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MATHEMATICAL APPROXIMATION OF OPTIMUM CONTENT OF BINARY NANOADDITION IN POLYPROPYLENE MONOFILAMENTS FOR MANUFACTURING SOFT IMPLANTES AND RING MATERIAL

Introduction. The problem of plastics and the combination of tissues remains one of the most pressing problems of modern surgery. Therefore, the development and substantiation of the composition of materials for plastics and fabric bonding is relevant.

Aim of work. A mathematical justification of optimal content of binary nanoaddition from silver / silica into the polypropylene monofilaments with antimicrobial properties for making of the reticulated implants and suture materials.

Materials and methods. For planning of experiment and optimization of composition of PP / Ag / SiO_2 was applied a mathematical design with the use of symplex - latticed method in pseudocoordinates. Thus entrance variables were: x_1; x_2; x_3 are relative concentrations of PP, PHMC and CNT. As chosen initial parameters: y_1 and y_2 is relative durability of monofilaments at a break and durability in a knot

accordingly, y_3 is a diameter of zone of delay of height of microorganisms of S. aureus.

Results. With the use of simplex-latticed method in pseudocoordinates, planning of experiment is conducted and the concentration of nanoaddition of Ag / SiO_2 is optimized for forming of monofilaments of polypropylene with high mechanical and antimicrobial properties that can be used for reticulated implants making for the hernioplastic and as surgical suture materials. Optimal correlation of mixture folds components for forming of monofilaments, the masses. PP — 99,16; Ag — 0,38; SiO_2 — 0,46, and quality of the modified filaments characterize by such indexes: relative durability at a break — 587 MPa, initial module — 7944 MPa, diameter of zone of delay of height of microorganisms of S. aureus — 14,0.

Conclusions. The use of mathematical design by means of simplex-latticed content of nanoaddition of Ag / SiO_2 in the monofilaments of polypropylene, that provides maximal mechanical and antimicrobial descriptions to them, is optimized. Certain optimal correlation of components of mixture folds for forming of monofilaments, the masses. PP — 99,16; Ag — 0,38; SiO_2 — 0,46, and quality of the modified filaments characterize by such indexes: relative durability at a break — 587 MPa, initial module — 7944 MPa, diameter of zone of delay of height of microorganisms of S. aureus — 14,0.

Key words: mathematical design, symplex-latticed method, polypropylene, nanocomplex silver/silica.

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IMPACT OF VITAMIN D3 ON MINERAL METABOLISM, STRUCTURAL AND FUNCTIONAL STATE OF BONE AND CARTILAGE TISSUE ADMINISTERED IN COMBINATION WITH PREDNISOLONE

Introduction. Widespread use of glucocorticoids in medical practice for the treatment of a variety of diseases has led to the emergence of such a problem as glucocorticoid-induced osteoporosis. In this case, a small amount of work is devoted to the prevention of complications arising from the administration of glucocorticoids with short courses. The *purpose* of the study is to study the effect of vitamin D_3 on mineral and D vitamin metabolism in the introduction of prednisolone with a short course.

Materials and methods. Experimental studies were carried out on 51 rats - males of the linear breed of Wistar with a weight of 100.0±5.0 g. For the experiment, the selection of animals and the formation of experimental groups were used to select animals using the "random numbers" that were in the vivarium of the "SI of Traumatology and Orthopedics" and were kept in accordance with the generally accepted norms on the standard vivarium food regime. Experimental animals were divided into three series of experiments: in the first series of experiments, which was the control, animals were fed into the stomach with a probe 0.5 ml of water; in the second — animals were given 0.5 mg of prednisolone; in the third — the administration of 0.5 mg of prednisolone was combined with the administration of 100 IU of vitamin D_3. Ash content and content of mineral components in bone tissue were determined after degreasing it with hexane by dry mineralization at a temperature of 600-800° C. The level of mineral components in the ash was determined after its dissolution in 0.5 ml of hydrochloric acid, followed by dilution with water to 10 ml. The level of calcium in the serum was determined using a bio test set (LAHEMA, Czech Republic). The content of inorganic phosphorus in serum was determined after protein precipitation with a 12% solution of trichloroacetic acid by the Dousse method. The activity of total alkaline phosphatase in serum was

determined using the bio test of the production sets LAHEMA (Czech Republic). The activity of the isoenzymes of alkaline phosphatase was determined using their inhibitors according to the proposed by B. Plekhanov et al. method. The content of the active metabolite of vitamin D_3 - 250 HD_3 in serum was determined after extraction of 0.5 ml of serum with a mixture of chloroform-methanol (2: 1), sequential chromatographic separation on columns with aluminum oxide and LH - 20 with the following quantitative determination by radiocompetitive binding [^{3} H] chlorocloceptophorol according to L. I. Apukhovska et al. and S. Ducland et al. Statistical processing of the obtained data was carried out using methods of variation statistics with the definition of average values, to determine the reliability of their differences using the t-criterion Student. For statistical calculations, the integral system STATISTICA® 5.5 (STAT + SOFT® Snc, USA) was used, license number A XX 910A374605FA

Results. The highest asbestos bone density was established ($p < 0,05$) and the higher content of calcium and phosphorus in the bones of animals of the third series of experiments was significantly higher ($p < 0,05$) compared with a series of experiments in which animals received only prednisolone. Significantly lower ($p < 0.05$) violations of such indicators as the level of total calcium, phosphorus, alkaline phosphatase and its isoenzymes in blood serum of animals that were used for combined administration of vitamin D_3 and prednisolone compared with animals receiving prednisolone alone were detected. The level of 250 HD_3 in animals receiving prednisolone with vitamin D_3 was significantly lower ($p < 0.05$) from control values but was significantly higher ($p < 0.05$) than in the prednisone group.

Conclusions. The introduction of vitamin D_3 against the background of the administration of prednisolone prevented the reduction of mineralization of bone tissue; reduced the disturbance of mineral and D vitamin metabolism, and also significantly reduced the level of 250 HD_3 compared to the control series, but it was significantly higher than in the group of animals receiving only prednisolone.

Key words: osteoporosis, prednisolone, disturbances in the body caused by the use of prednisolone, the effectiveness of vitamin D_3 for prevention of the disorders in patients body during prednisolone intake.

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MORPHOLOGICAL CHANGES IN LARGE INTESTINE 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.

Conclusions. 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: colon, resection, stress.

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RELATIONS OF LINEAR INTER-JAW INDICATORS WITH LOCKING PLANE CHARACTERISTICS, POSITIONS OF THE TEETH AND FACE SOFT TISSUE PROFILES IN YOUTH INHABITANTS OF UKRAINE

Introduction. *Aim* of our work — to establish features of linear inter-jaw indicators with locking plane characteristics, positions of the teeth and face soft tissue profiles in young boys and girls with physiological bite.

Materials and methods. With the Veraviewepocs 3D device, Morita (Japan) in 38 boys (aged from 17 to 21) and 55 girls (aged from 16 to 20 years) with orthognathic bite, side teleroentgenograms and tomograms were obtained and analyzed. Cephalometric points and measurements were carried out in accordance with the recommendations of C. C. Steiner, and anatomical — by Basavaraj Subhashchandra Phulari and S.I. Doroshenko and Ye.A. Kulginsky.

The following *linear inter-jaw parameters* were determined: **AFH**- distance AFH; **ANS_ME** - lower face height; **MAX_MAND** - maxillo-mandibular difference; **WITS** - Wits indicator; **A_N_Po** - distance A_N_Pog;

The following *angular characteristics of the closing plane* were determined: **YGOCLPl** - angle YGOCLPl; **POR_DOP** - angle POr_DOP; **POR_OCP** - angle POr_OcP; **SN_OSP** - SN_OcP angle.

The following *angular and linear characteristics of the position of the teeth* were determined: **YG13_23** - angle Yg13_23; **YG33_34** - angle Yg33_34; **ANGUL_ !!** - mesio-distal inclination of **!!** corresponding tooth; **TORK_ !!** - vestibule-tongue tilt of **!!** corresponding tooth - the angle between the line **I!!-Apx!!**; **ROT_ !!** - rotation of **!!** corresponding tooth; **BCH_NCH** - angle BCH_NCH; **MDYG13** - angle of inclination of the upper canine in the jib plane; **MDYG33** - angle of inclination of the lower canine in the jib plane; **YGNEBAPX** - YGNEBAPX angle; **YGRES** - cross-sectional angle in a tomographic study; **DOP_1l** - angle 1l_DOP; **II** - angle II or inter-incisive angle; **IMPA** - IMPA; **MAND1_ME** - Mand1_MeIm angle; **MAND1_NB** - Mand1_NB angle; **MEGO_1L** - angle 1l_MeGo; **MAX1_NA** - angle Max1_NA; **MAX1_SN** - angle Max1_SN; **MAX1_SPP** - Max1_SpP angle; **FMIA** - FMIA angle; **NA_1u** - distance 1u_NA; **AVERT_1U** - distance 1u_Avert; **APOG_1U** - distance 1u_APog; **APOG_1L** - distance 1l_APog; **NB_1l** - distance 1l_NB; **HOLDAWAY** - Holdaway ratio or proportion or Holdweight ratio.

The following *angular and linear characteristics of soft tissues* were determined: **COTGSNLS** - nasolabial angle; **Z** - Z angle; **LI_NSPOG** - distance Li_NsPog'; **LS1U_L** - thickness of the upper lip; **LS_NSPOG** - distance Ls_NsPog'; **POG_PO** - the thickness of the soft tissues of the chin; **SN_H_L** - distance Sn_H

line; **LI_H_L** - distance Li_H line; **SM_H_L** - distance Sm_H line; **SS_LS** - depth of nasolabial fold; **SS_NS** - depth of the nose; **A_SS** - thickness of the base of the upper lip.

Statistical processing of the obtained results was carried out in the licensed package “Statistica 6.0” using nonparametric methods for evaluating the obtained results.

Results. In young men, for the maxillo-mandibular difference multiple reliable back connections with vestibule-tongue tilt of 41–45 teeth have been established, with a part of angular teleroentgenography characteristics of the position of the teeth and characteristics of soft tissues; for the WITS indicator — feedback with half of the characteristics of the closure plane, with a vestibule-tongue inclination of 11 and 12 teeth, with a part of the angular teleroentgenography characteristics of the position of the teeth and direct connections with the mesio-distal inclination of 41–43 teeth, with vestibule-tongue tilt of 41–45 teeth, with a part of the linear teleroentgenography characteristics of the position of the teeth; for the distance indicator A_N_Pog — feedback with the part of angular teleroentgenography characteristics of the position of the teeth and direct connections with the vestibule-tongue inclination of 41–44 teeth, with part of the linear teleroentgenography characteristics of the position of the teeth.

In girls for the lower face height set multiple reliable direct ties with all the characteristics of the closing plane; for the WITS index and the distance A_N_Pog — feedback with the part of the angular teleroentgenography characteristics of the position of the teeth and direct connections with the vestibule-tongue inclination of 41-44 teeth, with part of the linear teleroentgenography characteristics of the position of the teeth.

Conclusions. Study of correlations of linear inter-jaw indicators with the characteristics of the closure plane, the position of the teeth and the profile of soft tissues of the face in the juvenile age population of Ukraine will allow timely diagnosis of the imbalance of these parameters and thereby prevent the influence of provocative factors of the development of dysfunction of the tooth-jaw apparatus.

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

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STRUCTURAL CHANGES OF RATS' AGGREGATED LYMPHOID NODULES OF ILEUM IN AN EXPERIMENTAL SKIN BURN INJURY UNDER THE CONDITIONS OF INFUSION BY LACTOPROTEIN WITH SORBITOL

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Introduction. *The purpose* of the work is to determine the structural differences of damage and compensatory adaptive changes in aggregated lymphoid nodules of ileum at different periods after the experimental thermal burn injury under conditions of intravenous infusion of combined hyperosmolar solution of Lactoprotein with sorbitol.

Materials and methods. The investigation on establishing the structural differences of the injury and compensatory adaptive changes in aggregated lymphoid nodules (Peyer's patch) of ileum in rats at different periods after the experimental thermal burn injury (in 1, 3, 7, 14, 21, 30 days after the burn) under conditions of intravenous infusion of combined hyperosmolar solution Lactoprotein with sorbitol was performed on 45 white male rats (weight 155–160 g).

The experimental thermal burn (severity level II–III, with 21–23% of total body surface area burned) was performed according to widespread among researchers basic model. The test animals were divided into 3 groups (each group of 15 animals): I — intact animals; II — rats without thermal injury intravenously infused by the Lactoprotein with sorbitol for the first 7 days at the dose of 10 ml/kg; III — animals with burn injury that were infused according to the same schedule with the separate administration of the investigated substance. Housing of rats, experimental setup and

other related procedures were performed according to the existing bioethical principles.

Results. With the help of light and electron microscopy it was determined that the general signs of structural changes in aggregated lymphoid nodules of ileum in rats with the experimental thermal skin injury are necrosis and apoptosis of functionally different cells which occur against the background of significant changes of haemo- and lymphatic microvasculature. Within such conditions macrophages undergo phagocytic strain which often causes their necrotic death. Positive (compensatory adaptive) effects of intravenous infusion of Lactoprotein with sorbitol on structure of aggregated lymphoid nodules of ileum in the test animals involve: 1 — necrosis suppression of both lymphocytes and apoptotic lymphocytes (and their apoptotic bodies); 2 — regulation of apoptotic clearance; 3 — insuring structural integrity (and improving structural resistance) of follicle-associated epithelial cells (columnar enterocytes with brush border, M cells, goblet cells), dendritic cells and macrophages, which makes normal course of antigen-presenting and phagocytic function possible.

It is determined that structural response of membranoplastic effect and cytoprotective action of Lactoprotein with sorbitol is more significant. Evidence of initiation of membranoplastic effect of Lactoprotein with sorbitol is its permeation through the damaged haemocapillary wall in aggregated lymphoid nodules in rats with the skin burn which is visualized with the help of electron microscopic observation. Membranoplastic effect of Lactoprotein with sorbitol has distinct organ specific traits which present in “exclusion” of range of haemocapillaries from haemomicrocirculatory system due to appearance of circular membrane structure acting as ansa and contributing to vascular lumen closure. It is proved that most damaged haemocapillaries are more transformed and are “excluded” first. It leads to changes in haemomicrocirculation that induce changes in lymphatic microcirculation and relevant changes of selective recirculation of lymphocytes that are not structurally damaged. Infusion of the investigated hyperosmolar solution leads to saving of typical structure of juxta nodules lymphatic capillaries.

The distinguishing feature of juxta nodules lymphatic capillaries in the rats with burn injury that were infused with Lactoprotein with sorbitol is being overfilled with the lymphocytes of typical structure, cells undergoing mitosis, dendritic cells, apoptotic cells and apoptotic bodies. Considering unsystematic cells aggregation of various immunocytes which are in different functional status and at different stages of responsive and destructive transformation ("overfill" phenomenon) in the lumen of juxta nodules lymphatic capillaries results in their migration to lymph nodule must be negative as for adequate performance of the immune function

Conclusions. Therefore, it is established that compensation of the mentioned evidence of alteration (induced by consequences of the burn injury) is performed not only due to protection of cells from those cell damages which lead to the cell death or due to improvement of proliferation of undamaged cells (for example, distinct mitosis of lymphocytes in germinal centre of nodule) but also due to engaging of additional mechanisms which are to change the conditions and speed of immunocytes recirculation.

Key words: skin burn injury, infusion therapy, Lactoprotein with sorbitol, structural changes, aggregated lymphoid nodules.

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THE MICROBIOLOGICAL INVESTIGATION OF THE PROPERTIES OF GRAM-POSITIVE PATHOGENS OF INFECTIOUS AND INFLAMMATORY COMPLICATIONS

Introduction. The majority of representatives of the oral microflora possess powerful adhesive properties, which determines their role not only in the development of plaque-associated diseases (caries, periodontitis), complications of

dental implantation, but also severe infections of the cardiovascular, genitourinary and nervous systems of the human organism.

The aim — to study the antimicrobial susceptibility and adhesion properties of gram-positive microorganisms of peri-implant site in patients with peri-implant mucositis.

In the study there were enrolled 53 patients (mean age 48 ± 4 years) with included dental side defects in the lateral region, whom peri-implant mucositis had been diagnosed. 147 clinical strains of gram-positive microorganisms were obtained and identified. Cultivation of clinical isolates was performed by the standard method, final identification was carried out with using bacteriological automatic analyzer Vitec — 2compact bioMйrieux (France). Determination of sensitivity to antibiotics of pathogens was carried with disc-diffusion method by the standard procedure approved by the Order №167 of the Ministry of Public Health of Ukraine on "On Approval of Training Guidance "Assessment of the sensitivity of microorganisms to antibiotics", dated by April, 5, 2007. Adhesion of the studied microorganisms was determined on the formalized human red blood cells O (1) Rh + group by Briliss.

Results. The clinical isolates of *S. aureus, S. epidermidis, S. warneri* and *S. sunguinis*, which are involved in the development of infectious and inflammatory complications of dental implantation, show low sensitivity to the most antibacterial agents. It was found that only about 50% of clinical isolates, which caused purulent-inflammatory complications of dental implantation, were susceptible to oxacillin, amoxicillin, aminoglycosides etc.

In addition, the results of the investigation of the adhesive properties of the obtained strains of gram-positive microorganisms are presented. Among them only *S. epidermidis* have low adhesiveness to human erythrocytes. It has been established that the clinical strains of *S. aureus*, *S. warneri*, and *S. sunguinis* are characterized by medium and high adhesiveness.

Conclusion. Investigated strains of gram-positive microorganisms that colonize the peri-implantation site during the PIM, exhibit high resistance to antibiotics. They have medium and high adhesiveness to human red blood cells. It

creates the basis for the search and introduction of new agents for the prevention and treatment of infectious and inflammatory complications of dental implantation.

Key words: antibiotics, adhesiveness, Gram-positive microorganisms, peri-implant mucositis, sensitivity.

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MODELING OF TRANSVERSAL SIZES OF THE UPPER AND LOWER JAWS AND SAGITTAL CHARACTERISTICS OF THE DENTAL ARCH IN YOUTH-BRACHYCEPHALIC IN DEPENDENCE ON THE ODONTOMETRIC AND CEPHALOMETRIC FEATURES 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 arc in youth-brachycephalic with orthognathic bite, depending on the peculiarities of odontometric and cephalometric indices.

Materials and methods. Primary indices of teeth size and heads of youth from Podillia with orthognathic bite (n = 44, 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 needed to construct the correct shape of the dental arch in brachycephalic with orthognathic bite, depending on the odontometric and cephalometric characteristics, all 18 valid models (determination coefficient from 0.894 to 0.965) were constructed. Constructed models with a determination coefficient more than 0.6 more often include the size of teeth (74.5 %, of which 20.0 % are upper incisors, 21.8 % — on the lower incisors, 6.4% — on the upper canine, 8.2 % — on the lower canine, 5,5 % — on the upper small corner teeth, 9,1 % — on the lower small corner teeth, 3,6 % — on the upper first large corner teeth) than the cephalometric indices (25,5 %)

Among the sizes of the upper and lower incisors, the canines, small and first large angular teeth, the most frequent indicators are the following: mesiodistal dimensions of the crown of the teeth (16.4 %, of which 11.8% on the upper jaw); the vestibule-tongue size of the crown of the teeth (12.7 %, of which 5.5 % on the upper jaw) and the width of the dentin-enamel border in the mesiodistal direction (10.0 %, of which 3.6 % on the upper jaw).

Among the cephalometric indices models most often include: sagittal arc (2.7 %); height of the upper lip (2.7 %); height of the lower part of the face (2.7 %); the height of the red border of the lips (2.7%).

Conclusion. The conducted research confirms the possibility of application of mathematical modeling of individual linear sizes necessary for the construction of the

correct shape of the dental arch in brachycephalic boys with orthognathic bite, depending on the features of odontometric and cephalometric indices that can be used in the orthodontic clinic for diagnosis and choice of methods for treatment of anomalies and deformations of occlusion.

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

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FEATURES OF STRUCTURAL ORGANIZATION OF THE TELENCEPHALON HUMAN FETUS OF 7-8 WEEKS FETAL DEVELOPMENT

Introduction. *Aim.* The study established micrometrics parameters hemispheres of the head of human fetuses of 7-8 weeks, the structural organization, the morphometric parameters of the structures of the brain and radial glia morphology.

