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PSYCHOLOGICAL DEFENSE MECHANISMS OF MODERN STUDENTS AND ITS CHANGES BEFORE EXAMINATION TEST: PSYCHOPHYSIOLOGICAL ASPECTS

Introduction. The assessment of the relationship between indicators of academic success and performance level of psychophysiological functions and personality traits of students of medical faculties should be considered as one of the most important tasks of psychophysiological directions, as it describes both adaptive capacity of the organism of students and their level of proficiency to perform common skills and labor operations. *The aim of the work* is to study the psychophysiological aspects of the particularities of the leading characteristics of psychological defense mechanisms of modern students the day before exam tests.
Materials and methods. The research was conducted among 3rd year students of medical faculty of National Pirogov Memorial Medical University 1 month prior to exams and strictly before exams. To determine the major physiological correlate of psychological defense mechanisms of medical students we used Plutchik-Kellerman-Comté questionnaire. For statistical analysis of the data we used application package for multivariate statistical analysis "Statistica 6.1 for Windows" (owned by National Pirogov Memorial Medical University, license № AXX910A374605FA).
Results. Data collected during the investigation such a mechanism of psychological defense as a mechanism of exclusion, which in case of stress causes the creation of a sort of personal prerequisites to the fact that the whole thing is unacceptable for students are feeling the main feature of “conditional” deletion of thoughts and feelings, attracted the attention to the presence of the following tendencies for changes in the dynamics of observation period. For 1 month before the exams of studied girls and boys, their level of criterion variables was respectively 45,57±3,28 and 40,25±2,44 percentiles studied among girls and boys, just before examinations – accordingly 44,00±2,28 ($p(t)>0,05$) and 51,87±2,54 percentile ($p(t)<0,05$). One can recognize the fact that girls value indicators which were defined, had a stable character, while in youths significantly increased. Statistically-significant gender differences registered just before the period of examinations ($p(t)<0,05$). The results obtained during the psychophysiological assessment of mechanism of psychological

defense called a mechanism of projection, which marks the fact that unconscious for students thoughts, feelings and sensations are attributed to others, so they may appear not important and "secondary" demonstrates a number of extremely interesting and different from previous events. In general, 1 month before the exams of studied girls and youths, their level of criterion variables was respectively 52,02±2,03 and 58,00±4,14 percentiles studied among girls and boys, just before examinations – accordingly 66,11±2,84 ($p(t)<0,001$) and 54,15±3,86 percentile ($p(t)>0,05$). So, if the first of their level increased significantly, among others slightly decreased during the time of observation. Statistically-significant differences due to gender only registered immediately before the examinations ($p(t)<0,05$).

Conclusions. During the study which was performed using the procedures of descriptive statistics of multivariate statistical analysis the psychophysiological changes of leading performance characteristics of psychological defense mechanisms of modern students for 1 month before exam tests and immediately prior to the exam tests were evaluated. There was stablished sufficiently stable character of investigated parameters, though there were some trends in the growth of such indicators of psychological defense mechanisms as replacement, negation, compensation, hypercompensation and rationalization – for girls, psychological defense mechanisms such as substitution, negation, compensation and hypercompensation – for youths. However the most significant negative in content statistically significant data registered in determining the indicators for psychological defense mechanisms such as projection ($p(t)<0,001$) for girl and the displacement ($p(t)<0,05$) for youths, that is precisely the mechanisms, which, unlike the mechanisms of compensation, rationalization and hypercompensation, considered to be the most destructive and unfavorable.

Key words: students, psychological defense mechanisms, examination tests, psychophysiological aspects.

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WHITE ADIPOSE TISSUE: THERE IS A VERSION THEREOF?

Introduction. On the basis of various kinds of morpho-histology, immunohistochemical studies identified structural features of the different types of fat tissue: the visceral (omentum) and subcutaneous. *The purpose* of the study is to identify the structural differences between the visceral and subcutaneous adipose tissue.

Materials and methods. The material of the study was the section material - fatty tissue of subcutaneous fatty tissue (PFA) and seals. The sectional material (n = 12) received during the autopsy in individuals with normal body mass index (18.5-24.99), which was performed 5-6 hours after death on the basis of the pathologic-anatomical

department of the Regional Clinical Hospital (m. Kharkiv) The main disease was various variants of benign or malignant brain tumors, and the cause of death was the dislocation of the trunk of the brain. The material was fixed in 10% formalin solution, was carried out through alcohols increasing concentration, through the liquid Nikiforov, chloroform, poured into paraffin. The sections were prepared with the coloration of hematoxylin and eosin, picrofuxin by van Gizon, Mallory, Sudan III, and Pearl's reaction. The micronutrients were studied on a microscope "Olympus BX-41" with the processing of the program "Olympus DP - soft version 3.1". Determined: the number of adipocytes in the field of view 2.5×10^{-3} m^2; the area and perimeter of adipocytes and nuclei of adipocytes; optical density of dyed preparations Sudan III; specific volumes of adipocytes, connective tissue and vessels. The obtained data was processed by methods of mathematical statistics.

Results. At observational microscopy of the subcutaneous adipose tissue and the septum, the structure of the white adipose tissue, which consisted of parenchyma and was represented by fat cells (adipocytes or lipocytes) and the stromal component was determined. In both groups, the fat cells were close enough to each other. When staining with hematoxylin and eosin, adipocytes looked optically empty with a narrow eosinophilic cytoplasmic rim under the cytolomeum; in the thickened part of the cytoplasmic rim, the shifted nucleus was shifted to the edge of the cell. The average number of adipocytes in the field of view (2.5×10^{-3} m^2) in the omentum was 5.1% higher than in the subcutaneous fatty tissue. When coloring microdermabrases Sudan III it was determined that adipocytes of subcutaneous adipose tissue and septum contained one large fat vacuole of red-orange color, with the intensity of staining of fat vacuole in the palatine fatty tissue and septum was different. Determination of the level of receptors for insulin and cortisol in adipocytes revealed ($p<0.001$) that the maximum number of cells expressing receptors to insulin is observed in subcutaneous fatty tissue, and the number of cells expressing receptors to cortisol was higher in the epiploon.

Conclusions. It was found that these types of adipose tissue are distinguished not only by location, but have fundamental differences: in the number and size of fat cells, the concentration of fat in the fat vacuoles, the difference in the composition of connective tissue and parenchymal components in the quantitative composition expressing proinflammatory cytokine receptors TNF -α and IL-6, insulin, and cortisol, which causes them to different functional significance in the body. In individuals with normal body mass, different types of fatty tissue (namely, subcutaneous fat and omentum) belong to white fat tissue, but have differences in their structure. In the gum, the average number of adipocytes with smaller area and perimeter predominates, with an increase in the concentration of fat and a decrease in the parenchymal component.

Key words: adipose tissue, morphological structure, adipocyte receptors.

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GENDER DIMORPHISM OF SERUM SULFUR-CONTAINING AMINO ACIDS LEVELS IN RATS

Introduction. Nowadays problems of gender cardiology acquire great significance, because the differences in risk factors, clinical manifestations, diagnostic and therapeutic approaches for men and women are the most significant especially in cardiovascular diseases. Important metabolic factors in the development of cardiovascular disease is increase in blood of the content of sulfur-containing amino acids - homocysteine (hyperhomocysteinemia) and cysteine (hypercysteinemia). However, today the question of the existence of sex differences in the content of these sulfur-containing amino acids in blood serum remains practically not solved.

The aim of the study was to evaluate the effect of gender and different level of saturation of the organism of rats with sex hormones on the content of homocysteine and cysteine in serum of rats.

Materials and methods. The experiments were performed on 60 nonlinear white rats of both sexes (Rattus norvegicus). Experimental modulation of the content of sex hormones in the organism of rats was performed using castration of the animals. The studies were carried out 21 days after castration. Substitution hormone therapy in males and females castrated rats was reproduced by the introduction of testosterone propionate, 1 mg/kg subcutaneously 1 time per day; as well as estradiol hemihydrate, 150 mg/kg intragastrically during 14 days. In the blood serum the content of homocysteine and cysteine was determined. Statistical processing of the obtained results was performed by determination of average arithmetic and average error (M±m). The reliability of the results was assessed using Student's t-test, while the differences were considered significant at $p<0,05$.

Results. In the blood serum of male rats the content of homocysteine and cysteine is, respectively, 18,5 and 20,5% higher ($p<0,05$) than in females. Gonadectomy of females is accompanied by a reliable increase in the level of homocysteine and cysteine (respectively 13,9 and 15,6%, $p<0,05$), whereas castration of males causes a reliable increase in the level of these sulfur-containing amino acids (respectively, 16,9 and 22,7%, $p<0,05$), compared to ther animals without hormone status changes. Hormone replacement therapy in the castrated animals with testosterone / estradiol brings the content of homocysteine and cysteine in the blood serum to the level of rats without changes in the hormonal status.

Further research in this area will broaden the existing views on the biochemical mechanisms of gender differences of the content of sulfur-containing amino acids in blood serum.

Conclusion. It was established that serum homocysteine and cysteine in females is significantly lower than in males. Castration of females causes a significant increase of serum sulfur amino acids, whereas testectomy goes with opposite changes. Hormone replacement therapy with estradiol / testosterone approximates serum H_2S homocysteine and cysteine to levels in animals without changes of hormonal status.

Key words: homocysteine, cysteine, blood serum, sex.

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PECULIARITIES OF EMBRYOGENESIS OF HUMAN RESPIRATORY SYSTEM

Introduction. One of the topical issues of morphology is studying general regulations of development and structural formation dynamics of respiratory system. It has been sestablished that the source of human lung primordium is a traheopulmonary primordium, which at the end of 4^{th} week of fetal development is represented by odd bud-shaped entity which departs with an acute angle from ventral wall of the foregut and is located in front of foregut. Beginning of the 5th week of human prenatal development is considered to be a critical period, which holds intensive processes of organogenesis of respiratory system and is possible time for occurrence of some congenital defects and structural variants. Sources of pulmonary vessels are islands of intraorgan hematopoiesis and extraorgan main vessels, communication between which occurs during end of 4^{th} and start of 5^{th} weeks of prenatal development. *Aim of the study* was to determine peculiarities of respiratory system organs' embryogenesis during prenatal development in human.
Materials and methods. Research has been conducted on 22 specimen's series of human embryos with 4,5-8,0 mm of parieto-coccygeal length (PCL) by using a complex of morphological research methods (histological methodic, morphometrics, graphic and three-dimensional computer reconstruction, and statistical analysis). Material was received from the Chernivtsi regional municipal medical institution "Pathologists office". Research has been also conducted on series of histological sections from museum's collection of Department of Histology, Cytology and Embryology and Department of Human Anatomy named after Turkevich M.G. of Higher State Educational Establishment of Ukraine "Bukovinian State Medical University."
Results. Traheopulmonary primordium has been found it embryos of 4,5 mm of PCL (at the end of 4^{th} week of prenatal development) and is represented by bud–shaped odd formation which goes from ventral wall of the foregut with an acute angle and is located in front of it. Premordium of respiratory system has an irregular shape with narrowed bulb–shaped upper pole (132 μm embryo of 5.0 mm of PCL and 220 μm - in 6.0 mm PCL embryo) and an expanded lower pole (380 μm in embryos of 5.0 mm of PCL and 760 μm in objects 6.0 mm of PCL), which is the part, form which later lungs are formed. Bronchopulmonary primordium at the end of the 4th week of is surrounded by splanhno-pleurae. From the inside of mesenchyma, epithelial tube is determined, and it is connected with the lumen of the foregut. Distal end of this tube is divided into two channels, which end blindly and have almost the same diameter –

primordiums of main bronchi. The length of trachea primordium is 264 μm (in embryo of 5.0 mm of PCL) and 396 μm (embryo of 6.0 mm of PCL) right bronchus has a length of 180 μm in embryo of 5.0 mm of PCL and 276 μm in embryo of 6.0 mm of PCL, left - 206 μm and 292 μm, respectively. In embryos of 5.0 mm and 6.0 mm of PLC, diameter of trachea lumen is 88 μm and 92 μm, main bronchi - 60 μm and 68 μm, respectively. In embryos of 7,0 – 7,5 mm of PLC lungs primordium forms two lateral protrusions, directed along dorsolateral rudiment of esophagus. This feature should be considered as the initial stage of forming lungs as pair organ. Both of these structures are elongated and their direction coincides with the longitudinal axis of embryo body. Top pole of lungs' primordium is located behind the heart; middle and lower parts – behind massive (at this stage) liver. At that time a prominent asymmetry in sizes of right and left lungs rudiments becomes noticeable. Longitudinal size of right lung is 550 μm, transverse – 374 μm; of the left lung – 500 μm and 330 μm, respectively. The length of right main bronchus primordiums is 300 μm, left – 346 μm; diameter of lumen in both structures is less than 100 μm. In embryos of 8.0 mm of PLC in lungs primordiums lateral protrusions are clearly determined. Longitudinal size of right lung is 600.0 μm, ransverse size – 440 μm; of the left size - 550 μm and 430,0 μm respectively. Inside mesenchymal rudiment of the lungs is clearly observed premordium of trachea and main bronchi. Primordium of left main bronchus is a blind tube length of which equals 350 μm and diameter is 110 μm. Primordium of right main bronchus is at a distance of 90 μm from bifurcation of trachea and is dichotomously divided into blind branches of almost the same diameter - 110 and 112 μm. The lower branch in directed is a continuation of the main bronchus trunk, upper branch - directed almost horizontally, deviating in lateral direction. Its length is 132 μm. All bronchial branches in their blind ends form small expansions. Because bronchial lumen at this stage of development is relatively large, primordium of lungs (bronchopulmonary area lateral protrusion rudiments) on the frontal sections is bags-shaped with wall thickness of 66-78 μm. Wall of trachea and bronchi through all length has the same structure and does not differ from that in embryo of length 7,0-7,5 mm of PLC.

Conclusions. The source of human lung primordium is a traheopulmonary primordium, which at the end of 4^{th} week of fetal development is represented by odd bud-shaped entity which departs with an acute angle from ventral wall of the foregut and is located in front of foregut. Beginning of the 5th week of human prenatal development is considered to be a critical period, which holds intensive processes of organogenesis of respiratory system and is possible time for occurrence of some congenital defects and structural variants. Sources of pulmonary vessels are islands of intraorgan hematopoiesis and extraorgan main vessels, communication between which occurs during end of 4^{th} and start of 5^{th} weeks of prenatal development.

Key words: respiratory system, morphogenesis, prenatal development, human.

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FEATURES SIZES OF LIVER IN HEALTHY MEN WITH DIFFERENT SOMATOTYPES

Introduction. *The aim of this study* was to determine the features of sonographic parameters of the liver in healthy men from Podilski region of Ukraine with different somatotypes.
Materials and methods. At basis of Scientific and Research Center VNMU named after Pirogov (Ukraine) conducted a comprehensive survey of 93 apparently healthy urban male of the first mature age who are in the third generation living in the Podillya region of Ukraine and had no complaints at the time of the survey on health and chronic disease in anamnesis. Echometric indicators of the liver measured by ultrasound diagnostic system "CAPASEE" SSA-220A (Toshiba, Japan) convex detector with a working frequency of 3.75 MHz under conventional methods. Given the possibility of changing the position of the liver depending on the phase of the respiratory cycle, which can lead to errors in determining certain size (primarily relates oblique vertical size of the right lobe, since the maximum inspiration followed by breath movement of the lower edge of the liver down leads to a false reduction this size) - the size of the right and left like particles carried on the exhale and inhale. Define: oblique vertical size of the right lobe of the liver exhale and on inspiration; anteroposterior dimension (thickness) right lobe on exhalation and on inspiration; upper lower (cranio-caudal) size of the left lobe on exhalation and on inspiration; anteroposterior dimension (thickness) of the left lobe on exhalation and on inspiration; upper lower size of the caudate lobe of the liver; anteroposterior (thickness) of the caudate lobe of the liver. Anthropometric examination was conducted in accordance with the scheme of V. V. Bunak. To evaluate the somatotype used mathematical scheme of J. L. Carter, B. H. Heath. Statistical analysis of the results was conducted in the package "STATISTICA 6.1" using nonparametric methods of evaluation of the result.
Results. As a result of our research limits the scope percentile (25,0 percentl and 75,0 percentl) sonographic liver size in men mesomorphic, ecto-mesomorphic and endo-mesomorphic somatotype. In comparison of sonographic liver size in men of different somatotypes determined that only the thickness of the right lobe of the liver on inhaling in representatives of endo-mesomorphic somatotype was significantly higher compared with representatives of ecto-mesomorphic somatotype (respectively 121,3±12,3 and 112,7±10,0; $p<0,01$) and the thickness of caudate lobe of the liver among representatives endo-mesomorphic somatotype significantly smaller or has the tendency to lower values compared with men mesomorphic (respectively 17,18±4,19 and 20,59±3,79; $p<0,01$) and ecto-mesomorphic somatotypes (respectively 17,18±4,19 and 20,15±4,26; $p=0,066$).

Conclusion. The obtained results bring us closer to understanding the concept of "population standards" for liver sonographic parameters and enable diagnosis of the pathology of the body, accompanied by changes in its size, even at the preclinical stage of the disease.
Key words: liver, sonography, healthy men, somatotype.

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SIMULATION USING REGRESSION ANALYSIS INDIVIDUAL PARAMETERS ЩА CEREBRAL CIRCULATION DEPENDING ON CONSTITUTIONAL PARAMETERS OF A BODY IN PRACTICALLY HEALTHY WOMEN WITH MESOMORPHIC SOMATOTYPE

Introduction. *Aim of our work* – build and analyze individual performance regression models of cerebral blood flow, depending on the constitutional parameters of bodies in practically healthy women of Podilia with mesomorphic somatotype.
Materials and methods. The results of anthropometric, somatic and rheoencephalography studies conducted on practically healthy urban female of Podilia taken from the bank of the materials Research center Vinnitsa National Medical University n.a. Pirogov. Rheoencephalography parameters determined by computer diagnostic complex. As a result, processing rheogram automatically determined characteristic points on the curve, determine key indicators and formed a justified opinion on the circulatory system of the investigated area. Determined the following parameters of rheoencephalography: amplitude - the base impedance, the amplitude of the systolic wave, amplitude of incision, amplitude of diastolic wave, amplitude of fast blood supply; time - the duration of the cardiac cycle, the duration of ascending part, duration of descending part, the duration of fast blood flow, duration phase of slow blood flow; derivatives - dicrotic index, diastolic index, average speed phase of rapid blood flow, average speed phase of slow blood flow, an indicator of the overall tone of the arteries, an indicator tone arteries of large caliber (artery of distribution), an indicator tone arteries of small and medium caliber (artery resistance), ratio tone different caliber arteries. Anthropometric studies conducted by V. Bunak scheme. Cephalometry included a definition: the circumference of the head (glabella), sagittal curves, the greatest length and width of the head, the smallest width of the head, the width of the face and lower jaw. Somatotypes determined by the method of J. Carter and B. Heath, component composition and body weight - by the method of J. Matiegka and additional muscular component - by formula American Institute of Feeding. Building regression models of individual parameters of cerebral blood flow, depending on the anthropo-somatometric parameters of body in practically healthy women of mesomorphic somatotype (n = 47) conducted a statistical package license "STATISTICA 6.0".

Results. As a result of our study of 18 possible developed only 6 indicators mathematical models of cerebral blood flow in practically healthy women mesomorphic somatotype with determination coefficient R^2 greater than 0.5. Models amplitude systolic wave, amplitude phase of rapid blood flow, duration of ascending part, the phase of fast and slow blood flow, diastolic index, average speed fast and slow blood flow rate, the overall tone of the arteries, the tone of the arteries of large, medium and small caliber and the index value tone of arteries different caliber depend on the total set of anthropometric and somatic body characteristics less than 50% and therefore has no significant importance for practical medicine. It should be noted that since the model base impedance resulting value less than its Fisher criterion calculation (critical) value, clearly assert the correctness work of the model is impossible.

Conclusion. Of 5 possible peak performance rheoencephalography built 3 (base impedance, amplitude incision and amplitude diastolic wave) with a coefficient of determination R^2 from 0.517 to 0.573; of 5 possible time performance rheoencephalography built only 2 (duration of the cardiac cycle and a downward portion rheogram) with a coefficient of determination R^2 0,613 and 0.582; and from 8 possible indicators derived reoentsefalohramy built only 1 (dicrotic index) with a coefficient of determination R^2 0,509. Constructed models of determination coefficient greater than 0.5 most often include: for peak performance rheoencephalography - covering body size (35.0%), cephalometric rates (25.0%), thickness of skin and fat folds and body diameters (15, 0%); for time rheoencephalography indicators - evenly covering body size, cephalometric indicators thick of skin and fat folds and the diameter of the body (by 14.3%).

Key words: healthy women mesomorphic somatotype, cerebral hemodynamics, anthropometric indices, regression models.

