REPORTS OF MORPHOLOGY

2014 – VOL.20, №1

ANTHROPOLOGICAL ARTICLE

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INFLUENCE OF NANOSIZED COMPOSITION "METROXAN" ON INDICATORS OF CLINICAL SAMPLES AND INDICES THAT CHARACTERIZE THE STATE OF PERIODONTAL TISSUES IN THE TREATMENT OF GENERAL PARODONTITIS

Introduction. Recently a high prevalence of inflammatory and dystrophic inflammatory periodontal diseases in the population. Despite the current trend of improving methods of diagnosis and treatment, introduction of new medical technologies, substantial reduction of periodontal disease among the adult population of Ukraine is observed. Therefore, the development of new drugs and methods of treatment and prevention of inflammatory diseases is an urgent problem of modern medicine medicine.

The purpose of this study - to compare the therapeutic effects of treatments of inflammation in periodontal using 4% metroxan and pharmaceutical compositions of the above components independently and in a combination of the dynamics of changes in clinical indices and tests in patients with generalized periodontitis before and after an certain stage treatment, which corresponds to the first phase of purulent wound healing process by M.I.Pirogov interpretation.

Materials and methods. As one of the criteria for evaluating the effectiveness of treatment exacerbation GP used clinical parameters and indices of clinical samples. In the course of research conducted clinical examination and treatment of 56 patients aged 30-40 years, disease duration from 2 to 10 years, without somatic pathology. Patients were divided into 5 groups : control and 4 experimental.In the treatment of patients in the control group included only common basic therapy that included professional cleaning of the oral cavity: antiseptic irrigation, mechanical and ultrasonic removal of soft and mineralized plaque various sites, irrigation of periodontal pockets 0.5% Chlorhexidine bigluconate.A comprehensive treatment of the experimental groups was performed according to the general scheme. After the session, the basic treatment (without local conservative means), patients from I group at each visit, by application method on the gingival edge and the periodontal pocket,

was applied 6.3% of silica suspension , II group -silica 6.3% + polymethilsiloxan 2.8%, III group -decametoxine 0.025% + metronidazole 0.75%, IV group - 4% metrokxan . Exposure in all cases was 15-20 minutes.

Results. Assessment of response of exudative content periodontal pockets during benzidine tests by Klochko testified that all medicines are used antimicrobial effect and lead to the disappearance of purulent discharge from the periodontal pockets. Analysis of samples carrying the modified Fedorov test, has been received prior to treatment in all groups of patients GP as the original, and I degrees of severity, showed the presence of pronounced inflammation in the gums, and then conducted step therapy reduced the severity of inflammation, particularly significant is determined by the group patients, where the remedy was applied 4% metroxan .The data presented in the tables show that the control and I, II and III groups of patients with generalized periodontitis pointed varying degrees of severity indicate that the use of drugs at that stage of treatment show the dynamics of decline in clinical indices PMA (Parma) and Muhlemann ($p<0.05$). However, the most pronounced decrease in the dynamics determined in patients who used 4% metroxan: performance index PMA (Parma) dicreased 2.4 in the group of patients with GP initial severity and 1.7 in the group of patients with GP I degree severity.

Conclusion. Comparative analysis of the therapeutic efficiency of application of the above methods showed that all applicable. Application tests lead to decline in all clinical trials and gingival indices in patients with exacerbations of chronic process of GP, , Indicating that the deactivation of virulence periodontal pathogens microflora, which is one of the triggering mechanisms of occurrence of generalized periodontitis. In this case, the best indicators were registered in groups, where the remedy applied metroxan in that therapeutic concentrations.

Key words: generalized periodontitis, topical treatment, high disperse silica, Metroxan.

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COMPARISON OF THE SPATIO-TEMPORAL PARAMETERS OF WALKING WITH TEMPORAL VISUAL DEPRIVATION AND WALKING WITH ADDITIONAL MOTOR LOADING IN PERSONS OF YOUTH AGE

Introduction. The functional unit of walking is a step cycle. Control of its spatio-temporal parameters depends on activity of all levels of the nervous system. Scientific researches dealt with the study of changes in the spatio-temporal parameters organization at the changed paradigms of walking which meet in everyday life, such as a change of walking rate (acceleration or deceleration), realization of the additional loadings (cognitive/motor) during walking, gave certain information about the character of such changes, but majority from these researches

were directed, mainly, on old persons or neurological patients. Comparatively few works which studied effects of temporal visual deprivation and partly changed vestibular afferentation. That's why the aim of the study was to compare the differences of the spatio-temporal parameters of the step cycle of walking with temporal visual deprivation (with closed eyes) and walking with additional motor task in persons of youth age.

Materials and methods. The study was carried out by the electronic walkway system GAITRite® (CIR Systems Inc., Clifton, NJ). The study of the spatio-temporal parameters of walking with temporal visual deprivation (after a previous acquaintance with a surface and location of the GAITRite® mat the subjects were proposed to walk along the mat with closed eyes) was conducted in 188 clinically healthy persons of youth age (17-21 years). The study of the spatio-temporal parameters of walking with additional motor task (the subjects were proposed to walk along the mat with a comfortable speed simultaneously holding by both hands a device for estimation of ability to stabilize the hands position thus that its ball always was in the center of horizontal bars of the device) was conducted in 201 clinically healthy persons of youth age (17-21 years). The subjects did not have traumas. In the research the nulliparae took part only. To avoid the effects of acceleration and inhibition before the GAITRite® mat and after it usual mats at length 2 meters were put to start and stop walking. The walking investigation was conducted without shoes.

Results. Under the analysis of the spatio-temporal parameters changes at walking with closed eyes comparatively with walking with additional motor task it was gotten the next data. The mean velocity of walking with closed eyes (124,35±20,54 см/с) is more by 27,3 % than at walking with additional motor task (97,69±26,23 см/с). At walking along the mat the subjects performed statistically significantly less number of steps (by 18,7 %) per statistically significantly less time (by 30,6 %) than at walking with additional motor task. Cadence at walking with closed eyes was 115,54±9,97 steps/min that was by 13,6 % more than at walking with additional motor task (101,68±15,17 steps/min) ($p<0,001$ in all cases). At walking with closed eyes comparatively with walking with additional motor task the next spatial parameters were statistically significantly more: right (64,45±7,91 cm and 56,86±9,04 cm correspondingly) and left (64,31±7,96 cm and 56,96±9,10 cm correspondingly) step length, right (129,27±15,67 cm and 114,00±18,07 cm correspondingly) and left (129,03±15,69 cm and 114,07±17,98 cm correspondingly) stride length, step extremity ratio for both legs (0,72±0,08 and 0,64±0,09 correspondingly) ($p<0,001$ in all cases). Thus, at walking with closed eyes the subjects overcame the mat distance with more long steps (by 11,5 %). At walking with closed eyes there was an increase of spatial asymmetry index (by 31,6 %) ($p<0,001$). The support base width remained constant only at walking with closed eyes and at walking with additional motor task. Temporal parameters of walking with closed eyes statistically significantly less comparatively with walking with additional motor task: step time (0,52±0,05 s and 0,61±0,11 s correspondingly), cycle time (1,05±0,09 s and 1,21±0,21 s correspondingly), swing time (0,42±0,04 s and 0,47±0,07 s correspondingly), stance time (0,63±0,06 s and 0,75±0,16 s

correspondingly), single support time (0,42±0,04 s and 0,47±0,07 s correspondingly) and double support time (0,21±0,4 s and 0,28±0,10 s correspondingly) ($p<0,001$ in all cases). In the step cycle structure of walking with closed eyes comparatively with walking with additional motor task parts of swing time as well as parts of single support time were statistically significantly more ($p<0,001$) and parts of stance time as well as parts of double support time were statistically significantly less ($p<0,001$).
Conclusion. It was shown that walking with closed eyes was characterized by greater intensity (by the indices of velocity and cadence), more long and rapid steps and increase of index of spatial asymmetry (by 31,6 %) than walking with additional motor task. The support base width remained constant. In the structure of the step cycle of walking with closed eyes, unlike walking with additional motor task, duration of contact of foot with a floor was diminished.
Key words: spatio-temporal parameters of walking, walking with temporal visual deprivation, walking with motor task, boys, girls.

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PECULIARITIES OF THE CLINICAL CURRENCY OF THE HERPES INFECTION IN CHILDREN WITH ACUTE LEUKEMIA

Introduction. One of the most pressing medical and social problems worldwide is the problem of the treatment of children with acute leukemia. Today accumulated extensive clinical material, which shows the progress in the treatment of acute leukemia in children [Dudnik, Furman, 2008]. Recent advances in this field associated with the use of modern chemotherapy protocol. Despite that five-year survival bespodiyne in children with ALL was 75 - 80% of myeloid 45 - 50%, much remains unsolved problems, among which the most important is the issue of preventing complications of the current correction.
The aim of our research is to study the characteristics of clinical course of herpes infections in children with acute leukemia.
Materials and Methods. For the purpose of a retrospective analysis of 39 case histories of children with acute leukemia, aged 1 to 17 years, were hospitalized in the hematology department of Vinnytsia Regional Pediatric Hospital. The children received standard chemotherapy protocol protocol ALLIC-2009. The criterion for inclusion in the study was to conduct serological examination by ELISA. In particular, determination of IgM and IgG levels to herpes simplex virus I - II type CMV and Epstein-Barr virus, using techniques N.Buisson et al [1999]. All children analyzed clinical data (febrile fever, low-grade fever rises, the presence of infectious lesions, peripheral blood (lymphocyte level), these biochemical studies (AST and ALT activity). The study included children in whom fever occurred in response to administration of drugs.

Results. The clinical picture of herpes infections occurred in children with acute leukemia, febrile fever prevailed (69,2 ± 4,6%), stomatitis manifestations (58,9 ± 4,9%) and bronchitis (30,8 ± 4.6%). In 2 children (5,1 ± 2,1%) observed effects of encephalitis. Testing for 3 types of antibodies to Epstein-Barr virus (EBV), showed that 2 children it was primary in 5 children EBV reactivation was observed in 23 children has been transferred. The peculiarity of the clinical manifestations of primary EBV infection was febrile fever (70,4 ± 4,5%), bronchitis (40,4 ± 4,8%), pneumonia (20,8 ± 4,0%).

Of the 27 children tested for antibodies to cytomegalovirus (CMV) infection in 16 (59,2 ± 4,9%) transferred diagnosed CMV infection in 6 (22,1 ± 4,1%) children - reactivation of infection, which clinically manifested by febrile fever, encephalitis, pneumonia. In 17 children with acute leukemia, antibodies to herpes simplex virus (HSV). In 8 (47,3 ± 4,9%) cases diagnosed primary infection in 2 (11,9 ± 3,1%) - reactivation of infection, and in 7 (41,1 ± 4,8%) children infection was moved.

Conclusions. 1. A retrospective analysis of case histories of children with acute leukemia suggests that infectious complications during the treatment protocol in 16.2% of cases had a viral etiology.

2. Definition of gender and age characteristics of HSV infection in children with acute leukemia showed that most girls suffer (56,5 ± 5,0%) aged 1 to 7 years (40,9 ± 4,9%).

3. traced seasonal pattern of HSV infection in children with acute leukemia, with its predominance in the spring (33,3 ± 4,7%).

4. The study type HSV infection in children with acute leukemia, the group of children (33,3 ± 4,7%), which significantly exceeds and is mixed infections (Epstein - Barr virus, CMV).

5. The clinical picture of herpes infection in children with acute leukemia occurred febrile fever (49,2 ± 4,8%), stomatitis manifestations (58,9 ± 4,7%) and bronchopulmonary lesions (30,8 ± 4, 5%).

Key words: acute leukemia, children, herpes virus infection.

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FEATURES OF THE AMPLITUDE RHEOVASOGRAM PARAMETERS OF THE SHINS IN HEALTHY ALL AGES GIRLS AND DIFFERENT SOMATOTYPE

Introduction. Analysis of the literature showed that peripheral hemodynamics in healthy populations are quite different [Vanyushin et al., 2003; Sydorchuk, Cook, 2010; Turtle, 2012], due to the lack of correct distribution of subjects by ethnic group, age, gender, constitutional peculiarities, and in almost all cases, surface sampling healthy individuals. E Several studies have shown that healthy people have different hemodynamic types are a reflection of constitutional heterogeneity and

different somatotype are not only characteristic structure of the body, but also features individual cardiac output and hemodynamic [Bobrowski, 2008; Sarafynyuk, 2010; Snieder et al., 2003].
Most scientists consider a revision of regulations hemodynamic considering not only its population, age and gender specific but constitutional characteristics of the [Kiritchenko 2005; Sokolov, Grechkyne, 2005; Hops, 2011].
The aim of our study was to evaluate peak performance features reovazohramy leg in healthy girls skirts of different ages and different somatotype.
Materials and methods. The amplitude values of the shins rheovasogram of 167 girls aged 16-20 years old of Podolya region of Ukraine according to the somatotype were studied.
Anthropometric survey of young people held under the scheme V.V.Bunaka [1941]. To evaluate the somatotype we used a mathematical scheme J.Carter i B.Heath [1990].
Results. It was shown that the age differences of the rheovasogram are registered for systolic and diastolic amplitude waves, which were significantly higher in the 17-year-olds than in 18 and 19 year old girls. The significant differences in terms of amplitude were also found, depending on the somatotype: girls-mesomorphe systolic wave amplitude and rapid blood supply of the legs authentically lower than in females with endomorfe somatotype.
Conclusions. 1. Among the peak amplitude parameters reovazohramy leg systolic and diastolic waves significantly higher in the 17-year-olds than 18-and 19-year-old girls.
2. The girls mesomorph systolic wave amplitude and fast leg blood supply less likely than females with endomorfnym somatotype.
Key words: rheovasogram of the shins, amplitude parameters, girls, somatotype.

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THE EFFICACY OF LIQUID-BASED CYTOLOGY IN DIAGNOSIS OF INFLAMMATORY DISEASES OF UTERUS CERVIX

Introduction. In the diagnosis of cervical disease (CMM) used different methods, among which the most accessible to clinical practice is a visual method, colposcopy, molecular biological research , cytology cervical epithelium and histological study aiming spoil biopsy of the cervix. Along with this, remain relevant and implementation of new technologies early diagnosis of tumors of this localization.
Optimum cytological screening program and today remains a subject of debate. The literature suggests that liquid-based cytology technique reduces the number of false positives compared to the Pap test, increase the percentage of diagnosed cervical cancer and, despite some financial cost, suitable to study of women at-risk groups.

The purpose of the study - to assess the traditional method of cytology and liquid-based cytology in the diagnosis of cervical disease.