Materials and methods. An anatomical and histological, immunohistochemical and morphometric study of the cerebral hemispheres of 12 human fetuses gestational period — 7–8 weeks.

Results. White and gray matter of the cerebral hemispheres is the characteristic arrangement of cells in 5 layers. The total thickness is uneven, depending on the proportion of the brain. In the area of projection of the frontal lobe of the left hemisphere is 218,6±10,7 mkm and the right side respectively 205,4±10,6 mkm, projection in the parietal lobe of the left hemisphere was recorded greatest thickness, which amounted to 600,4±23,4 mkm and 634,0±24,2 mkm right. In the area of occipital lobe of the left hemisphere thickness equal to 186,3±8,8 mkm and

202,3±9,0 mkm right. The highest density of neural stem cells we observed in the ventricular zone and was respectively: the occipital lobe 320±16 cells per 0.01 mm^2, parietal lobe 250±9 cells per 0.01 mm^2, the frontal lobe cells 220±8 0.01 mm^2. The expression of Ki-67 is defined as a thin strip throughout the ventricular zone, which is an indication that the ventricular zone is primary in shaping the future neural cells and radial glial cells. Radial glial fibers start from the basement membrane ventricular zone, subventricular permeate zone in the radial direction and reach the boundary area. The average fiber length of radial glia range from 95.5 mm to 132.0 mm. Synaptophysin expression as a marker of postsynaptic membranes was completely absent throughout the ventricular zone of the brain hemispheres, while a strong expression was observed in the intermediate zone and cortical.

Key words: telencephalon, morphometric parameters, fetal period, radial glia.

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REGRESSION MODELS OF SONOGRAPHIC KIDNEY PARAMETERS IN MEN WITH ECTO-MESOMORPHIC SOMATOTYPE DEPENDING ON THE ANTHROPOMETRIC INDICES CHARACTERISTICS

Introduction. *Aim* of our work — to carry out the analysis of regression models of individual sonographic sizes of right and left kidneys in practically healthy men of ecto-mesomorphic somatotype depending on the anthropometric and somatotypological indicators features.

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 97 practically healthy men (from 21 to 35 years old) of the first mature age who live in the third generation in Podillia.

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.

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.

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. For men of the ecto-mesomorphic somatotype constructed all 16 possible sonographic parameters of the left and right kidneys, depending on anthropometric and somatotypological indices from R^2 from 0.889 to 0.974.

The constructed models of sonographic parameters of both kidneys most often include the circumferential dimensions of the body (27.4%), cephalometric indices (15.8%), and longitudinal dimensions and diameters of the body (by 14.7%). Among the individual anthropometric and somatotypological parameters of the body, the models most often include the height of the swivel point (up to 7 models), the WDE of shoulder arm, the circumference of the shin in the upper third and the waist circumference (up to 5 models), the width of the mandible, the width of the face and the forearm circumference in the lower third (up to 4 models).

The constructed models of sonographic parameters of the right kidney most often include the circumferential dimensions of the body (25.5%), WDE of long tubular bones of the limbs and body diameters (by 17.0%), cephalometric indices (14.9%) and longitudinal dimensions of the body (12, 8%). Among the individual anthropometric and somatotypological parameters of the body to the models most often include the height of the swivel point, the circumference of the shoulder and the circumference of the shin in the upper third (up to 4 models), the girth of the head, the forearm and the waist circumference (up to 3 models).

The built-up models of sonographic parameters of the left kidney most often include the circumferential dimensions of the body (29.2%), cephalometric indices and longitudinal body sizes (by 16.7%), body diameters and TSFF (by 12.5%) and components of the somatotype (10,4%). Among the individual anthropometric and somatotypological parameters of the body, the models most often include the width of the mandible (up to 4 models), the height of the swivel point, the forearm in the lower third, the abdominal TSFF and the mesomorphic component of the somatotype according to Hit-Carter (up to 3 models).

Key words: regression analysis, virtually healthy men, sonographic parameters of the kidneys, anthropometry, ecto-mesomorphic somatotype.

CLINICAL RESEARCHES

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CHOLELITHIASIS IN CHILDREN WITH HEREDITARY MICROSPHEROCYTOSIS

Introduction. Cholelithiasis in childhood according to the data of various authors is up to 3–5 % in the structure of the hepatobiliary system. About 30 % of all cases of cholelithiasis in children are due to diseases associated with hemolysis. Among children with hereditary microspherocytic anemia is occurs from 4 to 46 % of cases of cholelithiasis and in adults (30–50 years) bilirubin stones found in 62 %. The most common type of gallstones with hemolytic anemia, including hereditary spherocytosis Minkowski–Chauffard, are pigment stones. At the initial stages of the disease, the clinical manifestations of cholelithiasis are masked by functional disorders and inflammatory diseases of the biliary tract. The study of the role of hereditary spherocytosis in the development of cholelithiasis in children has a great scientific interest.

Materials and methods. We performed a retrospective analysis of 46 histories of diseases of children with hereditary spherocytosis who were on inpatient treatment in the hematological department in Vinnytsya regional children clinical hospital. The criteria for inclusion in the study was performed analysis of clinical manifestations of hepatobiliary system damage, biochemical and instrumental survey data.

Results. We found that cholelithiasis is mostly observed in 28 boys (60,9 ± 3,2%) with hereditary spherocytosis aged 12 to 18 years. In the clinical picture of the disease three clinical variants of the disease were distinguished: asymptomatic cholelithiasis was observed in 24 (52,2 ± 3,0%) patients, the pain form of cholelithiasis in 14 (30,4 ± 2,1%) patients, symptomatic gallstones form with biliary colic 8 (17,4 ± 1,1%) patients.

The ultrasound examination of the liver and gallbladder detected the following changes in the gallbladder: it was founded in all patients thickening of the wall of the gall bladder, hypotonic dysfunction of the gallbladder was detected in 30 patients (65,2 ± 4,1%), S-like gall bladder in 10 patients (21,7 ± 1,8%), the presence of sediment in the gallbladder in 38 children (82,6 ± 3,7%), the presence of membranes and constipation in 32 patients (69,5 ± 4,8%).

In all children, regardless of age, the main was hepatosplenic syndrome. Dispeptic syndrome was observed in 13 (72,2 ± 3,2%) children aged 1 to 6 years and

20 children of puberty period (83,4 ± 3,3%). The jaundice syndrome was diagnosed predominantly in children aged 12 to 16 years (80 ± 2,9 %).

A significant increase in total bilirubin in all children with hereditary spherocytosis compared with healthy children was noted. The level of indirect bilirubin in children aged 1 to 6 years is significantly higher than in the age group of 7–11 years by 13,9 %.

We found a reliable difference between the indicators of cytolysis in groups of children with hereditary spherocytosis aged 1–6 years and 12–16 years. Thus, ALT activity in a group of children from 12 to 16 years is more than 20 % of such in the age group1 to 6 years.

Conclusions. The retrospective analysis of the history of diseases showed that lesions of the hepatobiliary system were observed in all children with hereditary spherocytosis. Among children with hereditary spherocytosis, cholelithiasis is commonly found among boys aged 12 to 18 years. Asymptomatic cholelithiasis, as a variant of cholelithiasis, was detected in 24 patients (52,2 ± 3,0 %), pain form in 1/3 patients, symptomatic gallstones form with biliary colic in 8 (17,4 ± 1,1 %) patients. A significant increase in total bilirubin in all children was noted. The level of indirect bilirubin in children aged 1 to 6 years is significantly higher than in the age group of 7–11 years by 13,9%. ALT activity in a group of children from 12 to 16 years is more than 20% of such in the age group1 to 6 years.

Key words: children, hemolytic anemia, cholelithiasis.

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COMPARATIVE CLINICAL-AUDIOLOGICAL CHARACTERISTICS OF THE ACOUSTIC ANALYZER IN PATIENTS WITH CHRONIC TUBOTIMPONAL OTITIS MEDIA WITH PERFORATION OF THE

TYMPANIC MEMBRANE AFTER INJURY AND BECAUSE CHRONIC INFLAMMATION BEFORE AND AFTER TYMPANOPLASTY

Introduction. *The purpose* of the work is to hold comparative clinical-audiological characteristics of the acoustic analyzer in patients with perforation of the tympanic membrane after injury and because chronic inflammation before and after tympanoplasty.

Materials and methods. For 2014–2016, 49 histories of patients' illnesses with diagnosed chronic tubotimponal otitis media (CTOM) with dysfunction of ST were taken. The determination of hearing acuity and the degree of its reduction were carried out in a specially equipped sound absorbing chamber, with a sound pressure level of up to 30 dB. Audiometric “Itera” (Denmark) was used for the audiometric survey, which generates pure tones from 0,125 to 8000 Hz with an intensity of up to 110 dB in a conventional circuit, using threshold tone and language tests. The results were entered in special forms, where the axis of the ordinate reflects the intensity in dB, and for the abscissa — the frequency in Hz.

The evaluation of the perception of patients with bone and airborne sounds before and after the tympanoplasty was evaluated at five frequencies — 0.5 kHz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, that is, in the range of speech frequencies.

With the help of tonal audiometry, thresholds of auditory sensitivity were determined throughout the range of studied frequencies by air conduction and bone conduction. With asymmetry of hearing and eavesdropping, of better to hear ear, camouflage was performed: the masking noise in the ear that hears better, with the aim of his exclusion. Air conduction was masked when the difference between the ear canal airways that feels worse and the ear canal bone conduction thresholds that heals better was 40 dB or more.

The results were analyzed according to the International Classification of Deafness, approved by the WHO (1997). According to her, hearing impairment is considered to increase the threshold of hearing according to audiometry data by more than 10 dB*: I degree* of hearing loss corresponds to an increase in hearing thresholds

by 26–40 dB; *II degree* — raising the thresholds by 41–55 dB; *III degree* — at 56–70 dB; *IV degree* — 71–90 dB; raising thresholds by more than 91 dB indicates *deafness*.

The statistical processing of the results of the dissertation research was carried out with the help of the license package "STATISTICA 6.0".

Results. Thus, in patients with *T/bvt* and *AT/bvt*, similar features of the *thresholds of perception of air-operated sounds* at the frequency 0.5, 1.0 and 4.0 kHz are established; gradual decrease with increasing time after surgical intervention (3 – 6 – 12 months) In patients with *AT/bvt*, unlike patients with *T/bvt* at frequency 2.0 kHz, the most pronounced decrease in the thresholds for the perception of airborne sounds is observed only after 3 months, and at the frequency of 8.0 kHz these figures are practically unchanged.

The dynamics of *bone and air intervals* at frequencies of 0.5, 1.0 and 2.0 kHz in patients with *T/bvt* and *AT/bvt* after surgery is similar - gradual decrease with an increase in time after surgery (3–6–12 months), and, the most pronounced decrease is noted in the first 3 months. In patients with *AT/bvt*, unlike patients with *T/bvt* at a frequency of 4.0 kHz in the first 6 months, a gradual slight decrease in the value of this indicator is observed, and in the 6th and 12th months after the operation its size even increases, and on the frequency of 8.0 kHz with an increase in time after surgical intervention, the value of this indicator is practically unchanged.

Dynamics of thresholds for the perception of bone-carved sounds at different frequencies in patients with *T/bvt* and *AT/bvt* after surgery is in most cases of a multi-directional nature.

Key words: chronic tubotimponal otitis media, auditory dysfunction, tonal audiometry, perforation of the tympanic membrane, barotrauma.

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ETIOPATHOGENETIC STRUCTURE OF HYPOCHROMIC ANEMIAS, DIFFERENTIAL DIAGNOSIS, APPROACHES TO THE TREATMENT

Introduction. The article highlights the problem of differential diagnosis of hypochromic microcytic anemias. This is a heterogeneous group of anemia, which includes iron deficiency (IDA), anemia with functional deficiency of iron (anemia of chronic disease (ACD) and anemia of cancer and sideroblastic anemia. The main causes of development of these anemias are considered, features of hemograms, myelograms, iron metabolism indices, which allow identifying the type of anemia are investigated. The effectiveness of correction of hypochromic anemias with different mechanism of development using the oral, parenteral iron preparations, erythropoietin and erythrocytes transfusions is estimated.

The aim is to evaluate the etiopathogenetic structure of hypochromic anemias, peculiarities of hemogram parameters, myelograms, iron metabolism and the efficacy of treatment of various etiopathogenetic types. To achieve the goal, the following tasks were next:

1. To find out the structure of hypochromic anemia depending on the pathogenetic mechanism of development and etiology;

2. To study the nosological structure of various pathogenetic types of hypochromic anemia;

3. To study the features of hemogram, iron metabolism, myelograms of hypochromic anemias of various genesis;

4. To evaluate the effectiveness of treatment of hypochromic anemia according to the etiology.

Materials and methods. Cases histories of 219 patients with hypochromic anemias of different etiologies has been studied in the period from 2015 to 2017 in the hematological, rheumatologic, gastroenterological, nephrological, surgical, gynecological departments of the Vinnytsia regional clinical hospital named after

Pirogov. The age of patients ranged from 19 to 87 years. The average age of patients was 62.4 years. There were 121 men and 98 women. The study did not include patients with primary bone marrow diseases. The control group was presented by healthy persons aged 18–80 years, the average age was 59.8 years, among the persons there were 13 women and 17 men.

For the purpose of multi-faceted assessment of hypochromic anemia, hemograms, myelograms, iron metabolism parameters were analyzed.

Results. Among patients with hypochromic anemia, the main part — 58,45 % were patients with iron deficiency anemia. Anemia of chronic disease was found in 31.50% of patients with hypochromic anemia. Among patients with anemia of chronic disease, there were 21 patients (32.31 %) with simultaneous absolute deficiency of iron. 10.05 % of patients had hypochromic anemia due to malignant diseases (solid tumors).

Chronic blood loss was the cause of iron deficiency, a rare cause of iron deficiency malabsorption of iron (detected in 1 patient with celiac disease).

The most common causes of chronic posthemorrhagic anemia were bleeding from ulcers of the stomach or duodenum (20.61 %), fibromyoma uteri (17.56 %), dysfunctional uterine bleeding (13.74 %), bleeding from hemorrhoidal rectum veins (11.45 %), blood loss was caused by the presence of hernia of the aperture of the diaphragm (10.69 %), rarely anemia was caused by bleeding from the non-specific ulcerative colitis (8.40 %), bleeding from the varicose veins of the esophagus (7.63 %), endometrial cysts (3.82 %), renal bleeding (3.82 %) and Crohn's disease (2.29 %).

The most common cause of ACD was rheumatoid arthritis (27.69 %), non-specific ulcerative colitis (18.46 %), renal failure (16.92%), ankylosing spondylitis (12.31 %), Crohn's disease (9.23 %) , rarely, ACD has been developed in patients with systemic lupus erythematosus (7.69 %) and chronic viral hepatitis (7.69 %). Among patients with Crohn's disease and ulcerative colitis, there were patients who had combination ACD and IDA. In particular, 10 patients with ulcerative colitis and 4

patients with Crohn's disease had such combination. Among 11 patients with renal insufficiency — 7 had signs of absolute iron deficiency.

The main cause of anemia of cancer was colon cancer — 40.91 % (9 patients), less common causes were stomach cancer — 22.73 % (5 patients), ovarian cancer — 18.18 % (4 patients), kidney cancer — 9.09 % (2 patients), prostate cancer — 9,09 % (2 patients).

IDA had next characteristics: moderate degree of severity, red blood cell hypochromia, microcytosis, narrowing of the erythroid brunch in the bone marrow, decreased serum iron content, ferritin, and increased concentrations of transferrin. Anemia of cancer was characterized by severe degree of anemia, expressed hypochromia and microcytosis of erythrocytes, thrombocytosis, leukemoid reaction of the neutrophil and monocytic type, significantly accelerated ESR, narrowing of the erythroid brunch, expansion of megakaryocytic and granulocytic brunches; lowered serum iron, transferrin, and high levels of ferritin. For the ACD, the moderate severity of anemia, moderate hypochromia of erythrocytes and erythrocytes microcytosis, narrowing of the erythroid brunch of bone marrow, reduction of iron content, transferrin, and moderate increase ferritin content.

Correction of IDA most effective was by the using of parenteral iron. ACD was the most effectively corrected by the combination of erythropoietin and parenteral iron preparation. Effective correction of anemia of cancer on the background of solid tumors was carried out only by transfusion of donor erythrocytes.

Conclusions. Large heterogeneous group of hypochromic microcytic anemias includes iron deficiency anemia, anemia with functional deficiency of iron (anemia of chronic disease and anemia of cancer) and sideroblastic anemia. The most common cause of IDA was bleeding from the stomach and duodenum ulcers, the most common cause of ACD was rheumatoid arthritis, the most common cause anemia of cancer was a cancer of colon. There was a significant difference between the indices of the complete analysis of blood, myelograms and iron metabolism indexes in the IDA, ACD and anemia of cancer, that could be used for differential diagnosis of

these types of anemia. The most effective treatment of IDA were parenteral iron supplements, ACP — parenteral iron supplements and erythropoietin, anemia of cancer - transfusion of donor red blood cells.

The obtained results of the research can be used for the diagnostic algorithm for determining the pathogenetic variant of hypochromic anemia. In order to develop this algorithm, it is also necessary to assess the diagnostic value of markers such as IL-6, TNF, hepcidin.

Key words: anemia, hypoxia, iron deficiency anemia, functional deficiency of iron, anemia of chronic disease, anemia of cancer.

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IMPROVEMENT OF METHODS OF SURGICAL TREATMENT IN PATIENTS WITH ANEURYSM OF THE ABDOMINAL PART OF THE AORTA

Introduction. World health statistics highlight the progressive nature of the aneurysm of the abdominal part of aorta (AAPA), which always results in a rupture of aneurysms and a high risk of lethality. The *purpose* — to determine the risk factors of complications in patients with aneurysm of the abdominal part of aorta.

Materials and methods. We analyzed the results of the examination and treatment of 117 patients with AAPA who were in the Department of main vessels surgery National Institute of Surgery and Transplantation named after Shalimov National Academy of Sciences of Ukraine from 2008 to 2015 years. The main group consisted of 58 patients who were examined and treated according to advanced techniques. The comparison group was 59 patients who were examined and operated

according to standard, generally accepted methods. The duration of the observation was from 1 to 9 years (on average 4.7 ± 2.4 years). In the general structure of patients with AAPA male patients predominated, the male female ratio was 12:1. The diagnostic algorithm included general clinical laboratory tests (general blood and urine tests, blood biochemical analysis, lipid spectrum, coagulogram, anticoagulant and anti-coagulation blood systems before surgery and in the postoperative period) and instrumental studies: duplex scan of the abdominal part of aorta and arteries of the lower extremities, ECG in 12 standard leads, radiography of the chest organs. In the general group of patients, the most frequently performed linear prosthesis (46 persons, 39.3 %), aorto-femoral bifurcation prosthesis (31, 26.5 %), aorta-bi-iliac (25; 21.4 %), and aorto-clubfoot-femur (15, 12.8 %). A combination of AAPA operations with reconstructive operations in other arterial bases and arteries of the lower extremities was in 40 cases (34.2 %), including the reconstruction of visceral branches of the abdominal aorta in 14 patients (12.1 %). In 17 patients, significant coronary artery lesions, major arteries of the head and renal arteries were detected and stage or one-time surgical treatment was performed. The first stage is correction of coronary, cerebrovascular, renal blood circulation, the second stage — the operation on the aneurysm of the abdominal aorta, which was individualized. Aorta-coronary bypass surgery was performed in 3 patients, carotid endarterectomy — 4, direct stenting of coronary arteries — 4, direct stenting of the renal arteries — 2 patients. At the same time, aortic coronary artery bypass grafting and aortic prosthesis were performed in 2 patients. One patient performed carotid endarterectomy, aorta-coronary bypass and aortic prosthesis.