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COMPARATIVE ANALYSIS OF THE MELATONIN'S EFFECT AT DIFFERENT DOSE RANGE AND OF SOME CYTOPROTECTORS ON THE DYNAMIC OF RABBITS' INTRAOCULAR PRESSURE IN NORMAL CONDITIONS AND UNDER CONTUSION OF THE EYE

Introduction. Postcontusion period of the eye affection is accompanied by ophthalmopathology, which is the basis of the disorders of microcirculation and intracellular metabolism, therefore, it is reasonable to compare melatonin, citicoline, corvitin and thiotriazoline in their ability to normalize abnormal levels of intraocular pressure (IOP).*The aim of the study.* To conduct comparative screening evaluation of the effect of melatonin on normal IOP and eye contusion dynamics as a possible mechanism of its neuroretiniprotection action.

Materials and methods. In experiments on rabbits of the Chinchilla breed in conditions of eye contusion caused by the action of carbon dioxide under pressure melatonin was studied in doses of 5, 10 and 15 mg/kg intravenously (iv). Reference drugs: citicoline, corvitin and thiotriazolin were administered in doses of 250, 10 and 100 mg/kg I/V. IOP was measured with ICARE tonometer (Finland).
Results. Melatonin in a wide dose range (5-15 mg/kg IV) amortizes the lowering of IOP in eye contusion conditions, surpassing the effectiveness of referents drugs: citicoline, corvitin or thiotriazoline. In this case, as the drugs of comparison, melatonin does not affect the average values of IOP in its applying to animals without ophthalmic pathology.
Conclusions. The ability of melatonin to normalize affected IOP parameters in experimental contusion of the eye - is one of the leading mechanisms of neuroretinoprotective action. Promising research is vasoactive properties of melatonin by using laser doppler flowmetry as a possible mechanism for corrective action of the drug at low IOP values in an eye injury.
Key words: intraocular pressure, contusion of eye, melatonin, citicoline, corvitin, thiotriazoline.

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BASIS OF OPTIMAL NANOMODIFIED POLYPROPYLENE MONOFILAMENTS WITH ANTIMICROBIAL PROPERTIES FOR CREATION OF MESH IMPLANTS AND SURGICAL SUTURE MATERIALS

Introduction. The development of new types of suture materials and allografts with antimicrobial properties is one of the urgent problems of surgery. We have developed polypropylene filament modified carbon nanotubes and antiseptic polyhexamethyleneguanidine chloride. *The aim of the study.* Justification of optimal composition nanomodified polypropylene monofilaments with antimicrobial properties for the mesh implants and surgical suture material manufacture with antimicrobial properties.
Materials and methods. Monofilaments formed on a laboratory bench with pellet blends PP / PHMC / CNT at temperature (T) 190^0 C, with 1000% filyer extraction. Additives for modification injected into the melt granulation line PP in Polymers LHP - 25. Polypropylene A-7 (24.1 TU - 322 929 003: 2007) was used for research.
Poliheksametylenhuanidin chloride is antiseptic polymer (GOST 12.1.007) with an average molecular weight of 5000. Three-layer carbon nanotubes (TU U 26.8 - 30969031-014-2007) with a surface area of 340 m^2/g, diameter - (10 ÷ 20) nm. CNT content varied from 0.1 to 1.5 wt. %, PHMC - from 0,3 to 3,0 wt. %. Mechanical monofilament was determined by tensile testing machines SM-3. Antimicrobial

properties evaluated in diameter zone stunted growth of microorganisms. To optimize the composition was used mathematical modeling a simplex-lattice method in pseudo-coordinates.
Results. Optimized structure composition PP / CNT / PHMC and experimental design was performed with using of mathematical modeling and a simplex-lattice method. It was determined that introduction into binary additives CNT / PHMC of polymer melt in a ratio of 0,7/1,3 wt. %. Help to get polypropylene monofilament with high strength, elasticity and antibacterial properties. Studies have shown that created a new high-quality material that can be used as a surgical suture material and raw materials for the manufacture of mesh implants. Implementation of the developed material in surgical practice will facilitate the development of new high-tech surgery and prevention of postoperative complications and will replace imported analogs in domestic.
Conclusions. 1. Experimental design and determines the optimal composition of the composition of polypropylene, carbon nanotubes and antiseptic poliheksametylenuhuanidyn chloride nanomodified for making monofilaments with antimicrobial properties was performed with using of mathematical modeling and a simplex-lattice method. 2. Introduction of binary additives BHT / PHMC in a ratio of 0,7 / 1,3 wt. % to obtain polypropylene monofilament which are characterized with high strength, elasticity and antibacterial properties.
Key words: nanomodified polypropylene monofilaments, mechanical properties, antimicrobial activity, surgical suture, mesh implants for abdominal hernias plastic.

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SPATIAL CHARATERISTICS CHAMBERS OF THE HEART OF EXPERIMENTAL ANIMALS WITH DIFFERENT TYPES OF VEGETATIVE REGULATION

Introduction. *The purpose of this work* - to study spatial parameters intact chambers of the heart of experimental animals with different types of vegetative regulation.
Materials and methods. To achieve this aim used electrocardiographic, morphometric and statistical methods.
Results. Found that planimetric and volumetric parameters intact parts of the heart muscle laboratory mature male albino rats are in a certain range and depend on the type of vegetative regulation. Revealed that the area endocardial surface of the left ventricle in white rats normotonical equal (145,5 ± 2,1) mm², animals with a predominance vagotonical effects on the heart - (139,3 ± 2,1) mm², in rats sympatotonic - (153,1 ± 1,8) mm², and the same parameter reached under the right ventricle (176,6 ± 1,8) mm², (167,9 ± 1,8) mm² and (184,5 ± 2,4) mm².

Conclusion. Spatial cardioparametries parts of the heart muscle dominated the hearts of the predominant influence of the sympathetic division of the autonomic nervous system to the heart. Relationship between planimetric parametersof atria intact heart is the most altered were prevailing at vagotonical effects on the heart muscle. Detailed learning space cardioparametries intact parts of heart, depending on the options for autonomic regulation significantly enhance the ability of diagnostics, correction, prevention and prognosis of various cardiopathology.
Key words: chambers of heart, cardiometry, vegetative regulation.

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THE EFFECT OF SORBENTS ON THE EXCRETION OF ENTEROVIRUSES BY MICE WITH DYSBIOSIS

Introduction. Today, enterosorbents are used not only as pathogenetic therapy, but also as etiotropic mono- and combination therapy against intestinal infections. Today it is very important considering the rapid increase of multidrug bacterial resistance to antibiotics and chemopreparations. *The aim of this work* is to study the influence of sorbents to the isolation of polioviruses from mice with normal microflora and formed intestinal dysbiosis in vitro.
Materials and methods. Antibacterial drugs were used to form an artificial dysbiosis in mice. Domestic production's sorbents Smectovite sodium and Enterosgel were used as sorbents.
Results. Results of the study demonstrated the decreasing of duration of polioviruses excretion from animals after per or using of sorbents. After receiving of Smectovite sodium by mice, the duration of enteroviruses releasing was reduced to 6 days. After receiving of Enterosgel, the duration of enteroviruses releasing was reduced to 5 days. It is proved that the process of dysbiosis formation in animals conduce to more intensive releasing of viruses. It is fixed the increasing of rate of viral elimination in animals with antibiotic-induced dysbiosis after using the Smectovite sodium and Enterosgel in a less degree. It is established that simultaneous using of antibacterial drugs and Smectovite sodium conduce to reducing significantly the infectious viral activity in animals with dysbiosis.
Conclusion. In conditions of normal microflora and when antibiotic-induced dysbiosis happens the use of sorbents as Smectivit sodium and Enterosgel helps to enhance the excretion of polioviruses.
Key words: viruses, infection, poliomyelitis, sorbents, dysbiosis.

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MORPHOLOGICAL CHANGES OF THE CORNEA BY IMPENETRABLE MECHANICAL TRAUMA OF CONDITIONS AND CORRECTION

Introduction. Restoration of the damaged cornea surface, its integrity and transparency remains an urgent problem, as the result of treatment is not always able to maintain its physiological properties. *The purpose of the study* was to study the morpho-functional changes of the cornea of the rabbit, the effectiveness of the use of the eye gel "Solcoseril" and the drug "Efial" with its non-penetrating damage in the experiment.
Materials and methods. Experiments were carried out on the sexually mature rabbits of the Chinchilla breed with a weight of 2.5 - 3 kg. Animals were divided into 4 groups: group 1 - intact animals; Group number 2 - experimental animals after 3, 7, 10, 14 days after non-penetrating mechanical injury to the cornea; Group number 3 - experimental animals after 3, 7, 10, 14 days after non-penetrating mechanical injury in the condition of its correction with the drug "Solcoseril"; Group number 4 - experimental animals after 3, 7, 10, 14 days after non-penetrating mechanical trauma under the conditions of correction with the preparation "Efial". The group of intact rabbits consisted of 6 animals, experimental groups - 4 animals per day of observation.
Results. Microscopic examination of the cornea of the eyes of rabbits of the fourth experimental group in the long term after a mechanical trauma under the conditions of its correction with the preparation "Ephial" showed that the entire surface of the defect is covered by a layer of epithelial cells. The updated front epithelium consists of 2-3 layers of cells characterized by differentiation into larger ones - basal, small - intermediate and flat - superficial. The epithelium is located on the formed front border plate.The structural organization of the cornea itself with the use of the drug "Efial" in the final terms of the trial is also significantly improved.
Conclusion. The use of the drugs "Solcoseril" and "Efial" already in early (3rd, 7th day) of the experiment positively affects the state of structural components of the cornea, activates regenerative processes. In late terms (10th, 14th days) "Ephial" is more effective than "Solcoseril", restores the anterior epithelium of the cornea, anterior boundary plate, improves the structural organization of its own substance.
Key words: cornea, experimental mechanical trauma, low molecular weight peptides.

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CHANGES OF THE BIOCHEMICAL INDICATORS OF THE SERUM OF THE BLOOD OF EXPERIMENTAL ANIMALS AFTER EXPOSITION BY CHLORIDIDE CADMIUM AND NANOPARTICLES OF CADMIUM SULFIDE OF DIFFERENT SIZES

Introduction. Cadmium and its compounds are global pollutants of the environment.
The aim of the study was to compare the changes in biochemical parameters of blood serum of experimental animals after exposure to cadmium chloride and nanoparticles (NP) of cadmium sulphide of different sizes.
Materials and methods. The studies were carried out on male rats of the mature age of the Wistar line weighing 160-180 grams. They had been injected intraperitoneally with cadmium chloride ($CdCl_2$) and NP of cadmium sulfide (NP CdS) with the size of 4-6 nm and 9-11 nm in a dose of 0.08 mg/kg/day in terms of cadmium. Biochemical indices in the serum were evaluated after 30 injections (1.5 months), 60 injections (3 months) and 1.5 months after the exposure ceased.
Results. In the serum of animals exhibited by the investigated cadmium compounds, both in nano- and in ionic form, pronounced changes in biochemical indicators were observed, indicating a violation of protein, lipid and carbohydrate metabolism, toxic damage to the liver, kidneys and heart. Violation of protein metabolism was manifested by a decrease in the level of total protein, albumin in the serum and a violation of the ratio of protein fractions, which may be due to a decrease in the protein-synthetic function of the liver, a violation of the filtration function of the kidneys, especially under the action of CdCl2. The disturbance of lipid metabolism was characterized by a decrease in the concentration of total lipids, cholesterol and an increase in the serum triglyceride concentration. The most significant changes were recorded after exposure to NP CdS. Exposure NP CdS led to a violation of carbohydrate metabolism, which was manifested by an increase in the level of glucose in the blood serum. At the same time, CdCl2 did not cause significant deviations in glucose concentration. The increase in activity of alkaline phosphatase, ALT, ACT indicates liver and heart damage, especially when exposed to NP CdS. A significant increase in the concentration of urea and creatinine has been caused by violation of the filtration function of the kidneys. The severity of these changes in the post-exposure period indicates the stability and irreversibility of kidney lesions.
Conclusions. The obtained results will allow to develop methodical approaches to the assessment of toxic effects of nanoparticles and nanomaterials containing cadmium, as well as to develop effective preventive measures.
Key words: cadmium, nanoparticles, biochemical indices.

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A NEW TECHNIQUE FOR MEASURING THE MYOCARDIAL CONDUCTIVITY

Introduction. Measuring of basic properties of myocardium: conductivity, excitability and automaticity is an important step in novel drug development. The purpose of the work is to develop a method for rapid assessment of the myocardium status based on the basic parameters and electrical parameters of the total action potential based on the multichannel electrode.
Materials and methods. Basic electrical properties the state of heart cycle and myocardium should be estimated on the different structural level starting from the level of ion channels and pumps at preclinical stage and up to the level of whole organism in hospitals. The extracellular total potential was recorded by an eight-way "floating" electrode that was inserted into the myocardium. Each electrode is a tungsten electrically isolated needle with a diameter of 12 microns.
Results. In the experiment, stable records of total extracellular myocardial infarction with eight electrode channels were obtained. The excitatory complexes are well differentiated visually. The excitation complexes in general had a complex oscillating form with several local maxima and minima. The spectral analysis of the complexes carried out by us has revealed a similar spectral characteristic of the excitatory complexes at the normal basic work of the heart in the experiment.
Conclusions. By comparing the time parameters of the occurrence of PD of cardiomyocytes under different-spaced electrodes, the rate of myocardial excitation is established. On the basis of analysis of amplitude, frequency of occurrence, duration, spectral characteristics of electromyographic complexes, normal parameters of functioning of the preparation of a frog heart are established. The "floating" electrode system allows you to receive a signal of high quality, stable shape, amplitude with prolonged placement of electrodes in the myocardium.
Key words: myocardium, field potential, multichannel electrode, extracellular recordings, preclinical studies.

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SEXUAL FEATURES OF THE TIME CHARTS OF THE ELECTROCARDIOGRAM IN YOUNG PEOPLE WHO ARE ENGAGED AND NOT ENGAGED IN SPORTS

Introduction. Sport – a special kind of activity, combined with regular high (often extreme) physical and emotional exertion, increased demands on the health of athletes. Leading chain, which limits the degree of athlete physical performance is the cardiovascular system condition. In recent decades, accumulated rich experience in instrumental assessment of the functional state of the CVS using the assessment of systolic and diastolic myocardial function, electrophysiological aspects of heart work, condition of endothelial function, systemic autonomic reactions as temporal and spectral heart rate variability. *The purpose* of our study was to establish sex differences in time ECG scores between athletes of different sports.

Materials and methods. We have examined athletes who at least three years involved in volleyball and athletics s, and a high level of sports skills (from the first adult grade to masters of sports). Of these, 127 practically healthy girls who were not engaged in sports and 73 sportsmen (46 volleyball players and 27 athletes) aged 16-20 years. And also 94 non-sports boys and 115 sportsmen (37 volleyball players and 78 athletes) aged 17-21. We conducted an ECG study using a computer diagnostic system that provides simultaneous recording of the electrocardiogram, phonocardiography and blood pressure measurements. The analysis of the results was carried out using the STATISTICA 5.5 program (National Pirogov Memorial Medical University, Vinnytsya, SRC, licensed number AXXR910A374605FA). The reliability of the difference in values between the independent quantitative values was determined with the normal distribution of the t-criterion of the Student, and in other cases, using the U-criterion of Man-Whitney.

Results. Analyzing the ECG temporal indicators in juvenile persons with different levels of physical activity, we decided to stay on the II standard lead. It is established that the duration of the wave P in young volleyball players is statistically significantly higher than that of those who are not engaged in sports. Girls engaged and not engaged in sports, this indicator did not have statistically significant differences. At the young athletes ($p<0,05$) and volleyball players ($p<0,01$), this indicator is significantly higher than that of girls of the same types of sports. We have been researching some options of integrated electrical activity of the heart, including angles electrical axes QRS and P, the internal deviation time of the right and left ventricles, corrected interval of QT, which is determined by the Bazet formula and duration of the interval RR.

Conclusions. In the youth athletes and volleyball players, the duration of the wave P is significantly higher than that of girls of similar groups. The duration of the interval PQ in volleyball players boys is significantly greater than that of volleyball players girls. The length of the interval QRS in athletes boys is significantly greater than athlete girls. In the youth of athletes and volleyball players, the duration of the interval QT is significantly lower than that of the girls of the respective groups.

Key words: electrocardiography, juvenile age, athletics, volleyball, not athletes.

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DISCRIMINANT MODELS THE POSSIBILITY OF PRIMARY DYSMENORRHEA APPEARING IN GIRLS 14-18 YEARS DEPENDING ON THE FEATURES SIZES BODY OR SONOGRAPHIC PARAMETERS UTERUS AND OVARIES AND HORMONAL BACKGROUND IN DIFFERENT PHASES OF THE MENSTRUAL CYCLE

Introduction. *Aim of our work* – to construct and analyze the discriminant models of the possibility of the appearance of primary dysmenorrhea in girls aged 14-18 years, depending on the features of anthropometric and somatotypological indicators or sonographic parameters of the uterus and ovaries and the hormonal background in different phases of the menstrual cycle.

Materials and methods. Primary anthropometric and somatotypological, as well as sonographic parameters of the uterus and ovaries and the hormonal background in different phases of the menstrual cycle in 231 healthy girls aged from 14 to 18 years are taken from the data bank of the research center of the Vinnitsa National Medical University named after Pirogov. A sonographic examination of the uterus (determination of the length of the uterus body, the anterior-posterior size, width and the thickness of the endometrium) and the ovaries (determining length, width, thickness and volume) was carried out using the ultrasound device "Vivid 7" by QE Mtdical Sysnems firm (USA) on the base of Vinnitsa City Clinical Hospital, Vinnitsa City Maternity Hospital № 1 and Vinnitsa Central District Hospital in 76 girls aged from 14 to 18 years with primary dysmenorrhea in different phases of the menstrual cycle. Also, girls with primary dysmenorrhea, using commercial reagent kits for the study of the level of hormones in blood plasma determined the luteinizing, follicle stimulating hormone, estradiol, progesterone and testosterone. Anthropometric survey was conducted for all of them according to the scheme of V.V. Bunak in the modification of P. P. Shaporenko; determination of the somatotype by the method of J. Carter and B. Heath; component mass structure by Methods of J.Matiegka, American Institute of Nutrition and W.E. Siri. The construction of discriminatory models for the risk of primary dysmenorrhea is carried out in the STATISTICA 6.0 licensed statistical package.

Results. Based on anthropometric and somatotypological indices discriminant models allow with a high probability to predict the possibility of primary dysmenorrhea in girls 14-18 years old (correct classification in 99.4% of cases; Wilks lambda statistics = 0.199, $p < 0.001$). The largest contribution to discriminate between healthy and patients with primary dysmenorrhea girls have anteroposterior size of the chest and cross medium sternum size. Based on sonographic parameters of uterus and ovaries and hormonal levels in the different phases of the menstrual cycle discriminant models allow with a high probability to predict the possibility of primary dysmenorrhea in girls 14-18 years old (correct classification in 98.4% of cases; Wilks lambda statistics = 0.162, $p < 0.001$). The largest contribution to

discriminate between healthy and patients with primary dysmenorrhea girls have a uterine anteroposterior size in follicle phase.
Conclusions. Prospects for future research are to develop similar models for girls of different somatotypes that expand understanding about individual approach to the prognostic assessment of the possibility of primary dysmenorrhea in girls aged from 14 to 18 years.
Key words: primary dysmenorrhea, girls, anthropometry, sonography of the uterus and ovaries, hormonal background, discriminant analysis.

