic indicators of healthy men and women with different Somatotypes from Podillya that are important in the study of specific morphological criteria for the diagnosis of norm and pathology.

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КОРЕЛЯЦІЇ СОНОГРАФІЧНИХ ПАРАМЕТРІВ СЕЛЕЗІНКИ З АНТРОПО-СОМАТОТИПОЛОГІЧНИМИ ПОКАЗНИКАМИ ТІЛА ПРАКТИЧНО ЗДОРОВИХ ЖІНОК ПОДІЛЛЯ ПЕРШОГО ЗРІЛОГО ВІКУ

Резюме. *В статті наведені результати дослідження кореляцій сонографічних параметрів селезінки з антропо-соматометричними показниками 154 практично здорових жінок Поділля віком від 22 до 35 років. Встановлені множинні статистично значущі, переважно слабкі прямі, зв'язки між сонографічними розмірами селезінки й похідними від них параметрами та тотальними, поздовжніми (окрім висоти пальцевої точки), обхватними розмірами, діаметрами тіла (переважно передньо-заднім розміром грудної клітки, шириною плечей, міжгребневою і міжвертлюговою відстанями таза), м'язовим, жировим і кістковим компонентами маси тіла та переважно слабкі зворотні зв'язки з ектоморфним компонентом соматотипу за Хіт-Картером. Лише для селезінкового індексу встановлені множинні статистично значущі, переважно слабкі зворотні, зв'язки між поперечними розмірами голови, обличчя і половиною обхватних розмірів тіла.*

Ключові слова: *кореляції, сонографія селезінки, антропо-соматотипологічні показники, здорові жінки.*

Антонец Е.В.

КОРРЕЛЯЦИИ СОНОГРАФИЧЕСКИХ ПАРАМЕТРОВ СЕЛЕЗЕНКИ С АНТРОПО-СОМАТОТИПОЛОГИЧЕСКИМИ ПОКАЗАТЕЛЯМ ТЕЛА ПРАКТИЧЕСКИ ЗДОРОВЫХ ЖЕНЩИН ПОДОЛЬЯ ПЕРВОГО ЗРЕЛОГО ВОЗРАСТА

Резюме. *В статье приведены результаты исследования корреляций сонографических параметров селезенки с антропо-соматометрическими показателями 154 практически здоровых женщин Подолья в возрасте от 22 до 35 лет. Установлены многочисленные статистически значимые, преимущественно слабые прямые, связи между сонографическими размерами селезенки и производными от них параметрам и тотальными, продольными (кроме высоты пальцевой точки), обхватными размерами, диаметрами тела (преимущественно передне-задним размером грудной клетки, шириной плеч, межгребневым и межвертлюговым расстояниями таза), мышечным, жировым и костным компонентами массы тела и преимущественно слабые обратные связи с эктоморфным компонентом соматотипа по Хит-Картеру. Только для селезеночного индекса установлены многочисленные статистически значимые, преимущественно слабые обратные, связи между*