Results. Cardiac complications were observed in 6.8 %, of which 37.5 % resulted in death of patients. Often there has been a development of acute or intensified critical chronic lower limb ischemia. Trombectomy is performed in 3 patients, one patient is supplemented with profundoplasty, one — with fetal-femoral bypass, two - hip-poplite shunting. Repeated reconstructive operations in 16.7 % of cases ended with amputation of the limb. Neurological complications occurred less frequently, without lethal outcomes, however, in 25 % of cases, severe invalidation of

patients after acute cerebrovascular accident was observed. Renal complications in 66.7% resulted in death of patients. The development of the disseminated intravascular coagulation syndrome in the phase of deep hypocoagulation with the development of multiple organ failure, which led to 50 % mortality, was observed.

Conclusions. The structure and frequency of postoperative complications were distributed as follows: cardiological — 6.8 %, vascular — 5.1 %, neurological — 3.4%, haematological — 3.4 %, renal — 2.6 %, gastroenterological — 2.6 %. The frequency of complications was almost the same in each group and did not depend on the type of surgical intervention ($\chi 2=3.8$; $p=0.27$ according to Pearson criteria). The implementation of combined operations is accompanied by significantly higher blood loss compared with linear prosthesis ($p <0,05$). The level of intraoperative bleeding in patients with “large” aneurysms is significantly higher than in patients with “small” and “average” ($p <0,05$). A positive correlation between the diameter of the aneurysm and the level of intraoperative blood loss ($r = 0.43$; $p = 0, 001$) was established.

Key words: aneurysm of the abdominal part of aorta, risk factors of complications.

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MODERN TECHNIQUES OF TREATMENT OF PATIENTS WITH CRITICAL AND SUPERCRITICAL BURN WOUNDS

Introduction. Burn trauma is one of the widespread traumatic injuries. The special characteristics of the burn disease course, which often contribute to the

development of severe complications of both local and general nature, stimulate combustiologists to search for new methods and improve existing ones for treatment of patients with burns at various stages of medical aid.

Study objective is to improve the efficacy of treatment of patients with critical and supercritical burns.

Materials and methods. In 2007–2016, we treated 376 (100.0%) patients with a burn area of 30% and more of total body surface. Of these, 116 (30.9%) patients died. At admission of patients with burn traumas, the traumatic exo- and endogenous factor was promptly neutralized with water at room temperature, followed by the infusion of medicines through the subclavian veins (the volume was calculated using the Parkland formula). On Day 2–3–4 after the trauma, we conducted surgical treatment of patients: early surgical necrectomy and closure of postoperative wounds with lyophilized xenodermic implants after relative stabilization of the patient's condition. Surface burn wounds epithelized in 2–3 weeks. The areas of deep burn wounds were prepared to closure with free autodermotransplants.

Results. The depth of burn wounds depends on the power of a traumatic agent and exposure to its action. Therefore, burn wounds deepening may be stopped by rapid neutralization of the traumatic effect of exo- and endogenous damage factors with water of a room temperature. The criterion of complete neutralization is the disappearance of pain in the wound and the cool to the feel surface in the burn area. After that, the burn wounds should be closed with PVC films, the patients catheterized, if necessary, in the subclavian vein and continued the infusion therapy. At the same time, an early transportation of patients to the burn department/center should be organized. The next stage of the complex treatment of patients with burns is early noncretomy followed with a closure of postoperative wounds with lyophilized xenoderm implants, arrangement of an apparatus for general biogalvanization and closing the wound with a PVC film, used for bandaging until the first hyperthermia, followed with application of moisture-drying bandages with antiseptics. After removal of xenoderma and readiness for autoplasty, the areas of deep wounds should be closed with free autodermic transplants.

Conclusion. Sustaining life of patients with critical and supercritical burns depends on timeliness and quality of pathogenetically substantiated self-, buddy and first medical care. The traumatic effect of exo- and endogenous lesion factors should be rapidly neutralized by ordinary water of room temperature until killing pain in the wound. Early surgical treatment of patients with vast burns should be performed only at specialized departments/centers by a properly trained team of 3-4 surgeons. The rehabilitation of the burned patients starting at burn departments/centers should be followed by ultimate healing of burn wounds at sanatorium and resort facilities of Ukraine, such as the Avangard health center in Nemyriv, Vinnytsia region.

Key words: burns, neutralization, early necrectomy, xenodermoimplants, biogalvanization.

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THE EFFECTIVENESS OF NON-INVASIVE SURGERY — TRABECTOMY AB INTERNO IN PATIENTS WITH OPEN-ANGLE GLAUCOMA

Introduction. The basis of the pathogenesis of the primary open-angle glaucoma is the functional blockade of the scleral sinus. The immediate cause of the restriction of aqueous humour outflow is trabeculopathy, which causes the impairment of the filtering function of the trabecular aperture. It is believed that the trabecular meshwork, especially the juxtacanalicular portion, which is connected with the endothelium of the Schlemm's canal, causes the main resistance of aqueous humour outflow. Currently, the surgical treatment of primary glaucoma is the only method that can stabilize intraocular pressure (IOP) and prevent the progression of glaucomatous optic neuropathy. Along with traditional types of glaucoma filtering

surgery, new minimally invasive techniques have been developed to avoid complications and reduce the duration of the postoperative period. One of them is trabectomy ab interno, which ensures the ablation of the trabecular tissue. *Purpose*: Determine the efficiency of ab interno trabectomy lowering effect in patients with different stages of open-angle glaucoma.

Materials and methods. The study group included 15 patients (15 eyes) with open-angle glaucoma. According to their stages of glaucoma, the patients were divided ase follows: Ist — 2 eyes, IInd — 6 eyes, IIIrd — 7 eyes. The baseline IOP level with hypotensive tharapy was 26.27±4.91 mmHg. For the surgical treatment of patients with glaucoma, we used the procedure of the electrosurgical ablation of the trabecular meshwork — ab interno trabectomy, performed in the Trabectom machine (Neomedix, USA).In this case, access to the trabecular zone was provided by the anterior chamber, through a 2.0 mm corneal incision, which prevented the damage of Tenon's capsule and thus — the growth of the scar tissue. In 5 cases, this operation was performed simultaneously with the cataract extraction and IOL implantation; in 2 cases, the operated eye was pseudophakic. The operation was performed under local anesthesia, the ablation of the trabecular zone was carried out within 180 degrees. The operation and the postoperative period proceeded without complications, in 3 cases there was a hyphema which did not require additional treatment and was resorbed next day. In the postoperative period, the patients received antibacterial, nonsteroidal anti-inflammatory drops and pilocarpine.

Results. As a result, on the 1st day after the surgery, the IOP was 13.0±3.19 mm Hg, so it had decreased by 42.28% from the baseline. After 1 week the decrease amounted to — 41.6% and was equal to 16,2±3.77 mm Hg. After 1 month, the average IOP value of the studied group of patients was 17.7±2.4 mm Hg, which is 32.9% less than the baseline. After 6 months, the IOP was 17.3±3.11 mm Hg which is 33.65% lower than the initial IOP level. Thus, throughout the observation period, a statistically significant difference ($p<0.0001$) was noted between the IOP level in patients with open-angle glaucoma before and in different periods after the ab interno trabectomy.

Conclusion. So, a minimally invasive glaucoma surgery provides a stable intraocular pressure level reduction within 6 month safter the surgery and helps to prevent the progression of glaucoma. In addition, the trabectomy ab interno has several advantages over the filtering operations due to its selective ability of the abtation of the trabecular zone and the inner wall of the Schlemm's canal, which ensures a better physiological effect of the procedure, the absence of cosmetic defects, a lower traumatic effect, prevents a future fibrosis of the postoperative region, ensures a fast recovery and reduces the duration of the rehabilitation period, reduces a number of postoperative complications, and effectively helps stabilize the glaucomatous process.

Key words: trabectomy, glaucoma.

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THE USE OF MODERN PSYCHOLOGICAL QUESTIONNAIRES TO DETERMINE THE PATTERN OF MALE PATIENTS WITH CHD WITH POSTINFARCTION CARDIOSCLEROSIS

Introduction. Cardiovascular disease is a major demographic threat, it causes significant economic losses. Among the 10 leading causes of death in the world, the first place belongs to coronary heart disease (CHD).

Materials and methods. To help understand the problem, we examined 50 male patients with CHD with post-infarction cardiosclerosis. The comparison group comprised 25 virtually healthy males. Nowadays, questionnaires assessing the quality of life to study the severity of cardiovascular disease and results of treatment are

widely used. To study the peculiarities of the psychological state of patients, standardized test methods were used. The functional capacity of the patients was determined by the Seattle Angina Questionnaire. Levels of personal anxiety and depression were analyzed with the help of the Hospital Anxiety and Depression Scale. Sleep disturbances were assessed using the Pittsburgh Sleep Quality Index. An assessment of the cognitive function of the body included the estimation of visual and auditory memory by Rybakov's techniques.

Results. Research of the clinical and psychological state of patients with CHD with postinfarctional cardiosclerosis has revealed the signs of psychological maladaptation, in particular, depression of quality of life, self-esteem and violation of interpersonal relationships in the microsocial environment.

Awareness of the fact of the disease, the experience of its manifestations, the extrapolation of possible consequences, the reorganization of the usual pattern of life and activities, taking into account the constraints imposed by the CHD, cause the number of complex psychological reactions, which determine the peculiarities of the course of the disease.

The study of changes that occur in the mental state of men with coronary heart disease after myocardial infarction (MI) has provided a thorough understanding of the picture of the disease, the analysis of individual features of the course, the identification of factors that have an impact on the course of CHD and the development of further treatment tactics.

This group of patients, is characterized by the formation of a specific psychological response pattern that contains both characteristics of natural reactions to severe somatic ailments (anxiety and depression tendencies), and specific inherent features of the CHD, due to the nature of the course of the disease. Primarily that is the combination of pain syndrome with physical limitations such as painful concentration on somatic sensations, amplified significance of somatic suffering, strengthening of protest tendencies, emotional lability, deterioration of sleep quality, etc.

Conclusion. Psychopathological symptoms in a CHD clinic should be taken into account in determining the strategy and tactics of treatment for CHD patients with post-infarction cardiosclerosis and inclusion in the complex of therapeutic measures of psychotherapy should be included. When there are signs of neuroticism, depression, anxiety-depressive disorders, circadian disorders and sleep quality deterioration, drug treatment of these violations is recommended.

Key words: coronary heart disease, postinfarction cardiosclerosis, quality of life.

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APPLICATION OF “BETARGIN” IN COMPLEX TREATMENT OF PATIENTS WITH THE FIRST DIAGNOSTIC TUBERCOLOSIS WITH TOXIC COMPLICATIONS OF ANTITUBURCULOSIS THERAPY

Introduction. The aim of the work is to evaluate the effect of “Betargin” on the dynamics of clinical and biochemical parameters and to determine the feasibility of its use in patients with toxic side-effects for the treatment of tuberculosis with a clear toxicity syndrome.

Materials and methods. 38 patients with tuberculosis with toxic complications of chemotherapy were examined. Patients of the control group (CG) (20 persons) received standard antituberculous treatment. Patients of the main group (MG) (18 persons) received the agent “Betargin” in addition to this therapy. Evaluated clinical and laboratory parameters (blood test, levels of ALT, AST, bilirubin, total protein of blood).

Results. Manifestations of toxic adverse reactions in both groups have decreased. The dynamics of regression of complications of polychemotherapy was higher in MG patients. In 15 (83.0%) patients with MG and 10 (50.0%) of MG manifestations decreased, and in 13 (72.0%) and 7 (35.0%) respectively, the toxicity syndrome completely disappeared ($p<0,05$). Drowsiness decreased or disappeared in 14 (77.8%) and 8 (40.0%) patients respectively, increased fatigue – in 12 (66.7%) and 3 (15.0%). The levels of ALT and AST in MG by therapy decreased significantly ($p<0,05$) by 77.8% and 61.1% respectively; in CG the decreasing in these rates was less clear and was 35.0% (ALT) and 15.0% (AST).

Conclusions. "Betargin" quickly eliminates the manifestations of astenovegetative and intoxication syndrome in the underlying disease, minimizes discomfort, improves appetite and general condition of patients. The use of "Betargin" in patients with tuberculosis improves clinical parameters, as well as data from laboratory and clinical research methods. The use of "Betargin" does not require the abolition of major anti-TB drugs, but is used in combination with them.

Key words: side effects of anti-TB drugs, tuberculosis intoxication, "Betargin".

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EXPERIENCE OF SURGICAL TREATMENT OF PATIENTS WITH ATEROSCLEROTIC THREATS OF CORONARY AND CAROTID ARTERIES

Introduction. The growth of the number of patients with severe forms of atherosclerotic lesion of the major arteries, especially in countries where there is almost no primary prophylaxis of arterial pathology, prompts the development of a clear approach for the diagnosis and treatment of patients with multifocal atherosclerosis. The *purpose* of the work is to improve the results of treatment of patients with combined occlusive and stenotic atherosclerotic lesions of the coronary and carotid arteries.

Materials and methods. The results of surgical treatment of 63 patients with combined occlusive and stenotic atherosclerotic lesions of the carotid and coronary arteries in Department of Transplantation and Heart Surgery and Main Vessels Surgery National Institute of Surgery and Transplantation named after Shalimov National Academy of Sciences of Ukraine for the period of 2012–2016 were analyzed. A part of patients performed one-stage revascularizing surgical interventions on two vascular basins (1 group), and the second group included patients who performed stage operations on the sinus and coronary arteries. The protocol of the preoperative examination included general-clinical and special methods of examination of the cardiovascular system: ECG, ECH cardiography, coronary ventriculography, ultrasound duplex scan of carotid arteries. Additionally, in 32 (50.8%) patients, perfusion computer tomography of the brain was performed before and after surgical treatment.

Coronary bypass surgery was performed under general anesthesia, without artificial blood circulation, as venous and arterial grafts were used as shunts. The average number of shunts per patient was 3.2 ± 0.3 on average. Virtually in all patients used the left inner thoracic artery. The revascularization of the carotid arteries was performed mainly by the method of eversion endarterectomy, in one case, performed an autoarterial prosthetic of the internal carotid artery.

Results. Patients in the first group were clinically heavier than before the operation, had signs of decompensation of coronary and cerebral circulation, which served as a indication to one-time intervention: 32 (91.4%) patients were observed for angina pectoris III-IV FC of NYHA, in 17 (48.6%) patients — a heart attack in case

of history; the vascular lesions of coronary arteries were noted in 97%, contralateral damage of carotid arteries — 67%, stroke in history — in 11 (31.4%).

We received good and satisfactory results in 98.2% of patients in the group of one-stage interventions and in 100% of patients in the group of interventional interventions. In 5 (17.8%) patients in the group of stage interventions, transient ischemic disorders were more frequently observed within 1 hour after surgery. In both groups, the most common complication was arrhythmia in the form of atrial fibrillation, or frequent ventricular extrasystoles. Patients in the second group, in comparison with the first one, were twice as likely to have encephalopathy. The only lethal complication that arose during one-time carotid endarterectomy and coronary bypass surgery was a massive ischemic stroke that caused the death of the patient. It should be noted that in patients of the second group, such indicators as: the duration of artificial ventilation of lungs, the duration of stay in the department of intensive care and resuscitation was almost twice as high as in patients in the first group ($p < 0,05$).

Conclusions. Concomitant operations are required for patients with decompensation of blood circulation in both affected arterial pools, which do not allow safe restoration of blood flow in one of the vascular pools. A staged approach can be used with a stable course of CHD and without clinically significant neurological symptoms. Execution of simulant operations using adequate neuromonitoring are not accompanied by an increased risk of ischemic neurological and cardiological complications.

Key words: atherosclerosis, carotid arteries, coronary arteries, vascular surgery, cardiac surgery.

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COMPARISON OF DIFFERENT TACTICS OF TREATMENT IN PATIENTS WITH HIGH RISK OF REBLEEDING OF GASTRODUODENAL ULCER HEMORRHAGE

Introduction. One of the most urgent problems of abdominal surgery for a long time is the question of the treatment of. Despite the development of surgical and endoscopic technologies cases of ulcerative gastro-duodenal bleeding accompanied by high mortality (20%). Most surgeries (86.4%) of these patients carried on profuse bleeding in the early hours of hospitalization. Postoperative mortality in this group of patients is 15–50%, and in patients with recurrent bleeding this rate reaches 80%. Using the techniques of endoscopic hemostasis has reduced the level of open surgery by 72%. However, the high rate of mortality in patients with recurrent bleeding makes us look for ways to improve methods for endoscopic hemostasis.

Aim of the study was to compare of different tactics of treatment in patients with high risk of rebleeding after gastroduodenal peptic ulcer hemorrhage.

Materials and methods. Retrospective and prospective analysis of 302 medical histories was conducted during the study. 154 cases of patients admitted to the center gastrointestinal bleeding in a state of hemorrhagic shock were selected. All these patients had a high risk of rebleeding, which was estimated using predictive scales Rockall (1996). The minimum number of points in this patients group was 4. Experimental group (group 1) includes 45 patients underwent endoscopic hemostasis. In order purity statistical analysis comparing the effectiveness of the treatment was carried out in two stages: first as the control group (group 2) were taken 101 patients hospitalized in a state of hemorrhagic shock and treated with conservative therapy; the second phase of a research group compared with the control (group 3) which included 32 patients operated on profuse bleeding or rebleeding. The compare criteria`s were rebleeding incidence, outcome and hospital treatment duration.

Results. Of the 45 patients of the experimental group (group 1) endoscopic hemostasis in 31 (68.9%) cases were made during the initial endoscopy and in 14

(31.1%) patients — in second endoscopy. Injection endoscopic therapy was used in 11 (24.4%) patients, argon plasma coagulation — 29 (64.4%), clipping of bleeding vessels – in 2 (4.4%), and its combinations — in 3 (6.8%) cases. Analysis of study results shows that application of endoscopic hemostasis allows to reduce the risk of rebleeding and mortality compared with conservative antiulcer therapy.

Of the 32 patients of the third group 22 (68.75%) were operated about ulcer rebleeding in the hospital, and 10 (31.25%) — about the profuse bleeding ulcer. Analysis of study results shows that surgery can achieve reliable hemostasis, but accompanied by higher mortality and longer duration of hospital treatment.

Conclusions. The development of hemorrhagic shock in patients with ulcerative gastro–duodenal bleeding significantly increases the risk of rebleeding and mortality. The application of endoscopic hemostasis allows to reduce the risk of rebleeding and mortality compared with conservative antiulcer therapy.Surgical treatment can achieve reliable hemostasis, but accompanied by higher mortality and longer duration of hospital treatment.

Key words: ulcer bleeding, hemorrhagic shock, endoscopic hemostasis.

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FUNCTIONALLY INACTIVE FORMS OF PROTHROMBIN AND FIBRINOGEN LEVEL AS MARKERS OF HYPERCOAGULATION IN PATIENTS WITH CHRONIC KIDNEY DISEASE V D WHO UNDERGO PROGRAM HEMODIALYSIS TREATMENT

Introduction. Disturbances in the system of hemostasis are one of the main complications in patients with chronic kidney disease (CKD) V D who undergo program hemodialysis treatment. They lead to the development of thrombosis, thromboembolism, peripheral arterial occlusions, coronary syndrome and cerebrovascular complications. In the present study, *our purpose* was to search for early available markers of hypercoagulation in patients on program hemodialysis.

Materials and methods. 88 patients (36 women and 52 men) aged 26 to 65 years with chronic kidney disease V D on a background of chronic glomerulonephritis who undergo chronic dialysis treatment were examined. Some links of hemostasis (fibrinogen, prothrombin index, ecamulin index and their ratio) were analyzed.

Results. It was revealed that the content of the functionally inactive form of prothrombin (FIFP) in patients with 5D stage who are treated with program hemodialysis significantly exceeds the normal values in a third of patients. All patients on hemodialysis have significantly higher fibrinogen levels. Analysis of the correlation of fibrinogen with prothrombin-ecamulin ratio confirmed their high direct correlation.

Conclusion. Separately taken indicators of both fibrinogen and prothrombin index do not allow to fully characterize the imbalance between pro- and anticoagulant systems. The component, which takes into account the level of fibrinogen and prothrombin-ecamulin ratio, can serve as a marker of the degree of disturbance in the hemostasis system.

Key words: chronic kidney disease (CKD); hemodialysis; hemostasis; hypercoagulation markers.