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CLINICAL-IMMUNOLOGICAL INVESTIGATION OF THE EFFICIENCY OF ANTISEPTIC ADMINISTRATION IN THE TREATMENT OF INFECTIOUS-INFLAMMATORY COMPLICATIONS AFTER ODONTO-IMPLANTAITION

Introduction. In conditions of widespread dental implantation among patients, the number of complications occurring at its various stages increases. *The aim* – conduct a clinical and immunological research of the effectiveness of the use of antiseptics in the treatment of patients with infectious and inflammatory complications of odo-implantation.
Materials and methods. In the study there were enrolled 35 patients (mean age 47 ± 2 years) with included dental side defects in the lateral region, in who peri-implant mucositis had been diagnosed. Patients were treated according to the protocol (treatment of damaged areas of the oral cavity with antiseptic agents). Patients with complications of odonto-implantation in who chlorhexidine-biigluconate had been used for the treatment of perimplant tissues were included in the first observation group (n = 21). And in the second group, there were patients (n = 14) who underwent treatment with decasan in. Patients (n=10) who had no complications after odonto-implantation belonged to the comparison group. Conventional clinical examination of implantation sites was conducted in the dynamics in every patient. Inflammation rate was estimated by Pisarev and Shiller probe. Functional activity of neutrophils was estimated by the restoration of nitrosinotetrazolium (spontaneous NBT-test of neutrophils by Vicksman Mayanskyi). The results were analyzed statistically by means of Microsoft Excel 2010, authenticity was determined by the Student's criterion.
Results. In patients, after two weeks, of the use of decasan and chlorhexidine digliuconate visual positive therapeutic effect had been found. The proportion of active neutrophils showed a pronounced response of cellular immunity in the 1st and

2nd clinical groups (60,3 ± 0,74% and 61,2 ± 0,96%, respectively) than in the comparative group (58,6 ± 0,88%). The Schiller-Pisarev test revealed signs of inflammation in the patients of both clinical groups that responded to the intensive inflammation process (5.46 ± 0.88 points in group I and 5.65 ± 1.01 points in group II). As a result of the use of antiseptics after 14 days in patients of the 1st clinical group (86%), there was a significant decrease in the signs of inflammation of the oral mucous membrane (Schiller-Pisarev score was 2,8 ± 0,16 points), however, in 14 % of cases congestion, edema took place (Schiller-Pisarev score was 5,43 ± 1,32 points). The effectiveness of treatment of patients in group 2nd was significantly higher (93%). Thus, Schiller-Pisarev's score did not exceed 2,7 ± 0,89 points.
Conclusion. The use of an antiseptic remedy decasan in the first 14 days provides effective treatment (93%) of infectious complications of odonto-implantation, accompanied by a significant decrease in clinical manifestations of inflammation in peri-implantative site and a significant increase in the functional activity of neutrophils in the early period and their later normalization after implantation. While the effectiveness of chlorhexidine digliuconate did not exceed 86% ($p < 0,05$).
Key words: activity of neutrophils, NBT-test of neutrophils, odonto-implantation, antiseptics, decasan, clorhexidine.

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INFLUENCE OF HYPOLIPIDEMIC AGENTS ON MORPHOLOGICAL CHANGES IN THE LIVER OF THE RATS WITH NONALCOHOLIC FATTY LIVER DISEASE ASSOCIATED WITH HYPERGOMOCYSTEINEMIA

Introduction. Over the past twenty years, non-alcoholic fatty liver disease (NAFLD) has taken the first place among other liver diseases in the world. While the prevalence of other diseases of the liver decreased or even has not changed, the frequency of NAFLD almost doubled. The increase in the prevalence of NAFLD is associated with an increase in the prevalence of various steatogenic factors, including hyperhomocysteinemia (HHc). Pharmacotherapy NAFLD does not yet include means for correction of HHc. It should be noted that in certain drugs, in particular simvastatin and omega-3 polyunsaturated fatty acids (PUFA ω-3), hypogomocysteinemic effects are described in experimental studies. The question arises as to the appropriateness of the use of these hypolipidemic agents for correction of morphological changes in the liver under the conditions of the NAFLD associated with HHc. Therefore, *the purpose of the study* was to investigate the effects of simvastatin and PUFA ω-3 on morphological changes in liver tissue in rats with NAFLD associated with HHc.

Materials and methods. The studies were conducted on 100 non-linear white male rats weighing 210-280 g (3 control groups and 7 experimental groups, 10 animals per each). The NAFLD model associated with HHc was created by maintaining rats on a high-fat diet with the additional administration of thiolactone homocysteine at a dose of 100 mg / kg of body weight of the rat intragastrally for 60 days. After 60 days, 6 groups of rats from NAFLD + HHc and control group were transferred to a standard diet. Animals from four groups during 14 and 28 days 1 p / day were administered intragastrally hypolipidemic agents - simvastatin (20 mg / kg body weight) or drug PUFA ω-3 (150 mg / kg body weight). For the histological examination, the liver was stained with hematoxylin-eosin according to Romanovsky, and with Sudan III. A morphometric study of the liver was performed.
Results. It was revealed that in rats of the group "NAFLD + HHc" there are morphological signs of steatosis and steatohepatitis. In particular, most hepatocytes were in the state of hydropathic and fatty dystrophy; In the classical hepatic lobules there is histiolymfocytic infiltration. The normalization of the diet practically did not affect the reduction of the manifestations of steatosis and fibrosis in the liver tissues of the experimental rats. In the analysis of changes in the structure of the liver in the rats given simvastatin, it was found that pathological changes in the liver were less pronounced compared with those in the rats of the previous groups. In the treatment of NAFLD associated with HHC, the therapeutic effect of PUFAs ω-3 exceeded the therapeutic effect of simvastatin. In particular, the classical liver lobules in their structure were similar to the classical hepatic lobes in the control group rats.
Conclusion. Therefore, the use of hypolipidemic agents reduced the pathological changes in the liver with NAFLD associated with HHc. At the same time, the ω-3 PUFA significantly exceeded simvastatin by its ability to reduce the manifestations of steatosis and fibrosis in the liver.
Key words: Nonalcoholic fatty liver disease, hyperhomocysteinemia, steatosis, fibrosis, morphological studies.

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FEATURES OF CORELATION OF CEREBRAL BLOOD CIRCULATION INDICATORS WITH CONSTITUTIONAL PARAMETERS OF THE BODY OF PRACTICALLY HEALTHY GIRLS OF ECTOMORPHIC SOMATOTYPE

Introduction. *Aim of our work* – to study the features of the relationships of the parameters of reoencephalography with the constitutional parameters of the body of practically healthy girls with ectomorphic somatotype.
Materials and methods. On the base of the research center of the Vinnitsa National Medical University n.a. Pirogov 35 practically healthy urban girls of ectomorphic

somatotype, in third generation resident of Podillia region of Ukraine conducted anthropometric studies under the scheme Bunak and craniometry that included determining the circumference of the head (glabella), sagittal curves, the greatest length and width of the head, the smallest width of the head, the width of the face and lower jaw. Somatotypes determined by the method of J. Carter and B. Heath, component composition and body weight - for the method of J. Matiegka and the American Institute of Nutrition. Reoencephalography parameters determined by computer diagnostic complex, which provides simultaneous detection of ECG, phonocardiograms, basic and differential tetrapolar rheogram and blood pressure. As a result, processing rheogram automatically determined characteristic point on the curve and determine key indicators. Analysis of correlations performed using Spearman method in the license statistical package "STATISTICA 6.1".

Results. Quantitative analysis of the reliable and average strength of inadequate connections of cerebral circulation with anthropo-somatotypological parameters of the body of practically healthy girls of ectomorphic somatotype revealed the following distribution among amplitude, time, and estimated rheoencephalogram indices: 10 connections out of 290 possible (3.4%) with amplitude parameters (of which, 1,7% reliable direct average forces, 1,3% unreliable direct average forces, 0,4% unreliable reciprocal average forces); 30 connections from 290 possible (10.3%) with time indicators (of which, 3.4% reliable direct average forces and 6.9% false direct average forces); 47 connections out of 464 possible (10.1%) with estimates (of which, 4.7% reliable direct average forces, 2.2% false direct average forces, 1.5% reliable average reciprocal force, 1.7 % false reciprocal average strength). For the amplitude parameters of the reoencephalogram, the highest relative percentage of correlations with the cephalometric indices is established (17.1% of the total number of these indicators); for time - with indicators of the component composition of body mass (25.0%), total body size and body diameters (by 20.0%); for calculation indicators - with total body sizes (33.3%).

Conclusion. The obtained results of the study of the features of the relationships of the parameters of reoencephalography with constitutional parameters of the body of girls with different somatotypes will allow in practical medicine to use them as markers for monitoring the state of cerebral circulation in various diseases of the cerebrovascular system.

Key words: correlation, reoencephalography, practically healthy girls, constitutional parameters of the body, ectomorphic somatotype.

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MORPHOLOGICAL CHANGES IN LARGE BOWEL AFTER RESECTION AND STRESS

Introduction. Nowadays minimal invasiveness, high efficiency and a short term of postoperative rehabilitation are the main tasks of surgery. The basic principle of "fast track" surgery is a significant reduction of stress response of a patent's organism to a surgical injury. It is known that stress response to the surgical intervention is responsible for the course of peri- and post-operative periods. Stress is one of the key factors affecting the morphological state of the large bowel. The goal of our research is to study morphological changes in the large bowel after its resection and the impact of stress.

Materials and methods. The experiment was performed on 54 white laboratory sexually mature nonlinear male rats with the weight of 200-250 g at the premises of the scientific and experimental clinic National Pirogov Memorial Medical University, Vinnytsia In the first group of animals, the large bowel was resected in an ordinary way, in the second group of animals chronic stress was modeled after resection. Chronic stress in rats was reproduced after everyday five-hour immobilization. For this purpose the animals were kept in plastic pen cases 5 hours a day during 30 days. The animals of the both groups were withdrawn from the experiment on the 3, 14, 30 day of the experiment. Preparations were prepared using the standard method. The images were received and processed; morphometry and statistical processing were carried out.

Results. Erosive and ulcerous defects of the mucous membrane (MM) of the large bowel were recorded in 30 % of the experimental animals, which underwent resection only in the anastomotic zone after the third day of the examination. The superficial epithelium in the edges of the ulcers was desquamated, fragmented with dystrophic. Degenerative changes in epithelium increased closer to the ulcerous defect and were represented by an exudation zone of necrotized epithelium in the edges of the ulcers. On the periphery of the anastomosis, a significant polymorphic cell infiltration with the predominance of leukocytic elements was observed. In the MM lamina propria of the large bowel inflammatory infiltration was observed, the character of which was varied. In the muscular layer, myolysis of muscle fibers with its stratification by inflammatory elements was recorded. The perivascular edema, vascular congestion and leucocytic infiltration were observed in the serous membrane. In rats with large bowel resection, which were exposed to stress, more intensive inflammatory reaction, in comparison with other groups of animals, was observed on the third day of the experiment. In the muscular layer, the myolysis of the muscle fibers continued. Erosive and ulcerous defects were reported in 60% of the experimental animals. The formation of erythrocyte- and fibrin-rich thrombi and mixed thrombi was observed. On the 14th day of the experiment, the most distinct changes were found in the group of experimental animals that underwent resection, and were simultaneously exposed to stress. So, the superficial erosions in the anastomotic zone were observed in 30%, ulcers – in 40 %. In rats that underwent resection and resection with simultaneous exposure to stress, the superficial erosions were characterized by the formation of a fibrinoid necrosis zone of superficial epithelial cells with lymphocytic and leukocyte infiltration on the periphery. After 30 days of monitoring, destructive changes of MM in the large bowel were not characteristic for the group of rats that underwent resection only. In the group of animals that underwent resection with simultaneous

exposure to stress, progressing anastomotic ulcers were recorded in 5% and ulcers in 10%, notwithstanding a one-month period of monitoring.
Conclusion. According to our data, after the 3rd day of the experiment, erosive and ulcerous defects of MM of the large bowel at the large bowel resection during applying of end-to-end anastomosis occurred in 30 % of animals, which underwent resection only, and in 60% of animals, which underwent large bowel resection with simultaneous exposure to stress. After 30 days of the experiment, progressing ulcers and superficial erosions of MM of the large bowel in the anastomotic zone occurred in 5% and 10% of the group of animals with the large bowel resection, which were under the stress.
Key words: large bowel, resection, stress.

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COMPUTED TOMOGRAPHY SIZES OF LARGE MOLAR TEETH AND THEIR ROOTS IN PRACTICALLY HEALTHY MEN DIFFERENT CRANIOTYPES

Introduction. Today, in anthropological odontology, the transition from the analysis of the mean values of odontometric indices to the identification of their confidence intervals and percentile scope with a correction for gender, age, racial and ethnic and constitutional affiliation is carried out. It is necessary not only to reveal the factors of well-being and the level of health, but also is a diagnostic key for timely resolution of the issue of impressions for in-depth specialized surveys, as well as the selection of preventive measures. *Aim of our work* – to set the differences linear computed tomography sizes of large molar teeth and their roots in practically healthy men from the central region of Ukraine different craniotypes.
Materials and methods. A cone-ray computer tomography was performed in 64 somatically healthy men aged from 19 to 35 from the central region of Ukraine on the basis of the medical center "Vinintermed LTD" using the Veraviewepocs-3D dental cone-ray tomograph (Morita, Japan). On the cone-ray computer tomograms of large angular teeth of the upper and lower jaw were measured: the length of the tooth; the length of the palatine, distal- buccal and medial- buccal roots of large molar teeth of the upper jaw; the length of the medial and distal roots of the large molar teeth of the mandible; height of tooth crown; vestibule-tongue size of the crown and neck of the tooth; mesio-distal dimensions of the crown and neck of the tooth. Cephalometric studies were conducted taking into account the generally accepted recommendations and anatomical points. The shape of the head was determined by the formula ms_ms*100/g_op, where ms_ms is the largest head width (occipital diameter); g_op - the largest length of the head (distance from glabella to opistocranion). Up to a value of 75,9 men attributed to dolichocephalic; 76,0-80,9 - to the mesocephalic; 81,0-85,4

- to brachycephalic; 85,5 and more - to hyperbrachycephalic. The following distribution is established: men dolichocephalic - 11; men mesocephalic - 16; brachycephalic male - 25; men hyperbrachycephalic - 12. Statistical processing of the obtained results was carried out using the statistical software package "Statistica 6.1" using nonparametric methods.

Results. When comparing linear computer-tomographic sizes of large molar teeth and their roots between practically healthy men of Podillia of different craniotypes have established a number of differences. Dimensions of large molar teeth (exclusively transversal) and their roots increase in the direction dolichocephalic-mesocephalic-brachycephalic-hyperbrachycephalic. Only the mesio-distal size of the neck of the upper left second large molar tooth in brachycephalic is significantly higher in comparison with hyperbrachycephalic.

Conclusion. Vertical sizes of the tooth crown between the representatives of different craniotypes have practically no differences. At the next stage of the study, it is planned to conduct an assessment of differences in the linear computer-tomographic sizes of large molar teeth and their roots in practically healthy men with different types of face, which will allow the use of craniotyping results in medical practice and will enable the constitutional approach to be implemented during dental examinations, planning preventive and curative measures.

Key words: large corner teeth, computed tomography, practically healthy men, craniotype, central region of Ukraine.

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STRUCTURAL CHANGES OF RAT'S RENAL CORTEX IN LATE PERIOD OF SKIN BURN INJURY UNDER THE CONDITIONS OF THE INFUSION BY LACTOPROTEIN WITH SORBITOL

Introduction. Today in combustiology for the treatment of hard-cooled, infusion of combined hyperosmolar solutions is widely used. The expediency and efficiency of using a solution of lactobacilli with sorbitol (a combined hyperosmolar protein-salt solution) in the treatment of burn injury to the skin and its consequences has been proven in experimental studies and clinical practice. *The purpose of this study* was to determine the peculiarities of structural changes in the cortical kidney of rats after 14, 21, 30 days after the experimental skin burn II-III stage in conditions of use during the first 7 days of daily intravenous infusion of isotonic solution of lactobacilli with sorbitol.

Materials and methods. Experimental study was performed on 45 white male rats weighing 155-160 g. Experimental animals were divided into three groups: I - intact rats; II - rats without skin burn, which were injected with a solution of lactoprotein

with sorbitol; III - rats with skin burn, which were injected with a solution of lactoprotein with sorbitol.

Results. The article presents and analyzes the results of the experimental investigation of structural changes of rat's renal cortex in late period of skin burn injury under the conditions of the infusion by lactoprotein with sorbitol. Infusion of lactoprotein with sorbitol cause the clearly expressed nephroprotective effects, but the renal cortex is characterized by the presence of morphological changes in components of glomerular and tubular apparatus. Mitoptosis play a main role in the adaptation of the number and quality of mitochondria in tubular epithelial cells to new microenvironmental conditions in situation of burn disease. We have often observed a mixed form mitoptosis in which mitochondria undergo condensation and degradation, followed by vesicular fragmentation of cristea, but (instead of disruption of the outer mitochondrial membrane) the mitochondria become engulfed in autophagolysosome (or transformed into autophagolysosome). Massive mitoptosis leading to autophagy can result in cell death. Thus, mitochondrial degradation and dysfunction are the good reasons for its elimination under the clear principle: «it is better to die than to be wrong». Specific influence of lactoprotein with sorbitol consists of manifestation of the first educed ultrastructural effect of high structuralisation of mitochondria in renal epithelialcells of rats with the burn of skin due to the increase of thickness and increase of electronic density of all of the tools of mitochondrial envelope. Such strengthening of mitochondrial envelope part of mitochondria has a regulator and safety device of massive mitoptosis.

Conclusion. Lactoprotein with sorbitol has a cytoprotective effect on the structure of the cortical substance of cooked rats, thereby demonstrating nephroprotective properties. Specific, inherent only to lactoprotein with sorbitol, the effect is manifestation of the first established ultrastructural effect of enhanced structurization of mitochondria of epithelial cells in the renal tubules due to increased thickness and electron density of all components of the mitochondrial membrane. Such strengthening of the mitochondrial membrane in a part of the mitochondria is a regulator and a fuse for mass mitopathosis. Maximizing the effect of structurization manifests itself in most mitochondria after 14 days after burn and gradually disappears, covering all the smaller part of mitochondria, after 21 days and 30 days after burn (with the improvement of the structural changes in the cortical substance of the kidneys and the general clinical condition of the baked) Thus, it is a structural expression and a marker of a "tense situation" in a cell, as well as a certificate of "improvement of this situation" (in this case lactoprotein with sorbitol reveals its properties of mitochondrial tread). Optimization of regenerative processes in the vascular component of the tubules of the nephrons and the renal bodies of the heated rats under the conditions of infusion of lactoprotein with sorbitol leads to a general improvement of the microcirculation and, accordingly, to the normalization of their functions. The tread effect not only covers the organelles of the epithelial cells of the tubes, but extends to the organelles of the podocytes and endothelial cells of the blood capillaries of the glomerulus and to the common for them the main membrane, which inhibits and delay the violation of the integrity of the filtration barrier.

Key words: skin burn injury, infusion therapy, lactoprotein with sorbitol, structural changes, renal cortex.

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MODELS OF INDIVIDUAL LINEAR DIMENSIONS NEEDED TO BUILD THE CORRECT FORM OF THE DENTAL ARCH IN GIRLS DEPENDING ON THE CHARACTERISTICS ODONTOMETRIC AND CEPHALOMETRIC INDICATORS

Introduction. *Aim of our work* – to develop and carry out the analysis of regression models of individual linear sizes necessary for the construction of the correct form of the dental arch in girls with orthognathic bite, depending on the characteristics of odontometric and cephalometric indices.
Materials and methods. Primary indices of teeth size and heads of girls from Podillia with orthognathic bite (n = 50, determined by 11 points by M. G. Bushan et al.) were obtained from the data bank of the research center of the Vinnitsa National Medical University named after Pirogov within the framework of the agreement on creative cooperation between Vinnitsa National Medical University named after Pirogov and Higher state educational institution of Ukraine "Ukrainian Medical Dentistry Academy" (Contract № 1 dated by 05.01.2015). For this study used dental cone-beam tomography - Veraviewepocs 3D, Morit (Japan). In upper and lower incisors, canines, small and first large molar teeth measured: the length of the tooth; root length in vestibular-tongue and mesio-distal projections; mesio-distal size of the crown; vestibular- tongue size; width dentin-enamel limit in mesio-distal direction; width dentin-enamel limit in vestibular- tongue direction. As in previous studies with comparison of computer-tomographic metric characteristics of similar teeth right and left sides, significant differences or trends have not been identified by us, in subsequent studies we used average values of corresponding teeth on the upper and lower jaws. Measurements of cephalometric sizes conducted by soft measuring tape and a large compass with life-size scale systems by Martin. Construction of linear regression models sizes, needed to build the correct form of the dental arch depending on the characteristics of odontometric and cephalometric indicators performed using the statistical software package licensed "Statistica 6,0".
Results. Of the 18 possible linear sizes necessary for constructing the correct shape of the dental arc in Podillia girls with orthognathic bite based on the odontometric and cephalometric characteristics constructed 14 reliable models with a determination coefficient from 0.631 to 0.804 ($p < 0.001$). In the models of the distance between the tops of the medial roots of the lower first large angular teeth, the distance between the jaws of the jaw of the mandible, the distance between the tops of the roots of the jaw of the mandible and the depth of the palate at the level of the jaws, the determination

coefficient was from 0.226 to 0.585 (p <0.01-0.001). Constructed models with a determination coefficient more than 0.6 most often include the size of teeth (69.2%, of which 26.9% - upper incisors, 18.3% - lower incisors, 3.8% - on the upper canines, 11 , 5% - lower canines, 4,8% - upper small corner teeth, 3,8% - lower small corner teeth) than the cephalometric indices (30,8%). Among the sizes of upper and lower incisors, canines, small and first large angular teeth models most often include the following indicators: mesiodistal dimensions of the crown of the teeth (17.3%, of which 13.5% on the upper jaw); the length of the teeth (11.5%, of which 5.8% on the upper jaw) and the width of the dentin-enamel border in the mesiodistal direction (10.6%, of which 2.9% on the upper jaw).

Conclusion. Among the cephalometric indicators, most commonly models include: average face width (4.8%), maximum head width and mouth width (2.9%).