Material and methods. A comprehensive study of 100 women of reproductive age with diseases of the cervix. The survey consisted of general clinical use, gynecological examinations, colposcopy, and laboratory methods (direct microscopic, bacteriological, cytology). Diagnosis of viral infection was carried out by polymerase chain reaction (PCR).

Evaluation was performed with the cervical smears using conventional cytology and method using fluid cytology. Cellular material for liquid-based cytology was obtained from the transition zone endocervical brush was transferred to an accumulation medium (system CITOSCREEN) and sent to the laboratory. Through a series of procedures (separating cell material from the brush, the cell density determining the slurry further cultivation in accordance with the group of density centrifugation and automated application of the cell suspension on glass) gave preparations in which a monolayer of cells located uniform. Study drugs in transmitted light microscopy was performed on a research "Olumpus BX -15" (Japan).

Based on bacteriological and virological surveys, patients were divided into 2 groups: I group consisted of 60 women with inflammatory diseases of the cervix caused by bacterial agents, II group consisted of 40 women with inflammatory diseases of the cervix caused by bacterial and viral agents (HPV - infection) . The average age of the surveyed was 29,5±2,63 years.

To evaluate the clinical and laboratory studies used methods of variation statistics.

Results. Abnormal colposcopic signs were diagnosed in 40.0 % of patients in group I and 72.5% of patients in Group II: vinegar - white epithelium (13,3% - I group, 32,5% - II group), mosaic (16.7% - I group, 27,5% - II group), punctuation (10,0% - I group, 42,5% - II group), iodine - negative epithelium (10,0% - I group , 22.5 % - group II) and a combination of these symptoms. In other cases ekzotserviks accessible imaging colposcopic various phenomena observed (inflammation, warts, keratosis), which were both alone and in combination with other abnormal signs.

When identifying HPV DNA viruses of high risk HPV (16, 18, 45, 56) identified in 57.5 % of cases, HPV low risk HPV (6, 11 , 40, 42 , 43, 44) - 42.5% of the surveyed. Combining different types of HPV was observed 32.5% of women in Group II.

In 80.0% of cases in smears of patients in group I met two - and multinucleated cells and cells of the uneven distribution of chromatin in the nucleus of cells, parabasal layers pyknosis nuclei mentioned violation maturation of stratified squamous epithelium. Identified changes testified vosspalitelnoy reparative atypia (psevdodiskarioz), unlike the present dyskaryosis and atypia.

In such cases, there were difficulties in the interpretation of the cytologic picture for the differential diagnosis between changes reparative or inflammatory nature and cervical intraepithelial neoplasia weak degree (CIN I), which corresponds to mild cervical dysplasia.

Wet Fixation smears strengthened clarity structural features of the cytoplasm and nuclei of cells and eliminated artifacts on drying in air, which greatly facilitates the diagnosis of epithelial lesions of the cervix. Were obtained thin representative preparations lack inflammatory cells infiltration, mucus bacterial flora.

Women Group II marked cytological signs of HPV - infection (koylotsitarnaya atypia, binuclear cells amfofiliya cytoplasm, multinucleated cells), as well as non-specific signs of HPV (enlargement of the squamous cells, uneven coloring of the cytoplasm, a small area of enlightenment in cells with enlarged nuclei, parakeratosis and dyskeratosis) (Fig. 4, 5).

Based on this study, we evaluated the number and nature of coincidences and inconsistencies of the two cytological techniques. Full match results of cytologic findings were observed in 67.0% of cases.

Conclusions. The method improves the quality of liquid-based cytology study of cervical epithelium by obtaining full material standardization method for preparing high-quality products that can significantly improve the quality of diagnosis. In this regard, the use of liquid-based cytology requires active introduction into practice.

Simultaneous holding of cytology and HPV genotyping increases the efficiency of cervical screening and has a leading role in the further individualized tactics patients.

Key words: inflammatory diseases of uterus cervix, diagnosis, cytological examination, liquid-based cytology.

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SERUM ENDOTOXIN AND MARKERS OF INFLAMMATION IN PATIENTS WITH LIVER CIRRHOSIS: RELATIONSHIP WITH THE SEVERITY OF HEPATIC ENCEPHALOPATHY

Introduction. Hepatic encephalopathy (PE) is a serious complication of liver cirrhosis (LC) occurs in 30-45% of patients and reduces survival of the first year to 42% [Poordad, 2007]. Traditionally pathogenesis of PE is associated with hyperammonemia resulting from a violation of catabolism and ammonia portosystemnoho shunting of blood and causes direct neurotoxic effects on astrocytes and neurons alters the permeability of the blood-brain barrier, gives energy metabolism and glutamatergic neurotransmission [Ciećko-Michalska et al., 2012]. But we know that many patients with manifest encephalopathy ammonia level in the blood is normal or slightly elevated [Arora et al., 2006].

aim of study was to investigate the role of endotoxin and inflammatory mediators tumor necrosis factor-alpha, interleukin-6 and C-reactive protein in the formation of hepatic encephalopathy in patients with cirrhosis.

Materials and Methods. 151 patients were examined at the Central Bank, 94 men and 57 women (age 50,9 ± 1,01 years). To study did not include patients younger than 25 and older than 70 years, patients with infectious complications securities hepatorenalnym syndrome, urinary tract infection, concomitant clinically significant neurologic, cardiovascular, pulmonary disorders, decompensated diabetes. Viral etiology CPU was confirmed in 71 patients, alcohol - in 51 patients, viral and alcohol - in 29 patients. Hepatic encephalopathy was diagnosed in 59 patients. It was found

that serum endotoxin, C-reactive protein, TNF-alpha and IL-6 in patients with liver cirrhosis correlate with disease severity by Child-Turcotte-Pugh scale (r=0,45, 0,31, 0,36, 0,29, respectively, p<0,05).

Results. Serum endotoxin, C-reactive protein and TNF-alpha in patients with alcoholic cirrhosis is significantly higher than those in patients with viral cirrhosis (31, 23, 61%, respectively). The highest levels of endotoxin and inflammatory mediators registered in patients with severe encephalopathy with somnolence or coma. The degree of hepatic encephalopathy correlates with endotoxin, C-reactive protein, TNF-alpha and IL-6 in serum (r=0,59, 0,40, 0,41, 0,30, respectively, p<0,05).

Progression of liver cirrhosis is associated with the development of excessive intestinal permeability and activation of systemic inflammation. We have shown that serum levels of endotoxin increases significantly with increasing severity and scale correlated with Child-Turcotte-Pugh. It is known that in healthy individuals with intestinal blood flow in the portal penetrate the minimum number of lipopolysaccharide of Gram-negative bacteria, which completely eliminates liver macrophages. When the CPU due to the increase of venous pressure in the mesenteric vascular blood supply is disrupted intestinal mucosa and intestinal barrier integrity, leading to excessive penetration into the bloodstream of microorganisms and their toxins [Aller et al., 2007]. Another reason endotoksynemiyi cirrhosis is probably decrease hepatic clearance of lipopolysaccharide [Benten et al., 2011].

Our data suggest that in patients with decompensated cirrhosis without concomitant inflammatory or infectious diseases significantly increases the level of non-specific inflammatory markers CRP and proinflammatory cytokines TNF-alpha and IL-6. It is especially high levels of these mediators are registered in patients with decompensated disease. It is possible that one reason for the activation of systemic inflammatory response cirrhosis is endotoksynemiya. We have shown that endotoxin content significantly correlated with levels of TNF-alpha, CRP and IL-6. There have been experimentally shown that microbial lipopolysaccharides are potent activators synthesis of proinflammatory cytokines, including TNF-alpha, IL-6 and IL-8 [Yang, Li, 2006].

Our data indicate that growth endotoksynemiyi and systemic inflammation in patients with securities associated with the development of neurological and psychometric violations inherent in PE. This highest level of circulating lipopolysaccharide detected in patients with severe encephalopathy and coma symptoms somnolentsiyi or more than twice the following persons were preserved in neuro-mental functions. In addition, the content of endotoxin in serum showed greater in magnitude correlation with the severity of PE than the traditional indicators of the functional state of the liver as albumin and bilirubin levels.

Conclusions. 1. Progression of cirrhosis is associated with the development of excessive intestinal permeability and activation of systemic inflammation. The content of endotoxin, CRP, TNF-alpha and IL-6 in serum of patients correlated with cirrhosis point scale for the Child-Turcotte-Pugh (r = 0,45, 0,31, 0,36, 0,29, respectively p <0.05).

2. In the comparable disease severity levels of endotoxin, CRP and TNF-alpha in patients with alcoholic cirrhosis is probably higher than those in patients with viral cirrhosis (31, 23 and 61%, respectively).
3. The most expressive endotoksynemiya activation and systemic inflammation logged in patients with severe encephalopathy and somnolentsiyi events or places. The degree of hepatic encephalopathy correlated with levels of endotoxin, CRP, TNF-alpha and IL-6 in serum (r = 0,59, 0,40, 0,41, 0,30, respectively, p <0.05)
Key words: liver cirrhosis, hepatic encephalopathy, endotoxin, C-reactive protein, TNF-alpha.

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MANIFESTATION OF SEXUAL DIMORPHISM RELATION BETWEEN CARDIOINTERVALOGRAPHY AND ANTHROPO-SOMATOTYPOLOGICAL PARAMETERS OF YOUNG PEOPLE FROM PODILLYA OF MESOMORPHIC SOMATOTYPE

Introduction. Analysis of scientific literature showed that cardiointervalography (KIH) is highly informative, non-invasive, relatively simple and affordable method for assessing the mechanisms regulating the cardiovascular system and thus actively used to assess autonomic disorders in healthy subjects and in various pathological conditions [Furman et al., 2008; Abdullaev et al., 2011; Laba, 2011; Sycheva et al., 2011].
Despite the fact that the efficiency of the method has been proven KIH numerous physiological studies of healthy people and in clinical studies of patients with various diseases, it should be noted that most of these studies was performed excluding constitutional characteristics of the organism. However, it is proved that somatotype, which reflects the features of the constitution has sufficiently high genetic conditioning [Horst, Golubev, 2004; Wolanska, 2005].
The aim of our study was to establish the manifestations of sexual dimorphism relationships between indicators and cardiointervalography anthropo-somatotypological parameters for boys and girls skirts mesomorphic somatotype.
Materials and Methods. On the basis of the research center of Vinnitsa National Pirogov Medical University within-university research theme "Development of normative criteria care of different age and sex groups (young age, cardiovascular system)" conducted a comprehensive survey of city 16-20 year old girls and 17-21 year old boys. For the selection of healthy populations of adolescents previously held an initial survey in which 602 were selected boys and 537 girls. All of them belonged to the urban residents Ukrainian ethnic group, in the third generation residing in skirts.
Results. The practically healthy boys and girls from Podolsk region of Ukraine of mesomorphic somatotype were evaluated correlations indicators

cardiointervalography and anthropo-somatotypological parameters of the body. The expressed manifestations of sexual dimorphism of statistically significant relationships both by number and strength, and direction were found out.

Conclusions. 1. In the analysis of correlations between parameters cardiointervalography and anthropo-parameters somatotypological body healthy boys and girls Podolsky Ukraine region mesomorphic somatotype set pronounced manifestations of sexual dimorphism statistically significant relationships both in number and strength, and in some cases direction.

2. Almost all statistically significant relations indicators KIH of constitutional parameters for boys and girls of mesomorphic somatotype are solitary in nature and recorded half the variation in the group performance and group pulsometry spectral indices KIH. In boys the largest number of statistically significant relationships were established for the indicator minimum RR interval. Among anthropo-somatotypological parameters girls most often correlated indicators TSHZHS, and boys -obhvatni size, mainly the lower extremities and chest.

Key words: sexual dimorphism, cardiointervalography, healthy young men and women, mesomorphic somatotype, anthropometry.

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CLINICAL EFFICIENCY OF HELICOBACTER PYLORY INFECTION ERADICATION IN TREATMENT OF PATIENTS WITH CHRONIC CENTRAL SEROUS CHORIORETINOPATHY

Introduction. Central serous chorioretinopathy causes recurrences in 20-50 % cases and becomes prolonged in 5-10 % cases that often leads to visual acuity loss. The frequency of Helicobacter Pylori infection among patients with central serous chorioretinopathy is 39.7 - 86.2 % and exceeds general in population.

Purpose of the work was to determine the clinical efficiency of Helicobacter Pylori infection eradication in treatment of patients with chronic form of central serous chorioretinopathy.

Materials and methods. 15 patients with primary chronic form and 36 patients with secondary chronic form of central serous chorioretinopathy participated in this study. Patients were divided into the main group (who were treated with omeprazol 40 mg, claritromycin 1000 mg, amoxicillin 2000 mg in a day during 7-10 days) and control group (who were not treated).

Results. In case of primary chronic form of the central serous chorioretinopathy using of Helicobacter Pylori infection eradication in treatment of Hb-positive patients led to increasing of positive dynamics with complete resorbtion of the subretinal fluid in 89 % patients and improvement of distant prognosis after 2 years: visual acuity increasing in 1.2 times, decreasing of scotoma frequency in 1.8 times and scotoma size in 3.9 times, decreasing of metamorphopsia frequency in 2.3 times and color

pathology in 2.3 times; statistically significant positive dynamic with complete resorbtion of subretinal fluid was marked after 6 months in 89 % patients. Using of Helicobacter Pylori infection eradication in treatment of Hb-positive patients in case of secondary chronic form of the central serous chorioretinopathy led to decreasing of recurrences frequency on 75 % and improvement of distant prognosis after 2 years: visual acuity increasing in 1.3 times, decreasing of scotoma frequency in 1.6 times and scotoma size in 1.9 times, decreasing of metamorphopsia frequency in 1.4 times and color pathology in 1.3 times; statistically significant positive dynamic with complete resorbtion of subretinal fluid was marked after 6 months in all patients.
Conclusions. Helicobacter Pylori infection eradication is effective in treatment of patients with chronic form of the central serous chorioretinopathy.
Key words: central serous chorioretinopathy, chronic form, Helicobacter Pylori.