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IMPORTANCE OF CHANGES IN BLOOD TEST IN DIAGNOSIS OF CORONARY HEART DISEASE ESCALATION

Introduction. *The purpose* of the study: the determination of the significance of blood test parameters in the diagnosis of atherosclerosis and coronary heart disease in order to prevent the activation of the atherothrombogenesis process.

Materials and methods. The results of the survey of 135 patients with coronary heart disease (CHD) are summarized. There are 94 men and 41 women (average age was 57.24±5.12 years). 92 patients were with stable CHD (45 – with II functional class (FC) and 47 – with III FC) and 43 with unstable (progressive) angina. 30 healthy persons were included in the control group (average age was 55.37±4.82 years). CHD was combined with arterial hypertension (AH) in 68 (50.4%) patients. In addition to standard screening tests, we define blood level of fibrinogen by Klaus's method, the plasma level of C-reactive protein (CRP) by ELISA using test kit "hsCRP" (USA).

Results. The differences in complete and biochemical blood tests in patients with stable and unstable course of the process are revealed. ESR in unstable patients was significantly higher than not only in control group, but also in patients with stable CHD. A similar picture was observed in the analysis of both leukocyte levels and nongranulocytes/granulocytes ratio. CRP levels significantly increased with an increase in disease severity, the highest levels of CRP were in patients with unstable angina. Patients with combination of CHD and AH had significant increase in only CRP level relatively patients without AH. Other inflammation indicators did not significantly differ between these groups of patients.

Conclusions. Changes in the complete blood count and increase in the CRP and fibrinogen levels are associated with the atherosclerosis phase, its exacerbations and remissions periods, the degree of the vessels involvement in the inflammation and, to a lesser extent, the arterial hypertension presence. A plasma marker of chronic

latent vascular wall inflammation (CRP) can help identify individuals with high risk of exacerbation of atherosclerosis and coronary heart disease. The prognostic significance of elevated CRP levels increases with its combination with increased fibrinogen levels and changes in the common blood count.

Key words: stable coronary heart disease, unstable angina, inflammation at atherosclerosis, leukocyte formula, C-reactive protein, fibrinogen.

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WAVELET ANALYSIS OF BLOOD PERFUSION RHYTHM STRUCTURE IN PATIENTS WITH FROSTBITES

Introduction. The problem of treating patients with frostbites continues to be extremely topical. One of the effective ways to improve the efficacy of treatment is a timely correction of microcirculatory disorders, which requires both prompt information on the conditions of tissue blood circulation and long-term monitoring of microcirculation.

Study objective is to study a tissue blood circulation by wavelet analysis of the structure of rhythms of blood perfusion fluctuations in patients with frostbites treated by different techniques/regimens.

Materials and methods. We examined twenty-five patients with frostbites of the lower extremities. The study group consisted of 15 patients who, after immediate admission to a hospital, were provided with biosothermic bandages (patent of Ukraine for utility model No. 87748), followed by early surgical necrectomy on Day 2–3 with a one-stage closure of wounds with lyophilized xenodermic implants and subsequent treatment in a humid chamber using microcurrent without external sources. The control group consisted of 10 patients who received standard treatment

— wet-drying bandages with betadine until self-rejection of necrotic tissues, complete epithelization of granulating wounds or their surgical closure. The study was conducted using LAKK-02 Doppler flowmeter with fixation of sensors on the skin of the upper third of shin on Days 2, 5, 10, 15, 21. Recording and subsequent wavelet analysis of maximal amplitudes of endothelial ($A_{max}E$), neurogenic ($A_{max}N$), myogenic ($A_{max}M$), respiratory ($A_{max}D$) and pulse ($A_{max}C$) fluctuations were performed automatically using a special program with subsequent statistical processing of the results obtained. We additionally examined 20 more conditionally healthy volunteers in order to establish the normal levels of the above indicators.

Results. Initial rates of maximum amplitude fluctuations ($A_{max}E$, $A_{max}N$, $A_{max}M$, $A_{max}D$, $A_{max}C$) in patients of the study and control groups were significantly lower than the normal ones: endothelial fluctuations were 4.71–7.78 times, neurogenic — 4.57– 8.55 times, myogenic — 3.11–7.31 times, respiratory — 3.21–6.51 times, and cardiac — 2.84–6.02 times lower. On Days 5–10–15, vasomotor activity of the vessels practically did not differ from the initial indicators. Only on Day 21 after injury, the wavelet analysis presented a significant improvement in blood microcirculation in patients of the study group: $A_{max}E$ was 6.13 times, $A_{max}N$ — 5.64 times, $A_{max}M$ — 3.33 times, $A_{max}D$ — 2.48 times, and $A_{max}C$ — 3.22 times higher than in the control group, but the indicators yet did not arrive at the physiological level on Day 21 of the treatment. The vasomotor activity of vessels in the patients of the control group on Day 21 remained at the initial levels.

Conclusion. Low initial amplitude maximums in all ranges evidence of the high tone of sympathetic department of the autonomic nervous system, vascular spasm, growing rigidity of vascular walls, and, therefore, a depletion of the blood in a nutritive channel, expressed hypoxia of tissues, decreased transcapillary exchange, which contrubute to the development and formation of severe wound course in patients with frostbites. The proposed technique of frostbite treatment presented a significant increase of maximum amplitudes in all ranges, thus evidencing of a much better wound course. Operative information on the blood circulation status is a

criterion of effective treatment of patients and may contribute to timely correction of a treatment regimen, which is a promissing subject for further research.

Key words: frostbite, microcirculation, Wavelet-analysis, early surgical necrectomy, humidity chamber, bioisothermic bandage.

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PECULARITIES OF THE "CLINICAL ROUTE" OF OBESE PATIENTS SUFFER OF POLYTRAUMA

Introduction. One of the ways to improve the medical care organization is to develop "clinical routes", as an algorithm for medical personal actions and patterns of patient movement by structural subdivisions of a medical institution.

The purpose of the work. Determine the pecularities of the "clinical route" for polytrauma in obese patients.

Materials and methods. The "clinical route" was based at clinical observation of 64 patients with combined blunt body injury depending on the body mass index (BMI).

Results. We propoued the "clinical route" of the patient in the hospital with the clearly indicated route depending on BMI. In particular, we want to attract special attention to the patients of the II–III degree of obesity, who even with stable indicators of hemodynamics should be immediately directed to the operating room from the moment of admission, where it is possible to perform invasive diagnostic manipulations to verify the diagnosis, since the clinical presentation does not always

reflect the severity of the damage, and the available arsenal of visiable techniques in this group of patients has a rather low diagnostic value.

Conclusions. The proposed “clinical route” of patients with polytrauma depending on BMI allows us for the most urgent time to clearly diagnose the damage and determine the tactics of surgical treatment.

Key words: polytrauma, odesity, “clinical route”.

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OUTCOMES OF REPEATED RECONSTRUCTIVE SURGERY IN AORTO-FEMORAL AND FEMUR-POPLITEAL SEGMENTS IN PATIENTS WITH CHRONIC OBLITERATING DISEASE OF ARTERIES OF THE LOWER EXTREMITIES

Introduction. The prevalence and unsatisfactory results of treatment of chronic obliterating arterial diseases suggests of urgency of the problem.

A large percentage of thrombi remains after primary surgical interventions followed by a high number of amputations. A need for repeated reconstructive interventions for various reasons occurs in 30% of patients. Therefore, repeated reconstructive surgery in AF and FP segments is considered a pressing problem of vascular surgery.

Objective of the study is to develop treatment regimen and improve the results of surgical interventions in patients with reocclusion of aorto-femoral (AF) and femur-popliteal (FP) segments based on exploring the causes of thrombosis in operated vessels.

Materials and methods. We analyzed the outcomes of surgical treatment of 1725 patients with chronic obliterative arterial diseases within a period from 2012 to 2016.

Among the patients, there were 1,725 patients with chronic obstructive arterial disease, including 1507 male (87.4%) and 218 female (12.6%) subjects. The average age of these individuals was 63.4+8.32 years. During 5 years of follow-up, 631 patients (41.8%) underwent reconstruction of AF and FP segments, including reconstruction of AF in 131 patients (20.7%); FP with autogenous bypass grafting in 262 (41.5%) patients, and FP allograft bypass grafting in 238 (37.7%) patients.

Gender distribution: male patients accounted for 87.4% (1507), and women — 12.6% (218) of patients. The age of patients varied from 44 to 78 years (mean age 63.4 + 8.32 years). Different patients had reocclusion following primary surgery at different time ranging from 1 day to 3.9 years.

All patients were examined at admission. In addition to standard clinical and laboratory studies, they passed ultrasound duplex scanning of the aorta and iliac arteries using a Toshiba Xario unit and X-ray contrast angiography on Toshiba angiograph.

Results. During 5 year-long follow-up of 1725 patients subjected to surgeries in the major arteries, 631 (41.8%) patients underwent reconstruction of AF and FP segments. Of these, 131 patients (20.7%) underwent reconstruction in AF segment, 262 (41.5%) were subjected to FP with autogenous bypass grafting, and 238 (37.7%) patients underwent FP allograft bypass grafting. Repeated reocclusion of AF and FP bypass graph was diagnosed in 152 patients (24.0%).

Analysis of the causes of repeated treatment of patients indicates that bypass grafts` thrombi were recorded in 121 patients (79.6%), neointimal hyperplasia of the anastomosis — in 19 patients (12.5%), prosthetic infection — in 5 subjects (3.2% (and ischemia progression — in 7 patients (4.6%).

The choice of surgical technique in reocclusions based on the severity of ischemia of the extremities, occlusion process prevalence, adequacy of the central bleeding and grade of lesions to distal arterial segments. Repeated surgical

interventions were focused on restoring arterial blood flow in 98 patients (65.0%), and 10 patients (6.0%) received medication therapy. 44 patients (29.0%) were subjected to amputation of extremities.

30 (30.6%) of 262 patients were subjected to repeated surgery, which involved thromboectomy, distal anastomosis plasty, and allograft bypass grafting for inadequacy of autogenous graft.

23% of patients with occlusion in AF segment underwent thromboectomy and distal anastomosis plasty or thromboectomy and profoundoplasty. Autogenous veins were used as a plasty material.

45 patients (45.9%) of 238 patients with FP allografts underwent repeated surgery. This involved thromboectomy with allografting, plasty of distal and proximal anastomoses, anastomosis below the articular cavity, replacement of allograft and removal of the shunt.

We consider fundamental using autogenous grafts and patches for distal anastomosis plasty.

The causes of reocclusion following reconstructive surgery in FP segment consisted in progression of the atherosclerotic process and distal arterial lesion.

Despite the combination of repeated reconstructive interventions, the risk of limb amputation was high. 44 patients (29.0%) were subjected to limb amputation.

The efficacy of repeated reconstructive surgery largely depends on the course of underlying disease and adequacy of treatment, complicated by lacking peripheral blood circulation.

Conclusions. Despite technical complexity and higher risk of complications, repeated surgical intervention in patients with AF and FP arterial segment reocclusion should be considered reasonable and substantiated, since it allows not only preserving the patient's limb, but also to improve the quality of life. The results of treatment are better when using autogenous grafts in the area of the popliteal artery anastomosis.

Therefore, using the developed technique for patients with reocclusions of AF and FP segments gave the opportunity to obtain good and satisfactory results in 98 (64.4%) patients.

Key words: repeated reconstructive surgery, aorto-femoral, femur-popliteal segment, reocclusion, thrombosis, autogenous, allograft bypass grafting.

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CLINICAL-FUNCTIONAL FEATURES OF CORONARY HEART DISEASE IN COMBINATION WITH DIABETES MELLITUS

Introduction. *The purpose* of the study — optimization of coronary heart disease diagnostics in patients with diabetes mellitus (DM) by studying the clinical and functional characteristics of the coronary heart disease course in combination with DM type 2.

Materials and methods. 112 patients with coronary heart disease were examined, who were divided in 2 groups: 66 patients with a combination of coronary heart disease and diabetes mellitus (main group) and 46 patients with coronary heart disease without manifestations of diabetes (comparison group). The average age of the main group and the comparison group were 57.24±5.12 and 56.4±6.8 years, accordingly. The average duration of DM in our patients was 6.9±3.7 years. Coronary heart disease was diagnosed in accordance with the European Society of Cardiology Recommendations.

Results. It was established that coronary heart disease at the diabetes mellitus develops at a younger age. Moreover, it is more pronounced and is characterized by a higher incidence and depth of ST segment segmentation, longer episodes of myocardial ischemia and their total daily duration, more frequent painless ischemia of the myocardium.

In patients with diabetes mellitus coronary heart disease is often accompanied

by a violation of the rhythm (ventricular and supraventricular extrasystoles, supraventricular tachycardia).

The combination of diabetes and coronary heart disease increases the degree of pathological myocardial remodeling, mainly due to dilatation of the heart, contributes to the progression of systolic and diastolic dysfunction and increased arrhythmic activity.

Conclusions. Coronary heart disease in patients with diabetes mellitus develops earlier than in general population in both men and female.

Silent myocardial ischemia is more common in patients with concomitant diabetes than with coronary heart disease without diabetes. That's why these patients have worse prognosis, because painless myocardial infarction is one of the sudden death causes in diabetes.

The absence of a typical clinical picture of coronary heart disease in patients with diabetes promotes later recognition, often at the stage of complications, which leads to the late appointment of adequate therapy.

Key words: coronary heart disease, diabetes mellitus, clinical features of the course, electrocardiography, echocardiography.

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PREGNANCY, DELIVERY AND PERINATAL PECULIARITIES OF WOMEN WITH MULTIPLE PREGNANCY IN THE STRUCTURE OF TERTIARY-LEVEL OBSTETRIC HOSPITALIZATION

Introduction. *Purpose* — to investigate pregnancy, delivery and perinatal outcomes of multiple pregnancy in the structure of tertiary-level obstetric hospitalization.

Materials and methods. Analysis of pregnancy, delivery, and perinatal outcomes in 1,535 women who gave birth in 2016, was performed at the Vinnytsia Regional Perinatal Center. This center is known to be a tertiary-level of stationary obstetric care. The main group consisted of the medical histories of 52 women with multiple pregnancies. The comparison group consisted of the medical histories of 1,483 women with a single pregnancy. Women of the chief group gave birth to 104 babies, whereas women of the comparison group delivered 1,483 babies. Anthropometric and vital characteristics of newborns, structure of neonatal morbidity and perinatal mortality were analyzed. Statistical processing of the data was carried out with the help of the statistical package SPSS 20 (© SPSS Inc.).

Results. It has been established that multiple pregnancies was a cause of tertiary-level stationary hospitalization in 52 women (3.4%). During analysis of pregnancies was determined higher risk frequency of preterm birth (OR 5.56; 95% CI [3.078-10.03]), preterm birth (OR 7.988; 95% CI [4.53-14.08]), ($p<0.001$) and antenatal death among women with multiple pregnancy. Average duration of multiple pregnancies (34.94±3.52 weeks) differed significantly from duration of a single pregnancy (37.83±1.57 weeks), $p<0.05$. The frequency of operative interventions such as Caesarean section (C-section) is higher in women with multiple pregnancies (55.8% versus 27% cases in women with a single pregnancy (OR 3.402; 95% CI [1.945-5.951], ($p<0.001$). Frequency of intranatal death is significantly higher in women with multiple pregnancies (OR 9.673; 95% CI [1.003-94.59],

The average anthropometric and vital characteristics of the 1st and 2nd fetus did not differ significantly. There is meaningful difference in frequency of problems related to the preterm birth ((28% with multiple pregnancy, 9% in the group with singleton pregnancy; OR 3.9; 95% CI [2.461-6.325], ($p<0.001$)). Preterm birth can also associate with differences in the average mass of the body. Frequency of early neonatal death do not differentiate significantly in the comparison groups.

Conclusion. The course of multiple pregnancies and delivery in women with multiple pregnancies have complicated character and the newborns belong to the group with high risk of preterm birth (neonatal jaundice, anemia, respiratory disturbances, etc.).

Key words: multiple pregnancies, delivery, perinatal outcomes.

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ENDOSCOPIC MARKERS OF LESION OF THE GASTROINTESTINAL MUCOSA BY SOME SYSTEMIC DISEASES

Introduction. Significant prevalence of systemic diseases requires the improved diagnostics of such pathological conditions as red lupus erythematosus, scleroderma, or hemorrhagic vasculitis. Quite often, gastrointestinal manifestations of these diseases appear the first symptoms for what patients seek medical advice. Typically, such patients are recommended fiberoptic esophagogastroduodenoscopy (FEGDS) or colonofiberscopy (CFS) to detect certain changes in the gastrointestinal tract mucosa. The findings are mostly assessed as nonspecific. At the same time, among 3,056 endoscopically examined patients, we revealed a group of patients with certain signs of non-typical mucosal lesions combined with signs of systemic diseases, such as polyarthritis, Raynaud's syndrome, alopecia, skin lesions, etc. The objective of our study was finding the connection between mucosal lesions and the symptoms of systemic diseases. Another objective was to propose endoscopic markers of lesions in mucous membrane of the gastrointestinal tract of patients with some systemic diseases for practical use by endoscopists, gastroenterologists, rheumatologists, and others physicians facing this problem. It is worthy to note that

this problem has not been practically touched upon and discussed in the world's medical journal.

Materials and methods. The study has been conducted at the Endoscopic Department of the Pirogov Memorial Vinnytsia Regional Hospital No. 1 in 2015–2017. A total of 3,156 people aged 18 to 94 have been examined. The average age is 47±2.4 years. Some 1676 female and 1380 male patients have been involved. They have undergone 2601 fiberoptic esophagogastroduodenoscopy (FEGDS) and 455 colonofiberscopy (CFS) examinations.

The following research methods have been used: the standard FEGDS and CFS examinations using Fuginon and Olympus fibro-optic apparatus. We have also used the method of objective clinical examination of patients, collected complaints and anamnesis, applied laboratory control of the general blood tests and the method of statistical analysis. For comparison, we assessed a group of 61 patients from the general cohort, the main representative group, proceeding from age and gender, and the endoscopic examination revealed no non-typical lesions of the gastrointestinal mucosa with underlying polyarthritis, subfebrile condition, Raynaud's syndrome, alopecia, skin lesions and blood test abnormalities.

Results. Among 3056 patients subjected to fibro-endoscopic examination, we revealed 61 cases of non-typical lesions of the gastrointestinal tract mucosa: esophagus — 8, stomach — 21, duodenum — 25, and colon — 7.

In 61 patients with non-typical symptoms of gastric mucosa lesions, they associated with polyarthritis — 61, long-lasting subfebrile condition — 54, Raynaud's syndrome — 34, butterfly skin lesions — 21, and abnormal changes of general blood count — 42. In the control group of 61 patients without endoscopic signs of non-typical mucosal lesions, we found a combination with polyarthritis in 4 patients, subfebrile condition — 1, Raynaud's syndrome — 0, alopecia-0, skin lesions — 1, abnormal changes of general blood tests — 11, thus evidencing of a close correlation between non-typical endoscopic findings and clinic symptoms of some systemic diseases.

In general, the endoscopic changes in gastrointestinal mucosa could be reduced to the following markers:

1. Emergence of idiopathic structures in the esophagus

2. Waxy atrophy of the mucous membrane of the esophagus

3. Erosive inflammatory changes of the esophagus of “Water-melon gallet” type

4. So-called “black esophagus” may be one of the variants of systemic lesion of the esophagus mucosa

5. Hemorrhagic gastritis

6. Erosive-hemorrhagic gastritis with erosion of a “needle prick” type

7. Local waxy atrophy of the gastric mucosa

8. “Water-melon” stomach

9. Erosive non-hemorrhagic gastritis of a “red currant” pattern

10. Waxy atrophy the duodenum mucosa

11. Hemorrhagic duodenitis

12. Erosive non-hemorrhagic duodenitis of a “red currant” pattern.

13. “Tiger” or “zebra” pattern segmental duodenitis ranging from catarrhal to phlegmonous type

14. Black duodenum

15. “Tiger” or “zebra” pattern segmental non-hemorrhagic colitis

16. Local waxy atrophy of the colon mucosa

17. Hemorrhagic colitis

18. Black colon

Conclusion. The obtained results gave us the reason to conclude that all patients with non-typical lesions of the gastrointestinal tract mucosa simultaneously presented symptoms of systemic diseases in the form of polyarthritis, Raynaud's syndrome, long-lasting subfebrile condition, alopecia, skin manifestations and abnormal changes in the general blood count. In our opinion, this suggests that revealed non-typical changes in the gastrointestinal mucosa are endoscopic markers

of these lesions in some systemic diseases, such as red lupus erythematosus, systemic scleroderma or hemorrhagic vasculitis.