Key words: girls with orthognathic bite, regression analysis, odontometric and cephalometric indices, correct form of dental arc.

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FEATURES COMPUTED-TOMOGRAPHY SIZES OF SMALL MOLAR TEETH AND THEIR ROOTS IN PRACTICALLY HEALTHY MEN OF UKRAINE WITH DIFFERENT FORMS OF HEAD

Introduction. The specified characteristic of the questions of study of odontometric indices is inseparable with the peculiarities of the size of the brain and facial parts of the skull, which allows us to develop and implement new directed methods of surgical manipulation in practice and correctly understand the requirements of an individualized prosthetic technique. In addition, the account of craniotypological differences of odontometric indices is necessary to control the effectiveness of treatment and predict possible aesthetic changes in the skeletal and soft-tissue bases of the skull. *Aim of our work* – to set the differences in leaner computed-tomography sizes of small molar teeth and their roots in practically healthy men of Ukraine with different forms of head.

Materials and methods. On the basis of the medical center "Vinintermed LTD", for 200 somatic healthy men aged from 19 to 35 years from different administrative regions of Ukraine were done a cone-ray computer tomography using the Veraviewepocs-3D dental cone beam tomograph (Morita, Japan). The volume of a three-dimensional image is a cylinder of 8x8 cm, a layer thickness 0,2/0,125 mm, an irradiation dose 0,011-0,048 mSv, a voltage and amperage 60-90kV/2-10mA. The study of a three-dimensional model of bone structures of the tooth-jaw complex was carried out in the i-Dixel One Volume Viewer (Ver.1.5.0, J Morita Mfg. Cor.). On cone-ray computer tomograms small molar teeth of the upper and lower jaws were measured: the length of the tooth; the length of the palatine and cheek roots of the

small molar teeth of the upper and lower jaw; height of tooth crown; vestibular-tongue size of the crown and neck of the tooth; mesio-distal dimensions of the crown and neck of the tooth. The cephalometric study consisted of determining the parameters of the cerebral and facial sections of the head with the aid of a large sliding compass with a scale in the real size of the Martin system and soft centimeter ribbon. Cephalometric studies were conducted taking into account the generally accepted recommendations and anatomical points. The shape of the head was determined by the formula ms_ms*100/g_op, where ms_ms is the largest head width (occipital diameter); g_op - the largest length of the head (distance from glabella to opistocranion). Up to a value of 75,9 men attributed to dolichocephalic; 76,0-80,9 - to the mesocephalic; 81,0-85,4 - to brachycephalic; 85,5 and more - to hyperbrachycephalic. The following distribution is established: men dolichocephalic - 26; men mesocephalic - 49; brachycephalic male - 84; men hyperbrachycephalic - 41. Statistical processing of the obtained results was carried out using the statistical software package "Statistica 6.1" using nonparametric methods. The reliability of the difference between independent quantitative values was determined using the Man-Whitney U-criterion.

Results. Conclusion. When comparing linear computer-tomographic sizes of small molar teeth and their roots between practically healthy men of Ukraine, different craniotypes have the following features.

• the largest number of craniotypological differences are established for the computer-tomographic sizes of the first small molar teeth in comparison with other small molar teeth;

• the magnitude of the linear computational-tomographic size of small molar teeth (exclusively transversal) and their roots increases in the direction dolichocephalic-mesocephalic-brachycephalic-hyperbrachycephalic;

• between the dolichocephalic and mesocephalic, brachycephalic and hyperbrachycephalic, not detected any trends and differences in both vertical and transverse linear computational-tomographic sizes of small molar teeth and their roots.

Key words: small molar teeth, computed tomography, practically healthy men, craniotype.

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RELATIONS LINEAR INDICATORS OF UPPER JAW WITH THE CHARACTERISTICS OF THE LOCKING PLANE, TEETH LOCATION AND PROFILES OF FACE SOFT TISSUE IN BOYS AND GIRLS

Introduction. The dentist, based on the ranges of normal parameters, corrects bite, changing the height and the nature of closing the teeth of the upper and lower jaw,

with the use of various orthopedic constructions and orthodontic treatment. For this specialist, it is prerequisite to estimate the mutual relation of linear and angular parameters of the jaws on the basis of geometric and mathematical calculations, namely: the use of correlation analysis with the subsequent construction of regression equations. *Aim of our work* – to establish the features of the connections of linear indicators of the upper jaw with the characteristics of the closure plane, the position of the teeth and the profile of soft facial tissues in boys and girls with physiological bite.

Materials and methods. Using the device Veraviewepocs 3D, Morita (Japan) in 38 boys (age from 17 to 21 years) and 55 girls (aged from 16 to 20 years) with orthognathic bite were obtained and analyzed side teleradiography and scans. Cephalometric points and measurements were performed according to the recommendations of C. C. Steiner, and anatomical - by Basavaraj Subhashchandra Phulari, S. I. Doroshenko and Ye. A. Kulhynskiy. Defined: teleradiography angular performance of the upper jaw; teleradiography and computer tomography characteristics position of teeth and soft tissue profile face. Evaluation of correlations carried out in the license package "Statistica 6,0" using Spearman nonparametric statistics.

Results. In *young men, the effective length of the upper jaw* has an average direct force (r = from 0.32 to 0.34) connections with a YG33_34 angle, vestibule-tongue inclination of the 41 tooth, with the angles 1l_MeGo, IMPA, Mand1_ML; reliable average forces inverse (r = from -0.35 to -0.42) with YGOCLPl, POr_OcP and SN_OcP, Mand1_MeIm; unreliable average force straight (r = 0,30 in both cases) ties with the vestibule-tongue tilt of 45 tooth and angle Max1_SN; invalid average reverse force (r = -0.30) correlation with the angle POr_DOP. In *girls, the effective length of the upper jaw* has a reliable average force straight (r = 0.31) bond with the angle YGNEBAPX; reliable weak direct (r = 0.29) connection with angle Max1_SN; reliable weak inverse (r = -0.29) relationship with the angle Max1_SpP. In *young men, the length of the upper jaw* has a strong direct (r = 0.63) relationship with the thickness of the upper lip; average strength straight (r = from 0.33 to 0.51) ties with the angle YG33_34, vestibule-tongue tilt of 41, 42, 43 teeth, with a rotation of 45 tooth, with angles 1l_DOP, 1l_MeGo, IMPA, Mand1_ML, with thickness soft tissues of the chin, the distance Sm_H line and the depth of the nasolabial fold; reliable average forces inverse (r = from -0.33 to -0.57) connections with YGOCLPl, POr_DOP, POr_OcP and SN_OcP angles, with distances of 1l_Apog and 1u_NA, with an angle Mand1_MeIm and nasolabic angle; unreliable mean force straight (r = 0.30 in both cases) with vestibule-tongue tilt of 45 tooth and angle Max1_SN. In *girls, the length of the upper jaw* has a reliable average strength straight (r = 0.31 to 0.43) connections with vestibule-tongue tilt of 41, 42, 43 teeth, with the angles 1l_DOP, 1l_MeGo, IMPA, Mand1_ML, Mand1_NB; reliable mean reciprocal force (r = from -0.30 to -0.36) with rotation of 45 tooth, distance of 1u_NA, with angles II and Mand1_MeIm; reliable weak direct (r = 0,29) connection with the angle of inclination of the upper incisive in the arched projection; reliable weak inverse (r = -0.29) relationship with the inter-incisive angle on the CT. *In boys, the distance PN_A* has a median direct force (r = from 0.32 to 0.44) bonds with a mesio-distal inclination

of 43 and 44 teeth, with a vestibule-tongue inclination of 41, 42, 43 and 45 teeth, with a rotation of 46_L teeth , with the angle of inclination of the upper incisive in the arched projection, with angles 1l_DOP, 1l_MeGo, IMPA, Mand1_ML, Mand1_NB, with a distance of 1u_Avert, with a thickness of the upper lip, with a thickness of soft chin tissues; reliable mean reciprocal force (r = from -0.32 to -0.57) connections with the angles POr_DOP and POr_OcP, with a rotation of 14 tooth, with a distance of 1u_NA, with mandl_MeIm angles and II, with nasolabial angle and nose depth; unreliable mean force straight (r = from 0.30 to 0.32), with a rotation of 11, 45 and 46 teeth, with a Holdaway ratio and a depth of the nasolabial fold; the false median force of the straight line (r = -0.31) with the rotation of 43 tooth. In *girls, the distance PN_A* has a reliable average force straight (r = from 0.34 to 0.40) connection with a mesio-distal inclination of 13 tooth, with an angle of inclination of the upper incisive in the archer projection, with a distance of 1u_Avert, with a Holdaway ratio, with angle Mand1_NB, with distance Ls_NsPog; reliable average forces inverse (r = from -0.32 to -0.50) connections with the angles POr_DOP, POr_OcP, Max1_SpP, with the distance Pog_NB and the depth of the nose; reliable weak straight (from 0.27 to 0.29) ties with the vestibule-tongue tilt of 11 teeth, the distances Li_NsPog 'and Sn_H line; reliable weak inverse (r = from -0,27 to -0,29) ties with the rotation of 45 tooth, inter- incisive angle on CT, distance 1u_NA and angle II.

Conclusion. In the analysis of teleroentgenogram and tomograms it is recognized that the main indicators characterizing geometry and the state of the dental-jaw system are the angles. It is proved that the linear dimensions of the jaws and the distance between the special points vary greatly, and the angular parameters have smaller variation limits. For the last few years, the norm has been established and the greatest number of covariates with other structures of the craniofacial complex have been determined. Similarly, our study found a significantly lower number of correlations for linear indexes of the upper jaw than angles indexes. In most of the works, the state and position of the soft tissue and cartilage structures are not directly considered. This is due to the fact that most traditional X-ray methods practically can not visualize them. Accordingly, they can not give quantitative information about their condition and the relationship with the bone fundus of the gnatic part of the face. Not all of highlighted by Veraviewepocs 3D, Morita, the facial soft tissue profile options by us are independent. Judging by the results, most of them (mostly in boys) depend in some way on the linear indexes of the upper jaw, which allows using mathematical operations to calculate the parameters of the profile of soft facial tissues, depending on the features of the linear parameters of the upper jaw.

Key words: boys, girls, linear indicators of the upper jaw, characteristics of the closure plane, characteristics of the position of the teeth, profile of facial soft tissues.

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REGRESSION MODELS SIZES OF HIND LEGS IN THE INTERNAL CAPSULE IN BOYS AND GIRLS OF VARIOUS CRANIOTYPES

Introduction. *Aim of our work* – to construct and analyze the regression models of individual computer-tomographic sizes of back leg of the internal capsule in practically healthy young men and girls of different craniotypes depending on the peculiarities of the structure and size of the body.

Materials and methods. Among aimed at doctors for CT-examination (examination regulations correspond to the MOH order of Ukraine by 04.06.2007 № 294 «On approval of the State sanitary rules and norms» "Hygienic requirements to placement and operation of X-ray rooms and radiology procedures") youths aged from 17 to 21 years and girls aged from 16 to 20 years in the third generation residents of Podillia region of Ukraine with suspected brain disease in which the diagnosis was not confirmed, additional test after screening assessment of health (using a special questionnaire) 82 healthy young men and 86 girls were selected. Computed tomographic examination of the brain was performed using the electron scanner "Select SP" of the ELscint company. Sections (thickness 5-10 mm) in axial projection performed in parallel to the upper orbit-meatal line pre-determining the level of scanning the overview scan of the skull in lateral projection. The transverse size of the back leg of the inner capsule to the right and to the left was determined at the level of the T5 tomography. Anthropometric survey of boys and girls was conducted according to the scheme of Bunak in the modification of Shaparenko. Features of the form of the skull were calculated using a cranial pointer (the ratio of maximum head width to maximum head length). Given the distribution of boys and girls on different craniotypes (among boys - 12 dolichocephalic, 17 mesocephalic and 53 brachycephalic; and among girls - dolichocephalic 25, 38 mesocephalic and 23 brachycephalic) for regression modeling was not adolescent dolichocephalic. To evaluate the somatotype, a mathematical scheme for Hit-Carter was used. By formulas of J. Matiegka determined the fat, bone and muscle mass components of the body. In addition, by the American Institute of Nutrition, the muscle component of the body mass was determined. To develop individual models computed tomographic sizes of back leg of the internal capsule depending on the characteristics and anthropometric indicators in somatic license package "STATISTICA 6.1" method used stepwise regression analysis

Results. Conclusion. Among boys of different craniotypes only for mesocephalic built authentic models computed tomographic size of the rear legs of the internal capsule based on anthropometric and somatic parameters with determination coefficient greater than 0.6 (coefficient of determination equal to 0.818 and 0.892). The girls of different craniotypes only cross size back legs left internal capsule has a coefficient of determination at least 0.6. So in dolichocephaly - 0.795 and 0.842; in mesocephalic the size of the right is 0.644; in brachycephals - 0.828 and 0.857. Constructed models computed tomographic size of the rear legs of internal capsule with a coefficient of determination more than 0.6 often include: in youth-mesocephalic - girth body size (33.3%), longitudinal size and diameter of the body (by 22.2%); in girls-dolichocephaly - thickness skin-fat folds (33.3%), cephalometric

performance, body diameters and width of distal epiphysis of long bones of the extremities (by 22.2%); in brachycephalic girls - the circumferential dimensions of the body and the thickness of skin and fat folds (by 28.6%). It should be noted that the question of relationships anthropo-somatic body parameters and morphological and functional parameters of the brain is almost not studied, particularly among the healthy population.

Key words: back leg of the internal capsule, computer tomography, anthropometry, craniotype, virtually healthy young men and girls, regression analysis.

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REGIONAL MODELS OF SONOGRAPHIC PARAMETERS OF KIDNEYS IN MEN OF MESOMORPHIC SOMATOTYPE IN CONNECTION WITH THE FEATURES OF SIZE OF THE BODY

Introduction. *Aim of our work* – to construct and analyze the regression models of individual sonographic sizes of right and left kidneys in practically healthy men of mesomorphic somatotype depending on the features of anthropometric and somatotypological indicators.

Materials and methods. Within the framework of the agreement on scientific cooperation from the database of the research center of the Vinnitsa National Medical University named after Pirogov taken the primary sonographic parameters and anthropometric indices of 121 practically healthy women (from 22 to 35 years old) and 97 virtually healthy men (from 21 to 35 years old) of the first mature age who live in the third generation in Podillia. All of them had an anthropometric survey conducted by Bunak in the modification of Shaporenko. The evaluation of the somatotype was carried out according to the mathematical scheme of J. Carter and B. Heath. Determination of the absolute amount of fat, bone and muscle mass components of the body was calculated according to the formulas J. Matiegka, as well as the muscular component - according to the formulas of the American Institute of Nutrition. Sonography of the right and left kidneys was performed using the ultrasound diagnostic system "CAPASEE" SSA-220A (Toshiba, Japan) with a 3.75 MHz convective sensor and Voluson 730 Pro diagnostic ultrasound system (Austria), a 4-10 MHz convective sensor. For each kidney the length, width (transverse size) and the anterior-posterior dimensions were determined; the area of the longitudinal and transverse sections of the kidneys and their sinuses, as well as the volume of the right and left kidneys. To construct models of individual sonographic parameters of the kidneys, the method of stepwise regression analysis in the package "STATISTICA 6.1" was used.

Results. Conclusion. In men mesomorphic somatotype of 16 possible sonographic parameters of left and right kidneys built only 7 significant regression models

(namely, the width of the right and left kidney in longitudinal section, anteroposterior size of the right and left kidney on cross section, the cross-section of the right kidney, sinus cross-sectional area of the right kidney and left kidney volume) depending on the anthropometric and somatic indices with R^2 greater 0.6 (R^2 is from 0.615 to 0.715). In 9 other significant regression models sonographic parameters of left and right kidneys R^2 is from 0.294 to 0.496 and therefore the results have significant practical importance in medicine. Constructed models sonographic parameters of both kidneys with determination coefficient more than 0.6 most often includes - girth body size (23.9%), the diameter of the body (19.6%) and thickness of skin and fat folds and width of distal epiphysis of long bones of the extremities (by 15.2%). Separately, built models of right kidney most often include girth body size, body diameters and thickness of skin and fat folds (by 18.5%); and to the left kidney - includes the circumferential dimensions of the body (31,6%) and the diameter of the body (21,1%).

Key words: kidneys, sonography, anthropometry, somatotype, virtually healthy men and women, regression analysis.

CLINICAL ARTICLES

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CLINICAL CHARACTERISTICS OF WOMEN WITH GESTATIONAL HYPERTENSION

Introduction. hypertension disorders during the period of pregnancy all over the world take place from 7 to 30%, and according to the WHO experts they complicate up to 20% of pregnancies. Gestational hypertension disorders are one of the major causes of premature birth and perinatal death of the fetus. *Objective:* to determine clinical characteristics of women with gestational hypertension.
Materials and methods. We made retrospective analysis of 123 delivery histories, 123 individual cards of pregnant women with gestational hypertensive disorders and 125 histories of the development of the newborn for 2013. The research was conducted on the basis of Khmelnytskyi city perinatal centre.
Results. All women were aged from 18 to 42, mean age was 27,5 years. The body mass index ≥30 kg/m2 (obesity) occurred in 43 (34,9%) patients, 25,0-29,9 kg/m2 (excess body weight) in 27 pregnant women (22%). The number of patients who gave birth for the first time was 81 (65,9%). Burdensome somatic anamnesis was detected in 100 women (81,3 per cent). Moreover, in 67 (54,5%) cases the women had co-morbidity. Cardiovascular disease was found in 45 (36,6%) of women, pathology of

the digestive system – in 25 (20,3%) women, metabolic disorders and endocrinopathies – in 86 (69,9%) patients, pathology of the urinary system – 26 respondents (21,1%), respiratory diseases – 5 patients (4%), anemia in 13 (10,6%) of women. When analyzing the course of pregnancy, we found out that the threat of miscarriage was diagnosed in 40 (32,5%) of patients, the risk of preterm delivery in 20 (16,3%) of women, 20 (16,3%) – excessive vomiting of pregnant women, high water-level – 9 (7,3%) of women, hypamnions had 11 (8,9%) of women, anemia had 54 (44%) , intrauterine growth retardation of the fetus – in 11 (8,9%) of cases, premature maturation of the placenta – in 23 (18,7%) of women, pathology of placenta disposition – 4 (3,25%), edema of the placenta – 10 (8,1%) pregnant women, 6 (4,9%) women had gestational pyelonephritis. When analyzing the course of delivery, we found out that fetal distress was observed in 17 (13,8%) of women, cesarean section had 44 women (35,8%), vacuum extraction of the fetus had 8 women (6,5%), labor induction by means of amniotomy – 14 (11,4%) patients, weakness of delivery activity – 12 pregnant women (9,75%), premature bursting of the waters – 46 (37,4%) of women. 12 women (9,75%) had the defect of the placenta. 18 (14,6%) patients had meconium waters.

Conclusions. As a result of our retrospective analysis of birth histories of patients with gestational hypertension disorders we found out that 4/5 of these pregnant women had gestational hypertension, and 1/5 – preeclampsia. Transformation of gestational hypertension into preeclampsia occurred in 16,3% of cases. Pregnancy and delivery at gestational hypertension take place with a large number of perinatal pathology: the threat of termination of pregnancy, toxicosis of the I half of pregnancy, colpitis, high water-level, hypamnions, anemia, delayed fetal development, impaired function of the placenta, distress of fetus during the delivery, labor induction, weakness of delivery activity, premature bursting of the waters, meconium waters, defect of the placenta, increasing the frequency of caesarean section and vacuum extraction of the fetus.

Key words: gestational hypertension, pregnancy, perinatal consequences.

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AGE PECULIARITIES OF CLINICAL COURSE OF HERPES VIRUS INFECTION IN CHILDREN

Introduction. Up to date herpes virus infections belong to the most spread ones. The scope of the disease in conjuction with harm (psychological and physiological) determine the important medical and social significance of these infections. The medical facets of herpes virus infection are associated with the development of characteristic pantropism to organs and tissues, lifelong persistence in the human body and capability to cause different overt forms of the disease, complexity of

diagnostics of different forms of the disease and difficulties in the treatment due to lack of the possibility of complete abolition of the host from virus. In literature the properties of herpes viruses, epidemiology, peculiarities of immune processes, traditional syndromic clinical presentation of acute period of the disease are abundantly described, at the same time the ultimate solution of the question of time duration of infection process is absent that emphasizes the novelty of the questions of monitoring. *The aim* of our investigation has become to reveal peculiarities of dynamics of clinical presentation in children with herpes virus infection depending on the form, age and gender to improve the medical provision of patients at different stages of infection process.