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DYNAMICS OF THE CYTOKINE PROFILE AND THE VALUE OF ITS MARKERS THE EVALUATION OF EARLY AND REMOTE RESULTS OF SURGICAL TREATMENT PATIENTS WITH COMPLICATED NONNEOPLASTIC OBSTRUCTIVE JAUNDICE

Introduction. The main reason of the high indices of the general and postoperative lethality of the patients with nonneoplastic obstructive jaundice (NNOJ) is the development and the progress of the clinic and laboratory manifestation of the liver disfunction in the form of its failure. The *goal* of the research is to estimate the indices of the cytokine profile of the patients with the nonneoplastic obstructive jaundice complicated with the different degree of the acute liver failure from the position to reach the optimal early and remote results of the surgical treatment at the selection of the adequate algorithms of the treatment policy and preoperative medicamental support.
Materials and methods. The period 2005-2012 yy. on the clinical bases of the surgical department #2 VNMU named after M.I. Pirogov 510 patients with NNOJ at the age 61.7±0.61 years old were operated. 84% (428 people) patients were diagnosed the accompanied pathology. The control group included 260 people, the main one – 250 people. The degree of the acute liver failure (ALF) was determined by V.A. Vyshnevskyi (2003), the specification of the easy degree ALF – by the modified criterions of V.P. Zinevich (1986). The systemic inflammation was estimated by the agreed criterions (Chicago, USA, 1991), cytokine profile – fibrinogen by Rutberg (Fn), unnatural phosphor (uPh) by the reaction with phosphor molybdenic reactive, C-reactive protein (CRP), cytokines – inflammatory (the factor of tumor necrosis (FTNα) IL-1, IL-2, IL-6, IL-8) and anti-inflammatory (IL-4, IL-10) by the hardphase immune-enzyme analysis with the set IMMUNOTECH, Diaclone (France),

Biosourse (Belgium), Cytimmune (the USA). Estimating the remote results of the surgical correction the jaundice was examined by the way of the immune-enzyme determination IL-1 (the marker of microbus translocation). The results of the research were analyzed by the dispersion, multiple-factor correlative regressive analysis and prediction with the forming the primary base on MS Access 2007, standard macros of electronic tables MS Excel 2007, specialized packages of statistical analysis Statistica 5.0.

Results. On the background of the laboratory indices of the systematical inflammation and formed by them cytokine profile there was established that with the growth bilirubinemia as far as the progress of the liver disfunction with the realization of the degree of the gravity of ALF the patients with NNOJ were observed the progressive growth of proteins of the acute phase of the inflammatory (CRP, Fn), inflammatory (FTN, IL-1, IL-8, IL-6 and IL-2 except critical NNOJ) and anti-inflammatory cytokines (IL-4, IL-10) near with reducing mediators of the acute phase of inflammatory (uPh) and IL-2 at the critical NNOJ. To determine the prognostic criterions of the development and the progress of the liver disfunction the analysis of the cytokine profile with their building into the correlative couples with the general bilirubin to determine the strength of their connection was conducted, the couples were uPh ($r= -0,955$, $p<0,001$), in the couple with CRP ($r=0,299$, $p<0,05$), in the couple with FTN ($r=0,877$, $p<0,001$), in the couple with **IL – 1** ($r=0,999$, $p<0,001$), in the couple with IL – 8 ($r=0,913$, $p<0,001$), in the couple with **IL – 6** ($r=0,994$, $p<0,001$), in the couple with IL – 2 ($r=0,464$, $p<0,001$), in the couple with IL – 4 ($r=0,905$, $p<0,001$), in the couple with **IL – 10** ($r=0,997$, $p<0,001$).

Conclusions. The dynamics of the indices of the cytokine profile of the patients with NNOJ is determined by the stage of the liver disfunction, the corresponded degree of their conditioned acute liver failure and the term to eliminate biliary hypertension. The cytokine profile of the patients with NNOJ from the position of the immune distress syndrome reflects the typical stage of immune deficit which characterizes with the increased risk of the microbus biliary translocation (IL-1), progressive immunosuppression, conditioned with the growth the concentration IL-6 and the development of the postoperative complications including the septic character (uPh) (acute purulent cholangitis, biliary sepsis), organ and poliorgan disfunction (FTN), in the first turn, ALF. The complex of the preoperative conservative therapy should include the obligatory correction of immunodeficient changes of the cytokine profile to reduce the risk of appearance of the postoperative complications that will create the background for the complex improvement of the early results of the surgical treatment of the patients with NNOJ. The estimation of the remote results of the surgical correction from the position of the risk of microbus biliary translocation stratifies the degree of the postoperative safety and the degree of the acceptation of the remote results the surgical methods were used that grounds the selection of the optimal programmer of the surgical treatment and the technology of its realization, reducing the risks of the development of the remote complications (chronic cholangitis) and improving the complex results of the surgical treatment. The further research will include the study and estimation of the depend and conditioned by the influence the markers of the cytokine profile of the changes of the indices of immune

reactivity which in the complex form favorable premorbid background for the appearance of the complicated NNOJ, the ambush of appearance and progressive manifestation of biliary sepsis, purulent septic and organ complications, determining the early results of the surgical treatment.

Key words: noncancer obstructive jaundice, profile of cytokines, immunity distress syndrome, results of surgical treatment.

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Vinnitsya national medical university by M.I. Pirogov, chair-department of pediatric dentistry

THE ESTIMATION OF ORAL HYGIENIC HEALTH OF SCHOOL CHILDREN IN VINNITSYA

Introduction. The researcher's observations indicate that dental caries and periodontal diseases are more common in children without good oral hygiene. At the same time, recent data of the literature provide a basis to say: dental care has not become formed habits for most children.

The purpose of our study was to determine the oral hygiene in children 6-12 years of Vinnitsa, depending on age and sex for the monitoring of oral hygiene during sanitary oral health education work and supervision and training of tooth brushing in this age group of children.

Material and methods. We have carried out a dental examination and evaluation of the oral hygiene of dental teeth during complete formation of permanent occlusion in 250 children aged 6 to 12 years of the winery at the department of pediatric dentistry of Vinnitsya national medical university by M.I. Pirogov. Oral hygiene was determined using hygiene indexes of Y.A.Fedorov, V.V.Volodkinoy, Silness-Loe and Green-Vermillion. The results are statistically processed using the Student's t test.

Results. Estimation of oral hygiene by index Fedorova has been showed that in 46,12±1,38% of children was good oral hygiene. Satisfactory and unsatisfactory state of oral health were found in 22,91±1,15% and 13,30±0,94% of persons. Accordingly, bad and wrost hygienic conditions of the oral cavity were 12,22±0,88% and 8,65±0,77% of examaning children. As seen from the data more than half part of the children who were examined, have brushed teeth well and satisfactorily, a large proportion of the children do not have sufficient practical habits in oral care.

Analysis of the results showed that among the patients, the index of Fedorova-Volodkinoy was 1,97±0,08 scores, corresponding to a satisfactory level of oral hygiene. Considering the dynamics of change of the index in age periods, it showed the tendency to its increase from 6 to 9 years from 2,26±0,09 scores to 2,38±0,08 scores ($p > 0.05$) and till 12 years old - a significant decrease to 1,82±0,08 scores ($p < 0,01$). This dynamics is inherent in both boys ($p < 0,01$) and girls ($p < 0,01$).

The median results of index Silness- Loe in the examined group of children 9-12 years old were 0,67±0,06. In this case, in the boys from ages 9 to 12 years theses

readings significantly increases from 0,43±0,07 to 0,72±0,10 ($p<0,01$) and in girls was significantly decreased from 0,59±0,07 to 0,46±0,08 ($p<0,05$).
In all children from age significantly ($p<0,01$) reduced Green-Vermillion index from 1,28±0,09 in the 7 -year-old boys and girls to 0,63±0,06 scores in the 12 -year-olds. However, this dynamics is more characteristic for girls ($p <0,01$), than for boys ($p>0,05$).
During examination, we have determined the dependence between individual indices of oral hygiene in children aged 6-12 years , depending on gender.
Conclusion. Analysis of the received data suggests that all children is a simultaneous decrease of all oral hygienic indices. However, in the boys with decrease of the index Fedorova has been received the increase of readings Silness - Loe index, indicating a bad brushing of individual surfaces of the teeth.
The obtained results of children in this age group should be used to monitoring the level of oral hygiene in the implementation of the program of prevention of stomatological diseases in schools, and in particular algorithms for professional brushing of plaque from all dental surfaces, especially at the stage of root formation and improvement of sanitary knowledge and habits are only for children but also for their parents.
Key words: oral hygiene, children.

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Vinnitsya

CORRELATIONS OF COMPUTED TOMOGRAPHY PARAMETERS OF LIQUOR CONTAINING BRAIN STRUCTURES WITH ANTHROPOMETRIC AND SOMATOTYPOLOGICAL INDICES IN PRACTICALLY HEALTHY JUVENILE GIRLS-MESOCEPHALS

Introduction. Today is widely introduced into clinical practice new technologies that allow to study the structure of the brain in a living person. This creates a need to review the morphometric parameters of the brain, especially since the present time in most guides and reviews are mixed and heterogeneous data on weight, size of establishment and main structures [Baev et al., 2000; Choline, 2005].
Some scientists believe that the scope of the rules depends not only and not so much on the age and sex of the subject, but on his constitutional features [Nykytyuk, Kornetov, 1998].
The aim of our study was to investigate the correlations computed tomographic (CT) scan parameters likvoroutrymuyuchyh brain structures with anthropometric, somatotypological indicators and indicators of component composition of body weight in girls mezotsefaliv.
Materials and Methods. 86 practically healthy girls (ages 16 to 20 years) was conducted anthropometric examination and a CT scan of the head within the routine

prophylactic examinations under voluntary written consent of their parents or investigated.

Computed tomography of the head performed using spiral CT "SeleCT SP" firm "Elscint" (Israel) in the horizontal position the patient on his back, head forward, on a special stand for the head according to the standard protocol study of the brain and skull [Ternovoy , 2008]. In the study of brain structures used layered nature of the scan, which allowed to reduce the volume artifacts and improve spatial image.

Results. In healthy girls mezotsefaliv IV ventricle width GM at T2 has the following relationships with anthropometric indices and somatotypological: statistically significant direct medium strength (r = 0,37 and r = 0,38) with a maximum length and width of the head; direct unreliable medium strength (r = 0,31) with height pubic anthropometric point; unreliable medium strength back (r = -0,38) circumference of the forearm in the lower third.

The index of the fourth ventricle GM at T2 in healthy girls mezotsefaliv has the following relationships with anthropometric indices and somatotypological: statistically significant direct medium strength (r = 0,35) with height pubic anthropometric point; statistically significant inverse of mean force (r = -0,34 both) with the smallest width of the head and muscle weight determined by formulas AIH; return false medium strength (r = -0,31 and r = -0,33) obhvatnymy size of the shoulder in the state of stress and in the lower third of the forearm.

The healthy juvenile girls-mesocephals are found out only a few medium strength, mostly unreliable, direct and reverse correlations between the majority computed tomography indices of liquor containing brain structures (except the distance between central part of the lateral ventricles to the inner surface of the skull and and index of the central part of the left lateral ventricle) and anthropo-somatotypological indices.

Conclusion. 1. In healthy girls mezotsefaliv between most computerized tomography parameters likvoroutrymuyuchyh structures GM (except the distance from the center of the lateral ventricles to the inner surface of the skull and the index of the central part of the left lateral ventricle) and anthropo-somatotypological indicators established only a few medium strength, mostly false, forward and backward linkages.

2. In healthy girls mezotsefaliv set multiple direct medium strength, mostly statistically significant (r from 0.35 to 0.48), the correlation index of the central part of the left lateral ventricle with all GM total size diameters majority of the body, half body size and obhvatnyh indicators width of distal epiphysis of long bones of the extremities, mesomorphic somatotype component and all indicators component composition weight.

3. In healthy girls mezotsefaliv set multiple statistically significant average power and average power inaccurate, mostly straight (r from 0.34 to 0.58), the correlation distance from the center of the lateral ventricles to the inner surface of the skull with most anthropometric indices and virtually all performance component composition and body weight endomorfnym somatotype component.

Key words: computed tomography investigation, liquor structures of the brain, correlations, craniotype, mesocephaly, juvenile age.

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VASCULAR DYSFUNCTION IN PATIENTS WITH UNDIFFERENTIATED CONNECTIVE TISSUE DYSPLASIA: PREDICTORS OF REHABILITATION POTENTIAL

Introduction. Leading pathology in patients with undifferentiated connective tissue dysplasia (UCTD), which determines the life quality and prognosis is cardiovascular disorders. Among visceral cardiac markers of UCTD, which attracts attention of many researchers is prolapse of mitral and tricuspid valves and small aneurysm of lower part of interatrial septum membrane, abnormally chord etc. Mitral valve prolapse is considered as a risk factor for sudden death not only arrhythmic nature but also cerebral genesis, in particular as a result of cerebral circulation disorder. However, the collagen degradation, which is specific for UCTD syndrome affects structure changes of the vascular wall. This fact is favorable for development of configuration vascular abnormalities that are independent predictor of vascular accidents risk. Such diversity of UCTD symptoms requires separation of prognostic factors that can effect the recovery process in case of vascular accidents.

Aim of study: To determine predictors of rehabilitation potential in patients with vascular dysfunction based on undifferentiated connective tissue dysplasia (UCTD).

Study methods. There was made clinical and instrumental examination of 150 male patients with verified diagnosis of UCTD (average age of 26,4±0,6 years). We analyzed the phenotype and visceral stigma of UCTD under the original protocol and biochemical markers of UCTD (indexes of magnesium, aldosterone, serum cortisol, and its amino acid consist). Statistical analysis of the results was performed by using the application package of "SPSS- 10,0" and "Statistica- 6,0".

Results. 30 patients (20 %) with NDST had complex of symptoms, associated with vascular dysfunction: syncope, migraine, vertigo, and change in color of extremities skin. There were recorded axial reflexes, anizorefleksiya, dissociation between reflexes in the upper and lower extremities, and slight disorders of coordination in the neurological status of these patients. Echoencephalography results found diffuse changes in stem level (53.3% of patients), abnormal activity in the way of "peaks" and acute-angle waves (20%) and primary epileptic activity (22.7%). These changes were associated with changes in vascular configurations, the most common of which are S- shaped and loop-shaped and anfractuosity of internal carotid artery. The high degree of correlation was found between vascular dysfunction, myxomatous degeneration of the mitral valve ($r=+ 0,76$, $p<0,05$). Direct correlations of average degree were found between vascular dysfunction and serum aldosterone index ($r=+0,55$, $p<0,05$), paroxysmal supraventricular tachycardia ($r=+ 0,43$, $p<0,05$), atrial fibrillation ($r=+0,49$, $p<0,05$). Inverse correlation of average degree were detected between vascular dysfunction and serum magnesium index ($r=- 0,55$, $p<0,05$), serum cortisol ($r=-0,42$, $p<0,05$), glycine amino acid ($r=- 0,62$, $p<0,05$).