Key words: fiber endoscopy, gastrointestinal tract, systemic diseases.

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EVALUATION OF THE VITAMIN D IN PATIENTS WITH CHRONIC HEPATITIS C

Introduction. Problem of chronic hepatitis C is still actual throughout the centuries. HCV-infection is characterized by high percentage of chronization and progredient course with cirrhosis and hepatocelular carcinoma result. Some researches provide the connection between serum vit D, 25-OH vit D_3 and viral HCV-RNA in HCV-patients.

Aim — discovering the frequency and the level of vit D-deficiency in HCV-patients.

Materials and methods. One hundred and one patients with HCV were investigated during the treatment in Vinnytsya Hepatology Centre in period 2015–2016, 70 (69,3%) men and 31 (30,7%) females of average age (43,89±1,57) were among them. The diagnosis of HCV-hepatitis was confirmed according to ab-HCV, HCV-RNA- positive results. PCR (quantitive) was used to detect the viral amount in 1 ml of blood serum. The blood levels of 25-OH vit D_3, vit D_3 (general), ALT, AST were investigated as well. The control group for research included 30 healthy individuals: 14 (46,7 %) males and 16 (53,3%) females of average age (38,8 ± 1,9).

Results. Level of 25-OH vit D_3 decreased in HCV-males versus healthy ones; females had the tendency in it. A significant difference in 25-OH vit D_3- levels of

HCV-males versus HCV-females was not detected. The general vit D_3 was 2,15 times reliably lower among HCV-men. It's slight decrease was detected among HCV-women. There was no significant difference in general vit D_3-levels of HCV-positive men and women. The sexual difference appeared only in case of 25-OH vit D_3-deficiency — 54(77,10 %) HCV-men and 10 (32,2 %) females. According to the age the differences were valuable due to general vit D_3, which was the lowest in category of 40–49 years old and was fixed as 1,69 times lower than in age ≤ 19.

No significant difference in general vit D_3-level between comparison HCV-patients and healthy individuals according to age was found. The age peculiarities in case of 25-OH vit D_3- deficiency were prominent: 41 (64,07 %) HCV-patient were characterized by 25-OH vit D_3- deficiency in age 40-49. This was 4,10 times higher than in 30-39, 5,86 times higher than in 20-29 and 8,20 times higher than in age ≥50. The HCV-patients with 25-OH vit D_3- deficiency had 2,20 times more often increasing of biochemical inflammation markers and 3,02 times higher risk of high amount of HCV-RNA.

Conclusions. The HCV-patients have different vit D metabolic damages, which depend on sex and age. The HCV-males of 40-49 years old with increased biochemical inflammation markers and of high amount of HCV-RNA prevail among those ones with of 25-OH vit D_3- deficiency.

Key words: chronic hepatitis C, vitamin D, 25-OH vit. D_3, ALT, viral load.

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RESULTS OF AN INTEGRATED APPROACH TO THE TREATMENT OF DEEP VEIN THROMBOSES IN THE SYSTEM OF THE VENA CAVA INFERIOR

Summary. *The aim* of our study was to develop based on our own experience differentiated surgical tactics in patients with venous thromboembolism, in accordance with datas evidence-based medicine.

Material and methods. The results of treatment of 130 patients with venous thromboembolism were analyzed. Among them, there were 58 patients with DVT, complicated by pulmonary embolism and 72 patients with venous thrombosis of different localization, of which 45 patients were diagnosed with floating thrombosis. Among the group of patients with DVT, complicated by pulmonary embolism, patients with high risk of early death according to the classification of the European Society of Cardiologists were observed 9 (15.5%), intermediate risk 14 (24%), low risk 35 (60.5%).

Proximal localization of DVT was observed in 46 (79%) cases. In 55 cases (94%), pulmonary thromboembolism was due to DVT, in 3 cases (6%) the cause of PE was not detected. In the study among patients with floating DVT, 15 (33%) patients had IVC thrombosis, 16 (36%) patients had ilio-femoral thrombosis, 8 (18%) patients femoro-popliteal thrombosis, and 6 (13%) patients had a distal thrombosis. Therapeutic tactics in the treatment of patients with DVT, complicated by pulmonary embolism, depended on the massivity of the pulmonary artery disease and the risk of early death associated with pulmonary embolism.

Systemic thrombolysis of DVT, complicated by pulmonary embolism, was performed in a group of patients with a high and average risk of early death in 16 (69.5%) cases.

Catheter-directed thrombolysis was performed with iliofemoral DVT, complicated by pulmonary embolism, in a group of patients with a low risk of early death and with a duration of thrombosis up to 7 days in 10 (28.5%) cases.

Results. The choice of adequate treatment for patients with DVT, complicated by PE, allowed for satisfactory results and significant clinical improvement in 82% of cases.

At iliofemoral floating thromboses in terms of up to 7 days, thrombectomy was performed in 16 patients with femoral access. For the prevention of pulmonary

embolism, temporary cava-filter and a method for removing the thrombus using 2 Fogarty catheters were used.

In 4 patients, the blood flow was restored to the deep vein of the thigh and to the iliac segment with the imposition of arteriovenous fistula.

In 11 patients with kidney cancer and the expansion of blood clots in IVC with lumbar-free access, they performed nephrectomy and removal of blood clots from IVC. In 3 patients, thrombectomy was performed with the floating nature of the proximal part of the thrombus with the removal of the floating part from the IVC.

No fatalities were reported. During the study period, recurrent pulmonary embolism has not been ascertained.

Conclusions. Systemic thrombolysis of DVT, complicated with pulmonary embolism, is indicated in the group of patients with high and moderate risk of early death. Catheter-directed thrombolysis is indicated for iliofemoral DVT, complicated with pulmonary embolism, in patients with a low risk of early death and in terms of thrombosis up to 7 days. Anticoagulant therapy is indicated for distal occlusive DVT, complicated with pulmonary embolism, in patients with a low risk of early death.

Key words: deep veins thrombosis, pulmonary embolism, thrombolysis.

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THE ROLE OF ULTRASOUND DIAGNOSTICS AND SPIRAL COMPUTER TOMOGRAPHY IN DIAGNOSTICS AND TREATMENT OF LIVER ABSCESSES

Introduction. *The purpose* of the work is to study the role of ultrasound diagnostics and spiral computer tomography in diagnostics and treatment of liver abscesses.

Materials and methods. The results of the treatment of 71 patients with LA were analyzed in the surgical clinic №1 of National Pirogov Memorial Medical University from 2003 – 2017. The basic informational value was based on the data of ultrasound, CT.

Results. Ultrasound and CT are the most reliable methods of diagnosis of LP, which in almost 98% of cases give the opportunity to diagnose correctly.

Out of 71 patients that were analyzed, 68 underwent ultrasound, SCT was performed in 14 patients and in 8 cases after the ultrasound STC was performed to clarify the diagnosis. 54 patients were operated through laparotomic access. In 10 cases of non-invasive operations the patients were perfomed a subcutaneous drainage with the LA trocar using ultrasound navigation. Ultrasound is the most accessible method of diagnosis, SCT is used in case of uncertainty.

Conclusions. During LA examination, the leading place is occupied by ultrasound and SCT. Each of these methods has the right to independent existence and may be sufficient for verifying the diagnosis. Due to the use of SCT, the number of detection of LA has increased. The choice of the optimal method for the diagnosis and treatment of the AP remains promising.

Key words: liver abscess (LA), ultrasound diagnostics (UD), spiral computer tomography (SCT).

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EFFICIENCY OF THE INTRAMEDULLARY OSTEOSYNTHESIS WITH BLOCKING NAIL IN TREATMENT PATIENTS WITH DIAPHYSIS FEMORAL FRACTURES

Introduction. In modern traumatology and orthopedics, blocking intramedullary osteosynthesis (BIOS) is a generally accepted method of surgical treatment that is widely used. In the developed countries, this technology has become the most appropriate surgical method of diaphysis femoral fractures treatment. *The purpose* of the study is to evaluate the effectiveness of the usage of modern blocking intramedullary osteosynthesis in patients with diaphysis femoral fractures comparing with traditional methods of treatment.

Materials and methods. The data of treatment of 127 patients with diaphysis femoral fractures were analyzed. Depending on the method of injuries healing, patients were conventionally divided into two groups.

To the main group included 62 patients with diaphysis fractures of the femur. Among them, 49 patients had isolated diaphysis femoral fractures, 2 patients had damage to both femur bones, and 10 patients had fractures of the tibia and femoral bones, and 1 patient had fractures of both femoral bones and both bones of shin. Among the patients there were 46 men (74.2%) and 16 (25.8%) women. The average age of patients was 38.8 ± 17.8 years.

The control group included 65 patients with diaphysis femoral fractures. Among them 57 patients had isolated diaphysis fractures of the femur, 2 patients with damage to both femur bones, 5 patients with fractures of the femoral bones and tibia, and 1 had fractures of the femur and tibia on both sides. Among the patients, there were 42 (64.6%) and 23 (35.4%) women. The average age of patients was 40.3 ± 17.8 years.

All patients from the main group on the revealed femoral fractures were treated with surgical interventions — intramedullary osteosynthesis with cannulated blocking nail. The patients of control group were treated with the following surgical interventions: osteosynthesis with plate and screws — 51 patients, osteosynthesis Ex fix — 8 patients, intramedullary osteosynthesis with nail without blocking — 6 patients.

The assessing of the treatment outcome in patients included 5 attributes, each of them was evaluated numerically with 3, 2, or 1 point. In this system, the following features were taken into account: subjective sensations of patients, the presence of bone fragments consolidation and the presence of biomechanical disorders, relative length of limbs, volume of joints movements, recovery of working capacity. A good result was considered when the sum of points was 15–12, satisfactory — 11–8, unsatisfactory — 7–5.

Results. Among patients from the main group, the postoperative bed-day in patient was from 3 to 78 days. The dosed loading was started in the period from the 2^{nd} to the 6^{th} day. The full loading of the limb was permitted on average 14.65 ± 2.97 weeks. Consolidation of femoral fragments occurred in all operated patients in the control group from 12 to 24 weeks after surgery.

In patients from the control group, the postoperative bed-day was from 6 to 65 days. The dosed loading on the operated limb was started from the 3^{rd} to the 7^{th} day. The full loading on a limb was permitted on average 24.08 ± 3.61 weeks. Consolidation of femoral fragments has occurred in all operated patients in the period from 14 to 35 weeks after surgery.

The results of the treatment were studied in the period from 6 months to 3 years after the surgery.

In patients from the main group, good results were obtained in 60 (96.8%) patients, satisfactory — in 2 (3.2%) patients (due to disturbance of the function of adjacent joints).

In patients from the control group, good results were obtained in 51 (78.5%) patients, and satisfactory — in 14 (21.5%) patients. The worst results among patients from the control group were obtained in patients with intramedullary osteosynthesis with nail without blocking (50% of good and 50% of satisfactory results); better results were in patients with osteosynthesis by plate and screws (88.2% of good and 11.8% of satisfactory results).

The general period of incapacity for patients from the main group was from 8 to 25 weeks, in patients from the control group — from 15 to 36 weeks.

The use of intramedullary osteosynthesis with blocking nail can reduce the period of medical and social rehabilitation by 7–9 weeks (approximately 2 months) compared with the usage of other types of treatment for femoral fractures.

Conclusions. The usage of blocking intramedullar osteosynthesis (BIOS) helps to improve the treatment of patients with diaphysis femoral fractures compared with traditional methods of treatment (osteosynthesis with plates and screws, usage of Ex fix and intramedullary osteosynthesis with nail without blocking). Widespread usage of intramedullary osteosynthesis with blocking nail for the treatment of diaphysis femoral fractures in Ukraine can have a significant economic effect for the state. Only the direct annual economic effect of reducing the disability during the use of BIOS may amount to over 200 million UAH.

Key words: intramedullary osteosynthesis with blocking nail, diaphysis femoral fractures, BIOS.

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FEATURES OF COURSE OF BRONCHIAL ASTHMA IN CHILDREN IN DIFFERENT PERIPHERAL BLOOD INDICATORS

Introduction. In the overwhelming majority, bronchial asthma (BA) in children is a primary — allergic disease, which causes the development of this pathology with a characteristic increase in blood levels, the main of which are erythrocytes (Er), hemoglobin (N), hematocrit (Ht), leukocytes, eosinophils, SaO2, as well as immunoglobulin E (IgE). Taking into account their high diagnostic significance, the variability among different ethnic and age groups of the population, different regions, we conducted a study of their concentration in both groups healthy children and patients with asthma, residents of the Podillya region of Ukraine, which,

in the main, have a negative impact on the organism of household allergens and allergens of plant (pollen) origin.

Goal. Assessment of the course of bronchial asthma in children, depending on peripheral blood parameters.

Materials and methods. We investigated and analyzed the results of treatment and monitoring of 316 children with asthma (persistent course — 253 children, 80.06%, intermittent — 19.94%, 63 patients who underwent inpatient treatment in the pediatrics clinic (department of pediatrics № 2) Vinnitsa National Medical University named after M.I. Pirogov in the period from 2014 to 2017. The control group comprised 128 practically healthy children. The statistical processing of the obtained results was carried out using methods of variation statistics using the standard package of the advanced programs of the multivariate variation statistical analysis "STATISTICA 6.0" (owned by TsNIP of the Vinnitsa National Medical University named after M.I. Pirogov, license number AXXR910A374605FA) for Windows'XP (license number PKKFD-W8DDF-6PMC4-KX3WW-CR6TI)[5].

Results. When studying the basic clinical parameters of peripheral blood in the general group of patients with asthma, we have established an increase in the number of erythrocytes in the general group of patients hospitalized in hospital (5,02 ± 0,39 × 1012 / l) compared with children in the control group, where the indicator was 4,12 ± 0,03 × 1012 / l ($p < 0,01$). In the course of treatment, at discharge from the hospital and in the remission period, the number of red blood cells approached the indicators of the children in the control group (4.13 ± 0.02 × 1012 / l — at discharge, 4.12 ± 0.03 × 1012 / l — children of the group control; $p > 0.05$). The results of studies of hemoglobin content in the blood revealed a statistically significant increase in its content in patients at the time of admission to the in-patient department (143.00 ± 0.57 g / l — on discharge, 130.35 ± 0.40 g / L — healthy children; $p < 0.001$). High numbers of hemoglobin remained statistically significant at discharge (138,76 ± 0,44 g / l — patients, 130,0 ± 0,35 g / l — in children of the control group, $p < 0,001$) in comparison with the indicators in children of the group control. Analysis of the results of the study in the peripheral blood of the hematocrit showed its condensation

(35.33 ± 0.05%; p <0.001), which leads to hypoxic status in the body and development of respiratory insufficiency.

.The study of blood gases is the most accurate method for assessing the function of the respiratory system. The analysis of the SaO2 indices established a statistically significant increase in the level of oxygen saturation of hemoglobin in erythrocytes during treatment with 96.72 ± 0.12% for exacerbation and 97.8 ± 0.23% for discharge (p <0.01). Accordingly, in case of saturation of hemoglobin oxygen is reduced, transport of gases to tissues is disturbed, there arises their oxygen dependence, that is, the reduction of SaO2 is due not to the factors of blood, but with the decrease in pulmonary ventilation.

In the dynamics of treatment and observation, leukocyte indices also decreased statistically significantly both on admission and on discharge from the clinic (11.39 ± 0.22 × 109 / l - 7.68 ± 0.13 × 109 / l; p <0.001) if compared with children in the control group (6.29 ± 0.05 × 109 / l; p <0.001), which, in our opinion, may indicate a long chronic, even insignificant, preservation of the asthma characteristic of the inflammatory process.

A sharp increase in the number of eosinophils (16.29 ± 0.32%) was observed directly during the BA attack (during hospitalization), whereas in the remission stage (at discharge), the number of them with a high degree of probability (p <0.001) decreased (10, 78 ± 0.2%), however, it did not reach the norm (1.64 ± 0.05%; p <0.001).

We also conducted an analysis of the basic indicators of peripheral blood in children with asthma, depending on the severity of the disease (Table 2). For the intermittent and persistent flow of asthma, the following characteristics of peripheral blood were parameters are established: the number of erythrocytes during the exacerbation period increased to 4.21 ± 0.08 × 1012 / l for the PI and 5.21 ± 0.48 × 1012 / l for the PP (p> 0.05); in the postprincipal period (on discharge from the hospital), this statistically significant decrease is statistically significant: at the PI to 3.81 ± 0.03 × 1012 / l and 4.20 ± 0.03 × 1012 / l, with PP (p <0.001) and Approach Er results in children in the control group (4,12 ± 0,03 × 1012 / l; p> 0,05).

In the period of exacerbation, hemoglobin was 139.84 ± 1.10 g / l in the IP and 143.79 ± 0.65 g / l in the case of PP ($p < 0.05$) and significantly exceeded the Hv values in the control group children (130.35 ± 0.4 g / l; $p < 0.001$). At discharge from the hospital there was a statistically significant ($p < 0.001$) decrease in Hv levels, both in the case of PI (135.35 ± 0.85 g / l) and in PP (139.62 ± 0.49 g / l) bronchial asthma and statistically Hv values were significantly higher in the control group ($p < 0.001$). More over, an increase in the number of erythrocytes and hemoglobin levels in the blood of children with asthma should be considered as a compensatory mechanism of enhanced erythropoiesis on prolonged tissue hypoxia as a result of chronic respiratory insufficiency, to a less extent in the immune deficiency (SaO2 = 97.49 ± 0.14 % - upon admission, 98.36 ± 0.07% at discharge, $p < 0.001$, control group — 98.51 ± 0.04%, $p > 0.05$, Ht = 36.60 ± 0.12% - at admission and 34.72 ± 0.11% at discharge, $p < 0.001$, control group — 34.69 ± 0.08%, $p < 0.001$) and in the greater case with PP of bronchial asthma (SaO2 = 96.44 ± 0,13% — at admission and 97,33 ± 0,07% — on discharge, $p < 0.001$. The tone group was 98.51 ± 0.04%, $p < 0.001$, Ht = 41.24 ± 0.06%, and 35.02 ± 0.05% at discharge, $p < 0.001$, control group 34, 69 ± 0.08%, $p < 0.001$).

In patients with intermittent asthma, the number of leukocytes at admission was 7.39 ± 0.26 x 109 / l, and at discharge — 5.73 ± 0.17 × 109 / l ($p < 0.001$), which corresponds to is the norm and is approaching the control group's indicators. When analyzing the level of leukocytes in patients with persistent asthma, compared with intermittent, it was found that when they arrived, their number was 12.39 ± 0.24 × 109 / l ($p < 0.001$), and at discharge — 8.17 ± 0, 13 × 109 / l ($p < 0.001$), and remains high compared to the control group of children — 6.29 ± 0.05 * 109 / l ($p < 0.001$).

In children with an intermittent course of BA, the number of eosinophils was 13.06 ± 0.82% during the exacerbation period. During treatment, it decreased to 8.44 ± 0.57% ($p < 0.01$), and with persistent BA — increased to 17.08 ± 0.31% when admitted to the hospital, at discharge — 11.36 ± 0, 20% ($p < 0.001$). In children, the control group of eosinophils was only 1.64 ± 0.05 ($p < 0.001$).

Studies of general IgE showed an increase, as in patients with intermittent asthma (838.89 ± 113.80 IU / ml — when administered, and — 653.43 ± 87.20 IU / ml — in the discharge, and in patients with persistent BA (982.67 ± 32.51 IU / ml — at admission and on discharge — 815.41 ± 27.59 IU / ml; p <0.01).