Materials and methods. We have examined 120 children with herpes virus infection at the age from 3 to 17 years distributed into four groups. The first group of investigation has been composed of children with confirmed acute Epstein-Barr infection, the second one – Epstein-Barr infection in combination with cytomegalovirus infection, the third one – Epstein-Barr infection and herpes virus infection of 1 type, the fourth – Epstein-Barr virus infection and herpes virus infection of 6 type. Verification of diagnosis has been carried out on the basis of the results of case history, clinical and laboratory examination (general clinical tests, definition of specific markers of herpes virus infections – identification of PLR to herpes viruses, Ig M and G in blood and swabs from tonsils).

Results. There were 27,8% patients with severe course, 50,5% children with moderate course, 21,7% persons with mild course. There were no essential distinctions in the distribution of patients among four groups of the examination based on age, gender, severity of disease. The efficacy evaluation of treatment of herpes virus infection was carried out on the basis of dynamics of clinical symptoms (at admission to hospital, in two weeks, 1 month from beginning of treatment, 3 months after onset of disease). Analysis of complaints and data of objective examination has shown that all children had acute onset of disease with general toxic syndrome. Changes on the part of skin in the form of pallor, “blue eyes”, cyanosis of the extremities have been recorded in all examined children. However, exanthema has been observed in 48 (40%) patients with Epstein-Barr infection in combination with herpes virus infection of 1 type and in 36 (30%) patients with Epstein-Barr infection in conjuction with herpes virus infection of 6 type, especially in children who took domiciliary antibiotics of penicillin group. The disturbances of nasopharynx and oropharynx in the form of nasal stuffiness, swelling of face and eyelids, difficulty in nasal breathing, snoring have been observed in patients and acute tonsillitis has been noted. In the back of the throat the manifestations of hyperemia, granulation loose tissue with nodules – hyperplastic follicular glands – have been diagnosed. These symptoms have been mostly marked in children with isolated Epstein-Barr infection and in combination with cytomegalovirus infection. The damage of lymphoid tissue has had systemic character and has been found out in 76,7% children with prevailing damage of submandibular, anterior cervical and posterior cervical, inguinal groups of lymph glands. The above noted symptom complex was more distinctive in groups of children with isolated Epstein-Barr infection or in conjunction with cytomegalovirus infection, in the first place in

patients of pre- and pubertal period. The constant symptom of disease was hepatomegaly. In these patients in the absence of hyper-bilirubinemia the increase of activity of alaninaminotransferase and aspartataminotransferase was recorded. Splenomegaly was detected in 86,7% patients and was most pronounced in the age group from 3 to 6 years. In the majority of children (61,8%) with Epstein-Barr infection in conjuction with herpes virus infection of 6 type the disturbances on the part of central nervous system were noted. Hematological disorders which were characterized by moderate leucocytosis, neutrocytosis or left deviation at the onset of disease have been noted and in 3-5 days in the course of the treatment the blood picture has been changed to the normal quantity of leucocytes with lymphocytosis and monocytosis accompanied by accelerated ESR.

In 1 and 3 months from the beginning of therapy in the majority of patients the pronounced positive clinical dynamics has been observed.

Conclusion. Taking into consideration the defined peculiarities of clinical changes in examined children it may be noted that in children of young age with herpes virus infection the disorders of nasopharynx have prevailed, the manifestations of toxic syndrome, splenic anemia and metabolic disorders have been more pronounced, whereas in adolescents the more significant and constant lymph node enlargement has been noted in the presence of less apparent involvement of parenchymatous organs. The general blood test for herpes virus infection in children has some peculiarities depending on the phase of the disease - at the beginning of leukocytosis with neutrophilia and accelerated ESR, it changes rather quickly the normalization of leukocytes, lymphocytosis, accelerated ESR.

Key words: herpesvirus infection; clinical manifestations; children; age features.

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STANDARDIZATION OF INDICATORS OF SEVERITY OF DAMAGE AND THE STATUS OF VICTIMS DEPENDING ON THE DURATION OF CARE ROAD HOSPITALS IN THE PREHOSPITAL AND EARLY HOSPITAL STAGES

Introduction. The feature of modern injury is the high proportion of polysystem damages as a result of road traffic accidents. Among the main causes of injuries as a result of an accident are injuries associated with transport. *The purpose of the study* was to determine the possibility of scales of severity of damage and the state of the victim in patients with polytrauma as a result of an accident, which was provided assistance in the conditions of the hospital.

Materials and methods. The article provides data analyzing 316 cases affected with multiple trauma owing to traffic accidents at the pre-hospital and early hospital stages treated in conditions of a roadside hospital.
Results. It is found that injure severity owing to traffic accidents since the medical care treated at pre-hospital and early hospital stages in conditions of a roadside hospital in accordance with Injury Severity Score (ISS) amounted to the following rates: 0,6% of casualties received medical treatment over the period of 10 min, up to 20 min - 11,39%, up to 30 min - 21,2%, up to 40 min - 19,3%, up to 50 min – 17,09%, up to 60 min – 10,44%, and more than 60 min - 19,94%/
The persons injured in the road traffic accidents commonly suffer from a component of polysystemic injury but the most often associated components are the cranial and thoracic component (51.9%), the abdominal component (3.16%) and the skeletal one (44.9%).
Conclusion. To improve the results of treatment the patients with polysystemic injuries owing to traffic accidents at the pre-hospital and early hospital stages in conditions of a roadside hospital it is necessary to use up-to-date treatment technologies as well as the unified treatment protocol schemes and clinical decision-making records.
Key words: traffic accident, roadside hospital, casualties, Injury Severity Score (ISS), Trauma Score (TS)

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RESULTS OF OPERATIONAL TREATMENT TROCHANTERIC FRACTURES OF THE HIP IN PATIENTS OF SENIOR AND AGING

Introduction. The article is devoted to the actual problem in traumatology and orthopedics – treatment of trochanteric hip fractures. The authors analyzed the material Foreign (using database PubMed) and national publications, which describes the modern methods of treatment of this disease, positive and negative results of surgical treatment strategy, the advantages and disadvantages accessory osteosyntesis, assessment of long-term results of treatment and quality of life, held trochanteric evaluation of treatment of hip fractures by using different methods of osteosynthesis.
Materials and methods. We examined 90 patients with trocharic hip fractures who were treated at the trauma department MKLSHMD for 2013-2016 years. Patients randomized by age, gender. Depending on the type of the fracture, presence of comorbidities, late period, method of surgical treatment of patients separated into groups.

	Age of patients	number of patients

The method of fixing	60-74			75-90			90-	Total		
	Total	f	m	Total	f	m	ж	Total	f	m
Angle plate	27	18	9	13	10	3	-	26	22	18
DHS	14	5	9	5	4	1	1	36	10	10
PFN	16	11	5	4	4	0	-	6	15	5
Endoprosthesis	8	5	3	7	2	5	1	15	10	5
Screws fixation	0	0	0	5	2	3	0	5	2	3
Total	55	36	19	35	23	12	2	90	54	36

All patients were examined at regular intervals after undergone surgical treatment, surveyed using questionnaires Harris determined amount of motion in the joint, control X-ray was done.

Results. The survey results of patients treated by the method of evaluating the results of surgical treatment (Harris scale). Results of the treatment were using by MS EXCEL 2016. Based on the analysis of baseline data revealed that in groups with traditional methods of fixation outcomes by Harris scale best when using clamp DHS - 88.5 points, average - the application of gamma nail - 81.5, and fixing screws and using the lowest angle plate - 70.03 points. In cases of 90 patients who had operation treatment performed by conventional methods, in twenty patients obtained excellent results on a scale Harris (90-100 points). In 20 patients obtained a good result on a scale Harris (80-89 points). This patients had limited function of lower limb associated with a moderately severe pain under load and there was a need to use aids in the course. In 22 patients a satisfactory result for the scale Harris (70-79 points). In this group of patients present limited function associated with moderately severe pain in his hip, which required unregular using pain medication and manifested claudication distance moves and restrictions, the need to use aids when walking. Were present in 17 patients unsatisfactory result for the scale Harris (below 70 points). They had significantly limited lower limb function associated with severe pain which require continuous using of pain medication, restraint was shown walking and the need to use the assistance.

Conclusion. When analyzing the results osteosynthesis of fractures in elderly patients and elderly we have identified factors that define and characterize the complexity of each case and affect outcom

Key words: across trochanteric and inter trochanteric hip fractures, classification, osteosyntesis.

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PREDICTING THE RISK OF PRETERM BIRTH IN WOMEN WITH MULTIPLE PREGNANCIES IN THE POPULATION COHORT OF VINNYTSIA REGION DEPENDING ON THEIR INITIAL STATE OF HEALTH AND THE COURSE OF PREGNANCY

Introduction. To develop a predictive model for individual forecasting of the risk of premature birth in women with multiple pregnancies in the population cohort of Vinnytsia region depending on their initial state of health and the course of pregnancy.

Materials and methods. Analysis of the anamnesis data, the initial state of health, the course of pregnancy of 549 women with multiple pregnancies, which were delivered through natural birth canals in the maternity hospitals of Vinnytsia region during 2011-2015 years, was performed. The main group consisted of 86 women, which had preterm labor between 27 to 36 weeks of the gestation period. The control group comprised of 463 women, which gave birth after full-term multiple pregnancies. Statistical processing of the data was carried out with the help of the statistical package SPSS 20 (© SPSS Inc.).

Results. Independent predictors of premature labour in women with multiple pregnancies in the regression analysis of the population of Vinnytsia region were established. Those predictors are presence of preterm birth in anamnesis, bacterial vaginosis, urinary tract infections, asymptomatic bacteriuria, threatened termination of pregnancy, cervical length ≤ 25 mm ($p<0.05$). We have created a simple modified model for predicting the risk of premature birth in women with multiple pregnancies [$Y = -2.737 + 1.468 \cdot X_1 + 1.188 \cdot X_2 + 1.218 \cdot X_3 + 1.598 \cdot X_4 + 2.058 \cdot X_5 + 1.999 \cdot X_6$, where Y – premature birth; X_1 – premature birth in the anamnesis; X_2 – bacterial vaginosis; X_3 – shortening of the cervical length; X_4 – threatened termination of pregnancy; X_5 – asymptomatic bacteriuria; X_6 – urinary tract infections]. It has been found that this model has a good diagnostic value (AUROC = 0.756; $p <0.001$). The optimal cutoff value for forecasting premature birth using our developed model is ≥ -2.14 points.

Conclusion. A modified model for predicting the risk of premature birth in women with multiple pregnancies was developed. The model can be used to individually forecast preterm delivery in women of this category and to evaluate more accurately its risk comparing to the assessment of the risk based on a single predictive factor.

Key words: multiple pregnancy, preterm birth, logistic regression model, risk factors.

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DIAGNOSTIC VALUE OF THE CONTENT OF ANTIMICROBIAL PEPTIDE C-TERMINAL HCAP18 CATHELICIDIN LL-37 IN CHILDREN WITH ASTHMA

Introduction. At the present stage asthma was taken regarded as polietiological disease, and role in the exacerbation paid not only IgE – mediated allergic reactions. It is important to understand that in the pathogenesis nonatopic variant asthma significant played role by infectious agents that stimulate the production of 17 type T-helper, which in turn produce interleukin 17, which is capable of inducing the expression of many inflammatory mediators, including α1-antitrypsin , interleukin 1, 6 and 8. *The aim of the study* was to establish the diagnostic value content of antimicrobial peptides, such as C-terminal hCAP18 cathelicidin LL-37 in patients with asthma

Materials and methods. We have comprehensively examined 200 children with asthma aged 6 to 17 years. Verification of the diagnosis of asthma conducted by MOH of Ukraine number 868 of 08.10.2013 “Unified clinical protocols of primary, secondary (specialized) medical care "Bronchial asthma in children" taking into account the recommendations of the "Global Initiative for asthma" (Global Initiative for Asthma, GINA, 2016) and the recommendations adopted at the XII Congress of Pediatricians of Ukraine (2010, Kyiv). All research and treatments are carried out with the consent of affected children and their parents. To verify the diagnosis of asthma was used clinical – anamnestic method: to study the complaint history of the disease, life history, physical examination data. In clinical blood tests determined the amount of hemoglobin for Sali, held erythrocyte count (Er), studied their morphology, erythrocyte sedimentation rate (ESR) for Panchenkova, morphological study of leukocyte count leukocyte formula platelets. Results haemogram patients compared with results from peripheral blood of 40 healthy children of the same age. In general blood analysis noted the number of eosinophils, at the level of eosinophils 5-10% eosinophilia was diagnosed with a minor at the level of 10-20% – moderate eosinophilia, at the level of 20% – high eosinophilia. As the presence of inflammation markers we have identified content in blood serum proinflammatory cytokines (interleukin 1 and interleukin 6), which was determined by enzyme immunoassay (ELISA) using a standard set of firms IMMUNOTECH (France) recognized method.
Content of Cathelicidin LL-37 in serum were determined by ELISA set «Human Cathelicidin LL-37" (HK321, HUMAN LL-37 ELISA; Hycultbiotech, Netherlands) according to the instructions of the manufacturer. Distribution of Cathelicidin LL-37 levels was performed using the statistical method of separation of variational series on quartiles and quartile (less than 17,55 ng/ml), second quartile (17,56-33,70 ng/ml), the third quartile (33,71-51,87 ng/ml) and IV quartile (more than 51,9 ng/ml). As a control group were examined 40 healthy children who underwent whole range of clinical, biochemical and instrumental studies. Statistical analysis of the results was performed using IBM SPSS Statistics, version 20 (2013), using parametric and nonparametric methods of estimation of the results.

Results. The content of cationic antimicrobial peptide C-terminal hCAP18 cathelicidin LL-37 in patients with asthma (33,64±0,33 ng/mL) was significantly

higher (p≥0,001), than in the group of healthy children (7,74±0,27 ng/ml). With the development of asthma in children, especially nonatopic or mixed forms of content is increasing antimicrobial polypeptides cathelicidin LL-37 compared with healthy children in the 7,2 and 3,8 times, respectively, and patients with atopic form of the disease under 8,4 and 4,8 times. According cathelicidin value of LL-37 in the serum of patients with intermittent asthma was 25,72±4,13 ng/ml, which was significantly different from the values of healthy children and patients with persistent disease course (37,56±2,87 ng/ml). Controlled asthma only option, in which significant differences were observed content cathelicidin LL-37 with a group of healthy children, emphasizing the need for adequate monitoring in all patients with asthma.
Conclusion. Increase the content of the material was significantly associated with the severity course: with severe persistent asthma contents cathelicidin LL-37 higher by 39,58% and 10,87% than the intermittent and mild persistent flow accordingly. Level of cathelicidin LL-37 depended on the ability to achieve adequate control, uncontrolled asthma when its content was 3,76 times higher in than in a controlled disease. The positive correlation of medium strength cathelicidin LL-37 containing and interleukin-1 values (r_{xy}=0,398 (p=0,02)) and 6 (r_{xy}=0,178 (p=0,034)) in the serum of patients with asthma.
Key words: asthma, children, cathelitcidin LL-37

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THE WAYS IMPROVING THE RESULTS OF TREATMENT OF THE DESCENDING COLON'S NECROSIS AFTER SPHINCTER-SAVING OPERATION.

Introduction. *The aim* of the present article is to show the ways improving the treatment of the descending colon's necrosis after sphincter-saving operation.
Materials and methods. The research is based on the records of 271 patients suffering from the descending colon's necrosis since 1990 to 2014 and allowed following conclusions. The optimal treatment tactics of the descending colon's necrosis depends on the time of appearance thereof: those who suffered from early high necrosis of the descending colon had the descending colon amputated, whereas the patients suffering from early low necrosis of the descending colon had bringing down of the descending colon from the side of the crutch; the patients suffering from late necrosis of the descending colon had the disconnection of the left part of large intestines which formed a loop transverse stoma with simultaneous plugging of the pelvis and reinforcement of the anal canal in order to escape stenosis.
Results. The worked out tactics decreased (p<0,05) the risk of after operation complications of this category of patients, OP=0,54 (95% ДИ 0,29–0,99) comparing

with earlier used methodic of the treatment (from 1990 till 1999), when the after operation mortality was 6,2±2,5%. Due to the use of the developed treatment tactics, the decrease in postoperative lethality was by 2 times – from 12.5 ± 2.5% (22 patients) to 6.2 ± 2.5% (6 patients) ($p<0,046$).

It was established that an excellent, good, satisfactory and relatively satisfactory quality of life of patients with rectal cancer with necrosis of the descending colon while treatment by the worked out tactic had 80,9±4,2% of patients (in the control group – 59,1±4,0 patients) ($p<0,046$).

Conclusion. The whole complex of the rehabilitation let bettering of the life quality of patients suffering from the necrosis of the descending colon was developed, specifying the new way of the treatment of the stricture of the coloanal anastomosis after the abdominal – anal resection of rectum that exclude possibility of another stenosis; also, the new construction of the ostomy pouch excluded the leakage of intestine between the ring of the ostomy pouch and skin of thin patients and patients with cachexia. Also, the after operation bandage was worked out and the clump to it that excluded the necessity of the operation of the ventral hernia of the patients with hard attendant pathology but saving the physical activity.

Key words: colorectal cancer, sphincter-saving operation the descending colon's necrosis, treatment.

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FEATURES OF TREATMENT OF PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE WITH CONCOMITANT SOMATOPSYCHIC CHANGES

Introduction. Chronic Obstructive Pulmonary Disease (COPD) is one of the most significant pathologies of the present day, both in terms of prevalence and mortality and disability. Introduction of complex treatment of patients with COPD, including the inclusion of modern psycho-corrective actions, is an actual problem of medicine of the present, which determined *the purpose of our study*: to establish the clinical and functional and psychological efficiency of the treatment regimen of patients with COPD with the inclusion of a nootropic agent.

Materials and methods. To evaluate the clinical, functional and psychocorrecting efficiency to treatment of COPD patients with the inclusion of nootropic drug examined 37 patients with COPD using conventional in pulmonology practice techniques and made the definition of psychological status using standardized international questionnaires determine the level of neuroticism, anxiety and depression. We studied the dynamics of clinical symptoms, indicators of lung function and patients` somatopsychic characteristics background with carrying out of complex treatment that includes medication baseline (fluticasone propionate and

salmeterol) in combination with the derivative of GABA – Phenibut a dose of 250 mg twice a day for a month. Comparison group consisted of 32 patients with COPD, representative by age, sex and severity of disease to the main, who received only basic therapy.
Results. Determined that patients on combined therapy regime characterized by significantly better dynamic indicators of control of the COPD (mean on a scale CAT increased by 30,0%, and on a scale mMRC – 10,3% of the original) and the level of bronchial obstruction (FEV_1 increased on average by 5,3%). Also observed probable decrease of prevalence somatopsychic syndromes (neuroticism by 43,2% (p=0,006), state anxiety – by 62,2% (p=0,003), trait anxiety – by 46,0% (p=0,037) and depression – 24,3%) compared to the control group.
Conclusion. Detected drug efficacy can recommend it for inclusion in schemes of complex therapy of patients with COPD.
Key words: chronic obstructive pulmonary disease, neuroticism, anxiety, depression, treatment.

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CLINICAL AND EPIDEMIOLOGICAL CHARACTERISTICS OF BILATERAL HIP FRACTURES IN PATIENTS WITH POLYTRAUMA

Introduction. The structure of mortality developed economies injuries takes place 3 and 4, after cardiovascular diseases, malignant neoplasms, respiratory diseases and infectious diseases. Mortality from such injuries of the musculoskeletal system is quite significant - from 5.4 to 49.6%. According to WHO, each year die from severe injuries 5.8 million, while the number of people who have severe disabilities, more than this figure more than three times. Severe trauma is one of the major health problems, annually kills more than 5 million people worldwide and is expected this number will exceed 8 million till 2020. *The purpose was to study* the impact of clinical and epidemiological characteristics result in traumatic process flow in the affected bilateral fractures of the hip and polytrauma.
Materials and methods. To address the problems and objectives of the study to determine the clinical and epidemiological research component analysis of 147 cases subjected to bilateral hip fractures and trauma. Men were 92, accounting for 62.6% of the total mass, and women under 55 - 37.4% of the array. For complete and qualitative analysis of the research material we have carried out the distribution of solid study into groups according to the result of the course of traumatic disease, namely: the first group - Recovered (victims whose treatment ended recovery), the second group died (victims whose treatment was over deaths) . The first group was assigned 89 victims whose treatment ended recovery, accounting for 60.5% of the

panel, the second - 58 victims whose treatment ended in deaths and constituted 39.5% of the array.