Conclusions. Rehabilitation potential predictors in patients with vascular dysfunction based on UCTD are myxomatous degeneration of mitral valve, cardiac arrhythmias as atrial fibrillation and paroxysmal supraventricular tachycardia, magnesium index, aldosterone, serum cortisol, glycine amino acid.
Key words: undifferentiated dysplasia of connective tissue, predictors of rehabilitation potential.

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STRUCTURAL FEATURES AND SYNTOPY OF HYPOPHARYNX IN MALE BEFORE AND AFTER LARYNGECTOMY

Introduction. Cancer of the larynx is the most common ENT cancer in Ukraine [Kovtunenko, 2011]. According to the National Cancer Registry in Ukraine Ukraine in 2012, the number of patients with laryngeal cancer among men is 68.6 cases per 100 thousand. Population, thus there is increase the incidence of this disease, as evidenced by the statistics of recent years [Bull. nat. Cancer Registry Ukraine №14, 2013]. The structure of combined and complex treatment of laryngeal cancer are among the leaders surgery because it is the most effective and radical method that provides the best results of survival [Kovtunenko, 2011].
Objective: to find out the anatomical changes of the hypopharynx, which arise after laryngectomy.
Material and methods. We observed 38 male patients with laryngeal cancer stage III - IV (T3-4N0 - 3M0) and II clinical groups that were examined, treated and supervised in the department of head fnd neck oncology Vinnytsia Regional Clinical Oncology Hospital. The age of patients ranged from 41 to 67 years, the mean age was 56,2±0,4 years. Before and after laryngectomy patients underwent multisective computer tomography by computer tomograph TOSHIBA ASTETION SUPER 4 with oral contrast as optimal for the diagnosis and determinetion of the changes of hypopharynx.
Results. The survey was carried out 1-2 days before surgery and at postoperative period on 18 and 90 days after surgery. 5 seconds before scanning the patient drank 100 ml of the mixture (20 ml of a watersoluble contrast and 80 ml of egg white for better adhesion of the contrast to the pharynx walls. The boundaries of the hypopharynx are limited by anatomical divisions of larynx: the upper boundary runs along the free edge of the epiglottis, aryepiglottic folds, and the upper edges of the arytenoid cartilage, the lower - on the horizontal plane passing along the lower edge of the cricoid cartilage of the larynx. Morphometric parameters of contrasted hypopharynx and cervical part of esophagus were received by a computer program Vitrea 2,0. In the study of morphometric parameters of the hypopharynx in patients with laryngeal cancer from studies of them 1-2 days before surgery, we found that the most frontal size of the laryngeal part of the pharynx at the lower edge of the tongue

and aryepiglottic folds (that is the appointed upper bound of laryngeal part of the hypopharynx) ranged from 28 to 37 mm and averaged 34,5±3.2 mm. In the same patients, we investigated the largest size of hypopharynx in the frontal plane at the lower edge of the cricoid cartilage corresponding the l appointed lower boundary of the hypopharynx, which ranged from 8 to 14 mm. At 18 day after laryngectomy in patients with uncomplicated postoperative period and primary healing of surgical wounds the frontal size at the upper level of hypopharynx ranged from 16 to 28 mm, and then 1,6 times less than before surgery ($p<0,05$) and at the level of the lower bound of the hypopharynx the frontal size ranged from 9 to 14 mm, which was not significantly different from the values obtained before surgery. At 90 day after surgery the frontal size at the upper level of the hypopharynx ranged from 18 to 30 mm, being larger ($p<0.05$) than at 18 day after surgery, and lower ($p< 0,05$) than before the surgery. At 90 day after the operation at the level of the lower bound of the hypopharynx the frontal size ranged from 8 to 15 mm, which was not significantly different from the values obtained before the operation and ones obtained at 18 day after surgery.

Conclusions. The frontal size of the hypopharynx on the upper boundary is statistically significantly decreased at 18 day after operation compared with the size before the operation, increasing ($P<0.05$) on day 90 after surgery, but does not reach the values obtained prior to surgery in patients after laryngectomy. Frontal size of the hypopharynx at the lower boundary does not change significantly at different times after surgery, compared to induces before the operation.

Prospects for further developments are connected with the study of the hypopharynx morphometry in the application of new methods of the pharynx defect suturing after laryngectomy.

Key words: hypopharynx, computed tomography, laryngectomy, laryngeal cancer.

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STUDYING OF FIBROUS STRUCTURES OF THE WHITE LINE IN HEALTHY PEOPLE AND PATIENTS WITH UMBILICAL HERNIA

Introduction. Collagen and elastic fibers, as is well known, are the major connective tissue proteins determining its strength. Thus, their further study will allow to get new information concerning the nature of the white line hernias.

Materials and methods. The examinations were performed on the fragments of the white line aponeurosis taken at autopsy of 24 deceased without the anterior abdominal wall pathology and of 12 corpses with umbilical hernia.

The type of the white line was determined according to Lavrova T.F. The white line pieces were collected under the xiphoid appendix, at the level of l. bicostalis, navel, l.

bispinalis and over the pubic symphysis. We studied the thickness of the white line aponeurosis, number and diameter of the collagen and elastic fibers at a given area (10000μm^2).

Results. In humans the white line has 127,0±2,89 collagen fibers per 10000 μm^2. 126,67±2,82 CF per area unit were observed in the men and 127,61±48,22 (p=0,467) – in the women. The minimum number of collagen fibers in the men's (123,59±3,4) and women's (122,1±5,59) white line was observed in the navel area. The maximum number of collagen fibers in the men (130,64±4,85) and women (131,07±9,97) was in the l. bicostalis area.

The number of collagen fibers in healthy people and patients with hernia was the smallest in the navel area: 124,06±3,08 and 120,79±5,92 per 10000 μm^2 respectively.

The diameter of the white line collagen fibers ranged from 1,07 to 11,74 μm (7,99±0,36 μm). The collagen fibers in the navel area in case of the 4th type of the white line had the largest diameter (8,57±0,32 μm). The smallest diameter of collagen fibers (p<0,05) was observed under the xiphoid appendix in case of the 2nd type of the white line (7,19±0,18 μm).

In humans the white line has 27,12±2,3 elastic fibers per 10000μm^2. 26,66±2,82 elastic fibers per area unit were observed in the men and 27,77±2,05 (p=0,203) – in the women. The largest number of elastic fibers in the men was observed at the l. bicostalis level (28,91±4,69 per 10000 μm^2) and over the pubic symphysis (28,74±3,04 per 10000 μm^2). Unlike the men, the largest number of elastic fibers in the women was observed in the navel area (30,17±5,63 per 10000 μm^2).

The largest number of elastic fibers was observed in case of the 2nd type of the white line. The smallest number of elastic fibers was observed under the xiphoid appendix in case of the white line of the 1st type (20,25±1,98).

The diameter of the white line elastic fibers in the humans ranged from 0,21 to 1,92 μm. (1,01±0,06 μm). The diameter of elastic fibers in the men did not differ significantly at different examination levels. In the women the largest diameter of elastic fibers was revealed under the xiphoid appendix (1,02±0,09 μm). The women's diameter of elastic fibers at the l.bicostalis level was smaller than at the navel level (p<0,05). A similar tendency was observed in healthy people and patients with umbilical hernia. In case of the white line of the 3rd type the smallest diameter of elastic fibers was observed at the l. bicostalis level (p<0,05) and the largest was at the navel level.

Conclusions. 1. In the white line of the patients with umbilical hernia the signs of the connective tissue disorganization represented by areas of mucoid and fibrinoid degeneration were detected.

2. In the patients with umbilical hernia the number of the white line collagen fibers was smaller (p<0,05) than in healthy people, at the same time their diameter with increase of the white line width reduced in the navel area (p<0,05).

3. The number of the white line elastic fibers irregardless of its type increased in the caudal direction and their diameter at the navel level was smaller.

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Ternopil

RHEOVASOGRAPHIC MARK OF TONUS OF ARTERY OF THIGH OF THE HEALTHY URBAN BOYS AND GIRLS OF DIFFERENT SOMATOTYPES

Introduction. The purpose of our research was to set the differences of the rheovasographic indices and indices of the arterial tonus of the thigh of the healthy urban boys and girls of Podilskyi region of Ukraine and the connections of the rheovasographic indices with anthropometric and somatotypological parameters.
Materials and methods. The primary rheovasographic indices of the thigh and anthropometric and somatotypological parameters of the body of 148 practically healthy urban boys from Podillia at the age from 17 to 21 years old and 160 girls at the age from 16 to 20 years old are received at the scientific and research center (SRC) of Vinnytsia National Medical University (VNMU) named after M.I. Pyrogov.
The indices of the rheovasogramme of the thigh were determined with the help of cardiological computer diagnostic complex, which had been developed by the research workers of Vinnytsia National Technical University and SRC VNMU named after M.I. Pyrogov.
The rheographic research was spent in the room with the temperature of the air 23-24°C. After 10-15 minutes of relax the research was spent in horizontal position. The boys and girls during the research were not less than 2 hours after having a meal. The anthropometric examination was spent with the scheme of V.V. Bunak [Konovalova, 2009]; kephalometry included the determination of the head girth, sagittal of an arc, the biggest length and width of the head, the smallest width of the head, the width of the face and the lower jaw; the estimation of the somatotype was spent with the usage of mathematic scheme J.Carter i B.Helth [Haas et al., 2012]; the component structure of the body mass was estimated with the method of J.Matieka [Butova, 1999] and American Institute of nourishment (AIX) [Bunak, 1941].
Results. The based impedance of the rheovasogramme of the boy's thigh is statistically significally less at the male sex with mesomorph somatotype than at the boys with ectomorph ($p<0.01$), endo-mesomorph ($p<0.05$) and the middle intermediate ($p<0.05$) somatotypes. The based impedance of the rheovasogramme of the girl's thigh is statistically significally les at the girls with mesomorph and ecto-mesomorph somatotypes than at the girls with endomorph ($p<0.05$ and $p<0.01$ correspondingly), ectomorph ($p<0.05$ in both cases), endo-mesomorph ($p<0.05$ and $p<0.01$ correspondingly) and middle intermediate ($p<0.05$ and $p<0.01$ correspondingly) somatotypes.
The duration of the fast blood filling of the vessels is statistically significally more at girls-endomorph than at the girls with mesomorph and endo-mesomorph somatotypes ($p<0.05$ in both cases). The tonus of the atrium of the thigh of the middle and small sizes does not have reliable differences at the boys of different somatotypes ($p>0.05$ in all groups of comparison).

Conclusion. 1. The practically healthy boys and girls of Podillia general, different age and different somatotypes are set borders trust intervals and percentage of the swing of the rheovasographic indices of the thigh.
2. Expressed aged changes of the rheovasographic indices of the thigh are set at the girls and the somatypological peculiarities are observed at girls as well as the boys.
3. Expressed manifestations of the sex dimorphism of rheovasographic indices of the thigh in general, different age and different by the somatotypes in the groups are set.
On the base of rheovasogram of the thigh the differences between boys and girls of the corresponded somatotypes are established.
The indices of the thigh rheovasogram of the people with the same somatotype showed the differences between in the indices of the tonus of artery of the big size, in the indices of the tonus of all arteries of the thigh, in the diastolic index, in the time of the low blood filling, in the time of the fast blood filling and the time of the rising part of the rheovasogram of the thigh.
Key words: indices of hemodynamics of the thigh, anthropometric and somatotypologic parameters, healthy boys and girls.

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THE STUDY OF PHYSICAL HEALTH LEVEL OF GIRLS FROM TRANSCARPATHIAN LOWLAND REGIONS BY METABOLIC LEVEL OF AEROBIC ENERGY-SUPPLY

Introduction. According to the existing concepts of the physical health, its integral index is aerobic capacity of the body. That's why the somatic health of a particular person should be evaluated by physiological indices that reflect the highest possible metabolic level of aerobic processes of energy-supply. In order to assess aerobic processes of the organism energy-supply it is recommended to use such indicators as maximum oxygen consumption and anaerobic metabolism threshold (rate).
Formation of physical health is influenced by endogenous and exogenous factors. Moreover, prolonged exposure to exogenous factors can induce the change of the genetic nature of organism. Therefore, national and population differences in morphological and functional parameters encourage researchers to seek relative standards for residents of certain regions. In particular, in Ukraine there are areas with environmental features that determine the hormonal status of the inhabitants of these regions, somatometric parameters, specific somatotype components, composition of body weight, functional state. One of these regions is Transcarpathia.
Therefore, to conduct an objective analysis of the physical health of people of all ages and gender, values and physiological fluctuations in aerobic performance, depending on the body somatotype inherent to a healthy population of the Transcarpathian region, should be clearly defined.

Taking into consideration these preconditions, the **aim** of this study is to determine the aerobic capacity of girls from lowland regions of Transcarpathia according to the somatotype.

Materials and methods. The comparative analysis of level of the physical health of girls of postpubertatnom period of ontogenesis aged 16 to 20 has been conducted. The number of girls from lowland regions of Transcarpathia amounts to 118 (53.6%). The level of physical health has been assessed by aerobic performance indicators, namely the physical performance (PWC170) has been was measured as wel as maximal oxygen consumption (VO2 max) using the method of bicycle ergometry. To assess the level of aerobic performance the rating scales of Y.P.Pyarnata (1983) have been applied. The somatotype has been determined by the method of Hit-Carter.

Results. The absolute value PWC170 of girls from lowland areas amounts to 780,87±53,1 kgm · min- 1 in average, and the relative value - 13,04±0,46 kgm · min-1 · kg -1. The absolute value of the maximum oxygen consumption amounts to 2567,49±90,27 ml · min-1, and the relative - 42,9±0,58 ml · min-1 · kg -1. The level of aerobic performance by relative values of maximum oxygen consumption for girls from lowland areas by Y.P.Pyarnata corresponds to the "excellent." The average relative rate of maximum oxygen consumption of girls from lowland areas exceeds the "safe level of health" and amounts to 42,9±0,58 ml min-1 kg -1.

In determining somatotype, the largest number of women has been determined with a balanced somatotype (34.7%), the lowest – with a mesectomorphic somatotype (9.3%).

The value of the absolute rate PWC170 of representatives with endomesomorphic somatotype prevails in average by 20.0% the values ofrepresentatives of endomorphic somatotype ($p< 0.05$). The average value PWC170 abs. of representatives with endomesomorphic somatotype exceeds in 2.3 times the average value of the representatives with ectomorphic somatotype ($p<0.01$).

The study of physical performance by the relative value PWC170 showed probably lower levels of this indicator of representatives with ectomorphic somatotype compared with values representatives of other somatotype groups.