Taking into account the importance of IgE in the nature of the course of asthma, we have studied its age characteristics in patients with intermittent and persistent asthma during admission and discharge from the in-patient department, as well as in children of the control group (Table 3). In patients with asthma (general group) at hospitalization, IgE levels in serum significantly exceeded age limits with an average value of 954.00 ± 34.58 IU / ml and ranged from 41.6 IU / ml to 4205.00 IU / ml, and in healthy children it was 37.82 ± 8.45 IU / ml (p <0.001). In the group of children 4–7 years old when receiving and discharging from hospital, the level of total IgE in the intermittent flow of BA was statistically lower (218.45 ± 36.90 IU / ml; p <0.05 and, respectively, 188.75 ± 37.93 IU / ml; p <0.05) compared to older age groups. Thus, in patients 8–12 years old, it was 762.48 ± 170.13 IU / ml, at 13–16 years — 974.82 ± 169.40 IU / ml, however, there was no statistically significant difference with the increase in age of the patients (p> 0.05). Attention is drawn to the fact that statistically significant changes in the parameters of total IgE during hospitalization and hospital discharge in any age group were not found in both the intermittent and persistent flow of asthma (p> 0.05), but the general tendency to decrease them It is noted, which is confirmed by a positive clinical picture of the condition of patients.

Note also that the data from laboratory studies to determine the overall IgE, both during admission and on discharge from the hospital, both with the intermittent and persistent flow of asthma, in all age groups fluctuated significantly (in patients 4–7 years — m ± 36.0, 90 IU / ml, 8–12 years — m ± 170.13 IU / ml). With the persistent flow of asthma, the overall IgE rates for onset and discharge from the hospital were statistically significantly higher in patients of all age groups, both in comparison with the intermittent course of the disease (p <0.001) and with the children in the control group (p <0.001).

Conclusions. In children with atopic bronchial asthma, relative changes in hematocrit between the intermittent and persistent flow are 4.64%; p <0.001 (with IP-36.60 ± 0.12%, with PP-41.24 ± 0.06%). Compared with children in the control group, the relative hematocrit index increased by 1.91% for the IP (p <0.001) and by 6.55% for the PP (p <0.001). Increasing the level of hematocrit shows hemoconcentration, as in patients with intermittent flow, and especially in patients with persistent asthma, which leads to a decrease in SaO2, the emergence of hypoxic status in the child's body and the development of respiratory insufficiency.

Key words: (children, bronchial asthma, blood tests.)

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BILATERAL COXARTHRITIS TREATMENT AT DIFFERENT STAGES OF THE PATHOLOGICAL PROCESSES: LITERATURE REVIEW AND OWN EXPERIENCE

Intoduction. Coxarthrosis is a degenerative disease of bones and joints with relatively high prevalence (20% of the world's population) and incidence (8.2 per 100,000 population), more common in the elderly but can affect younger working-age patients, which may result in disability. According to the literature, the rate of disease progression varies from 3 to 36 months. On average, in 60% of cases there is a decrease of working capacity, in 10–30% of cases occurs nwalsh patients of working age, different severity. The projected increase in age-related incidence of osteoarthritis, especially of working age, as well as increased morbidity in childhood and adolescence. In this regard, the problem of early diagnosis and treatment of this disease is important.

According to the literature, coxarthrosis refers to multifactorial diseases of the joints. Among the risk factors is a significant injury, inflammation, and dysplasia of bone and cartilage tissues, and in 26% of cases the causes of the degenerative process

remain uncertain. It should be noted that trauma precedes the development of coxarthrosis in about a third of the cases. Especially dangerous is the chronic trauma to the joint and its excessive congestion, which leads to the formation of this pathology, even in young people. Today, search methods, visualization and validation-articular formations it is important to continue and improve. A universal and reliable method of early diagnosis in the early stages of coxarthrosis is magnetic resonance imaging (MRI) with/without contrast enhancement multislice computed tomography (CT). In addition, for the diagnosis of intra-articular damage, it is possible to perform hip arthroscopy, which allows not only to visually assess the static state of the individual elements of the joint, but also to check their operation.

Today in literature is poorly lit, the results of organ-saving surgical interventions in the treatment of patients with early stages of coxarthrosis. Contradictory are the principles operational tactics, the stages of treatment, especially in the presence of bilateral pathology.

Materials and methods. We analyze the case of surgical treatment of right-sided coxarthrosis stage IV (Bustamante total hip replacement) and post-traumatic coxarthrosis, left, And stage (arthroscopy of the left hip joint, removing bone acetabular left hip).

Clinical observation. The patient V., age 26 years, enrolled in the Vinnytsia regional clinical hospital (VOL). M. I. Pirogov. From the anamnesis of the disease: in 2012, at the age of 21 years about right-sided coxarthrosis stage IV, flexor-adductor contractures (A) is made Bustamante a total hip replacement (Smith&Nephew, B). The patient works as a collector.

The nurse is sick about 2 years old when he began noticing pain in my left hip that occurred was significantly enhanced during exercise (running or long walk). The pain was localized in the left inguinal region. The range of motion in the joint is reduced slightly: limited abduction and internal rotation of the hip. Gait is not visually impaired, muscle atrophy is absent. For specialized medical help was not sought, periodically taking NSAIDs regarding pain in left hip joint. When viewed in

2017, the diagnosis of posttraumatic left-sided coxarthrosis And stage. Chronic tear acetabular lip syndrome acetabular bone (OS acetabuli) of the left hip joint.

On the radiograph of the left hip joint in a straight projection is visualized subchondral sclerosis, bone stock acetabulare 0.5 x 0.6 x 0.3 cm oval, which is located in the region of the front-top edge of the roof of the acetabulum. Between acetabular and pelvic bone noted a gap of 2 mm of bone is the connection between them is missing. CT of the pelvis with 3D rekonstruovany allowed to perform preoperative planning and to clarify the location of the bone fragment in relation to the bony landmarks of the pelvic bones. The patient performed surgery: arthroscopy of left hip, partial resection acetabular lips, removing acetabular bone (OS acetabuli).Anesthesia, surgery performed under conditions of spinal anesthesia (3 ml of 0.5% bupivacaine solution level LIII-IV). The term of the hospital was four days. In order postoperative analgesia administered intravenously Dexketoprofen 50 mg 2 times per day, 1000 mg paracetamol intravenously 1 per day and committed local analgesia — the cavity of the hip joint through the epidural catheter size 18G injected local anesthetic ropivakayin 0.2% solution (10-15 mg) every 6-8 hours bolus and removing the catheter before the end of the second day was added to the local anesthetic 2% stabilized sodium hyaluronate solution of 40 mg.

SCT pelvis without intravenous contrast to the assessment of the dynamics of 1 month after arthroscopic treatment revealed no bone fragments in the anterior upper edge of the glenoid cavity left on his level marked skewness joint cavity, sclerosis of the path. SCT-cement-free picture after total hip right.

Analysis of case. Task

1. Specify that coxarthroses may be due to a variety of morphological structures damaged hip joint traumatic genesis.

2. Verification of the initial stages of arthrosis of the hip joint

3. noted that the main focus of treatment of the initial stages of arthrosis is medication, but with no effect for 3-6 months - Arthroscopic surgery.

The most severe symptom in this case was a localized pain in the left inguinal area. Pace visually impaired range of motion in the joints slightly reduced (restrictions abduction, internal rotation of the thigh) muscle atrophy is absent.

In addition to clinical data, verify the diagnosis of arthrosis promotes radiographs of the hip joint, which in many cases makes it possible not only to set the stage of the disease, but also its root causes. In particular, the radiographs of patients with coxarthrosis may show changes that indicate trauma. However, changes on radiographs in the early (pre-radiological) stages of the disease may be absent.

Today to identify the early stages of arthrosis used MRI, spiral CT and diagnostic arthroscopy of the hip joint. The latter helps to clarify the diagnosis in cases neinformatyvnosti X-ray or magnetic resonance imaging. Arthroscopy allows not only to diagnose intra articular damage, but also to effective treatment. The presence of pain in the hip joint, which is not adjusted conservative treatments are showing for artrokopiyi hip. Volume arthroscopic intervention depends on the type of intra-articular lesions soft tissue elements of the hip joint (articular damage lips, cartilage, faymoreau-atsetabulyarnyy impidzhment syndrome, etc.). Thus the most important components of surgical treatment is to restore the congruence of the articular surfaces by organ technologies.

Conclusions. Patients with pain in the groin, in terms of differential diagnosis should be considered diagnosed arthrosis. When the results of X-ray is little information, verification of the initial stages of the disease may require more sophisticated imaging techniques such as magnetic resonance imaging with contrast, multislice computed tomography, diagnostic arthroscopy. The present clinical case demonstrates the need for early detection of arthrosis, when it is possible to use organ surgical technologies, including hip arthroscopy.

Key words: coxarthritis, hip joint, arthroscopy, spiral computer tomography, magnetic resonance imaging.

METHODS

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FEATURES OF EDUCATIONAL AND METHODOLOGICAL APPROACHES IN THE PRESENTATION OF MEDICAL BIOLOGY WITH BASES OF PARASITOLOGY AND PHARMACOLOGY ON PHARMACOLOGICAL USE OF ANTIHELMINTHS MEDICINAL PRODUCTS

The modern approach to the training of specialists in higher educational institutions of Ukraine requires the integration of the study of specialized disciplines with theoretical subjects, which are taught at junior course. In this regard, the integration of pharmacology with medical biology, which involves an interdisciplinary hierarchy in the mastering of the subject for further professional training, becomes of special significance.

Aim of work – to consider the teaching features on Pharmacy Department of Medical Biology with the basics of parasitology for students of the first year in view of further study of professional discipline — pharmacology at the 3rd year in connection with new pedagogical techniques.

Thus, at the Department of Pharmacy at the teaching of medical biology with the basics of parasitology, teachers focus on the identification of parasites - pathogens of human diseases; and as practical skills, future pharmacists should use morphological criteria for the diagnosis. At the same time, the students' understanding of the features of the physiology of helminths (localization at the level of cells, tissues, organs; identification of final and intermediate hosts) will facilitate the identification of appropriate methods of laboratory diagnosis and leading measures for personal and public prevention of helminthiasis.

Regarding the teaching of a specialized discipline of pharmacology, it is important to master the range of medicinal products used for the prevention and

treatment of gastrointestinal and extra-intestinal helminthiasis in order to develop practical skills for pharmacotherapy/pharmacoprophylaxis optimization, which will be conducted taking into account the peculiarities of the life cycle at different stages of the development of parasites in the person's body.

In order to intensify the educational process, both in medical biology and pharmacology, to increase the motivation of the learning of learning material is awareness of students about the relationship between subjects for future professional activities.

Conclusions. When showing materials about medical biology with the basics of parasitology, it is necessary to adhere to the basic principles of logic as much as possible, since the medical significance has not only the specific character of the causative agent of helminthiasis but, to a greater extent, the determination of the stages of development of the parasite in the human body, the place of its localization, with an emphasis on further study of pharmacology appropriate antihelminths drugs.

The use of multimedia technologies, illustrations using structural and logical schemes allows making the learning process more cognitive for freshmen students and enhancing emotional motivation for further learning.

Methods of problem learning using causal relationships in the form of combined situational test tasks contribute to the development of clinical thinking and allow students to remain interested in cognitive activity.

Integrative teaching of disciplines, such as medical biology and pharmacology, gradually ensure the formation of a qualified pharmacist through comprehensive student acquisition of the necessary skills for further professional activities.

Key words: parasites, helminths, helminthiasis, pharmacies, pharmacopoeia, interdisciplinary integration, antihelminths drugs, drugs, methods, schemes, tests, tasks, thinking, practical skills.

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REALIZATION OF THE PERSON-ORIENTED APPROACH AND DEVELOPMENT OF CREATIVE ABILITIES OF STUDENTS IN THE WORK OF A SCIENTIFIC GROUP AT THE DEPARTMENT OF BIOLOGICAL CHEMISTRY

Changes in the schedule of secondary education in recent years in the state are naturally accompanied by changes in institutions of higher education. The accession of Ukraine to the Bologna Process in 2005 envisages the independent work of students at all stages, including scientific work.

Traditional ways of organizing the educational process often leave student youth without stimulation to the cultivation and practical application of knowledge. Dissatisfaction with this situation puts the task of educators of higher education institutions to create an environment that would allow students to demonstrate more autonomy and activity in the process of studying disciplines.

Due to the deep penetration of scientific research and experiment into the learning process, opportunities are created for the harmonious, comprehensive development of the student's personality, realization of his creative potential. It is an effective use of the elements of scientific pedagogy for the development of cognitive, diagnostic, and research skills of students.

The purpose of the work is to share the experience of organizing a non-auditing independent research and experiment under the guidance of teachers in the context of students' intellectual and creative development. The expected and desired result of such work is: the formation of information retrieval skills; the development of logical thinking; improvement of written linguistic skills; establishing the experience of public speaking; enhancement of intellectual-emotional self-expression; development of creative imagination, student self-awareness; ability to express own thoughts, emotions.

The main task of the study of biological chemistry is the formation of a holistic system of knowledge, professional skills and practical skills that form the basis of future professional activities of the doctor. In particular, the skills of planning and implementation of biochemical studies to identify normal and pathological components in biological objects; establishment of mechanisms of action of physiologically active compounds; detection of biochemical patterns that determine the processes of ontogenesis, sexual and age-related differences in the functioning of the human body; assimilation of the latest principles and methods of biochemical and molecular biological research; principles of biochemical diagnosis and correction of pathological conditions; assimilation of the methods of simulation of experimental pathological conditions in animals for the establishment of regularities of fluidity of biochemical processes, their regulation, metabolic adaptation and correction.

Research activity of the student helps to deepen and broaden knowledge both in the discipline of biological chemistry and in the direction of adjacent fundamental medical sciences (physiology, anatomy, histology), stimulating the development of creative potential of the individual, carried out throughout the period of study.

The student's scientific circle has been working on the department historically since the first years of its creation. According to the plan of his work, monthly meetings are held with the presentation of 2-3 reports from students of the second year. Preparation of reports begins in two or three months with a faculty member in a group. The nature of the work is both abstract and experimental research. The teacher offers this type of independent work to students with a high level of basic knowledge and after discovering their respective general and professional abilities.

While working on a scientific theme, student youth will learn the laws of cognitive processes, the strategy of life-long education, the methods of productive learning, the practice of value orientations and the motivation of the individual, the basis of rhetoric. Learn to operate with philosophical categories and doctrines, to use self-learning methods.

Conclusion. The analysis of the accumulated experience allows to notice that the task for the teaching community is to create the necessary psychological

pedagogical conditions for the effective management of students' scientific work. Teaching staff of higher elementary institutions it is expedient to determine the readiness of students for independent work in the scientific direction for their self-motivation, the basic level of knowledge, the ability to process and analyze information. Independent work is effective under the condition of co-ordinated cooperation between students, teachers and administration of a higher elementary institution. The prospect of further development is the updating of the options for organizing pedagogical support.

Key words: European system of qualification estimation, higher educational establishments, organization of educational process, independent work of students, scientific work of students.

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THEORETICAL JUSTIFICATION OF REGULATION OF PANCREATIC FUNCTIONS

Introduction. Today we have achieved a significant level of knowledge on the viability of any organ in the biological system. However, it is impossible to explain many patterns present in human body using only traditional research methods such as study of the anatomical and histological structure of the organ, since these methods have exhausted their functionality. Therefore, new and innovative approaches borrowed from other branches of natural sciences are more frequently used in studying biological systems together with conventional methods.

Creation of mathematical models of any organs allows to study basic parameters of its functioning, including in extreme conditions. It allows to obtain

visual results within a short period of time and compare them with the norm. This approach enables a deeper insight into the processes that occur in living organisms, provides better understanding of the general laws of life activity and allows to take proper measures in order to eliminate a pathological condition.

Materials and methods. Based on the need to better understand the mechanism of the pancreas in the normal and pathological state, this paper focuses on the methods of using mathematical modeling on the biomechanics of the excretory function of the pancreas, while using the laws of hydrodynamics, taking into the account the development of the pancreas and the specifics of its effluent duct entering the duodenum.

The aim of this work is to provide theoretical justification of the regulation of the pancreatic functions using the laws of biophysics in the context of applying parameters of the pancreatic functional activity.

Results. The mechanical way is a simplest way to start pancreatic secretory activity in terms of physical and biochemical processes occurring in it. As more food comes and stays in the stomach, its volume increases and the stomach becomes pressed against the pancreas due to gastrointestinal and pancreatic ligaments. Excitation of stomach muscles results in its rhythmic cyclic undulatory motion, which, through the posterior abdominal wall, is transmitted directly to the front surface of the pancreas and begins to rhythmically massage it, pressing it against the solid foundation, i.e. the spine. Due to its outer shape (triangular prism) and position, the pancreas starts changing in shape while compressed: when it is flattened in the transverse direction, it becomes deformed in the vertical and longitudinal directions. This mechanical action results in expansion of the capillary mesh in the pancreas and increased lymph flow. Increased blood flow leads to a larger inflow of nutrients to the pancreatic cells stimulating the secretory activity of the gland.

Conclusions. During the process of digestion the parts of the pancreas start working not simultaneously, but sequentially, i.e. the body of the pancreas is the first to be engaged, then the tail, and then at last, at the peak of the digestive process, the

head becomes engaged. Gastrectomy Billroth 1 has less impact on the external secretory function of the pancreas.

Further study of the secretory function of the pancreas will make it possible to adjust the external secretory activity in inflammatory processes.

Key words: pancreas, math modeling.

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THE FIRST EXPERIENCE OF THE SADI OPERATION (DUODENO-JEJUNOSTOMY WITH SINGLE ANASTOMOSIS) IN THE TREATMENT OF A PATIENT WITH MORBID OBESITY WITH CONCOMITANT METABOLIC SYNDROME AND MYASTHENIA GRAVIS

Introduction. This work is devoted to elucidation of the first experience of SADI operation without Sleeve resection in the treatment of a morbid obesity patient with concomitant metabolic syndrome and myasthenia.

Materials and methods. Patient L., 61 years old, at the time of referral to the clinic took place: morbid obesity (BMI 60 kg / m^2). Metabolic syndrome: dyslipidemia, type 2 diabetes mellitus, moderate severity, in the stage of medication compensation. Hypertension II stage, 2nd degree (160/90 mm Hg), hypertensive heart HF IIA, FC II, risk III. Concomitant diseases: myasthenia generalized form, phase of medication compensation. According to the physical status, the surgical-anesthetic risk of the patient was third grade according to ASA. It was decided to minimize the amount of surgical intervention to SADI operation without Sleeve, only its malabsorbtive part (one anastomosis between the duodenum and the small intestine).

Operation technique. The position on the operating table on the back with the

feet raised, the surgeon is on the right. Five trocar has been introduced into the abdominal cavity (Fig. 2). With the help of the ultrasound Olympus 5 mm duodenum was mobilized 4–5 cm distal to the pylorus, in the formed tunnel behind the duodenum was introduced Endo GIA 60 mm (blue cassette). The duodenal gut is stitched and crossed 4 cm distal to the pylorus. At the distance of 250 cm by the Endo GIA 45 mm (blue cassette) formed the posterior lip of the duodeno-jejunostomy type “side to side”. Anterior lip of anastomosis is sewn using the Ti - Cron 3/0, a two-row continuous suture. Duration of operation 4 hours 40 minutes (technical problems).

For anesthetic support, multimodal balanced anesthesia was used, which included local anesthetic, such as 0.25% lidocaine, administered prior to surgical cuts totaling 200 mg, prostaglandin blockers, NSAIDs - ketorolacetromethamine in a dose of 60 mg before beginning of operation, inhalation anesthetic - sevoflurane, narcotic analgesic - fentanyl, muscle relaxant of choice - depolarizing type, ditilin 2%. For induction: diprivan 1% - 10 ml, fentanyl 0.005% - 4 ml, ditilin 2% - 10 ml. Intubated with endotracheal tube 8.0. Drager Primus dusts, Vol.Mode D0500, DF12, DDM3, FiO2 40%, fresh gas flow of 2 l / min, flow of inhalation anesthetics 6 vol% - 2 min, then transferred to a fresh gas flow of 1 l / min, flow of inhalation anesthetics 2 vol%. MAC was 0.7.