Results. As pointed out gender analysis as the observation group and in general there is an array of males dominance, but recovered in a group of men / women is almost 2, in the group have died this ratio of 1.8, and the total array - 1 7. This prevalence among male patients with bilateral femur fractures in the polytrauma evidence of the fact that men are significantly more likely to receive high-energy trauma, which is routinely cause trauma and bilateral hip fractures. Analyses of the distribution of patients with bilateral fractures of the hip and polytrauma there are some signs of age features. Thus, in the first place ranked affected age group 51-60 years. Among patients with polytrauma and bilateral fractures of the total array were recorded in 22.4% of cases. In the group of deaths rank first place in the affected age group 51-60 years. In 27.6% of cases were registered in the group of deceased victims in this age group. In the group of recovered patients were in the age group 51-60 years were somewhat less because they were placed in the third place rank. Analysis results indicate that between gender and traumatic process flow available direct positive relationship moderate intensity, but there are provisions within the field of probability

Conclusions. 1. Among patients with bilateral fractures of the hip and polytrauma patients the most common age group 51-60 years, which is not characteristic of the age structure of the trauma. 2. Among young people under 30 years dominated by men, there are 1.9 times more often than women, indicating that bilateral hip fractures are more common in young men. 3. Most bilateral fractures in the polytrauma victims found in the average age of 30-60 years was found in 55.8% of cases.

Key words: injured, polytrauma, bilateral fractures of the hip, sex, age.

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CLINICAL EXAMINATION FEATURES OF CHILDREN WITH SMALL CARDIAC ABNORMALITIES

Introduction. In recent years, the problem of small cardiac anomalies is an important place among the problems of pediatric cardiology. Due to the wide introduction of modern diagnostic methods, small cardiac anomalies can be the basis of functional cardiovascular disease. Given the broad relevance of this problem, the purpose of the work was to identify the peculiarities of the clinical picture of children with small cardiac anomalies at the initial stage of their examination.

Materials and methods. A survey was conducted on 106 children with primary (idiopathic) PMC and 64 children with APH aged 13 to 17 years. The survey was conducted on the basis of the "Mother and Child Center" City Clinical Hospital.

Results. The presence of PMC and mitral regurgitation (MR) has been confirmed by echocardiography.Children with PMK are also divided into subgroups, taking into account the degree of prolapse and mitral regurgitation. We estimated that these children had late systolic mesodiastolic murmurs. Mesodiastolic click with late systolic murmur was present in patients with MVP only. There were no relations between mitral regurgitation (MR) and mentioned auscultation appearances. However, both late systolic and mesodiastolic murmurs appear more frequently in children MVP with MR.
Conclusions. 1. In children with small cardiac anomalies, percussion is characteristic of the normal heart, auspiciously more often, there is a late-systolic and mesosistolic noises. 2. The combination of mezosistolicular gastric and lung syystolic noise was heard only in children with PMK. 3. In the latter it was noted that more often in the II stage mesosystem and later-systolic noises and their simultaneous combination occur more often than in the first degree. 4. In analyzing the dependence of these auscultation phenomena from MRI, it was noted that late-systolic and mesodistolic noise and the corresponding clicks are almost independent of the presence or absence of MRI, but the combination of noises is somewhat more typical for children with MR.
Key words: Auscultation, children, false tendons, mitral valve prolapse

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PREDICTION OF THE RISK OF ABORTION IN WOMEN WITH RECCURENT MISCARRIAGE

Introduction. Reccurent miscarriage is one of the leading obstetric problems due to direct connection with perinatal morbidity and mortality and requires detailed study to prevent miscarriages and premature births. The frequency of this complication remains stable and high for many years, accounting for 15 - 30% of the total number of all desired pregnancies. 50% of spontaneous abortions occur in the first trimester, and 25% of them account for the usual miscarriage of pregnancy. Causes of reccurent miscarriage are polyethiologic. According to many authors, the main causes of early reproductive loss are: infectious and inflammatory diseases of the genital organs, genetic, endocrine disorders, immunological mechanisms and disruption of blood coagulation. One of the mechanisms leading to early reproductive loss is the violation of implantation and placental processes. In the present study our purpose was to predict the risk of abortion in women with a history of reccurent miscarriage.
Materials and methods. The study was conducted on the basis of gynecological department №2. The study included 88 women with a diagnosis of “reccurent miscarriage” that met the criteria for inclusion and exclusion. A retrospective study for the period 2009-2016 was also conducted. We used the following research

methods: clinical, instrumental (ultrasound), molecular-genetic and mathematical and statistical methods.
Results. 76.1% of women noted pain in the abdomen and in the lumbar region; 54 patients (61.4%) complained of general weakness, 47 (53.4%) - on headache and dizziness. 33 women (37.55) had blood spotting from the genital tract of varying intensity. 14 patients (15.9%) complained of nausea, 9 (10.2%) - vomiting, 12 (13.6%) - pain in the chest. 23 women (26.1%) noted a decrease in basal temperature. In the structure of early reproductive losses during period 2009-2016, the number of cases of the usual miscarriage of pregnancy was as follows: 2009 - 30 (16.6%); 2010 - 25 (14.6%); 2011 - 29 (13.3%); 2012 year - 26 (13,68%); 2013 - 32 (18,28%); 2014 - 28 (15.5%); 2015 - 30 (20,68%); 2016 - 34 cases (18.88%). Using mathematical-statistical analysis, we calculated the tendency of the frequency of early reproductive losses in the future.
Conclusions. There is a tendency of the increasing of frequency of early reproductive loss (including reccurent miscarriage) in the future. Women with a history of reccurent miscarriage are at risk and require increased attention. Predicting the risk of abortion, identifying predictors, and forming risk groups of women with reccurent miscarriage will allow to control the progress of such pregnancies and reduce the incidence of early reproductive loss.
Key words: reccurent miscarriage, prediction, abortion.

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IMPROVING THE EFFICIENCY OF HYSTEROSCOPIC TREATMENT OF ENDOMETRIAL HYPERPLASTIC PROCESSES IN PREMENOPAUSE

Introduction. The endometrial hyperplastic processes (EHP) shared from 15% to 50% in the structure of gynecological diseases. EHP is the main form of hyperproliferative processes in the uterine mucosa in pre-menopausal period. The first stage of this pathology treatment is the dissection of the abnormal endometrium with further morphological examination. Electrosurgical hysteroresectoscopy represent the most modern method of operative treatment in EHP patients. The effectiveness of this procedure is 60-98%. The purpose of this study was to increase the EHP treatment effectiveness in the pre-menopausal period.
Materials and methods. 122 women with EHP (age 45-54) were involved in this randomized controlled trial. The participants were randomized into two groups: the group I included 44 patients with ablation of the endometrium and subsequent therapy with gonadotropin-releasing hormone agonist (GnRH) for 3 months; and the group II 78 women with endometrial ablation without concomitant drug therapy.

The studied groups were comparable in terms of obstetric-gynecological, reproductive and somatic anamnesis, the complaint spectrum, and the basic and accompanying diagnoses.

Results. A follow-up analysis after treatment revealed EHP recurrences in 5 (11.4%) women of group I and 28 (35.9%) of group II, $p < 0.003$; among them the recurrences of endometrial polyps – in 4 (9.1%) and 19 (24.4%), $p < 0.04$; recurrences of endometrial hyperplasia in 1 (2.3%) and 11 (14.1%), $p < 0.03$, respectively. The author concluded that therapy with GnRH agonists after endometrial ablation in premenopausal women allows to increase the therapy efficiency 3 times (from 35.9% to 11.4%) and should be recommended as an obligatory component of therapy, especially among patients with recurrent disease.

Conclusions. Thus, the deficiency of MT in women of late reproductive and premenopausal age with pathology of endometrium is a prognostically unfavorable factor of relapse of the disease.

Key words: endometrial hyperplastic processes, pre-menopause, endometrial ablation.

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FEATURES OF OBSTETRICAL AND GYNECOLOGICAL ANAMNESIS OF PREGNANT WOMEN WITH HYPERTENSIVE DISORDERS

Introduction. The current problem of predicting pregnancy complications in pregnant women with hypertensive disorders is not completely solved until today.

Major complications to the fetus during preeclampsia and hypertension of pregnant associated with prematurity and placental insufficiency. Chronic placental dysfunction and violation of utero-placental blood flow develops fetal distress, which leads to intrauterine growth retardation, recorded low birth weight for the gestational age (asymmetric and symmetric shape retardation). Mother complications of hypertensive disorders related to obstetric and gynecological history. The incidence of fetal distress with increasing obstetric and gynecological pathology and proportionally increases to 5 - 13.5% of the 100 births. Among them were 90 women with hypertensive disorders: 30 pregnant women with preeclampsia mild severity, 30 women with preeclampsia pregnant moderate severity, 30 pregnant women with hypertension I severity, and 30 healthy pregnant women (control group).

Materials and Methods. With the research methods were used in carrying out this work were: clinical, laboratory (including molecular-genetic) tools. Among the clinical carried out thorough physical examination, collection of reproductive and somatic medical history, assessment of the course of pregnancy complications analysis of the mother and fetus, the consequences of childbirth and newborn state in

the early neonatal period. All pregnant women conducted a comprehensive clinical and laboratory examination. Pregnant women were examined related professionals.

Results. Clinical characteristics of pregnant women: the first phase of our research included studying the peculiarities of pregnancy, childbirth and the postpartum period and reproductive history of pregnant women admitted to hospital with preeclampsia different severity and varying degree of hypertension during 2009-2010. Among them were a group of 30 (33.3%) of pregnant women with preeclampsia mild severity, II group- 30 (33.3%) of pregnant women with preeclampsia moderate severity, III group- 30 pregnant women with stage I hypertension (33.3 %), the fourth group - 30 healthy pregnant women. In 47 (52.2%) women during pregnancy preeclampsia combined with extragenital pathology (in 5 (5.5%) - a chronic pyelonephritis in remission, in 27 (30%) - Obesity, 15 (16.6%) - various somatic disorders (thyroid disorders, cardiovascular system, etc.). Among I group were extragenital pathology in 20 (22.2%) of pregnant women, in the second group - in 18 (20%) of pregnant women, in the third group women - in 30 (33.3%) pregnant. Pregnancy in women 70 (77.7%) resulted in the birth vaginally. in 20 (22.2%) held C-section. Among them were women who gave first birth - 28 (31.1%) and 62 women (69.9%) who gave birth again. In 5 (5.5%) women in the history of existing reproductive disorders: (infertility - of assisted reproductive technologies) and 14 (15.5%) perinatal losses in previous pregnancies.

Conclusions. 1. Pregnant women with hypertensive disorders are at increased level of perinatal pathology, including fetal distress, fetal retardation. The severity of the condition and the development of serious complications in newborns correlates with the severity of preeclampsia and related extragenital mothers. 2. The main complications of obstetrical and gynecological history in pregnant women with hypertensive disorders marked increase in the frequency of preterm birth, fetal abnormality (distress and retardation, hypoxic-ischemic neonatal CNS), increase operational frequency cesarean section in women. 3. Much of newborns from mothers with hypertensive disorders requiring further treatment and care of newborns in the Department of Pathology at the regional children's hospital.

Key words: pregnant preeclampsia, hypertensive disease, fetal distress, complications.

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SPECIAL FEATURES OF ENDOCARDIAL HEMODYNAMICS AND AUTONOMIC REGULATION IN YOUNG HEALTHY INDIVIDUALS WITH NORMAL CARDIAC GEOMETRY AND CONCENTRIC LEFT VENTRICULAR REMODELING

Introduction. *The study objective.* Cardiac remodeling is a complex multifactorial process that is crucially significant for prognosis in patients with any cardiovascular disease. The objective of this work is the comparative study of special features of endocardial hemodynamics, daily blood pressure and ECG monitoring profile, and autonomic regulation in young (18-44 years) healthy individuals with normal heart geometry and concentric remodeling of the left ventricle.
Materials and methods. The study involved healthy volunteers aged 18 to 42, whose average age was 25.3 ± 0.6 years, including 56 (73.7%) men and 20 (26.36%) women. Depending on the relative wall thickness of the left ventricle (RWT), all study subjects were divided into two equal groups of 38 individuals each with RWT>0.42 (left ventricular concentric remodeling) and RWT≤0.42 (normal geometry of the left ventricle).
Results. The analysis of the data obtained showed relatively larger left cardiac cavities, relatively higher rate of morning rise and a 24-hour variability of mainly systolic blood pressure, the reduced activity of parasympathetic autonomic nervous system, more supraventricular extra systoles mostly at night in patients with concentric left ventricular remodeling, and signs of connective tissue dysplasia in the group of subjects with concentric left ventricular remodeling. More than half of young people with concentric left ventricular remodeling presented signs of the cardiac connective tissue dysplasia, such as mitral valve prolapse and abnormal left ventricular chordae. These features of cardiac structure, ambulatory blood pressure profile, and heart rate variability may be interpreted as signs associated with concentric left ventricular remodeling.
Conclusions. 1. Analysis of echocardiographic indicators showed that in patients with left ventricular concentric remodeling, an increase in the relative thickness of the left ventricular wall occurred on the background of a comparatively smaller left ventricular cavity with the same absolute wall thickness of the left ventricle in both groups of comparison, which somehow indicates the mechanism of the formation of remodeling in such young people. 2. Although the mean daily blood pressure and the degree of night-time decrease in both groups were not significantly different, the rate of early recovery and the variability of systolic blood pressure was significantly higher in patients with concentric remodeling than without it. That is, the data on changes in the daily blood pressure profile can play a role in shaping the concentric remodeling of the left ventricle in young practically healthy individuals. 3. Features of cardiac rhythm variability in patients with left ventricular concentric remodeling are to reduce the tonus of the parasympathetic autonomous system with normal sympathetic parameters, which may be a causative factor in the occurrence of a greater number of nocturnal rhythm disorders in these individuals. 4. The presence of signs of connective tissue dysplasia from the side of the heart in young people with concurrent remodeling of the left ventricle, abnormal chords in the left ventricular cavity and mitral valve prolapse, proves in favor of the association of dysplasia of the connective tissue with the remodeling of the left ventricle.
Key words: concentric left ventricular remodeling, hypertension, heart rate variability, ambulatory blood pressure, connective tissue disease.

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THE SAFETY OF SPIROGRAPHY IN PATIENTS WITH STABLE ISCHEMIC HEART DISEASE AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE BASED ON THE RESULTS OF THE DAILY MONITORING OF THE ELECTROCARDIOGRAM

Introduction. In clinical practice the combination of several pathologiescan be seen rather often, in particular, ischemic heart disease (IHD) and chronic obstructive pulmonary disease (COPD), that makes the course of both diseases more severe and mask symptoms.The well-known complication of IHD that can have the forecast adverse effect is occurrence of heart rhythm disorders, considerable attention is also paid to study of arrhythmia of patients with COPD. Whereas the mechanism of forced expiration and inhalationwith bronchial spasmolytic of short-term effect can influence on occurrence of arrhythmiaand there is very little information about safety of spirography, to our mind, the present research is of current interest. To determine the peculiarities of dysrhythmia and signs of myocardial ischemia of patients with stable IHD and COPD during the spirography based on the findings of daily monitoring of electrocardiogram.

Materials and methods. There have been examined 53 patients suffering from stable IHD as well as COPD, of median age (65,4±0,9) (Group I). The reference group included 53 patients with stable IHDwithout associated COPD, median age (58,1±1,2) (Group II) and 42patients withCOPDwithout associatedIHD, median age (57,5±1) (Group III). The general clinical examination was performed for the patients that included compiling informationon complains and anamnesis including examining provisional medical documentation, objective check-up.The examined patients were provided with daily monitoring of ECG on DiaCard 03500 (Solveig, Closed Corporation, Kyiv), as well there were evaluated the occurrence of rhythm disturbance and evidence of myocardial ischemia 1 hour before the spirography with bronchodilation test and for 1 hour after it including the time for tests with forced expiration. Spirometrywas performed with the use of computer Spirograph «MasterScopeCT». Statistical processing of data was executed with the use of the package of statistical programs STATISTICA10.0 MicrosoftExcel. The reliable results were considered the results of comparisons with probable error of $(P) < 0,05$.

Results. The comparison ofnumber of persons, who had supraventricular and ventricular arrhythmia 1 hour before the spirography and for 1 hour after it, has been done.Thus it has been established that a percentage of patents with supraventricular extrasystoles (SVE) increased mostly among the persons who had associated pathology – from 18 to 24 patients (+11,4%), whereas in the group consisted of patients with IHDit increased to 3 (5,6%) patients, and in the group with COPDit slightly declined – to 1 (2,4%) person. At the same time,the number of patients who

had supraventricular bigeminy in the I and II groups did not change (3 patients and no patients correspondingly), and in the group III it enlarged to 1 (2,3%) person. In all the groups there was an increased number of patients who had registered ventricular extrasystole (VE) for one hour, the most growth –3 (5,6%) persons, indicated in the group of combined pathology. After the tests with forced expiration the percentage of patients with bigeminal VE enlarged: most of all in the Igroup – from 1 to 6 persons (+9,5%) (p=0,05), whereas among the patients withIHDthe growth amounted to 2 (3,8%) patients, among the patients with COPD – 3 (7,1%). On the other hand, most of all the number of patients examined with supraventricular bigeminy and trigeminy grew in the II group – to3 (5,6%)andI group (1,9%)correspondingly. Paroxysmal dysrhythmia, in particular, atrialfibrillation (AF)and ventricular paroxysmal tachycardia (VPT)were not recorded for an hour before spirography in the I, II and III groups, only 2 patients with combined pathology had AF. After the tests had been done the percentage of persons with arrhythmia increased only among the patients with bothIHDandCOPD – to 2 patients (3,8%) withAF and VPT. The ischemic changes for 1 hour (elevation episodes or depression of segment ST lasting over 1 min) were diagnosed of1 (1,9%) patient in the I group and 3 (5,7%) of the II group prior the tests with forced expiration, after the spirography the number of persons increased to 1 (1,9%) patient in the I group, in the II group – to 4 (7,5%) patients. The occurrence of early, frequent, polytropic, bigeminal VE for 1 hour after spirography was considered to be the extrasystole of high gradations and was combined to determine the main risk group. Therefore it was established that in the Igroup there were 11 (20,7%) persons with VE of high gradations, in the II group – 5 (9,4%) and in the III group – 3 (7,1%). There were identified the changes in cardiac rate (CR) and the number of rhythm disturbance before and after spirography of the persons examined. The patients of all groups had a definite increased CR during the spirography if compared to CR before the test, the persons with COPDhad the quickest CR - (14,6±1,8) beats per minute on average, the patients with both IHD and COPD – (13,5±1,6) beats per minute, the persons with IHD – (11,3±1,3) beats per minute. The number of CBE increased most of all among the patients with combined pathology – on average (12,6±6,8) for 1 hour, whereas among the patients with IHD – (1,6±0,95), in COPDgroup – (3,4±4,9), the probable difference was not established. The total amount of VEdefinitely increased in each group of patients examined, the biggest growth was identified among the persons with combined pathology – on average from 19,7 to 43,2 VE for 1 hour (growth 27,8±12,6) (p=0,0064), on the other hand, the number of VE among the patients with IHD grew to (3,4±2,2) (p=0,02), among the patients COPD – to (15,7±12,5) (p=0,007). As well the number of bigeminal VE for 1 hour significantly grew among the patients with both IHD and COPD, on average to (1,85±1) (p=0,028), at the same time, in other groups the rate changed insignificantly – increase in the II groupamounted to (0,14±0,1), in the III group – (0,38±0,25).

Conclusion. 1. During the tests with forced expiration and for an hour after them there could be seen the tendency to increasing number of patients with SVE to 11,4% and with VE to 5,6% among the patients with the combination of stable IHD and COPD. 2. After the spirography is being performed in the group of combined

pathology, the percentage of persons who haveparoxysmal dysrhythmia increases to 3,8% of AT and to 3,8% of VPT. 3. Among the patients withboth IHD and COPD after the spirography, VE of high gradationshave 11 (20,7%) of them, among the patients with IHD –5 (9,4%), among examined persons with COPD – 3 (7,1%). 4. The CR of patients suffering from combined pathology increases to (13,5±1,6) beats per minute on average, the number of SVE grows to(12,6±6,8) for 1 hour, the number of VE and bigeminal VE definitely grows to (27,8±12,6) and (1,85±1) for 1 hour correspondingly.

Key words: stable ischemic heart disease, chronic obstructive pulmonary disease, spirography, cardiac rhythm disturbances.

METHODICAL ARTICLES

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PROBLEM OF ADAPTATION FIRST COURSE STUDENTS OF UNIVERSITY MEDICAL SCHOOL TO WORK (APPROACHES)

Introduction. Studying at a medical university raises higher requirements for students due to the high rate of educational process and a considerable amount of informative load. Therefore, for the successful mastering of the material of the curriculum, a sufficient initial level of general intellectual development, erudition, breadth of cognitive interests, level of possession of a certain range of logical operations is necessary. *The purpose of our study* was to identify the most typical problems of adapting the freshmen to the new conditions of study at a higher educational institution and discuss the most effective ways of overcoming them.

Materials and methods. The material for our study was: assessment of curriculum and methodological support at the departments of the university and questioning students of the first year after the completion of the first year of study. In total, 462 students participated in the survey, including 267 girls and 205 youths.