The lowest average values of $VO_{2\ max\ rel}$. have been observed in representatives from lowland areas of endomorphic and ectomorphic somatotypes and do not differ significantly among them ($p> 0.05$). The highest average value of VO2 max rel. is peculiar to representatives of endomesomorphic somatotype - 41,8±1,81 ml min-1 kg -1. Average VO2 max rel. indicators of girls from lowland areas with endomorphic, endomesomorphic, mesectomorphic, ectomorphic and balanced somatotype do not significantly differ from each other ($p>0.05$).

Conclusions. The studies results indicate that the level of physical health of girls from Transcarpathian lowland areas regardless of somatotype exceeds the "critical level" by G.L.Apanasenko (1999) and corresponds to the "excellent" by the criteria of Y.P.Pyarnata (1983).

Quantitative analysis of physical health of girls from lowland areas by relative values of maximum oxygen consumption demonstrates the advantages of representatives with endomesomorphic somatotype. The lowest level among the representatives of other somatotypes has been registered in endomorphics.

Key words: physical health, aerobic productivity, physical capacity, somatic type.

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REGULATORY MODELING INDIVIDUAL INDICATORS CARDIOINTERVALOGRAPHY DEPENDING ON FEATURES OF STRUCTURE AND BODY SIZE IN APPARENTLY HEALTHY MEN AND WOMEN IN AGE FROM 26 TO 35 YEARS

Introduction. Among the diversity performance of autonomous nervous system the heart rate variability attracts the attention, describing the work and the functional reserve of the autonomic nervous system and displays the status of the regulatory processes of holistic organism.
The aim of this work is to develop regression models of individual indicators cardiointervalography depending on features of structure and body size apparently healthy men and women aged from 26 to 35 years old.
Materials and methods. Voluntary cardiointervalographic and anthropo-somatotipological study was carried out on 54 healthy women and 50 men of Podolie from 26 to 35 years old.
Results. The men in the model with an accuracy of descriptions of the simulated tag more than 50.0% (4 out of 9 possible models) most often were: the width of the distal limb bones epiphyses, girth body size and thickness of the skin and the fat folds (20.7% of each group of indicators), the longitudinal body measurements (17.2%). Women in models with accuracy of descriptions of the simulated tag more than 50.0% (7 out of 9 possible models) most often included: kefalometric (32.6%), girth body measurements and cross-section of the trunk (16,3% of each group of indicators), as well as the age of women (14.0%).
Conclusions. 1. In men aged 26 to 35 years to build 4 models (RMSSD, vegetative index rate, index of regulatory systems tension index and vegetative balance) accurate description of the simulated trait from 53.4 to 66.2%. Most often in the model were: SHDE long bones of limbs, body size and obhvatnye TKZHS (by 20.7% each of the groups of indicators) and longitudinal dimensions of the body (17.2%). Among the selected indicators in the model most frequently were: SHDE shoulder (in all 4-built models), height and swivel point TKZHS the back and front of the shoulder (each indicator in 3 out of 4 models built).
2. In women aged 26 to 35 years to build 7 models (PNN50, SDNN, RMSSD, vegetative index rate, index of regulatory systems tension and power in the range of bass and treble) with accuracy of the description of the simulated signs from 50.1 to 63.3 %. Most often in the model were: kefalometricheskie indicators (32.6%), obhvatnye body size and cross-sectional dimensions of the trunk (16.3% for each of the groups of indicators) and the age of the women (14.0%). Among the selected indicators in the model most frequently were: age (6 of 7 models built), the largest

and the smallest width of the head and chest size sagittal (each index in 5 out of 7 built).

Key words: indicators of cardiointervalography, anthropometry, healthy men and women, regression analysis.

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PATHOGENETIC CORRECTION OF ARTERIAL HYPERTENSION IN PATIENTS WITH IDIOPATHIC MITRAL VALVE PROLAPSE

Introduction. Arterial hypertension (AH), which is a widespread pathology, takes a significant place in the structure of cardiovascular decease rate and mortality. The researchers pay attention to high prevalence of AH syndrome in young adults (from 4.8 to 20.0%) last years [Намаканов, 2003]. This high prevalence of AH among young adults indicates the need for more detailed study of the main predictors of the development of this pathology and further pathogenetic correction.

Today science identifies several theories AH under idiopathic MVP. There is a particular role of vegetative regulation disorders of neural activity with dominated sympathicotonia (increase of catecholamines in blood and their daily excretion).

In connection with this the aim of our study was to study the influence of serum aldosterone to the development of AH in patients with idiopathic MVP and working out the controls for blood pressure in these patients.

Materials and methods. We examined 120 male patients with a verified diagnosis of MVP aged from 6 to 35 years (average age 25,1±0,4 years). Comparison group made 30 males with UCTS without MVP of same age as basic group. All patients had a complex clinical and instrumental examination (general clinical, biochemical, ECG, Holter blood pressure monitoring, Doppler echocardiography, fibroezofagogastroduodenoscopy, ultrasound of the abdominal cavity organs, and consultation to an endocrinologist). Echocardiography in B- and M- mode with pulse Dopplergraph was performed on device Aloka SSD-630 (Japan) by generally accepted methods. Holter blood pressure monitoring was performed by using monitoring complex “Cardio Tens” made in Hungary. For the calculations we applied the statistical package applications “SPSS-10.0” and “Statistica - 6.0” for Windows XP operating system.

Results. By the results of echocardiography MVP was revealed in 71 males - 59.1% (3 – 6 mm), 40 persons – 33,3% - II degree (7 – 9 mm) and in 9 patients - 7.5% - III degree (10 mm). The patients were divided under stage of mitral regurgitation (MR), as follows: I stage was revealed in 53 patients (44.1%), II stage - in 29 patients (24.2%), III stage – in 9 persons (7.5%), 29 males have no MR (24.2%).

Somatometric, instrumental investigation and survey of patients with MVP revealed 5,8±0,2 visceral anomalies, 7,4±0,2 phenotypic markers of UCTS.
Increased serum aldosterone was revealed in 68 patients with idiopathic MVP, that made 56.7%. Received results are prognostically unfavorable, as a number of studies for last years proved that left ventricular hypertrophy, fibrotic changes in myocardium and diastolic dysfunction are caused by hyperaldosteronemia [Jonar et al., 2006; Choi et al., 2008; Li et al., 2009].
The average blood pressure in patients of basic group (UCTD with MVP) was 147,4±2,03 / 92,4±1,13 mm Hg and was significantly higher than in patients of comparison group (UCTD without PMK) - 133,2±4,7 / 88,2±2,5 mm Hg ($p<0.05$). Patients with MVP of I stage have average blood pressure of 146,3±2,2 / 92,5±1,3 mm Hg, patients with MVP of II - III stage - 149,0±3,8 / 92,3±2,1 mm Hg. We note that increased serum aldosterone correlated with average daily blood pressure ($r=+0,72$, $p<0.05$).
Taking to consideration negative effects of increased index of aldosterone, all patients with high levels of abovementioned hormones of adrenal cortex were treaded with aldosterone antagonist therapy (spironolactone) of 25 mg daily for 3 months. After 3 months of the therapy patients showed significant decrease in serum aldosterone and average daily blood pressure ($p<0.05$), such finding give us a reason to include this drug to the scheme of pathogenetic correction of hypertension in patients with idiopathic MVP.
Conclusions. 1. Significantly higher index of serum aldosterone ($p<0.05$)was found in patients with idiopathic MVP relative to comparison group (UCTD with MVP).
2. Level of serum aldosterone significantly increases according to stage of MVP ($p<0.05$).
3. Average blood pressure was significantly higher in patients with idiopathic MVP ($p<0.05$) relative to comparison group (UCTD without MVP).
4. Direct significant correlation between level of serum aldosterone and average daily blood pressure ($r=+0,72$, $p<0.05$) was revealed in patients with increased serum aldosterone.
5. It is necessary to include spironolactone of 25 mg daily for 3 months to the treatment scheme of patients with idiopathic MVP and increased serum aldosterone.
Key words: mitral valve prolapse, aldosterone, arterial hypertension.

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ENDOSCOPIC CRITERIA FOR ASSESSING THE SEVERITY OF ACUTE PANCREATITIS IN PATIENTS WITH OLDER AGE GROUPS

Introduction. Pressing problem of emergency abdominal surgery is to increase the number of patients with acute pancreatitis (CP), especially in the older age group, increasing the share of destructive forms of the disease with a high mortality

percentage - 50-85% [Nychytaylo, Kondratiuk, 2004; Datsyuk, 2011]. Disruption of duodenal ulcer (DU) in the development of GP acquire individual to [Shuturma et al., 2007]. Thus, violation evacuation function of the duodenum give higher intraduodenal pressure (IDT). The study of structural changes that occur during GP, followed by interpretation of the results for the prognosis and determine the morphological form of the disease is poorly understood topic. Prognosis and determine the morphological form of the disease, by assessing structural changes in the duodenal mucosa is important direction for research [Papachistou et al., 2010].

The aim: to determine the structural changes in the duodenal mucosa depending on morphologic forms of GP patients in the older age group.

Materials and Methods. The material is the result of a prospective survey of 103 patients older GP who were hospitalized in the clinic surgery №2 Vinnitsa National Pirogov Medical University during 2010-2013 yy Examined patients (age over 60), in which was uncomplicated acute pancreatitis and a history of trauma was not the pancreas and extrahepatic biliary tract pathology.

Results. Presented by representative groups by age, sex and disease etiological factor. Results 1 ezofahoduodenoskopiyi patient groups: normal duodenal lumen diameter, with few foam secretory contents mixed with bile. Roztyazhymist, duodenal wall elasticity satisfactory colon free passage for the machine. Peristaltic wave retrograde type, accompanied by reflux of duodenal contents into the lumen of the stomach. The mucous membrane of the duodenum atrophy changed, refined through her translucent vessels submucosa, moderately diffusely hyperemic, shiny, slightly swollen. Macroscopic changes have been revealed in the structure of the duodenal mucosa during the endoscopic examination, are objective criteria for determining the morphological form of acute pancreatitis of the patients in older age groups.

Patients 2 groups macroscopic changes in the mucous membrane of the duodenum were more expressive than its predecessor. The mucosa of the duodenum clearly diffusely hyperemic, "colorful", shiny, moderately swollen. The mucous membrane was granular structure by limfanhioektaziy.

Conclusions. Change Study duodenum during ezofahoduodenoskopiyi led to the conclusion that the depth and severity of structural changes duodenal wall directly proportional to the prevalence of necrotic changes in pancreatic tissue and can serve as objective criteria for determining morphological forms of acute pancreatitis in patients older.

Key words: acute pancreatitis, esophagogastroduodenoscopy, the mucous membrane of the duodenum, the morphological form of acute pancreatitis.

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EFFECTIVENESS OF DIFFERENT REGIMENS OF ANTBACTERIAL THERAPY IN PATIENTS WITH ACUTE EXACERBATION OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND RISK FACTORS FOR P.AERUGINOSA INFECTION

Introduction. The basis of pharmacotherapy for patients with infectious exacerbation of chronic obstructive pulmonary disease is traditionally antibacterial chemotherapy [Feschenko, 2005; Pepper, Plekhanov, 2009]. Choosing antibiotic physician should consider the features of its pharmacokinetics and pharmacodynamics, clinical and bacteriological efficacy. Because antibiotics to patients with infectious exacerbation of COPD assigned empirically developed clinical and functional markers of some infections that require specific approach in the treatment of [Domenech, 2013].

The aim of the study was to evaluate the clinical and economical effectiveness of differentiated regimens of empiric antibacterial therapy of patients with acute exacerbation of chronic obstructive pulmonary disease (AECOPD) and risk factors for *P. aeruginosa* infection.

Materials and methods. 31 patients with AECOPD were randomized in 3 groups to receive treatment with either oral ciprofloxacin 500 mg twice daily, or lefofloxacin 500 mg once daily, or i/v cefepime 2,0 twice daily. All patients were examined using physical and laboratory tests.

Results. The similar positive results of treatment were achieved in all groups. The rate of clinical and laboratory improvement was y (54,5±15,0) % in 1st group, (63,6±14,5) % – in 2nd group and (77,8±13,9) % – in 3rd group of study patients. The average age of patients was 1 subgroup (62,1 ± 2,9) years (Table. 1). At the beginning of treatment (9,1 ± 8,7)% of patients with body temperature was normal, and the (90,9 ± 8,7)% - did not exceed 38 ° C.

Shortness of disturbed patients: the ordinary everyday physical activity - (18,2 ± 11,6)%, with little exertion - (63,6 ± 14,5)% and at rest - (18,2 ± 11,6) %. In 100% of patients had cough with a small amount (50 ml per day) mucopurulent or purulent sputum and listened to dry and / or wet rales in the lungs. The number of leukocytes in the blood was (13,2 ± 1,6) × 109 / l, and ESR - (25,8 ± 2,8) mm / h. The lowest cost of treatment was registered in 1st group.

Conclusion. 1. In patients with infectious exacerbation of COPD in the presence of risk factors for P. aeruginosa oral fluoroquinolone monotherapy II generation (ciprofloxacin) or III generation fluoroquinolones (levofloxacin) or parenteral cephalosporin monotherapy Generation IV (cefepime) are equally effective and safe.

2. economically feasible as the antibiotic of choice to use oral form II generation fluoroquinolones (ciprofloxacin), and alternatively - oral form of respiratory fluoroquinolones or parenteral cephalosporin IV generation.

The use of empiric therapy with either ciprfloxacin, levofloxacin or cefepime in AECOPD patients and risk factors for *P. aeruginosa* infection was equally effective and safe.

Key words: COPD, infectious exacerbation, effectiveness of treatment, cost, P. aeruginosa.

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CLINICAL AND ANAMNESTIC FEATURES OF PATIENTS AT DIFFERENT AGE WITH ANEURISM OF ASCENDING AORTA

Introduction. In this work the basic etiologic factors of aneurism of ascending aorta are defined for the patients of early age. The aorta - a large vessel of the vascular pressure, so the wall is relatively thick and layered. It is known that changes in the aortic wall to some extent depend on the age of the patient [Verhun, 2001; Zerbyno, Kuzyk, 2002; Konstantinov et al., 2006]. Up to 40 years there has been overwhelming impression elastic frame (cystic MEDIONECROSIS), and in patients older - muscular elements (MEDIONECROSIS). Prognostically important factors that can cause the emergence of the aneurysm as well as its complicated course, still continue to be studied, which is why this work is dedicated.

The aim was to determine the age-associated causal factors of aneurysm of the ascending aorta (AWA) for further improve the diagnosis and treatment of this pathological condition.