To maintain the surgical stage, fentanyl and sevoflavur were used, and the MAC was maintained at 0.7. The myorelaxant was administered by "on demand" or prior to the important stages of the operation at 2 ml, this dose was enough to support the muscle relaxant effect. For the duration of the operation 4 hours 40 minutes, it was used: fentanyl 0.005% - 12 ml, ditilina 2% - 22 ml. Control of depth of muscle relaxation by subjective and objective method (TOF-monitoring). Control of depth of anesthesia BIS-monitoring.

At the end of the operation, the patient woke up 15 minutes after switching off the inhaled anesthetic flow, 5 minutes later spontaneous breathing through the intubation tube with stable hemodynamics and external respiration, the patient was extubated and transferred to the intensive care unit. The early postoperative period passed without complications. The intake of anti-myastenic drugs was carried out

routinely without changes in dosages.

Antibacterial prophylaxis was carried out by cephalosporins of the second generation (Cefuroxime 1.5 g) on the day of operation and in the postoperative period twice a day for 5 days; prophylaxis of thrombemic complications was carried out by low molecular weight heparin (Enoxaparin 0.2 g) 2 hours prior to the operation and once a day two weeks after surgery. Indicators of blood glucose onset: up to 14.1 mmol / l, 1 day after surgery - 9.4 mmol / l, 4 days - 8.5 mmol / l. Also, in the postoperative period, parenteral nutrition was applied for 4 days.

Results. Six months after the operation the general condition is satisfactory. The patient completely refused of insulin administration and takes oral hypoglycaemic agents (Amaril M 1 mg / 250 mg), arterial pressure is 135/80 mm Hg without taking antihypertensive drugs. The patient's weight was 108 kg (BMI 42.2 kg / m2), which is 6 months later the body weight decreased by 46 kg (% EWL was 51.1%). Thus, after six months of observation anemia wasn’t detected, hypoalbuminemia and trace elements within the physiological norm. There is also a tendency towards the normalization of blood lipids. According to the indicators of the glycemic profile, the restoration to the physiological norm of glycosylated hemoglobin, C-peptide and insulin plasma parameters was noted. The patient is recommended low-calorie diet and refuse of anti-depressants under the control of blood glucose level by an individual glucometer.

Conclusions. Good results have been obtained in the late postoperative period of the SADI operation without Sleeve resection both in the dynamics of body weight loss and in the correction of metabolic syndrome and myasthenia that are comparable to any modern combined bariatric surgery. Particularly noteworthy is the over-rapid correction of type II diabetes, long before significant weight loss.

Key words: morbid obesity, metabolic syndrome, myasthenia gravis.

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ATTITUDE OF THE 1-ST YEAR STUDENTS OF THE NATIONAL PIROGOV MEMORIAL MEDICAL UNIVERSITY, VINNYTSYA, TO TOBACCO SMOKING

Introduction. Actuality caused widespread smoking among the population of Ukraine, including medical professionals and students of medical universities and the direct impact of smoking on their health. The study of the problem goes back to 2009. Found that most physicians — joined smokers to smoke during university studies or beginning professional activity, more than half of students — physicians had experience of smoking. Studying of the problem of smoking among medical students is not given enough attention, which determines the importance of scientific research in this direction and organization of tobacco control measures.

In Ukraine, the prevalence of tobacco research among doctors and students of medical specialties involved Boyko D.M., Boyko M.G., Boyko O.S., Chornuha V.L., Strashko E.Y., Hryschuk V.A.

The ame of the article is an analysis of smoking among physicians of Ukraine, medical students and the attitude of the 1-st year students of the National Pirogov Memorial Medical University, Vinnytsya, to tobacco smoking according survay in 2016, identify measures to reduce tobacco use and cessation.

Materials and methods. Questionnaires conducted in October 2016 at the National Pirogov Memorial Medical University, Vinnytsya. Voluntarily fill out a questionnaire 770 participants. Korrektno 768 participants filled out a questionnaire on the population volume 818 persons. The accuracy of the survey is ± 1,34% to 99,7% confidence interval.

Results. According the results of a survey carried out among students of 1 course of the National Pirogov Memorial Medical University, Vinnytsya, in 2016 we

can state that currently the problem of smoking among medical students is urgent and needs attention.

Among the surveyed students of the 1 year of the medical, dental and pharmaceutical departments 19.6% of respondents, that is one fifth of the entire public, are smokers. 84% of all smokers — smoking 10 cigarettes per day, 7.3% — from 10 to 20 cigarettes a day, 7.9% — more than 20. Environment for tobacco using by medical students are important. Noted that regular smoking with friends — 46.4%, in the kitchen — 10.6%, in bed — 6%, pointedly on the square near the university — 15.2%, generally in public places — 5.3% of respondents.

The spread of tobacco favored by a large number of smokers among middle-aged and older. Thus, 29.2% of respondents said that their parents smoke. An example of parents together with the lack of culture of tobacco products as well as the culture of smoking in public places are factors that promote smoking among young people. 10% of respondents indicated that thay started smoking by the company and through curiosity. 28.5% of respondents believe that their smoking was caused by stressful situation, 3.3% — problems in communication, difficulties of adaptation. 22.5% of respondents believe that smoking affects hunger.

Lack of awareness about the dangers to health can not be considered one of the causes of smoking (93.6% of respondents aware about harmful consequences of smoking), but many young people believe that they can easily quit whenever they want.

Reflect on the questionnaire, students sometimes express conflicting views. Thus, the question is whether you like the smoking representatives of the opposite sex, 50.1% of respondents answered “no”, see no difference — 45.3%, but the question of whether you would like your children to smoke, 87, 2% responded negatively.

When asked which social work to reduce smoking is effective, 32% of respondents reported that Counter-advertising (labels on cigarettes, a clear demonstration of violations functioning of the body), 35% of respondents believe that this conversation with doctors, psychologists, representatives of the older generation

that testifies the importance of traditional educational activities. The threat of a fine may be an additional tool to influence students openly smoking in public places. Before the possibility of being fined students - physicians treated as follows: as to the potential shame — 11.5% of respondents, as the risk of losing money — 14.6% of respondents.

There were changes for the better in the sphere of values of students - physicians. Thus, a significant portion of respondents (42.7%) believe that smoking of the students of medical institutions reduces respect both to them and to the institution. 11.7% of respondents when visiting hospitals pay attention to whether smoking doctor and, if confirmed, changing physician. 32.4% of respondents convince their friends to quit smoking, and 1.4% — generally no longer communicate. Only 3.8% believe that smoking is prestigious, 50% of smokers want to quit soon, 28.5% — in the distant future. Unfortunately, there is a small group of students who fundamentally do not want to throw evil habit — 21.2% of those who smoke.

Conclusions. The survey results show prospects available to combat smoking among students and the threat of spreading of these phenomena in the absence of active work in this direction.

It is necessary to strengthen public control over observance of regulations and implementation of the ban on smoking in public places; increase the effectiveness of measures to prevent smoking among young people, taking into account age-sex characteristics; achieve effective interaction of state and local authorities, public organisations and youth; organize informational antismoking preventional work among students and staff of the National Pirogov Memorial Medical University, Vinnytsya; introducing modern forms of leisure; create a positive image of the modern young man who leads a healthy lifestyle; more attention to the students of 1st year of the National Pirogov Memorial Medical University, Vinnytsya.

The work against smoking should be part of comprehensive programs, should include diverse informational influence in the context of the knowledge and skills of the principles of a healthy lifestyle.

Key words: tobacco smoking, attitude to tobacco smoking, students of medical universities, sociological research, anti-tobacco measures.

SOCIAL MEDICINE, HEALTH CARE ORGANIZATION

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ECONOMIC ESTIMATION OF THE EFFICACY OF THE SORPTION METHOD OF EFFECTIVE THERAPY WITH INCLUSION OF THE NANO-SILICON PREMISES IN PATIENTS WITH CHRONIC DERMATOSIS

Introduction. *The purpose* of the work is to apply pharmacoeconomic calculations when substantiating the economic efficiency of the inclusion of the nano-siliceous nature drug - Silix into the complex therapy of patients with psoriasis and atopic dermatitis.

Materials and methods. The drug based on highly dispersed silica (HDS) - Silix was developed at VNMU in co-operation with the Institute of Surface Chemistry named after O.O. Chuyko of the National Academy of Sciences of Ukraine. Calculations of the effectiveness of the use of HDS in the form of Silix are performed by deducting the cost-effectiveness ratio (CER).

CER=(DC+IC)/Ef, where: DC — direct costs; IC — indirect costs; Ef — the effectiveness of treatment.

Indicators of sales of drugs based on HDS in Ukraine for 2010-2014 are taken from the official data of the analyst of the pharmaceutical market of Ukraine — “Pharmstandard” Company Morion Group. The results of treatment of patients with

dermatoses in the clinic of the Department of skin and venereal diseases of the VNMU are analyzed. The number of recovered patients has been used by us as an indicator of the effectiveness of treatment (Ef).

Results. It was established that inclusion of the preparation of the nano-silicon nature of Silix in the complex therapy slightly increases the cost of course treatment for patients with psoriasis and atopic dermatitis. However, due to a reduction in the number of bed days and an increase in cases of clinical recovery, the use of the sorbent resulted in a significant reduction in the cost of effective treatment in each patient compared to patients treated without drugs based on nano-silicon.

Conclusion. It was found that the implementation of drugs based on HDS in 2010-2014 was at the level of 178 million UAH. It was established that inclusion of Silix in the complex therapy somewhat increases the cost of course treatment - for 250 UAH for patients with psoriasis and 136 UAH — for patients with atopic dermatitis. However, the inclusion of sorbent resulted in a reduction in the cost of effective treatment by 158 and 129 UAH, respectively, in each patient compared with patients treated without Silix. In general, the cost-effectiveness of the use of drugs based on HDS by patients in Ukraine is estimated by us at the level of 12.14 million UAH.

Key words: chronic dermatoses, Silix, pharmacoeconomic, efferent therapy.

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THE INCIDENCE AND PREVALENCE OF GASTRIC ULCER AND DUODENAL ULCER AMONG THE DIFFERENT SEGMENTS OF THE POPULATION WITH THE ANALYSIS OF THE MAIN INDICATORS OF PROVIDED MEDICAL CARE IN VINNYTSIA REGION AND IN UKRAINE

Introduction. Peptic ulcer disease (PU) is a leader in the general structure of the digestive system diseases. It affects 6.0–10.0 % of the population in developed countries, and the mortality rate varies from 6 to 9.7 per 100 thousand population. Ukraine is characterized by high incidence and frequency of recurrence (20–25 %), in comparison with European countries.

The objective of our study was to analyze the main parameters of the incidence and prevalence of gastric ulcer and duodenal ulcer among different segments of the population in Vinnytsia region in comparison with those nationwide: to examine the basic indicators of the medical care provision to these patients.

Materials and methods. This study is based on a generalized medical-statistical information of reporting forms received from the health care facilities of Vinnytsia region for 2009–2013.

Results. For the period of 2009–2013. by the prevalence values, disabled rural residents and men are distinguished (in 2013 in Vinnytsia region: disabled — 3,759.6 against 2.386.1 of working residents: rural — 3,990.7 against urban — 2.787.0: men — 3.392.4 against women — 2.481.2: in Ukraine: 3,495.2 against 2.284.8: 2.528.6 against 2,777.4: 3.268.9 against 2,235.0 per 100 thousand population, respectively).

The incidence of PU disease among people of working age is high (in 2013: 140.2 in Vinnytsia region and 132.6 nationwide against 114.0 and 129.4 among the people of the retirement age per 100 thousand, respectively), males (143.4 against 126.1 — among females and 155.1 against 114.1, respectively).

Over 5 years, the percentage of those covered by the monitoring was significantly reduced from 94.4±0.1% to 92.4±0.2% in 2013 in the region and from 91.7±0.03% to 90.4±0.09% in Ukraine, respectively, its level in the region was reduced by 8.6% — to 2,670.4 per 100 thousand and by 4.2% to 2,441.8 respectively.

In 2009–2013, in Vinnytsia region, inpatient care was annually received by 2280±137 patients with GU and DU (in Ukraine: 74207±7045), which was equivalent to 24275±2267 bed/days.

Over the study period, the following values have been decreased in the region: the level of hospitalization of patients with GU and DU (by 11.5%, from 15.93 in 2009 to 14.10 per 10 thousand population in 2013); total number of bed-days (by 20.2%: in Ukraine by 28.0 %).

The average length of hospital stay in Vinnytsia region decreased by 9.9 percent to 10.22 days, in Ukraine — by 5.7% to 11.62 days. The number of operated patients in Ukraine and in the region decreased (by 13.7% and 20.8%, respectively) to 2.59 and 1.98 per 10 thousand in 2013; by the indicator value in the region, the rural residents were distinguished — 2.3. Over five years, their percentage in the structure significantly increased from 45.1±2.7% in 2009 to 53.2±3.0% ($p<0.05$).

Mortality rate in the region tended to increase from 1.53% to 1.7%, whereas in Ukraine they decreased from 1.42% to 1.20%. Postoperative mortality increased more intensively in the region (from 2.98% to 4.18%) in 2013) against those in Ukraine (from 3.8% to 3.88%).

Conclusions. Over the years of the study, the prevalence of GU and DU in the region are above the average in Ukraine and decrease with varying intensity, with the exception of rural residents, among which the level increased by 30%. Over 5 years in the region and in Ukraine, there was a significant decrease in percentage of those covered by the monitoring; its level decreased by 8.6% in the region and by 4.2% in Ukraine. In 5 years, the average duration of hospitalization in the region decreased by 9.9% (average 5.7%), with fatality rates above the national average tend to increase, while in Ukraine become smaller. The rise in postoperative mortality in the region is observed, which in 2013 was 4.18% and 3.88% in Ukraine, respectively.

Key words: gastric ulcer, duodenal ulcer, prevalence, incidence.

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SOCIO-ECONOMIC PROBLEMS OF ALCOHOLISM IN UKRAINE AND INFLUENCE OF IT ON HEALTH OF HUMAN

Introduction. *The purpose* of the article is to consider the context of alcoholism in Ukraine, its impact on human health, and determine socio-economic losses from that harmful habit, also chartmeasures to reduce alcohol consumption and to prevent and avoid alcoholism.

Results. The one of the main causes of premature death and the burden of preventable illnesses is alcohol abuse. In Ukraine, almost 1 million people suffer from chronic alcoholism. Every year more than 40,000 people die by it. WHO argues that Ukraine in terms of alcohol consumption belongs to the top of five countries with the highest levels of alcohol consumption per person. 15 liters of alcohol by year falls on one person in Ukraine. Among alcoholics 70% is men, 50% of women regularly drink alcohol, 28% fans of alcohol belongs to the young people with age from 18 to 29 years. In the country, 2/3 of the students and every second school graduate are drinking alcohol several times in during the week in the country. On alcoholic beverages consumption lovers of alcohol spend lotmoney.

Conclusions. In order to reduce the consumption of alcoholic beverages and prevention and stop of alcoholism in the country it is necessary:

- develop a State Program for the prevention and reduction of the level of consumption of alcoholic beverages;
- to raise the intolerance to alcohol consumption in labor collectives, organizations and educational institutions;
- to equip the population, especially young people, students of secondary and high schools knowledge about the harmful effects of alcoholic beverages on the human body;
- formulate in the youth, especially the in the students of schools, certain psychological brakesthat impede the imitation of stupid examples of older comrades and adults;
- prohibit advertising of alcoholic beverages on radio and television;

– state limit the time from 12.00 AM to 10.00 PM for selling alcoholic beverages in the shopping centers in all of the country's settlements;

– determine in each townof the country specific places for sale of alcoholic beverages with taking into account their distance from educational institutions, enterprises and organizations;

– introduce a state monopoly on the sale of alcoholic beverages;

– by the authorities of the country carry out consistent measures for limiting the production of low-quality alcoholic beverages and home making alcohol;

– state and local authorities in the country ensure the necessary conditions for the prevention and treatment of alcohol dependence.

Key words: alcoholism, health, life expectancy, socio-economic losses, anti-alcohol measures.

SCIENTIFIC REVIEWS

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DEFINITION OF THE ANATOMICAL NORM OF HUMAN BUILDING

When studying individual anatomical variability, it is necessary to correctly orientate in the concepts and values of the anatomical norm. According to the doctrine of acad. V.M. Shevkunenko and his students, under the anatomical norm, should be understood genetically determined, rationally highly organized structure of the body, its organs, systems and tissues, which provides a normal human activity.

Anatomical norm is a constantly variable quantity, which is in unity with the constantly changing environmental conditions. In the applied meaning - anatomical norm is the genetically determined dynamic band of morphological variability of the body, organs, systems and tissues limited by extreme forms of variability, within which the normal conditions of human life are ensured.

It is known that the human body, its form and structure of organs and tissues are in direct alignment with their functions and the surrounding biosocial environment. The emergence of new stimuli or factors affects the functioning of the body, individual organs and systems, and this leads to modification changes in morphological structures. Most of researchers believe that there are no pure (isolated) functional disorders, but there are microanatomical changes on cellular, molecular, biochemical and other levels of human activity.

Functional-anatomical reliability of the human body is determined by the genetically determined excess and reserve of the biologically active substances of cells, organs and tissues, which makes a certain sense in understanding the anatomical norm.

In the light of the above, anatomical norm should be understood as the genetically determined and rationally organized structure and form of the body, its organs, systems and tissues which ensure the normal functioning of human life. In other words, the term “anatomical norm” means a genetic set of morphological features of organs, systems, tissues and body shapes of a person limited by extreme forms of individual variability, within which conditions for normal adaptation to the habitat, optimal human life and self-preservation of the biological species are provided.

Conclusions. The anatomical norm characterizes the existing differences of each organ, system of the organism and the area of the human body, providing the basis for understanding and constructing a range of individual anatomical variability. The anatomical norm is genetically determined and depends on three types of somatotypes: ectodermal, mesodermal, and endodermal origin. Accordingly, ecto-, meso- and endomorphs are formed. Outside the extreme forms of anatomical norm

are congenital and acquired abnormalities and developmental defects, atavisms, and predisposition to various pathological changes and diseases.

Key words: individual anatomical variability, anatomical norm.

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CLINICAL FEATURES AND IMMUNOLOGICAL CHANGES IN CHILDREN WITH HERPESVIRUS INFECTION

Epstein-Barr virus (EBV) infection is the most common of herpes virus infections in the world and in Ukraine in particular. Epidemiological significance is defined of disease of predominantly working age persons, and the risk of persistent latent forms provoking prolonged immunodeficiency states. Infectious mononucleosis is a primary EBV infection. Ñlinical picture of infectious mononucleosis has typical symptoms: fever, sore throat, ymphadenopathy, hepatosplenomegaly, hematologic changes — leukocytosis with atypical mononuclear cells. However, sometimes the primary infection is not manifested clinically (asymptomatic) or characterized by mild catarrhal signs from the upper respiratory tract. The effects of acute infection may be different. After the initial disease asymptomatic latent form of EBV infection can develop. However, under certain conditions, reactivation of EBV infection will occure, that cause chronic recurrent EBV infection, lymphoproliferative processes of cancer, autoimmune diseases (upus erythematosus, rheumatoid arthritis, Sjogren’s syndrome, etc.), chronic fatigue syndrome. There are chronic active (including generalized), subclinical forms of EBV infection and EBV-associated hemophagocytic syndrome. Chronic active EBV infection is characterized by clinical symptoms of infectious

mononucleosis, which continues for more than 6 months. Patients complain of increased fatigue, sweating, muscle and joint pain, difficulty in breathing through the nose, sleep disturbances, loss of memory, attention and intelligence, emotional abuse background. Typical symptoms include fever, swollen lymph nodes, hepatosplenomegaly. Chronic active EBV infection can occur by various diseases and clinical and laboratory syndromes. In the process of generalization possible damage to the nervous system (encephalitis, polyneuropathy, meningitis) and other internal organs (hepatitis, myocarditis, glomerulonephritis, lymphocytic interstitial pneumonia, etc.), neutropenia, eosinophilia, thrombocytopenia, hyper- or hypogammaglobulinemia, hypoplasia of the bone marrow. The course of subclinical form of chronic EBV infection is undulating with periodic subfebrile, weakness, lymphadenopathy, myalgia, arthralgia; addition of concomitant infections. Hemophagocytic syndrome is characterized by fever, expressed hepato- and splenomegaly, vasculitis, pancytopenia, coagulopathy, disorders of the central nervous system, eryhtrophagocytic syndrome in the bone marrow and lymphoid organs. In the primary EBV infection so-called “self-limiting” hepatitis develop with minimal or moderately elevated aminotransferase activity, which in some cases may be accompanied by jaundice. Clinical and laboratory data obtained during the examination of patients with chronic hepatitis associated with EBV occured minor or moderate clinical symptoms without high EBV-specific antibody titers or viral load, but with marked signs of cytolytic and cholestatic syndromes.