Results. Conclusion. 1. The problem of adapting students to the conditions of education is one of the important tasks of higher education. Adaptation to educational activity is a process by which a person, on the one hand, satisfies personal requirements and cognitive needs regarding the conditions and expected learning outcomes, and, on the other hand, meets the requirements of the structure, content and conditions carrying out educational activities. 2. In the process of learning, students must adapt not only to the conditions of the educational activity, but also to the constant change of educational stereotypes, organization of the educational process. The first-year students need special attention, as the organizational learning

model familiar to them differs significantly from that of a high school. 3. For the educational process of the freshmen characterized by intense mental load, the perception of a large information flow, high emotional stress, clear regulation of work and rest. Rapid and qualitative adaptation of first-year students is a prerequisite for their further and successful training. 4. The first months of training, especially the first attestations, and then the tests and exams, are found by many students who, for various reasons, have difficulty in learning, therefore they need pedagogical help.
Key words: adaptation, first-year students, educational activities.

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DEVELOPMENT PROSPECTS OF MEDICAL PERSONNEL TRAINING AND SELECTION METHODS FOR AEROMEDICAL EVACUATION OF CRITICAL PATIENTS IN THE ARMED FORCES OF UKRAINE

Introduction. Since the beginning of military conflicts the number of injured, who require intensive care during aeromedical evacuation critically grows. In the US medical system teams for aeromedical evacuation of injured in critical condition were formed. Their concept is to transport stabilized patient, who received primary resuscitation, but still in critical condition. The staff of these teams has passed through training program, practical training and competitive selection. Objective: To study the US Air Forces experience in the field of doctors' and nurses' training, to control their readiness to perform aeromedical evacuation of the injured, and to develop the changes in organizational, educational and methodological approaches in terms of postgraduate education of military doctors and nurses.
Materials and methods. Present state of the system of civil and military medical education in Ukraine completely able to recreate the best practices of US aeromedical evacuation crews training. To obtain modern trained expert it is necessary to combine the efforts of departments of anesthesiology and aviation medicine of UMMA and department of altitude and experimental studies of aviation medicine administration of MMCC CR of the armed forces of Ukraine. Opportunities of altitude and experimental studies department of aviation medicine administration of MMCC CR of the armed forces of Ukraine fully allow to exercise and carry out tests in hypobaric chamber, carry out practical actions under conditions, similar to aircraft cabin depressurization aloft, to determine our personal reaction and deeper understanding of the changes in patient under reduced partial oxygen pressure. Training flights of AN-26 VITA, with proper planning and minor joint efforts of the Air Forces and Medical Service of the Armed Forces of Ukraine can be a platform for training exercises on board.
Results. This part of training develops teamwork, necessary for the interaction of the

other components of the fully expanded aeromedical evacuation system. It should be recognized that, the conditions for medical aid on aircraft board differ significantly from intensive care in a hospital. Thus, to perform practical skills by a physician or a nurse needs training in flight conditions. The noise, acceleration, inadequate lighting - are those factors that adversely affect the quality of manipulation and clinical decisions. To avoid this in relation to a wounded soldier medical team requires training and exercises. As a result, this new training will increase the quality of aid. Taking into consideration that the AN-26 VITA was selected for joint work with NATO forces, creation of staff proper education system becomes nationally important.

Conslusions. A successful intensive care and treatment of severe patients is a result of long-term training of ICU doctor. Application of this knowledge and skills in aircraft conditions, where the pathophysiological changes are additionally influenced by a negative impact of flight, require training and specific knowledge that cannot be obtained in the process of self-training. The process of expert training should not consist only of learning. Compulsory component should be testing under conditions that are maximum close to reality, to determine whether a candidate is able to apply his knowledge without comfort of the intensive care unit. The present state of civil and military medical education in Ukraine proves the necessity to create competitive conditions for aeromedical evacuation expert appointment that alter the quality of rendering of this type of medical aid.

Keywords: aeromedical evacuation, intensive care, training.

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TRANSVAGINAL MHAW-ULTRASONOGRAPHY: NEW OPPORTUNITIES FOR ASSESSMENT OF FALLOPIAN TUBES FUNCTIONALITY

Introduction. A significant proportion of patients in reproductive clinics have low fertility, while retaining the ability to conceive. The number of problem pairs in industrially developed countries remains stably high: 10-20%, and unexplained forms of temporary unintended childlessness make up 10-30% of female and at least 50% of male infertility. The problem of studying the fimbrio-ovarian relationship is very relevant, but the functional evaluation of the distal tubal segment is still, mainly, carried out with the help of invasive methods of research: metrosalpingography, salpingoscopy, fertiloscopy and chromopertubation

Materials and methods. The main group consisted of 96 subfertile women among couples with unexplained infertility. The comparison group was consisted of 31 women among the couples with male factor of infertility. The investigation of hard-to-see subtle pelvic subjects by the non-contrast transvaginal ultrasound technique of mobile hydro-acoustic window (TVS+MHAW) was performed in all patients.

Results. Various segments of fallopian tubes were identified in 32 (33.3%) of 96 women of study group and 12 (38.7 %) women of comparison group. The four main phenotypic subgroups of uterine tubes funnel were characterized: finger-like, mastoid-like, fimbriated and combined phenotypes. These phenotypes were found in 19 (59.4 %), 7 (21.9 %), 4 (12.5 %) and 2 (6.3 %) cases in the study group, versus 58.3 %, 8.3 %, 16.7 %, 16.7 % in the comparison group, respectively. The association of mastoid-like phenotypes with the STDs (85.7 %), minimal endometriosis (85.7 %) and pelvic surgery (71.4 %) was more often observed in the study group than comparison group. For the first time two sonographic types of uterine tubes fimbriae – the primary, and those normally fringing them in great number as prolifered mucosa – the small ones or secondary were classified. Non-invasive TVS+MHAW technique allows to perform systematic evaluation of the function of distal segments of uterine tubes as well as makes the optimal choice between laparoscopy and intrauterine insemination for the management in couples with unexplained infertility.
Conslusions. 1. The nature of the anatomical and functional features of the mastoid phenotype of the fimbriae funnel of the tube and the degree of influence on the sonographic characteristics of various phenogenetic factors: sex steroids, infection, endometrioid heterotopia, iatrogenia, are not completely clear and require clarification. It should be understood that under the influence of estrogens, changes in the mucous membrane of the fallopian tube are of a cyclic nature. 2. Simple and affordable, the method of ultrasound diagnosis of transvaginal MGO sonography, without the use of additional contrast, allows the evaluation of function, association with a number of pathological conditions and diseases, and identification of various phenotypes of fallopian tube fimbriae to clarify the algorithm for conducting couples with infertility of infertility .
Key words: infertility, fallopian tubes, fimbria, oocytes, transvaginal ultrasonography.

SOCIAL ARTICLES

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STATISTICAL ANALYSIS OF PERINATAL LOSSES IN KHARKOV FOR THE PERIOD 2015-2016

Introduction. According to the literature, the research of the last 15 years has shown that congenital malformations play a major role in regional pathology, accounting for

23% of child deaths. Currently, up to 70% of newborns have perinatal pathology. In particular, premature births are often caused by intrauterine infections (IUI). The literature specifies a fairly wide range of intrauterine fetus infection occurrence, from 6% to 53%, reaching 70% for premature infants. IUI percentage in perinatal mortality ranges from 2% to 65.6%. Despite the significance of the problem, no direct diagnostic methods giving evidence for an active process of fetal infection are available, only postnatal diagnostics allows to obtain reliable data. In this regard, any research devoted to mechanisms of fetal infection and intrauterine infection diagnostics is of interest. With due regard to the urgency of this problem and *for the purpose of* monitoring perinatal mortality we conducted a statistical study of cases of mothers, infected during the period 2015-2016, on the basis of Kharkiv City Perinatal Center (KCPC).

Materials and methods. We studied the records of autopsies of aborted fetuses, antenatally and intranatally dead fetuses, dead newborns which were performed in KCPC during the period 2015-2016. We also studied mothers' medical history. The data obtained were statistically calculated using Microsoft Excel application package.

Results. During the specified period 380 autopsies (205 in 2015, 175 in 2016) were performed in Kharkiv with further study of autopsy material. Out of the total number of autopsies, abortions prevailed (36.46%), dead newborns were second (33.15%), antenatally and intranatally dead fetuses – third (30.39%). As to the abortive material, abortions for medical reasons prevailed over spontaneous abortions. Abortions for medical reasons included abortions made because of multiple congenital malfunctions (64.8%) and chromosome pathologies (36.2%). As to the gender, males (65.84%) prevailed over females (34.16%). As to neonatal mortality, most deaths occurred in the early neonatal period – 63.3%, 25% of deaths were recorded in the late neonatal period, 11.7% were newborn deaths. As to the gender, the boys prevailed again (71.9% of boys and 28.1% of girls). Most newborn deaths occurred at 24-27 weeks of gestation (56.25%). 25% of newborns had the signs of intrauterine infection. When analyzing women pathology structure, among genital pathology there were discovered genital tract infections (28.2%). Genital pathology also included the cases of ischemic-cervical insufficiency (12.5%). Extragenital pathology manifested itself mostly by anemia (21.9%), upper respiratory tract infections (18.75%), chronic pyelonephritis (15.6%), vasoneurosis (9.4%), thyroid disease (3.2%), obesity (3.2%), hypertension (3.2%), myopia (3.2%). 6.25% of mothers smoked during pregnancy. According to the study results, most stillbirths happened at 37-42 (32.4%) and 30-33 (16.9%) weeks of pregnancy which coincides with the critical periods of pregnancy [12]. Besides, boys had higher mortality rate than girls (64.3% and 35.7%) which can be explained by gender differences. 48% of pregnancies were complicated by a certain infection. Antenatal deaths (84.3%) prevailed over intranatal deaths (15.7%). Pathology of pregnant women was analyzed and genital pathology manifested itself mostly by genital tract infections (32.4%), also by uterine leiomyoma (7.04%), cervical erosion (9.9%) and ischemic-cervical insufficiency (8.5%). Extragenital pathology manifested itself mostly by anemia (15.5%), chronic pyelonephritis (14.08%), upper respiratory tract infections (13%),

vasoneurosis (8.5%), obesity (7.04%), thyroid disease (5.6%) hypertension (4.3%), diabetes mellitus (4.3%). 4,3% of mothers smoked during pregnancy.
Conclusion. The analysis of the world scientific literature has shown the tendency for IUI to increase in women, a high level of stillbirths, especially in boys. Such risk factors as certain extragenital pathologies play an important role in IUI development.
Key words: maternal infection, fetuses, newborns, abortions, intrauterine hypoxia.

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HYGIENIC CHARACTERISTIC FEATURES ORGANIZATION OF WORK PROCESSES FOR BASIC DENTAL SPECIALTIES IN THE USE OF NEWEST TECHNOLOGIES ACCORDING CHRONOMETER OBSERVATIONS

Introduction. Any process associated with the formation of a preventive educational or working environment, development and introduction of modern content and the results of effective approaches to forecasting and formation of high professional competence as future and current present in dental specialists, including students who gets the dental profession in higher educational institutions provides for adequate hygienic assessment of working conditions, establishing the presence of harmful and hazardous factors labor process, determine the performance characteristics of the most common professional operations. *The aim of the study* is to determine hygienic characteristic features organization of work processes for basic dental specialties in the use of modern advanced technologies of diagnosis, treatment and prevention according chronometer observations.
Materials and methods. Features of the work process for basic specialties of the dental profession (dentistry, surgical dentistry, prosthetic dentistry, orthodontics, children's therapeutic and surgical stomatology) in the use of modern advanced technologies of diagnosis, treatment and prevention in the course of scientific work have been determined according chronometer observations of basic working operations that are most typical for each dental specialties were determined on the basis of dental centers located in Vinnytsya.
Results. Obtained in the course of research data made it possible to determine that the number of basic vocational significant operational actions (manipulation) for basic specialties of the dental profession. Thus, in particular, to specialty dentistry, which in modern terms is working in the field of therapeutic aesthetic dentistry, while filling should include: review and counseling the patient (average under 10 min), X-ray diagnostics features of lesions (10 min), the creation of documentation (10-15 min.), anesthesia (5-10 min.), tooth preparation and cavity affected (10-20 minutes), blending koferdam (2-5 minutes), preparation and blending of therapeutic pads (5

min), the imposition of filling material (10-20 minutes (chewing surface) and 20-30 min (contact area)), according to the features of grinding bite and polishing (5-10 min.) and making recommendations for future action (5 min.), as well as necessary fixation pin channel and its preparation for pin (10-20 min.); during the restoration of tissues its include: examination and counseling patients (average under 10 minutes), X-ray diagnostics features of lesions (10 min), the creation of documentation (10-15 min.), anesthesia (5-10 minutes), tooth preparation and cavity affected (10-20 minutes), blending koferdam (3-5 minutes), preparation and blending of therapeutic pads (10 minutes), blending filling material (40-60 minutes) grinding according to the features of occlusion and polishing (5-20 minutes), making recommendations regarding further action (10 minutes) and if necessary fixing pin channel and its preparation for pins (10-20 min.); during installing veneers, inlays and overlays its include: review and counseling patients (average under 10 minutes), X-ray diagnostics features of lesions (10 min.), the creation of documentation (10-15 min.) removal of fingerprints for diagnostics and wax modeling (30 min.), counseling and preparation of the final treatment plan of the patient on the basis of diagnostic data and wax modeling (20 min.), the implementation of therapeutic manipulation (anesthesia (5 min.), preparation (10 min.), lifting fingerprints (40 min.), setting temporary structures (5 min.), fixing veneers, inlays and overlays (15 min.), polishing and recommendations for further action (5-10 min.)) too.

Conclusions. In the course of the research carried out deep hygienic assessment and on the basis of application for chronometer observations by leading characteristics features of the work processes for basic specialties of the dental profession (dentistry, surgical dentistry, prosthetic dentistry, orthodontics, children's therapeutic and surgical stomatology) in the use of modern technologies of diagnosis, treatment and prevention, as with a number of common features, and quite a number of significant differences. The data source is a component of assessment of hygienic conditions peculiar to the main specialties of the dental profession in the use of new technologies and must be taken into account in the further development adequate to modern standards of health promotion technology, scientific substantiation of complex measures of optimization vocational training, psychohygienic correction of processes of professional adaptation and prevention of adverse changes in the psychophysiological state of the organism of future dentists during training in medical universities.

Key words: basic dental specialty, organization of work processes, modern newest technologies, chronometer observations, hygienic characteristic.

REVIEV ARTICLES

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CLINICAL AND MORPHOLOGICAL SIGNIFICANCE OF SOMATOTYPING OF THE BODY OF THE HUMAN BY SHEVKUNENKO

The purpose of this work is to develop a modern morphological foundation for the further development of the doctrine of individual anatomical variability. VN Shevkunenko and Yu.A. Filippchenko (1926). V.N. Shevkunenko and Yu.A. Philipchenko (1926) first introduced the concept of "individual anatomical variability", which denotes a set of possible variants of the structure of organs, organs or the whole organism, concluded between extreme forms, within which the manifestations of variability are treated as a norm, and beyond them there are abnormalities or pathologies. Numerous studies of his students and followers have confirmed the practical significance of individual and age variability. The basis of the doctrine of individual anatomical variability is the new direction and scientific approach to revealing the laws of this variability, rather than the study of individual variants of the structure of organs, departments and parts of the human body. At the beginning of the last century V.M. Shevkunenko, studying the differences in the structure of the surface palmar arterial arc and isolating the closed and not closed forms, came to the conclusion about the necessity of publishing a book on the individuality of the human body, which was published in 1925. It was difficult for him with the correct terminology and designations of the distinct types of human structure. In view of this, the scientist turned to the Greek derivative titles of human body types and chose the appropriate terminology for individual anatomical variability: dolichomorfny type of physique (Greek dolichos - long) for which characterized by a long and narrow body with long and thin limbs; mesomorphic type (from the Greek mesos - medium), which has averaged or intermediate body and limb parameters; brachymorphic type (from the Greek brachis - wide) with a characteristic broad and short trunk with shortened limbs. Proceeding from the above, Academician VM Shevkunenko, foreseeing work on somatotyping and typing of other authors, for the first time describes the extreme forms of individual anatomical variability that limit the anatomical norm of the structure of a human body. According to his descriptions, the ectodermal path of formation leads to dolichopelnost and subsequent dolichomorfnosti, which manifests itself elongation of the body, the predominance of longitudinal and high parameters with a parallel narrowing of all morphological structures, leading to the formation dolichomorfnogo constitutional type of human structure. At the same time, dolichomorphy is combined with narrow-headedness with a characteristic decrease in transverse latitudinal dimensions of the head and skull, with the general tendency of increasing longitudinal dimensions (long-headed). It was named in craniology as dolichoephalia and dolichocrania. Another extreme form of the structure of a human body is characterized by endodermal origin - brahipetalism and brahymorphism, which manifests itself in the shortening and thickening of the human body, the predominance of all transverse parameters with simultaneous reduction of longitudinal and altitudinal dimensions, which is

manifested by the brahymorphic constitutional type. At the same time there is a roundabout with an increase in the transverse dimensions of the head and skull, which was marked as brachycephalia and brachium.Among the aforementioned forms of individual anatomical variability, the author identified the third - the middle or mesopetal and mesomorphic form of the human body, which has a mesodermal development pathway and averaged characteristic of longitudinal, transverse and high-altitude indices, leading to a mesomorphic constitutional type.

Conclusion. 1. The further development of the doctrine of individual anatomical variability is associated with all the new applications of medicine and is a morphological foundation. 2. Study of individual anatomical variability should be related not only to the form and type of human body, but also with variational-statistical, graphic-mathematical modeling, life-time computer-tomographic examination, as well as other advanced and progressive methods of research.

Key words: individual anatomical variability, somatotyping.

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OSTEOPOROSIS AND GLUCOCORTICOID-INDUCED OSTEOPOROSIS – MEDICAL AND SOCIAL PROBLEM

The World Health Organization (WHO) has identified osteoporosis (OP) as a systemic bone disease characterized by lowering bone mass and deteriorating bone tissue microarchitecture, with subsequent increases in bone fragility and fracture inclination. The urgency of the problem of OP today is due to high prevalence among the population in all countries of the world and socio-economic losses associated with serious complications of OP - fractures of the vertebrae, cervix and other areas of the skeleton. *The purpose* of the work is to consider the state of the problem of osteoporosis and glucocorticoid-induced osteoporosis as a medical and social problem. As a result of analysis of the literature revealed that one of the main causes of the disease, especially in young age, is the widespread use of glucocorticoids to treat a variety of pathological processes. A need for further study of the problem of glucocorticoid-inducing osteoporosis and development of methods of preventing hormone complication were shown basing on the analysis. Compared with other chronic diseases in the population survey, the OP occupies the 3rd place and has a greater impact on the quality of life than chronic obstructive pulmonary disease, diabetes mellitus or heart disease. Loss of confidence and fear of falling are registered after treatment of patients with all types of fractures due to OP. In women, vertebral fractures have adversely affected self-care and mobility and are associated with chronic pain. OP has a polyethiological nature, and the factors contributing to its

development are quite numerous. Thus, the risk factors for the development of fractures on the background of OP in persons over 50 years old are the frequency of fractures after 40 years; ancestral history of fracture of the femoral neck; unhealthy lifestyle - smoking, excessive use of alcohol and lack of physical activity, weight loss from 25 years older than 10%, poor nutrition and premature menopause. In addition, the use of glucocorticoids over 3 months of daily equivalent doses above 7.5mg for prednisolone is a major risk factor for fractures already in the first 3-6 months after the onset of hormonal therapy. Polyethiological development of OP causes different variants of classification of this disease. The basis of the latest classifications is the etiological principle. However, they are not systematized enough and do not take into account the nature of the clinical course, prevalence, degree of activity and the severity of clinical manifestations of the disease. The proposed classification by the staff of the Institute of Traumatology and Orthopedics of the Academy of Medical Sciences of Ukraine combines the position of the well-known classifications of this pathology, the systemic ideas about the multilevel structural and functional organization of the locomotor system, the data of its own complex studies, devoted to the main etiopathogenetic factors, forms and types of OP obtained as a result of observations of 1,780 patients with OP.

Conclusion. On the basis of the analysis of literature it can be concluded that the problem of osteoporosis and especially glucocorticoid-induced osteoporosis remains an actual medical and social problem.

Key words: osteoporosis, glucocorticoid-induced osteoporosis, the causes, classification.