Materials and Methods. To determine the age-associated risk factors for aneurysm and its complications were examined 154 patients with presence, according to echocardiographic examination, expand the root and / or the ascending aorta than 40 mm. Qualification ultrasound in two-dimensional and one-dimensional mode with color, pulse and Doppler postiynohvylovoyu performed using ehokardiohrafu My Lab 25 (Italy).

According to the study protocol, patients were divided into age groups according to age WHO classification 1963: 18 - 29 years old - a young age (39 persons), 30 - 44 years old - mature age (38 persons), 45 - 59 years old - the average age (40 patients), 60 - 74 years old - old age (37 people).

Results. Аналіз виділених груп виявив, що АВВА у чоловіків зустрічалась у 4 рази частіше ніж у жінок, причому ця перевага збільшувалася зі збільшенням віку хворих (табл. 1) у наступному співвідношенні: 2,3 : 1,0 → 3,2 : 1,0 → 5,7 : 1,0 → 11,4 : 1,0 з 1 по 4 групи з достовірною різницею між хворими до 45 років (1 та 2 група) и хворими більш старших вікових груп (p1-4=0,013, p2-4=0,048). It is established that the patients of young and mature age have anomalies and diseases of the connective tissue. The patients of middle and elderly age have ischemic and essential hypertension and their combination.

Key words: aneurism of ascending aorta, causal factors, dysplasia by connective tissue, ischemic heart disease, essential hypertension.

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Q-MYOCARDIAL INFARCTION BASED ON UNDIFFERENTIATED CONNECTIVE TISSUE DYSPLASIA: FROM PHENOTYPE TO CLINIC - BIOCHEMICAL CHARACTERISTICS

Summary. A comparative analysis of phenotypic stigmas undifferentiated connective tissue dysplasia (UCTS), biochemical indexes, and the nature of complications of myocardial infarction (MI) in 62 patients (31 – with UCTS syndrome and 31 - without UCTS) with first diagnosed Q-MI. Defined correlation between the number of phenotypic and visceral stigmas of UCTS and complications of Q- MI ($r=0,97$; $p<0,05$). Disorders of lipid metabolism were not determinative risk factor of MI in patients with UCTS syndrome and without anamnesis of coronary artery disease (CAD) in development of Q-MI. Current Q-MI based on UCTS compared with Q-MI without UCTS at all levels of gender-age conditions and necrosis localization was less favorable, that is why UCTS syndrome can be considered as an adverse prognostic factor in myocardial infarction.

Introduction. Cardiovascular diseases (CVD) is truly called epidemic of XX century. Over the years, they are the leading cause of mortality in most of the countries, including Ukraine, making 65.8% of total mortality. So, for the past 25 years outspread of CVD among Ukrainian population was tripled, and the mortality rate from them - 45% [Горбась, 2007].

Purpose: to study and analyze the clinical characteristics and complications of Q-IM in patients with UCTD.

Materials and methods. The study involved 62 patients aged of 36 to 84 years old (average age 58,08±1,37 years old), who live in Vinnytsia and Vinnytsia region, with first diagnosed Q- MI, admitted to in-patient department on the first day of disease. They were supervised while their stay at in-patient department.

According to the number of phenotypic and visceral stigmas of USTD patients were divided into 2 groups.

Mathematical processing was performed on personal computer using standard statistical package STATISTICA 6,0.

Results. First phase of this study found the history of coronary artery disease before development of Q-MI in patients of the basic group and the comparison one. We have found that the percentage of patients with coronary artery disease without CAD in anamnesis before development of Q-MI was significantly ($p<0.05$) lower in the basic group and made 41.94% against 64.52% in the comparison one. At the same time there was an opposite situation in patients with coronary artery disease of 10-15 years in anamnesis before development of Q-MI: percentage was 9.68% in patients with UCTD syndrome, but the comparison group has no patients with such long-term history of CAD. The average age of patients without CAD in anamnesis before development of Q-MI in the basic group was 55,62±2,88 years old, and patients without UCTD - 58,05±2,69 years old. The average age of patients of the basic group with CAD in anamnesis over 10 years was 53,33±3,93 years old.

After analyzing markers of UCTD obtained during somatometric examination and questioning of patients, according to a questionnaire created by us, it was found statistical confidence difference between average number of UCTD markers in patients of the basic group (8,03±0,38) and comparison group (4,42±0,13) ($p<0.05$). 2 patients of the basic group (6.45%) had 12 markers, 3 (9.68%) - 11 indicators, 1 patient had 10 indicators (3.23%), 9 markers was found in 6 persons (19.35%), 8 (25.81%) - 8 markers, 7 persons (22.58%) had 7 indicators of UCTD and 4 (12.90%) - 6 indicators.

The markers of UCTD were selected by topographic principle in patients of the basic group and the comparison group.

Analyze the nature of Q-MI early complications in basic group. Established that the biggest percentage of complications accounted for arrhythmias and conduction, that was revealed in 29.03% of patients of basic group and 25.81% in comparison group. Postinfarction aneurysm (22.58%), interventricular septal rupture (3.23%), rupture of papillary muscles (3.23%), cardiogenic shock (3.23%) and Dresler's syndrome (3, 23%) were found among the patients of basic group. Patients without UCTD had none of these Q-MI complications. Using correlation analysis and Pearson's linear correlation coefficient there was found a strong direct bond between the number of phenotypic and visceral stigma of UCTD and early complications of Q-MI in patients of basic group ($r=0,97$; $p<0.05$).

Statistically significant difference between lipid abnormalities was found between the average level of triglycerides in patients of basic group - 1,53±0,05 mmol/l, and comparison group - 1,75±0,06 mmol/l ($p<0.05$). Hypercholesterolemia was diagnosed in 35,48±8,48% of patients of basic group and 51,61±8,98% - comparison group. Average cholesterol index in patients without coronary artery disease in anamnesis before development of Q-MI was significantly lower in basic group, and made 4.62 mmol/l vs. 5.03 mmol/l in comparison group ($p<0.05$). So, lipid metabolism disorder was not key risk factor for CAD and MI in patients with UCTD syndrome, who do not have experience of CAD before development of Q-MI in particular.

Hereby, the results of the study indicate that UCTD may affect the clinical course of MI: length of CAD in anamnesis before development of Q-MI, the number and nature of early complications of Q-MI, changes in lipid metabolism (average indexes of cholesterol, β -lipoproteins and triglycerides).

Conclusions. 1. Length of CAD in anamnesis before development of Q-MI in patients with UTCD is longer than in patients without UTCD. Lipid metabolism disorder was not key risk factor for CAD and MI in patients with UCTD syndrome, who do not have experience of CAD before development of Q-MI in particular.

2. Correlation analysis revealed bond between number of phenotypic and visceral stigmas of UCTD and complications of Q- MI ($r=0,97$; $p<0.05$). Differences in the frequency of postinfarction aneurysm formation in patients with UCTD syndrome were the most significant.

3. Most of patients with UCTD had dysembryogenetic stigma such as radial lacunar iris and diagonal earlap fold; under increasing number of UCTD stigma significantly increased frequency of finding the following microanomalies: anomalies of auricle,

blue sclera, scoliosis, chest deformity, hematoma formation with slight damage, tendency to premature caries ($p<0.05$). Flow of Q-MI based on UCTD compared with Q-MI without UCTD under all equal gender-age conditions and localization of necrosis is less favorable that is why UCTD syndrome can be considered as an unfavorable prognostic factor in myocardial infarction.

Revealing of phenotypic markers of UCTD and in-depth analysis of clinical and biochemical characteristics of Q- MI based on UCTD allows further improving treatment and quality of life of the patients, and is a prospective area for cardiac research.

Key words: myocardial infarction, undifferentiated connective tissue dysplasia, phenotype.

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TREATMENT EFFICACY IN RHEUMATOID ARTHRITIS PATIENTS DEPENDED ON THEIR SOMATOTYPOGICAL STATUS

Introduction. Rheumatoid arthritis (RA) - multifactorial autoimmune disease, the development of which is influenced by many factors, mostly of which are genetic, endocrine and environmental (social and economic).

In the Ukrainian population prevalence of RA is about 15.2 per 100 thousand. Population [Kovalenko et al., 2010]. And women suffering from RA 3-4 times more often than men. In both cases, most often noted in RA subjects aged 20-50 years [Silman, Pearson, 2002; Symmons, 2002].

Significant losses incurred by society due to early disability working population, RA does not only medical but also social problem.

In the treatment of RA is the goal of stable remission of inflammation as long as the preservation of functional, physical and psychological capacity of patients with RA [Kuriata et al., 2004, Korshunov, Rechkyna, 2005; Chorus et al., 2001].

The aim of the study was: to evaluate the effectiveness of standard treatment for RA based on their somatotypovoho status.

Materials and Methods. The study involved 132 patients with RA and 30 female control group. To determine the somatotype we used a mathematical scheme Carter-Heath [Heath, Carter, 1990], on which somatotype determined estimate that was formed from three consecutive numbers. Each number (score) - a score of one of the three primary components of a constitution, by which marked individual variations in the shape and structure of the human body. The first component - endomorfnyy - characterizes the degree of fatty tissue. The second component - mesomorphic - determines the relative development of muscle and bone elements of the body. The third component - ektomorfnyy - determines the relative elongation of the human body and is transitional between endomorfnoyu and mesomorphic characteristics physique. To determine fat, bone and muscle components of body weight using a

special formula for J.Matiegka [1921]. In addition, the muscular component were determined according to the American Institute of Nutrition [Heymsfield, 1982], and fat - for WESiri [1961].

Study participants received traditional therapy with methotrexate in doses of 7,5-15 mg / week with folic acid (10 mg / week), nonsteroidal anti-inflammatory drugs, according to testimony - prednisolone at a dose of 2,5-10 mg / day.

Results. The analysis of the main laboratory parameters in all patients with RA shows that the numbers of C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR) was significantly decreased throughout the treatment. So, after 12 weeks of treatment, the number of CRP decreased to 10 mg / l, and ESR - 6.5 mm / h. After 24 weeks of treatment, the number of content indicator CRP has decreased by about 10 mg / l, and ESR at - 3 mm / h. The study assessed the efficiency and safety of standard treatment of patients with rheumatoid arthritis (RA), depending upon their somatotypogical status. Analysis of the effective treatment depending on patients' somatotypes with rheumatoid arthritis showed that the endomorphy somatotype is a predictor of patients resistance to standard therapy. For 24 weeks of treatment among endomorph responders at the ACR20 were 32,5% and ACR50-5%, while among patients with balanced somatotypes these were respectively 2 and 5 time more. The research aim is to evaluate the effectiveness of standard treatment of patients in RA depending in their somatotypical status.

Conclusions. 1. The effectiveness of treatment of patients with rheumatoid arthritis to some extent depends on somatotypological status of patients with RA.

2. Endomorfnyy somatotype is predictive of resistance RA patients to standard btherapy, as indicated by the lack of dynamics ESR, etc. seromucoid. The percentage improvement of these indicators after 12 weeks of treatment was at 8 - 17%, almost twice lower than in patients with a balanced somatotype. By 24 weeks of treatment, the number of responders at ACR20 in this group was 32.5% and ACR50 - 5%.

3. Slightly better responded to the treatment group patients with endomezomorfnym somatotype. The percentage improvement in all parameters after 12 weeks of treatment was 9 - 18% by 24 weeks of treatment responders at ACR20 was 47% and ACR50 - 6%.

4. Predictors of high sensitivity to standard therapy in patients with RA is balanced affiliation somatotype. Dynamics of the main clinical and laboratory markers of active RA for 24 weeks of treatment in these groups of patients was highest. In particular, the criterion ACR20 responders at 24 weeks was 71%, ACR50 - 25% and ACR70 - 4,2%, whereas among patients with endomorfnym endomezomorfnym somatotype and not a single patient who would have responded to treatment according to the criteria ASR70.

Key words: somatotype, somatotypogical status, body composition, rheumatoid arthritis, healthy individuals.

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DIAGNOSTIC FEATURES OF DYSPLASTIC CHANGES OF GASTRIC MUCOSA EPITHELIUM DETECTED BY THE ISSR-PCR METHOD IN PATIENTS WITH CHRONIC GASTRIC ULCER

Introduction. Diagnosis of dysplasia of the gastric mucosa as precancerous changes is important. Severe dysplasia characterized by cellular atypia, anizokariozom, hiperhromatozom nuclei sharp increase in nuclear-cytoplasmic ratio and widespread psevdostratyfikatsiyeyu. The average content of DNA and cell number in phase synthesis dramatically increased [Serov et al., 1990; Aruyn, 2002; Zarydze, 2004; Karseladze, 2009].

Mandatory by morphological diagnosis of malignant tumors is histological method, but in solving differential diagnostic problems between dysplasia and cancer of the stomach its resolution is not enough.

PCR technique is universal, but among the markers based on its use, occupy a special place those fragments are located between loci inverting DNA repeats: ISSR (Inter simple sequence repeats).

The aim of our research is to identify dysplastic changes in gastric mucosa in patients with chronic gastric ulcer by the method of ISSR-PCR.

Materials and Methods. Research is a fragment of research Kharkiv National Medical University "Formation of modern methods of surgical treatment and prevention of complications of diseases and injuries of the chest and abdomen" (№derzhreyestratsiyi 0110U002649).

In work on the results of the study 50 observations mucosa surgical specimens stomachs that rezetsiyovani on chronic gastric ulcer. To study took samples of gastric mucosa with symptoms varying degrees of dysplasia, which examined changes in DNA by polymerase chain reaction (PCR) [Mullis, Faloona, 1987; Tsanev, 2005].

Results. Diagnosing of mucosa, provided by the ISSR-PCR reaction, in the patients with the chronic gastric ulcer has shown DNA changes which are specific to the dysplasia of the different stages. In the cases of indicated dysplasia the changes were observed in the form of amplicones' enlargement, specific for each group. The indicated changes are characterized as microsatellite expansions. There is a strong correlation between the stage of dysplasia, identified on the phenotypical features and the indices, specific to DNA-typing of the gastric mucosa epithelium. Pearson correlation coefficient r_{xy} constituted 0.960 and 0.951, respectively. The total results founded the existences of the statistically significant dependence with 0.99 probability.

Conclusions. 1. dysplasia of the gastric mucosa in patients with chronic gastric ulcer on the results of genotyping epithelium of the mucous membrane of the reaction ISSR-PCR with specific changes that are relevant to their dependence on DNA profiles.

2. Between the degree of expression of epithelial dysplasia mucosa by phenotypic characteristics and performance of DNA typing samples of gastric mucosa by using ISSR-PCR RHI Pearson correlation coefficient equal to 0.960 and 0.951 respectively.

3. ISSR-PCR is an informative method for detecting changes in the genetic structure of the epithelium of the gastric mucosa.
Key words: DNA, amplicones, phenotype.