Conclusion. Thus, according to the literature, it is proved that EBV infection is widespread among human populations, has a polymorphic clinical picture, causes a significant impact on the immune system and, consequently, can cause peculiarities of other pathological processes developing on its background.

Key words: Epstein-Barr viral infection, pathogenesis, clinical manifestations, classification, the immune system.

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MODERN ASPECTS OF ETIOLOGY, PATHOGENESIS AND PRINCIPLES OF ORGAN PRESERVATION TREATMENT OF UTERINE LEIOMYOMA

Introduction. The uterine leiomyoma is a heterogeneous benign tumor that varies in size, localization, growth rates, parenchyma and stroma ratios, morphological and clinical manifestations. It is known that different histological types of leiomyomas have different proliferative potential, and therefore may require a differentiated approach to the diagnosis, treatment and prevention of possible relapses. Till this time, there is no clinical classification of uterine leiomyoma that allows to determine the type of treatment for each particular patient. Relapse rate after reconstructive-plastic operations is from 15 to 37%, and necessity for repeated surgical treatment occurs in 1,3-27% of cases.

The purpose of the study — to assess the role of the ethological factor, pathogenesis and modern approaches to the treatment of the uterine leiomyomas, on the basis of modern data from domestic and foreign literary sources.

Results. The leading factors of the origin and progression of uterine leiomyomas are anovulation, absolute or relative hyperestrogenia, and a violation of the receptor apparatus. Traditional hormonal therapy of uterine leiomyomas is effective only in every second woman, medication treatment of uterine leiomyoma and internal genital endometriosis, has limited use.

The regulation of the leiomyomas growth is extremely complicated and insufficiently studied. The most important achievement of the past two decades is the confirmation of the progesterone key role in inducing of proliferative processes in the myometric node, which was previously explained by the effect of excess estrogens, and progesterone was considered as a factor that stimulates the growth of the tumor. In addition, activation of the growth factor (growth factor of fibroblasts (FGFs), vascular-endothelial growth factor (VEGF), insulin-like growth factor (IGFs)) and

proinflammatory cytokines (tumor necrosis factor (TNF), interleukin-1, -2, -6 (Il-1,2,6)), activation of neo-angiogenesis and inhibition of apoptosis in myometrium cells are undoubted significance in the pathogenesis of uterine leiomyomas.

The formation of the myomatous node occurs as follows: the accumulation of smooth muscle cells with the sings of apoptosis is occurs during the repeated cycles of myometrium hyperplasia in the menstrual cycle. Theese proliferating cells are subjected to various damaging factors. The number of damaged cells accumulates with each menstrual cycle, part of the cells eliminate from myometrium, others start to form the myomatous nodes with varying potential for growth. Over time, cell co-operation that activates the autocrine-paracrine mechanisms caused by growth factors is formed. Than it forms local autonomous mechanisms for growth support (local production of estrogens from androgens and the formation of connective tissue). As result of it the significance of the physiological concentration of sex hormones for the formation of the myomatous node becomes essential.

There are two theories of the precursor cells of leiomyomas origin. One suggests the appearance of a cell defect during ontogenetic development of the uterus, the second suggests the possibility of the cell damage in the mature uterus.

The role of metabolic reactions, which are universal for various destructive and hyperplastic processes in tissues, is generally accepted among the pathophysiological mechanisms that determine the development of tumors. The free radical reactions that, in conditions of normal functioning of the body, can act as factors regulating the structural kinetics of the tissues, and in pathological conditions, determine their damage are in the lust of these processes. Active forms of oxygen (AFO) that are formed in free radical oxidation reactions, have a short lifetime and, in addition, are inactivated by special anti-radical and antioxidant enzymes. However, in some cases, due to the breakdown of protective mechanisms, free radicals damage DNA strands and lead to the formation of a modified clone of cells that are capable of pathological proliferation.

One of the evidence of systemic abnormalities that lead to multiple proliferative diseases of the endo- and myometrium is the frequent combination of the uterus hyperplastic processes with fibrocystic breast disease.

The traditional approach to the treatment of the patients with benign proliferative diseases of the uterus is the use of conservative and surgical methods. It should be noted that the surgical method of treatment until now is the main. Up to 50–70% of surgical interventions are performed in gynecological hospitals in the country to the patients with leiomyoma, 60–75% of them occur in radical operations, including 20–25% in women of reproductive age.

Hysterectomy leads to a number of significant consequences. One of the most significant of these is the reduction of hormonal activity of the ovaries, which manifests itself in the development of postgisterectomic syndrome that requires hormonal correction.

Myomectomy, which allows for the maintenance of the childbirth function, is accompanied by a significant number of complications. 25–30% of patients have a recurrence of the disease and/or there is a necessity for repeated, more complex interventions on the background of the adhesion process that was formed after myomectomy. Such case need an increase in the volume of surgical intervention.

In recent years, effectiveness of the method of selective embolization of uterine arteries has been studied out abroad and in our country. Selective uterine artery embolization (EUA) is considered by many authors as an alternative to the surgical treatment of uterine myoma. The incidence of complications does not exceed 2–4%. However, the method has its own limitations: EUA is possible only with relatively small size nodes of leiomyomas and it is not recommended to female, who is planning a pregnancy.

The method of high-intencity focused ultrasound ablation (HIFU) is the latest high-tech method of human tumors local treatment, based on the effects of high-intensity focused ultrasound waves, without damage of the skin, surrounding tissues and organs. This method have got a great popularity abroud in the last decade. HIFU

causes direct damage of the vessels that make the tumor trophysity, thus stopping supply of oxygen, disordered the trophysity of the tumor tissue.

Within two weeks after ultrasound ablation, the peripheral part of the treated area is replaced by proliferating fibrous tissue. The repair process has not yet been studied in detail, but morphological studies show a gradual shrinkage of tissue and the replacement of necrotic tissues with fibrous tissue. The node becomes avascular, the growth stops, there is a gradual regression of the node and, accordingly, the symptoms of the uterine myoma.

Conclusions. The ratio and duration of the sex steroids exposure, specific receptors of target cells status, activation of the of growth factors (growth factor of fibroblasts (FGFs), vascular-endothelial growth factor (VEGF), insulin-like growth factor (IGFs)) and proinflammatory cytokines (tumor necrosis factor (TNF), interleukin-1, -2, -6 (Il-1,2,6)) production, activation of neoangiogenesis and inhibition of apoptosis in myometrium cells play an important role in regulation of the leiomyoma growth. The use of conservative and surgical methods to treatment of patients with benign proliferative diseases of the uterus is the traditional approach to treatment. The main trend in recent times is the organ-preserving treatment of patients with uterus leiomyoma, especially in reproductive age. In recent years, the effectiveness of the method of selective embolization of uterine arteries has been studied out abroad and in our country. The frequency of complications does not exceed 2–4%. Also, a promising method of high-intensity focused ultrasound ablation, without damage of the skin, surrounding tissues and organs, have got a popularity.

Key words: uterine leiomyoma, mometasone host, free radical reactions, abnormal uterine bleeding, hysterectomy, myomectomy.

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SEPSIS AND SEPTIC SHOCK FOLLOWING PREGNANCY: CASE DISCUSSION ON THE BASIS OF MODERN EVIDENCE

Introduction. In obstetric practice, sepsis remains the most significant cause of maternal mortality, taking the leading rating position in its structure. Reduced immune status and increased blood clotting are inherent to gestation and are favorable background for the generalization of infection and the development of septic complications. This article presents the analysis of maternal death from sepsis and modern approaches to improve diagnosis and treatment of maternal sepsis from evidence-based medicine point of view.

Casereport. There is a clinical case report described and disassembled in details about pregnant woman 31 years old with pregnancy 28–29 weeks, with acute non-hospital pneumonia has been complicated by development of sepsis and polyorganic insufficiency syndrome. At the time of admission to the hospital, the patient had three points on the qSOFA scale: systolic blood pressure ≤ 100 mm Hg. BR ≥ 22 / min, GCS <15 points (GCS 13 = E3 V4 M6), indicating of organs dysfunction presence caused by infection (pneumonia subsequently was confirmed radiologically). Antenatal fetal death was diagnosed one hour after hospitalization, (according to ultrasound scan). Hematology blood test: leukopenia (3.5 G / L), 20% of young forms of neutrophils, 34% of stab neutrophils. Score on the SOFA scale — 6 points: the hemodynamic has been need to be supported with a help of adrenomimetic drugs, total bilirubin level 41.2 μmol / l, anuria, creatinine level 240 μmol / l.

The evaluation of the diagnostic and therapeutic measures has been performed in accordance with Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock. It has been established that the effectiveness of treatment of sepsis is determined by early diagnosis and the beginning of resuscitation. The main focus of the diagnosis and initial resuscitation is a taking of blood analyses (necessarily lactate, procalcitonin), cultures of blood and other biological fluids of patient before antibiotics administration, if this

manipulations would does not a significant delay (>45 min), crystalloid solution intravenous, antibiotic intravenous, vasopressor support (if necessary), monitoring of diuresis and blood pressure level.

Conclusion. Diagnosis of sepsis and septic shock should be based on the criteria of consensus Sepsis-3. Therefore, patients with single infection lesions should be examined for multiple organ failure, and patients with multiple organ failure should be examined for available or suspected infection. This is the basis algorithm for early diagnosis and as early as possible start of sepsis treatment, since the delay with that would reduce the chances of patient survival.

Key words: sepsis, septic shock.

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DOMINANT PSYCHOLOGICAL TENDENCIES OF STRESS-INDUCED INFERTILITY WOMEN

Exceptional role of psychological stress in the genesis of the primary stress-induced infertility necessitates us conducting study of load stress features in infertile women. Psychological stress plays an important role in implementation of all physiological functions, and the reproductive system is considered the one of the most sensitive systems due to its close psychosomatic interaction.

The paper reviews the data available in the literature on the evaluation of the stress role in development of stress-inductive infertility. It describes the psychological reaction peculiarities of infertile women considering this problem and also a comprehensive approach, an important role in which is played by psychological correction, to treating stress-inductive infertility.

As a result of long lasting infertility there may be border mental disorders, depressions, frustration, posttraumatical stress disorders. The fact of infertility is a strong chronic stress for woman. Very often it becomes difficult or even impossible to differ the external stressors from negative psychological influence of infertility fact, what acts as a “vicious circle” mechanism. Individual significance and the force of frustration about infertility are conditioned first and for most by the place of maternity in woman′s values hierarchy and also by her psychological type. That is why for women, who unsuccessfully tries to become mothers the chronic stress because of long lasting infertility becomes a pathological psychological dominant and, at last it leads to persistent pathological status.

Conclusion. Therefore, the data gathered by us on occurrence of chronic stress in infertile women and on its characteristics demonstrate close relationship between infertility and chronic psychological stress, and allow us to consider the latter as the main cause of infertility in studied female population.

Acute stress can play the role of trigger that launches the pathologic response of the body. However, the chronic psychological stress plays the leading role in occurrence and chronization of stress-induced reproductive disorders.

Key words: stress-induced infertility, chronic stress, reproductive function.

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MODERN PATHOGENETIC ASPECTS AND METHODS OF LICHEN PLANUS TREATMENT

Lichen planus (LP) is a chronic relapsing disease of the skin and the oral mucosa.

According to various researchers, in the general structure of dermatological morbidity LP have from 0.78% to 2.5% of all skin diseases, among diseases of the mucous membrane of the oral cavity — 35%.

Despite the fact that dermatosis has been known for more than a hundred years, the etiology and most of the pathologies pathogenesis of the LP have not been sufficiently studied. This complicates the development of a modern concept of the occurrence of this chronic dermatosis. Scientists distinguish several theories of pathogenesis of the disease: immune, infectious, hereditary, neuroendocrine, the theory of metabolic disorders, toxic-allergic effects.

One of the biochemical manifestations of neurogenic reactions in LP is a shift in the prooxidant-antioxidant balance in the direction of activation of the process of lipid peroxidation (LPO) in biological membranes and liquids. It is precisely this direction at the present stage that is worthy of priority and deserves a detailed further study.

Clinical forms are distinguished by the nature of the primary element. Papular (typical) is the most common form of LP and occurs in 75–80% of patients. Among atypical forms, there are hypertrophic, atrophic, bullous, follicular, pigmented, ring form, linear, zosteriform, moniliform, hyperkeratosis, erythematous.

The urgency of the problem of the study of LP is due to the increase in the incidence, the variability of its clinical course, the frequent development of atypical forms, resistive to the therapy traditionally used, reduction of the term remission. Taking into account the theory of pathogenesis, the most promising is the study of the state of prooxidant-antioxidant equilibrium and homocysteine exchange processes in the development of LP. In our opinion, it can provide development of pathogenetically determined complex treatment of this dermatosis.

Key words: Lichen planus, pathogenesis, clinical forms, treatment.

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THE IMPACT OF SMALL HEART STRUCTURAL ANOMALIES IN CARDIOVASCULAR DISEASES FORMATION

The aim of this study is to examine the features of pathogenesis and clinical picture in patients with abnormal chords and noncompact left ventricular myocardium, to evaluate their prognostic value and to systematize the diagnostic criteria and treatment.

Abnormal ventricular chords are connective tissue-muscular formations (trabeculae, chords, “graves”), which, unlike the normal chords, have an ectopic fastening. Abnormal chords are visualized as echo-dense, thin linear formations that have no connection with the valvular apparatus of the heart by echocardiographic investigation. They can be either single or multiple. Abnormal chords can exist in isolation or else in combination with mitral valve prolapse (53–68%). This fact confirms the clear pathogenetic relationship between the abnormal chords and the mitral valve prolapse, and also allows to agree with the term “mass”-phenotype (mixed phenotype) and to modify the “phenotypic extent”: the norm - abnormal chords - mitral valve prolapse - Marfan syndrome or Ellers-Danlos.

Multiple abnormal ventricular chords may be a hallmark and even a diagnostic criterion for severe cardiac embryogenesis abnormality – noncompact left ventricular mitochondrial syndrome.

The main feature of a non-compact myocardium is the presence of numerous bridges and trabeculae in the left ventricle with the presence of intertrabucular cavities between them that are coated inside the endocardium and connected to the left ventricular cavity. Multiple bridge-beams with trabeculae form a noncompact spongy layer of the heart muscle, while the homogeneous original myocardium layer

remains thin. This altered structure leads to the fast increasing deterioration of the heart contractile capacity with the development of fatal cardiac insufficiency.

According to modern data, the noncompact left ventricle is the result of a violation of embryogenesis in the early stages of the embryo development. Sometimes noncompact myocardium is associated with other congenital malformations that cause an increase pressure in the heart cavity.

Most commonly the noncompact left ventricle is found in 9.2–9.5 % of children with diagnosed cardiomyopathies. Among the adult population this index ranges from 0.014 to 0.05 %. The prognosis of such patients depends on the affected segments volume, the overall contractile capacity of the myocardium, the time of development and the rate of the cardiac insufficiency growth. Especially unfavorable prognosis for the disease is in patients with left ventricular ejection fraction below 35 %.

Treatment of abnormal chords and noncompact left ventricle. Therapeutic measures are the use of β-blockers and angiotensin-converting enzyme inhibitors. If there are autonomic dysfunction symptoms, the treatment conducts sedatives and daily tranquilizers. It is necessary to treat cardiac insufficiency and heart rhythm disorders, as well as to prevent the thromboembolic complications. Patients with "malignant" disorders of the rhythm are required to install a cardioverter defibrillator. Surgical treatment involves the removal of an abnormal chord or local cryocoagulation where an abnormal chord is attached.

Conclusions. Today small heart structural anomalies are the manifestations of the undifferentiated connective tissue dysplasia syndrome. Their most dangerous cardiac manifestations are multiple abnormal chords in the heart cavities. Patients with abnormal ventricular chords have a high risk of high gradation ventricular extrasystoles, ventricular tachycardia paroxysms and severe cardiac insufficiency. Abnormal left ventricle chords are manifestations of such severe hereditary heart disease as a noncompact left ventricular myocardium.

Despite a large number of works devoted to the prevalence and features of the small heart structural abnormalities, there is a need to systematize the criteria for the

diagnosis of abnormal chords and noncompact left ventricular myocardium and to optimize the treatment of these patients in the future.

Key words: small heart structural anomalies, abnormal left ventricle chords, noncompact left ventricular myocardium.

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GALACTIN-3 AS BIOMARKER OF CHRONIC HEART FAILURE IN PATIENTS WITH ESSENTIAL HYPERTENSION IN MEN

Mortality from cardiovascular diseases is the leader in the structure of mortality in Ukraine and in the world. The incidence of chronic heart failure (CHF) among heart disease in economically developed countries is 6-8% and is rising at a rapid pace. Among patients with II and III stages of chronic heart failure, mortality fluctuates within 35–50% during the first year, 50–70% in 2 years and exceeds 70% three years after the diagnosis. In this connection, the problem of early detection and early treatment of CHF is particularly urgent. Therefore, this topic is very relevant. The article highlights the importance of non-instrumental methods in the study of CHF, which are now the priority for the screening of large number of people. In the clinical practice, brain natriyuretic peptide (BNP) is used to diagnose heart dyspnea.

The diagnostic possibilities of this marker for stratification risk are not enough, as evidenced by the studies, are analyzed in the article. One of the new biomarkers is galectin-3, which plays an important role in the development of CHF, progression of atrial fibrose, and remodeling of the heart. It has been established that expression of galectin-3 is minimal or practically absent in healthy individuals and in patients in remission, or in the compensatory stage. At the same time, it is maximal at the peak

of fibrosis and inflammation. It is very important to use different biological markers, which can open the way to a personalized risk assessment in patients with CHF with different phenotypes of myocardial dysfunction. This can give more advantages to create the most appropriate diagnostic model.

Their relationship with the activity of renin angiotension aldosteron system (RAAS), which in turn depends to a certain extent on the polymorphism of the genes that program the condition of this system, in particular, with essential hypertension (EH) and, accordingly, with its complicated CHF, should be considered. At the same time, questions may arise again about the etiological factor of CH and, accordingly, changes in the concentration of biomarkers, indicating the state of the myocardium. The increase in blood pressure and development of EH is determined by genetic factors by 30–40% and by about 50% of the environmental factors. According to modern data, 61 gene loci have been established, which are involved in the regulation of blood pressure. Within the hereditary predisposition, a range of SNPs of individual genes that can affect the processes mentioned above are considered. One of the most studied is the polymorphism of the AT1R gene. According to research, in the vast majority of patients there is no single gene responsible for the onset of EG. Among these genes, the gene of the angiotensin II receptor type 1 can play an important role, since AT1R is responsible for the end-effects of the whole RAAS.

In the work concentration of a biomarker galektina-3 in persons with the CHF which arose against the background of the EH at a carriage of polymorphic genes of a receptor of an angiotensin II type 1 (AT1R) and appropriate levels of BNP at EH were studied. The control group consisted of 79 persons, the group with uncomplicated EG included 62 persons, in the group with CHF II, A stage II-III of FC for NYHA consisted of 50 persons, residents of Podolsky region of Ukraine, aged 40-60 years. The genotyping of the AT1R gene was carried out using a polymerase chain reaction. BNP and galectin-3 plasma level were determined by ELISA.

Conclusion. In practically healthy men, the inhabitants of the Podolsky region the genotype A1166A dominate. At the same time, it was found that among the

patients with EH and CHF, the carriers of the allele C predominate. Carriers of the allele C of the AT1R gene have a significantly higher level of BNP and galectin-3 compared to carriers of the genotype A1166A, which may be of a diagnostic value.

Key words: angiotensin II receptor polymorphism type II (AT1R), brain natriuretic peptide, galectin-3, arterial pressure.