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FEMOROACETABULAR IMPINGEMENT SYNDROME: FACTORS IN THE EMERGENCE, PRINCIPLES OF DIAGNOSTICS AND TREATMENT (REVIEW OF THE LITERATURE)

Femoroacetabular impingement syndrome (formerly syndrome the glenoid lip or cervicouterine impingement) is a process of chronic trauma to the lip and edge of the acetabulum with the head or neck of the femur. *The aim.* Femoroacetabular impingement (FAI) is not a disease in its pure form, rather it is biomechanically process. Today it is considered to be one of the main causes of pain in the hip joint and the most common cause of osteoarthritis of the hip joint in physically active young and middle-aged. Research B. P. Burnett (2006) showed that more than 33% of patients have a wrong or late diagnosis of this syndrome, resulting in the progression of pathological changes in the joint and the deterioration of the quality of life of these patients. On the basis of clinical and radiation pattern there are three mechanism of impingement syndrome: the mechanism ("femur" type), pincer – mechanism (the"acetabular type"), most patients (over 90%) is the combination of

these two types ("mixed type"), so in practice the detection of the same type should pay attention to the signs of the second. For all types of syndrome the most important pathological changes are found in the articular lip of the hip joint. The mixed type is most commonly found. To a greater or lesser extent there are changes in how the femur and the acetabulum. This pain radiates in the large swivel and the outer surface of the thigh, reaches the outer surface of the knee joint. Very often such patients are examined for signs of pathology of the knee. Pain increases with flexion and internal rotation of the hip, while running and jumping, after a long stay in a sitting position. Very often patients say that can drive a car in 2-3 hours they need to straighten the leg for 10-15 minutes before continuing the path. Characteristically strengthening pain while increasing the load on the joint, such as carrying heavy loads. The pain is directly proportional to the load on the hip joint. It should be borne in mind that very often cannot find the relationship of this syndrome with an injury history, but very often may be traced to chronic congestion (for example, dancers or football players). The age of patients, typically much less than that in our understanding to the disease of the hip joint. Patients younger than traditional patients coxarthrosis. Despite the presence of such modern techniques as multislice computer tomography (MSCT) and magnetic resonance imaging (MRI) method of imaging is still an integral and the first in the chain of diagnostic studies. The diagnostic value of radiographic studies in the literature vary considerably, and ranges from 15 to 90 %. According to a study by Nepple et al., the sensitivity of this method compared to CT, up to 90% under the condition of radiographs in all of the above projections. MSCT method, while preserving the advantages of x-ray radiography allows to design three-dimensional model and with the appropriate software to test the joint for the presence impingment, plan the volume of surgical intervention, to evaluate the result after the virtual execution. In addition, there is the opinion about the importance of the ratio of the lower anterior spine of the pelvis and the front edge of the acetabulum in the pathogenesis of FAI. MRI in the presence of the device is of sufficient capacity (not less than 1,5 T) allows to diagnose pathological condition of the articular lips, subchondral presence of cysts, thickening of the joint capsule, bone edema, snout, tanapat gluteus Medius and adductors. However, several studies have shown that carrying out magnetic resonance arthrography in 3 times rather simple MRI. The introduction of a mixture of iodine-containing preparations and of gadolinium into the joint cavity under control fluoroscopes research improves the accuracy by 22% and achieve 100% specificity. DGMERIC promising is the method of using gadolinium to identify patients with preclinical stage of the FAI, for which early treatment will significantly delay the manifestation of osteoarthritis. In the treatment of patients with FAI using both conservative and surgical method. Conservative treatment includes limiting physical activity that provokes pain, performing physical therapy and NSAIDs. This method can be effective in some cases: the study of Hunt et al. of conservative therapy of patients with pathology of the hip, which is accompanied by clinical manifestations, was effective in 44 % of cases; also not observed significant difference between patients from this group and patients who received operative treatment. The use of intra-articular injection of corticosteroids is justified only when there is confirmation of the pathology of the cartilaginous part of

the lip, and not in identifying radiographic signs of FAI. Surgical treatment by the open method with cutting off the greater trochanter and a surgical hip dislocation is used in the stock rear cam-type FAI, or in the presence of generalized increasing acetabular coverage, or idiopathic retrovert the glenoid cavity. In the latter case reoriented conduct operations on the pelvic component. Arthroscopic technique allows for modeling resection to restore the sphericity of the head, increasing the offset of the cervix. It's also possible to make deptment and rexall cartilaginous lips, which is extremely important to maintain its prismacolor actions and ensure the stability of the hip in the depression. If necessary, apply plastic lip cartilage using autograft from the broad fascia of the thigh. With this purpose, the arthroscopic technique is complementary to the mini-access.

Conclusions. The analysis of the literature determined that today is not a diagnostic informative value of clinical tests and instrumental methods of examination of patients femoroacetabular impingement syndrome, is not well-developed indications for operative treatment of orthopedic pathology. The solution of these urgent problems will improve the provision of qualified medical and social assistance to this category of patients is an urgent task facing scientists and practical orthopedists - traumatologists of our state.

Key words: femoroacetabular impingement syndrome, diagnosis and treatment, analysis of literature sources.

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MODERN VIEWS ON THE ETIOPATHOGENESIS, PATHOLOGIC FEATURES OF RHEUMATOID ARTHRITIS, CURRENT APPROACHES TO DIAGNOSIS AND TREATMENT OF RHEUMATOID ARTHRITIS

Rheumatic diseases remain the most common pathology worldwide and in Ukraine in particular. As the prevalence of rheumatic diseases occupy the 3rd place after diseases of the circulatory system and digestive system and cover more than 4 million (10%) of the population. *The purpose of the study* is to assess the role of the ethological factor and the pathogenesis of rheumatoid arthritis on the basis of modern data from domestic and foreign literary sources. Recently, the issue of the pathogenesis of the RA, which is still insufficiently studied, is being actively discussed. Actually inflammation of the synovial membrane (synovitis) and cartilage destruction are the result of aggression from the side of cytokines and other mediators of inflammation. It is believed that in the development of rheumatoid synovitis involved three mechanisms - not immune, apoptotic and immunogenetic.The immediate cause of the main manifestation of RA - the degradation of cartilage and bone tissue - is the infiltration of cartilage tissue by "transformed" tumor-like synovial fibroblasts. In recent years, the interest of researchers has been focused on

clarifying the causes of such a transformation. One of the possible activation mechanisms is the main cellular signaling cascade, the oncogene network, by which one can describe in detail the influence of aberrantly activated gene sequences (so-called protoconcogens - myb, myc, sis, ras) that transform a normal cell cycle and lead to invasive behavior of synovial fibroblasts in RA. This indicates the possibility of T-independent (that is, non-immune) ways of developing RA. The disease develops in genetically predisposed individuals under the influence of various external or internal influences - viral or bacterial infections, injuries, psycho-emotional stress, medication intervention, age-related hormonal perestroika. Cigarette smoke, bacterial life products, viral components and other environmental stimuli can contribute to the development of these reactions. Congenital immune cells in individuals genetically predisposed to the development of autoaggression express Fc receptors that recognize bacterial antigens and promote the development of a fast inflammatory response.

Conclusion. 1. In all patients there is a period (early stage) at the onset of the disease, when the clinical picture is not completely formed and the nosological affinity is questionable, that is, all or the vast majority of patients undergo NSA stage. 2. The nosological affinity and the severity of the course of the disease are determined during the early stages of the disease under the influence of genetic, immunological and environmental factors, therefore this period is characterized by potential reversibility (predisposition to spontaneous remission) and the possibility of the most effective effect of pathogenetic therapy on the remote outcome. 3. At the end of the early stage, a typical pattern of a rapidly or slowly progressive chronic inflammatory disease (usually RA) is formed, which in the future develops according to known laws that are characteristic of this pathology. 4. RA - is extremely heterogeneous from the clinical picture and the rate of progression of the disease, so it is advisable to distinguish the following of its most important features: - persistent arthritis; - association with RF and ADSC; - tendency to destruction of joints (narrowing of articular crack, erosion). 5. The practical meaning of early diagnosis of RA is to substantiate the early appointment of basic anti-inflammatory drugs (BPA). 6. It is proved that adequate "basic" therapy at the early stage of RA prevents structural damage, which contributes to the preservation of functional activity of patients and improves the remote prognosis [9]. BSA should be prescribed not later than 3 months from the onset of RA with a rapid escalation of dose to achieve optimal effect (DAS <2.4) with subsequent replacement of the drug within 2-4 months with its ineffectiveness [4]. BPPP therapy should be continued even with decreased disease activity and achievement of remission.

Key words: Rheumatoid arthritis, erosive and destructive polyarthritis, rheumatoid factor, synovitis, oncogenic network (oncogene network), "transformed" fibroblasts, cytokines, classification of ACR and EULAR, basic anti-inflammatory drugs (BPSP).

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THE PROBLEM OF ADAPTATION OF INTERNALLY DISPLACED STUDENTS IN THE EDUCATIONAL PROCESS AT THE DEPARTMENT OF THEORETICAL PROFILE OF MEDICAL UNIVERSITY

Any (even temporary) changes related to the place of residence, job or study mean stress for people. Especially when such changes are forced, and the prospects are unknown. Adaptation of internally displaced to education in new, unfamiliar conditions is complicated by the fact that the training activity at the introductory courses in medical university has high requirements for students due to the high rate of educational process and a significant amount of informative loads. For successful learning of curriculum material they need to keep constantly a sufficient level of general intellectual development that is very difficult under stress. Compensation is possible at certain reduction of this level due to the activation of short-term memory and switching attention, solution of verbal and logical problems or increased motivation and performance but the internally displaced students are not able to do it because of imperfections of living conditions related to the migration. Independent work of students is about 33% of the total number of hours for training. But the internally displaced students seeking to adapt to new learning environment need teamwork instead of independent work, and increase of specific gravity of independent work in the learning process separates them from the team. Complications in the process of adaptation of the internally displaced students to education in the new conditions may be differences in curriculum topics between the university at which they studied previously, and the university, to which they are accepted due to the migration. It is known that the population of the eastern regions and the Crimea speaks Russian and study in Russian. The central regions have educational institutions on their territory, where classes are held only in Ukrainian that complicates the process of training activity for Russian-speaking students. The emergence of the internally displaced students provides a number of inconveniences to already established student groups both at home and at educational institutions, which is a prerequisite of communication problems.

Conclusions. 1. The problem of comprehensive support of internally displaced students' development is one of the pressing contemporary issues. The need to study it is caused by a sharp increase in the number of internally displaced persons, lack of practical methods and programs providing object-oriented support to internally displaced students. 2. In the future we need to expand interdisciplinary connections with the disciplines of social and liberal cycle as well as taking measures for the organization of special training for teachers to work with this category of students which requires additional researches and organization of activities at a higher level.

Key words: internally displaced students, adaptation, training activity.

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FRACTURES OF THE PROXIMAL FEMUR: MODERN MEDICAL AND SOCIAL PROBLEM AND ITS SOLUTIONS IN UKRAINE (LITERATURE REVIEW)

The aim. The problem of treatment of fractures of the proximal femur (FPF) that draws the attention of modern trauma, does not lose its relevance in the third millennium. The structure of the call ambulances to the elderly and old patients prevail treatment on chronic diseases and domestic injuries, including major role fractures considered location, they make up 30-40% or more of all fractures in the affected geriatric age who require inpatient treatment. According to statistical studies FPF up 17% in the structure of the injuries of the musculoskeletal system. These include hip fractures (50-55%), trochanteric fractures (35-40%) and undetrochanteric fractures (5-10%). The structure trochanteric fractures and hip fractures dominated by women (76% or more), and, in the "female" group average age was 71,6 years (fractures) and 74 years (trochanteric fractures), and "male" under 59,9 and 64,8 years. FPF and their consequences every year cause enormous damage to the economy of any state. In the UK the annual cost of treating patients with FPF including medical and social assistance is around two billion pounds, while the US – about ten billion dollars. Equally important is its social aspect of the problem. FPF during the first year after the injury even with timely and comprehensive surgical treatment kill about a quarter, and according to some even a third of the victims, indicating the importance of prevention. Many of them need constant care the rest of his days. It should be added that according to statistics around one third to half of these patients do not have a husband (wife) and every third or fourth of them live alone. Thus, medical and social rehabilitation of the affected elderly differs difficulties not only achieve their overall clinical cure, but return home independence. Equally important is its social aspect of the problem. FPF during the first year after the injury even with timely and comprehensive surgical treatment kill about a quarter, and according to some even a third of the victims, indicating the importance of prevention. Many of them need constant care the rest of his days. It should be added that according to statistics around one third to half of these patients do not have a husband (wife) and every third or fourth of them live alone. Thus, medical and social rehabilitation of the affected elderly differs difficulties not only achieve their overall clinical cure, but return home independence. From the foregoing it is clear that the problem of beyond treating injuries of the locomotor system, intruding into other areas of medicine, rehabilitation, social assistance, economy and so on. N., The real measure of success is determined by the extent to which the patient returned to premorbid level of functioning. Injuries in the summer, especially in old age, puts the body in an extreme situation, and doctors have to solve complex problems, chief among them is to preserve the life of the victim, which requires its early mobilization, the fastest elimination arising from received damage to anatomical and functional disorders, and this should be done without increasing the already high material costs.

Fractures of the proximal femur for several reasons require a special approach to treatment because trauma in the elderly – a comprehensive therapeutic, surgical, psychological and social problems to solve that are not only doctors of various specialties, but rehabilitators, psychologists, social workers. To date, many of diagnosis and treatment of these injuries duly reflected in studies of domestic and foreign authors. However, the results of treatment of this disease still remain modest. Thus, the prevalence and socio-economic impact of this disease is no exaggeration to correspond to the concept of the epidemic. The goal of treatment of any fracture of the proximal femur is gentle and effective restoration of mobility of the patient with minimal complications as somatic and local character. The most important task is the preservation of life treatment of the victim, which is achieved by implementation as soon as possible surgery. Early activation of older and elderly patients with hip fractures, excludes the development of complications that can cause death. Prompt treatment allows such patients not only to avoid hypostatychnyh complications are inevitable in the conservative treatment, but also reduce the pain, and generally improve their quality of life, to return the patient to his usual environment to baseline motor, social and professional activity. This treatment strategy in its ideal variant is found in larger centers. In regions more conservative approach used in the treatment of these patients. A large group of patients never hospitalized and their treatment is performed on an outpatient basis. Surgery, which shows more than 80% of cases, is open or closed reposition of bone fragments and their fixation in different designs. Creating optimal conditions for a possible fractures if used clamps that provide biomechanical balance in the area of the proximal femur and taken into account the risk factors, which are osteoporosis and circulatory disorders of the femoral head. Despite significant advances in the treatment of fractures of the localization, the proportion of failures in the surgical treatment of unstable fractures of types remains high, reaching up to 8-25%, and sometimes up to 50%. This requires the use of innovative differentiated approach to surgical treatment of patients with low-traumatic FPF using methods such as the stable fixation of the proximal femoral shaft and gamma nail. This technique allows the first days begin active movements in joints and dosed load. Today, in developed countries for the treatment of fractures of the proximal femur widely introduced invasive, low-impact use of technology proximal femoral rod (Troshanteric gamma nail G 3-STRYKER, PFN A-SYNTHES, ChFN-ChM). This method of surgical treatment of fractures of long bones is used in 60-70% of patients and can, unlike arthroplasty organ perform surgery on injured hip. In Soviet literature found a small number of sources, which focuses on the development of clinical and diagnostic approach to differentiated use of internal fixation of fractures trochanteric. Few publications that highlight ways to solve this problem.

Conclusion. Thus analyzing data references must determine that FPF is a serious medical and social problem in the world as well as in our country. It remains unclear finally differentiated approach on the methods of surgical treatment of patients, depending on the location of the resulting fracture, age of the patient and others. At present in Ukraine is not developed a general program of rehabilitation of patients after FPF involving both doctors and psychologists and rehabilitators. Addressing

these urgent challenges will improve the delivery of quality medical and social care of patients is extremely complex and is an urgent task facing scientists and practical traumatologist-orthopaedist of our country.

Key words: fractures of the proximal femur, literature sources analysis, health and social problems and ways to solve it.

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ODONTOMETIC INDEXES AND DIMENSIONS OF THE DENTAL ARCH DEPENDING ON THE FACE TYPE (LITERATURE REVIEW)

Aesthetic factors in orthopedic treatment are multifaceted, but above all they include the concept of form harmony and function. Harmony of forms mean proportionality, balance of individual elements of the face and dental-jaw system. Treatment is directed, as on reproduction of the perfect image of the person's face, its dental-jaw system, and on the restoration of the individual aesthetic-functional optimum. The facial part of the skull should be regarded as a constructive unity, taking into account ethnic, constitutional and individual characteristics of it. A number of authors consider the type of person to be a reliable reference point for determining the shape and value of a dental arch, aesthetic criteria for the production of artificial teeth. *Aim of our work* – to carry out the analysis of modern scientific literary sources regarding the features odontometic indexes and dimensions of the dental arch depending on the face type. During the analysis of professional literature it is proved that in practical dentistry a private constitution is a characteristic of the skull, which must necessarily be taken into account when conducting treatment. Many works have proved that the features of the structure of the face affect the dental-jaw system. Also marked features of dental arches and teeth, which determine the individuality of the face. We deliberately excluded from the review of the literature works, which do not establish the interconnection and relationship between odontometric indicators and type and facial features. The reasons for the contradictory results of the research in these works should include: the absence of standardized methods of morpho-anthropometry (for example, a subjective analysis of the relationship between the size of teeth, dental arches and the type of face with the help of photographs); mixed age and sex composition of the sample; study of persons with pathology of bite, absence or disturbed development of teeth (stress, superficiality, retention, etc.); inclusion in the study patients with genetic disorders, somatic disorders and diseases of disturbed metabolism; neglect of polygenic factors and racial-ethnic mixing; study of patients in the period of unformed occlusion or age-related degenerative-atrophic changes of the dental -jaw system.

Conclusion. During the analysis of professional literature it is proved that in practical dentistry a private constitution is a characteristic of the skull, which must necessarily

be taken into account when conducting treatment. In many studies it has been proved that the features of the structure of the face affect the dento-jaw system. Also marked features of dental arches and teeth that determine individuality of the face.
Key words: odontometry, dental arc parameters, face types.

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FEATURES OF DIAGNOSTICS AND TREATMENT OF COMMUNITY-ACQUIRED PNEUMONIA IN PRESCHOOL-AGE CHILDREN (REVIEW OF LITERATURE)

Pneumonia is acute non-specific inflammation of the pulmonary tissue, which occurs in children of different age groups, suffer from the published data showed the large economic losses which patients have during the treatment of community-acquired pneumonia. Moreover, the statistics of WHO shows a significant percentage of the fatal cases associated with this pathology.The greatest attention is paid to the children in the preschool-age period, when the timing of the onset of pneumonia is facilitate both by common risk factor and by the anatomical and physiological features of the children's respiratory system.
Conclusion. The international research in the field helped to identify the most typical types of pathogens of pneumonia in children, its modern diagnostics, and features of effective therapy, which used in the treatment (etiological and symptomatic), as well as prophylactics of this pathology in the ambulatory doctor's practice.
All of these steps will not only reduce the economic losses, but also significantly increase the health indexes in the general population.
Key words: pneumonia, children, the diagnostics, the treatment**.**

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DYSBIOSIS AND "BACTERIAL OVERGROWTH SYNDROME" (CONCEPT, VALUE OF THE NORMAL MICROFLORA, DIAGNOSIS, PRINCIPLES OF TREATMENT AND CORRECTION)

Normal microflora of the human intestine plays an important role in the normal functioning of the body. Disturbances of the quantitative and qualitative bacterial composition of the intestines may occur both in the form of intestinal dysbiosis and in the form of bacterial overgrowth syndrome. They are always secondary, as a result of

the main pathology. At the same time in the content of the small intestine total number of microorganisms is increasing, the number of typical esherichia, bifidum and lactobacilli is decreasing, the number of atypical and hemolytic escherichias, proteus, enterococci, and others is increasing. Correction of these conditions should be multifactorial, with complex treatment of the underlying disease and constant control of the intestinal microflora composition. The purpose of our work was to study the normal intestinal microflora, its diagnosis and the principles of therapeutic correction of pathological conditions. The notion of dysbiosis is used to determine the microbiota fraction (fungi, protozoa, viruses, etc.) in different biotops of the human body. The term "dysbiosis" has been around for more than 100 years, it was first used by A. Nissle in 1916, characterizing changes in the microflora affecting only the E. coli [6]. In 1962, Peretz LG and Lobova T.A. in 1967 and 1969, dysbiosis was defined as a pathological state of the intestinal microflora characterized by a decrease in the total number of typical intestinal sticks, a decrease in their antagonistic and enzymatic activity, the appearance of lactosonegative, hemolytic, capsic escherichiae, an increase in the number of guinea fowl, leeches and other types of microorganisms/

Conclusion. 1. In dysbiosis and SNBR, changes in microbiocenosis in the content of the small intestine are observed in comparison with healthy people. 2. Changes of microbiocenosis are related to an increase in the total number of microorganisms in the contents of the small intestine, a decrease in the number of typical esherichia, bifidum and lactobacilli, an increase in the number of atypical and hemolytic escherichiae, proteins, enterococci, and others. 3. Dysbiosis and CNSD are a consequence of the basic pathology (always secondary) and therefore the success of treatment depends on the correct approach to the treatment of the causes of dysbiosis. 4. In patients with CNSD, it should be taken into account that the effect on the etiological factor is not an accomplished task.

Key words: dysbiosis, bacterial overgrowth syndrome, intestinal microflora.