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POSSIBILITIES OF TRANSVAGINAL ECHOGRAPHY IN DIAGNOSTICS OF ISTHMIC-CERVICAL INSUFFICIENCY

Introduction. The problem of habitual noncarrying of pregnancy is one of the most urgent in modern obstetrics, as it leads not only to reproductive function disorder in women, but also has a negative effect on birth-rate, causing a significant increase of perinatal mortality level and morbidity rate of newborns in the early neonatal period [Sydelnykova, 2005]. Despite multifactorial etiology of noncarrying of pregnancy, one of the major factor - a reason which causes abortion/miscarriage in the second trimester is isthmic-cervical insufficiency [Vlasov, 2008]. The frequency of this pathology varies from 0.2 to 65 % [Sydelnykova, 2009].
Diagnostics of isthmic-cervical insufficiency is extremely difficult because of ultrasound examination data misinterpretation [Golfier et al, 2001] and in it's turn it can lead to the choice of irrational treatment mode.
With a widespread use of echography in practice expanded diagnostic capabilities of dynamic observation over uterine cervix [Mgaloblishvili and others, 2003]. However, there are also many contradictions. This regards time frame of ultrasound examination of the length of uterine cervix and prognostic criteria for the length of uterine cervix [Mgaloblishvili and others, 2003].
Research objective: to develop clear diagnostic criteria for assessing the capability of the uterine cervix during pregnancy and determine the efficiency, prognostic significance and reasonability of transvaginal ultrasonography of the uterine cervix in pregnant women at gestational age of 18-21 weeks along with prenatal screening of the second trimester.
Materials and methods. The work was done on the basis of the Chair of Obstetrics and Gynecology №1 of Vinnytsia Clinical Maternity House №1. In the course of study conduct we used a diagnostic US scanner Ultima PA Grys 991218.013 with using of a transvaginal transducer with operating frequency 5 MHz.
Taking into consideration the availability of various procedures and parameters for ultrasound examination of cervical incompetence during pregnancy, we have developed a unified method for the assessment of uterine cervix (Table 1).
This method is based on the conduct of transvaginal ultrasonography of uterine cervix and investigation of its capacity according to such ultrasound signs: length of uterine cervix, width of uterine cervix, opening of the internal os, angle of inclination of uterine cervix and data obtained when performing a cervical stress test.

Results. Transvaginal scanning was performed on an empty urinary bladder in a semisitting position, as the filled bladder extends the cervix.

The obtained data was brought to the table developed by us, gave points and according to the received amount of points we prognosticated echosonographic capability of uterine cervix, that is the presence or absence of isthmic-cervical insufficiency.

Table 1. Echosonographic assessment of uterine cervix capability.

Sign	**2 points**	**1 point**	**0 point**
Length of uterine cervix	>35 mm	35-25 mm	<25 mm
Width of uterine cervix	<35 mm	36-42 mm	>46 mm
Opening of the internal os	<6 mm	>6 mm without fetal bladder prolapse	>6 mm with fetal bladder prolapse
Angle of inclination	<90	90	90
Length of uterine cervix when performing a cervical stress test	<2	>2 without dilatation of internal os	>2 mm with dilatation of internal os

Thus, with point total 8-10, the uterine cervix is considered to be capable, with point total 5-7, the capability of the uterine cervix is considered to be questionable, with point total 4 and less we establish diagnosis: isthmic-cervical insufficiency.

The examination was performed at gestational age of 18-21 weeks along with prenatal screening of the second trimester of pregnancy.

As a result of transvaginal ultrasonography in pregnant women of all investigated groups the following results were obtained: percent of women with isthmic-cervical insufficiency, according to the results of transvaginal ultrasonography (0-4 points), the largest was in the first group and it made 10.81 %, which is 2 times higher than the rate in 2nd group (5.42 %) and 3.5 times higher than in the control group (3.07 %)

Questionable capability of the uterine cervix (5-7 points) was observed in 25.68 % of pregnant women in the first group, respectively 17.24 % and 15.71 % in pregnant women of the second and control group of our study.

Conclusions. 1. Transvaginal ultrasonography of the uterine cervix in pregnant women is a screening examination in order to determine isthmic-cervical insufficiency. Recommended period for this examination is 18-21 week of gestational age along with prenatal screening. 2. We have developed clear criteria of Ultrasound examination for assessing the capability of the uterine cervix during pregnancy and determined the most optimal prognostically - significant periods for transvaginal ultrasonography of the uterine cervix in pregnant women. 3. Point-based echosonographic assessment of the uterine cervix capability during pregnancy was offered for the first time ever. 4. Pregnant women who as a result of examination of the uterine cervix capability by means of echography got point total of 5-7 were referred to a group of increased risk of isthmic -cervical insufficiency. It is advisable to do a repeat examination for such women after 2 weeks. 5. Timely examination, correct assessment of ultrasound diagnosis of isthmic-cervical insufficiency and its rational treatment can decrease cases of premature births and reduce the percentage

of perinatal losses. 6. The widespread use of transvaginal ultrasonography method in women at gestational age of 18-21 weeks along with prenatal screening of the second trimester significantly extends the possibilities of this method in the diagnosis of both isthmic-cervical insufficiency and other obstetric pathology.
Key words: isthmic-cervical insufficiency, ultrasound cervicometry, rosk factors of premature births.

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PERSONAL FACTORS OF FORMATION OF ADAPTATION DISORDERS IN WOMEN DELIVERING A PREMATURE BABY

Introduction. The research in the study of maternal stress that motherhood is seen as a psychosocial phenomenon of two main items: a software environment for child development and how to change personal sphere of women [Sokolov, 2000; Filippov, 2002; Batuyev et al., 2007].
This medical science, including psychiatry and psychology, focusing on the study of the psychological factors that may be the factors of adaptation or exclusion provided hit women in situations that are stressful nature.
purpose of the study - the study of personality factors of women with further definition of their role in the development process dezadaptatsiynyh women who gave birth to a premature baby.
Materials and Methods. With the principles of bioethics and ethics we conducted a comprehensive survey of 150 women who gave premature baby.
The work was carried out on the basis of Kharkiv Regional Clinical Perinatal Center, Kharkiv City Clinical Perinatal Center and Kharkiv regional children's hospital №1.
The paper used methods: clinical psychopathology, clinical and medical history, psychodiagnostical and methods of mathematical statistics.
Results. The data identified personal factors that lead to the formation of women delivering a premature baby, adaptation disorders in depressive, anxiety or mixed variants. The leading pathogenetic factors are alexithymia; high likelihood of neurosis; increased susceptibility to the development of stress; high intensity of guilt; depressed or shameful nature of perception of sense of guilt. It was demonstrated the connection between the Perceived Guilt Index, and the level of depression and level of reactive and personal anxiety. The necessity to develop of individualized approaches to psychotherapeutic correction in view of the complex structure of the personal factors that led to the development of conditions exclusion was defined.
Conclusions. 1. The process of formation of adaptive states in women who gave birth to a premature baby, is caused by the formation aleksytymichnoho symptom; a high level of probability of neurosis; increased susceptibility to stress in case of falling into the traumatic situation; high intensity guilt that exceed normal experiences;

depressed, shameful or those that are declining perception of the nature of guilt as women in a particular time and to life in general.
2. Installed statistically-likely a connection between the fault index, perceived, and levels of depression and level of reactive and personal anxiety as a possible pathogenetic mechanism of exclusion states in women who gave birth to a premature baby.
3. Clinical manifestations of adjustment disorder answered formation depressed, anxious or mixed options.
Key words: delivering a premature baby; personal factors of adaptation disorders; psychotherapeutic correction.

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STUDYING THE INDICATORS OF 24-HOUR ESOPHAGEAL PH-MONITORING IN PATIENTS WITH GASTROESOPHAGEAL REFLUX DISEASE WITH ATYPICAL MANIFESTATIONS IN THE DYNAMICS OF LANSOPRAZOLE TREATMENT

Introduction. The article highlights the effect of one-week therapy by lansoprazole 30 mg twice daily on the data of 24-hour esophageal pH-monitoring in patients with gastroesophageal reflux disease (GERD) with atypical manifestation.
Gastroesophageal reflux disease - one of the most common diseases, which the World Gastroenterology Organisation recognized disease of the XXI century. The symptoms of gastroesophageal reflux disease, from which suffers much quality of life, found in almost 40% of adults around the world [Belialova, 2009]. Often the disease to other organs and systems may change its clinical course, greatly complicating diagnosis and thus reducing the effectiveness of treatment [Fass, 2009]. Atypical symptoms of gastroesophageal reflux disease and resistance to drug therapy is often associated with concomitant diseases of other organs and systems [Babak, 2011] - especially of Spine [Kolesnik, 2006].
The aim - to examine the performance of daily ezofaho-pH monitoring in patients with atypical manifestations of GERD with concomitant spine pathology in the dynamics of lansoprazole treatment at a dose of 30 mg twice daily.
Materials and Methods. In the clinical diagnostic laboratory Gastrointestinal Vinnitsa National Medical University named after NI Pirogov a complex clinical laboratory and instrumental study 15 patients with atypical manifestations of GERD and concomitant diseases of the spine. The criteria for exclusion from the study were: age under 16 and over 70 years, pregnancy, lactation, surgery on the abdominal and thoracic cavities, cancer patients, lack of consent to conduct surveys provided the design of the study or the patient's desire to terminate the test.
Daily ezofaho-pH monitoring was carried out using a computer system analysis

intracavitary pH established medical and engineering team led by prof. V.M.Chernobrovoho.
PH was determined in the lower third of the esophagus every 8 seconds. overnight before treatment and at 7,00 ± 0,32 day taking lansoprazole 30 mg 2 times a day.
Results. We examined 15 patients with atypical manifestations of GERD, comorbid disorders of the spine (8 women and 7 men), mean age 37,9 ± 12,8 years (18 to 62). Treatment of lansoprazole on the seventh day observation led to a significant (p <0.001) reduction rNH of 5,58 ± 0,003 to 5,35 ± 0,003
The results of this study suggest the necessity of pH control in patients with concomitant spine pathology due to the probability of occurrence in 33.3% of cases the phenomenon of "acid night breakthrough". The study opens new perspectives for the study of the peculiarities of comorbid diseases influence on clinical manifestation, diagnosis and treatment of GERD.
The dose of lansoprazole 30 mg twice daily is insufficient for reliable control vnutrishnostravohidnoho pH> 4.00 in GERD patients with concomitant pathologies of the spine. Since it is in this category of patients is necessary to control the acid-peptic factor at night, the effectiveness of therapy should be monitored by means of daily ezofaho-pH monitoring.
Conclusions. 1. intracavitary daily ezofaho-pH monitoring is a highly functional tool for diagnosing GERD, individual choice and monitoring the effectiveness of therapy, including inhibitors of H + -K + -ATP-ase.
2. lansoprazole at a dose of 30 mg twice daily is the dynamics of treatment (7,00 ± 0,32 days) of patients with GERD reliable powerful meadow, normalization vnutrishnostravohidnoho environment during the day, which is a treatment aimed pharmacodynamic effect.
3. In 33.3% of patients with atypical manifestations of GERD and concomitant diseases of the spine in the treatment of pantoprazole 30 mg 2 r / d can be observed phenomenon of "night breakthrough" hydrochloric acid, which leads to mandatory control dynamics internally esophageal pH.
4. lansoprazole 30 mg to 2 g / d well tolerated and can be used for long-term treatment of GERD provided confirmed pharmacodynamic efficacy.
Key words: gastroesophageal reflux disease with atypical manifestation, lansoprazole, 24-hour esophageal pH monitoring.

ORIGINAL ARTICLES

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SUBMICROSCOPIC CHANGES OF THE ALVEOLOCYTE TYPE II OF RESPIRATORY ALVEOLI OF THE LUNGS IN THE DYNAMICS AFTER

EXPERIMENTAL THERMAL TRAUMA AND USAGE OF THE LYOPHILIZED XENOGRAFT

Introduction. According to the scientific literature and research by our deep and large area burns cause significant structural changes in all organs of the body Opechen. Necrotic skin lesions with thermal injuries degree, circulatory disorders, exogenous intoxication, violation of water-salt metabolism and other pathogenic factors are causes of significant lesions of the internal organs of this pathology [Nahaychuk, 2010; Netyuhaylo et al., 2011; Lepekha et al., 2012 .; Vtiurin et al., 2008]. So promising in the treatment of burns is to use factors that reduce receipt of toxins from the body parts of thermal injury and loss of water and electrolytes.

The aim was to establish electron microscopic changes alveolocyte type II respiratory portion of the lungs in a severe thermal injury during the early necrosectomy and closing wounds crushed ksenoshkiry lyophilized substrate.

Materials and Methods. Experiments conducted on 20 nonlinear white mature male rats, which were kept under standard vivarium conditions. All manipulations with experimental animals were carried out according to the rules "Scientific and practical recommendations for the maintenance of laboratory animals and working with them" [Kozhemyakin et al., 2002]. Burn injury inflicted during anesthesia ketaminovym two copper plates area of 14.5 cm2 heated in boiling water to a temperature 97-100oS epilovanu on the back surface of the skin of the animal for 15 seconds. Lot Size lesions accounted for 18-20% of the animal body.

In the experiment on white rats the secretory state of submicroscopic alveolocyte of the respiratory portion of lung was studied after thermal injury in the third degree and conditions of use morselized substrate of lyophilized xenograft.

Results. On day 7 of the experiment in the secretory available alveolocyte changes in the group of untreated animals, but in some cell marked the beginning of adaptative-compensatory changes that occur as amended nucleus and cytoplasmic organelles. The nuclei of these cells have a rounded shape, with shallow invagination kariolemy and indistinct outlines. Perynuklearnyy space in some areas significantly extended.

After 14 days of the experiment through the use of a substrate ksenoshkiry alveolocyte secretory alveoli of the lungs are destructive and signs of early intracellular, regenerative processes ultrastructure update their components. For alveolocyte type II in the period of the experiment characteristic polymorphism of the population. Various changes observed by nuclei. In some cells the nucleus increased in size, round-oval karioplazmoyu low electron optical density, which gives them an irregular shape. Other - nukleolema forms a deep invagination.

Submicroscopic for 21 days under the conditions of the experiment, correction of thermal injury in most secretory alveolocyte dominated by signs of renewal and increase their functional activity. The nuclei of these cells spherical or oval with shallow invagination nukleolemy, clear contours nuclear membrane and numerous nuclear pores. Karioplazma contains mainly Euchromatin. The cytoplasm is determined by a large number of mitochondria of different size and shape of the matrix of moderate electron optical density.

It was established that the use xenograft prevents the development of destructive changes in alveolocyte of type II in the early stages of the experiment and a positive effect on the course of regenerative processes and normalization of ultrastructure of cells in the later stages of the experiment and improves the secretion of surfactant.
Conclusions. Excision of necrotic tissue altered skin lesions of space and coverage of burn wounds crushed substrate lyophilized ksenodermotransplantativ eliminating the source of admission to the body of toxins and preventing them from outside penetration, reduces destructive changes and the development of regenerative processes secretory alveolocyte respiratory portion of the lungs. Survival and relative normalization of submicroscopic type II epithelial cells on day 21 of the experiment suggest a better state of secretion of these cells.
Key words: ultrastructural changes, alveolocyte of type II, thermal injury, lyophilized xenograft.

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EXPERIMENTAL JUSTIFICATION FOR TREATMENT OF A CHRONIC MECHANICAL INJURY OF THE ORAL MUCOSA

Introduction. At present the problem of treatment of chronic traumatic injuries of the oral mucosa is not settled due to a great prevalence and insufficient efficacy of the recommended treatment methods. Therefore, animal experimental studies allow to reveal morphofunctional changes of the epithelial surface layers occurring in case of a hyperkeratotic process – the form that is the worst at responding to the clinical treatment, in case of a chronic mechanical injury of the mucous membrane, to determine the treatment methods and tactics, its efficacy.
Research objective. To study the animals' treatment results during experiments on animals using the model of a chronic mechanical injury of the oral mucosa in male golden hamsters.
Materials and methods. The research was conducted on the model of the oral mucosa keratosis in 2-3 months-old male golden hamsters according to the methodology [Godorozha et.al]. For this purpose 0,5% dimethylbenzylamine solution in the acetone was spread on the mucous membrane of the left cheek pouch of 45 males. 10 intact hamsters constituted the control group. 35 animals with keratotic changes were divided into the main and comparison group. 0,1 ml of Galavitum solution was infiltratively administered into the injured left cheek pouch of the animals from the main group (23 hamsters) with application of the biodegradable film "KP-Plast-vita". The main group of the animals received "Arginine-Zn", licorice root decoction and vitaminized feed "Fiesta". The comparison group of animals (12 hamsters) received vitamin A solution as well as the feed "Fiesta". The histologic

examination of tissues of the cheek pouch was carried out during the treatment correction on the 3-rd, 5-th and 7-th day from the beginning of treatment.

Results and discussion. We traced the dynamics of changes of the mucous membrane of the cheek pouch caused by the dimethylbenzylamine solution. A three-time application of the dimethylbenzylamine solution on the hamsters' mucous membrane led to injury of the corneal layer, focus proliferation of the basal cells without changes in the basal membrane, minor thickening of the epithelial stratum due to reduction of the cell density, especially of the spinous layer. The histologic pattern corresponded to the epithelium changes typical of the primary form of leukoplakia. The aggressive dimethylbenzylamine solution was applied on the mucous membrane of the cheek pouch of experimental animals five times within 2 weeks with the interval of 2-3 days. During this time hyperkeratosis, acanthosis and parakeratosis occurred. There were no inflammatory cell infiltrates under the basal membrane and in the proper mucous plate 3 days after the treatment yet. Restoration of the mucous membrane epithelium could be observed by the number of layers and orientation as to the basal membrane. On the 7th day of treatment of the main group of experimental animals a restored structure of the epithelium was revealed in all the histologic specimens. On the 3rd day after the traditional treatment the microspecimen of the cheek pouch of the comparison group showed that the epithelium basal layer was not completely formed and there was an edema in the proper mucous plate. On the 7th day of treatment the vacuolization of a number of cells of the basal and spinous layers could be seen. For the first time a keratohyaline granulosity in the granular layer could be observed under quite a thin keratinized layer.

Conclusion. 1. Under the influence of 0,5% dimethylbenzylamine solution the experimental animals had keratotic changes in the epithelium and proper mucous plate that clinically corresponded to keratosis.

2. The commenced treatment of the animal's main group according to the method worked out by us resulted in absence of inflammatory cell infiltrates in the proper mucous plate after 3 days already. The epithelium structure and the mucous layer of the cheek pouch in the experimental animals of the main group was completely restored in all the histologic specimens on the 7th day of treatment.

3. In the animals of the comparison group that underwent the traditional therapy for keratosis the initial signs of the epithelium restoration were seen only on the 7th day from the beginning of treatment.

4. The received results prove a high efficacy of the worked-out method of the complex therapy of patients with chronic mechanical injury of the oral mucosa as compared to the traditional one.

The prospect of the further research is to implement the proposed treatment method of chronic mechanical injuries into the dentist's practice with further determination of its efficacy.

Key words: experimental research, chronic mechanical trauma of the mucous membrane, epithelium.

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ULTRASTRUCTURE OF ALVEOLAR MACROPHAGES UNDER CONDITIONS OF INDUSTRIAL POLLUTION OF THE ATMOSPHERE

Introduction. In the range of clinical and experimental researches it was established that under the influence of anthropogenic factors of the atmosphere the lungs defence mechanisms are sharply interrupted [Lykholat, 2001; Sitalo, 2009]. The analysis of many works showed that in the formation of the defense reaction of an organism to penetration of respiratory pathogenic compounds alveolar macrophages (AM) play the leading role. [Gots, 2000, 2001].

The aim of the work is to study ultrastructural changes of alveolar macrophages of lungs under air pollutants.

Materials and methods. The experiments were carried out on 72 white male rats with the weight of 180-220 g during 30, 60 and 90 days in 2 zones. Ecological zone I – rural area, zone II – suburb with developed industry. To characterize the environmental pollution (EP) the following showings were determined: nitric oxides, sulphur dioxide, carbon monoxide, dust, hydrogen sulfide. The data of EP are received in the lab of SES.

Sampling of lungs tissue for electron-microscopic research was carried out under ketamine anesthesia. Pieces of the lungs tissue were fixed in the 2.5% solution of glutaraldehyde with further postfixation in the 1% solution of osmic acid. After dehydration the material was poured into the epon araldite. Sections, received on the ultramicrotome "Tesla BS-490", were studied under the electronic microscope "ПЕМ-125К".

Results. Discussion. The conducted analysis of the showings of the EP showed the excess of their maximally acceptable concentrations (MAC) in the ecological zone II. In the ecological zone I the EP showings did not exceed MAC. The results of the electron-microscopic research show the abnormality of ultrastructural organization of alveolar macrophages of lungs in animals that were situated in the ecological zone II.

In 30 days in the alveoli there was observed the increase of the number and functional activity of alveolar macrophages.

With the continuation of the experiment (60 days) submicroscopically there can be observed considerable heterogeneity of macrophage elements. There can be found cells with dystrophic and destructive changes. Cells' nuclei are enlarged in sizes with karyoplasm of low electrooptical density. Perinuclear space is dilated. Mitochondria are enlarged in volume with single fragment cristae. Together with dilated constituent elements of Golgi apparatus it is distinguished the fragmentation of membranes of granular endoplasmic reticulum. The number of ribosomes on the membranes of the latter is sharply decreased. In many phagosomes there are observed pacinian corpuscles and fragments of damaged cells. There is also observed the decrease of the number of lysosomes. At the same time, there can be found cells with the signs of active phagocytosis. The peculiarity of their ultrastructure is a great number of

lysosomes and phagosomes in cytoplasm. Among phagocytosis material there are distinguished pacinian corpuscles, fragments of damaged cells.
In 90 days of the study the AM differ by the form, size and state of ultrastructure. In some AM there can be observed active phagocytosis; in other ones the signs of evident secretory activity are found. At the same time, there can be found AM with inconsiderable number of lysosomes and matrixes of low electrooptical density. Sometimes single AM with numeral lipidic inclusions can be noticed.
Conclusions and prospects of further researches. 1. The carried out researches confirm the high air pollutants sensitivity of alveolar macrophages. 2. The effect of the air pollutants leads to expressed abnormalities of ultrastructural organization of alveolar macrophages. 3. The character and expressiveness of submicroscopic changes of macrophage cells depend on the duration of the effect of air pollutants.
Further researches of the functional state of phagocytosis activity of AM under air pollutants are perspective.
Key words: alveolar macrophages, air pollutants.

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MORPHOLOGICAL CHANGES IN JEJUNUM OF EXPERIMENTAL ANIMALS WHICH DEPEND ON VEGETATIVE HOMEOSTASIS OF ORGANISM UNDER THE CONDITIONS OF DEATH CUP (AMANITA PHALLOIDES) POISONING

Introduction. Among a variety of mushrooms there are many species dangerous for the human health causing acute poisoning with the frequency of 3-7% of all the disorders. The toxins of deadly amanita (Amanita phalloides) cause substantial changes in the body and hepatobiliary system and digestive tract in particular.
The objective of this work is to study structural-functional changes of the jejunum under the influence of deadly amanita toxins depending on the initial type of the autonomous nervous system.
Materials and methods. Morphological analysis of the jejunum of 156 mature albino male rats depending on the peculiarities of vegetative regulation of the body under conditions of deadly amanita intoxication have been conducted. The thickness of the mucous, muscular, serous and submucous membranes, the height of the mucous epitheliocytes, their diameter, a relative volume and nuclear-cytoplasmatic ratio have been determined in the jejunum preparations. Submucous-mucous and submucous-muscular indices have been calculated as well.
Results. Examinations of the jejunum conducted have demonstrated that amanita toxins change morphometric indices of this organ considerably. It should be noted that these changes are the most pronounced in animals with dominating sympathetic effects of the autonomous nervous system (ANS).
Functional processes in the jejunum wall of albino rats with dominating sympathetic

effects of the ANS in case of amanita intoxication are considerably pronounced and cause disorders of the structural homeostasis of this organ during the first 24 hours and continue to be complicated during the following 24 hours.
Obtained morphometric data of the jejunum of the examined rats are indicative of disproportional and irregular enlargement of the nuclear volume and cytoplasm of epitheliocytes which is proved by a substantial disorder of the nuclear-cytoplasmatic interrelation in cells in case of amanita intoxication.
Light optic examination of histological preparations of the jejunum detected pronounced stromal edema of the mucous lining. The borders between epitheliocytes were not detected, a part of desquamated cells was located in the intestinal lumen, the rest of the cells underwent necrotic changes. Pronounced cellular infiltration was found in the place of epitheliocytes and stromal structures necrosis. Protein dystrophy was found in the cellular cytoplasm. The described structural changes were more pronounced 48 hours after intoxication.
Conclusions. Thus, expressiveness of dystrophic, necrobiotic processes in the jejunum under the influence of amanita toxins is rather variable, it depends on the duration of the toxin action and peculiarities of the vegetal regulation of the body. In case of amanita intoxication of animals with dominating sympathetic effects of the ANS the degree of affliction of the jejunum was higher than those with well balanced and prevailing parasympathetic effects of the vegetal regulation of the body. The results obtained have enabled to make the notions concerning the principal regulations of the structural organization of the jejunum of the experimental animals wider, to analyze and specify peculiarities of adaptive reconstructions of the examined structures under conditions of the modeled pathology adequately.
Key words: white rats, jejunum, autonomic nervous system, death cup.

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ANTIMICROBIAL CHARACTERISTICS OF MODERN ANTISEPTICS

Introduction. The use of wide spectrum antibiotics have caused the increase of number of topical infectious invasions by pathogens with changed biological qualities.
Antiseptic medicines are used in all branches of practical medicine. Topical use of antiseptics is accompanied with decrease of the number of pathogens, which cannot support inflammation process in pocket of purulent infection.
Aim of the research. To determine antimicrobial characteristic of modern antiseptic medicines.
Materials and methods. Medicines as decesan, miramistin, stomatidin were used in the research. As test-microorganisms, clinical strains, isolated from patients with infection invasions of oral cavity, and museum strains, got from the museum of

microorganisms' live cultures of microbiology, virology and immunology department of Vinnitsa National N.I.Pirogov Medical University. The sensitivity of antiseptics was studied by means of serial dilution method in liquid medium.
Results. Summarizing the results of antiseptics' research, it should be said that modern pathogens of purulent-inflammatory diseases have low sensitivity to such antiseptics as miramistin, stomatidin. The study of antimicrobial qualities present the advantages of decasan, which has demonstrated high antimicrobial qualities against to the majority of opportunistic microorganisms.
Conclusions. 1. Modern antiseptic decasan has powerful antimicrobial activity against the majority of pathogenic and opportunistic strains of bacteria and yeast-fungi Candida. 2. Decasan is expedient to use in treatment of patients with inflammatory diseases of oral cavity and for sanitation of possible pockets of purulent infection.
Key words: antiseptics, decasan, miramistin, stomatidin.

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STRUCTURAL REORGANIZATION OF THE LIVER IN THE CONDITIONS OF EXPERIMENTAL CARCINOGENESIS

Introduction. Problem malignant growth is one of the most urgent in medicine and biology. Despite advances in the study of the causes and characteristics onkohvorob frequency and mortality of them continue to grow [Filinska et al., 2010]. Artificially induced by certain carcinogens tumors in laboratory animals provide an opportunity to study various aspects of carcinogenesis that can not be effectively studied directly in the human body [Nigro, Bull, 1985; Shinchi, Isamu, 1985; Maskens, Dujardin-Loits, 1991]. In this regard, today developed a large number of experimental models of initiating tumor growth in various organs. One is dymetylhidrazynova model [Papanicolaou et al., 1998]. This model is an efficient tool to study the characteristics of chemical carcinogenesis.
Purpose of this pilot study was to study the characteristics of structural reorganization liver conditions DMH-induced carcinogenesis.
Materials and Methods. Chronic toxicity neoplastychnu modeled by introducing asymmetric 1,2-dymetylhidrazyn hidrohlorydu (DMH) (firm SIGMA-ALDRICH CHEMIE, Yaponiya production, series D161802), previously diluted izotonichnym sodium chloride. Kantserohen injected subcutaneously in the blade area in a dose 7.2 mg / kg (based on active ingredient) 1 weekly vprodovzh 30 weeks, the animals clearly iGO My way mass rate of 0.1 ml DMH chitko 10 grams of body weight [Deryahyna and al., 2009]. Kontrolem group of animals with the introduction of DMH were rats were injected subcutaneously schotyzhnya which 0.1 ml of saline over 10 grams of body weight.

For microscopic studies took pieces of liver were fixed in 10% neutral formalin and embedded in paraffin blocks. Histological sections were stained with hematoxylin-eosin. In experiments on nonlinear white male rats studied changes in structural components under conditions dymetylhidrazynovoho liver carcinogenesis. Work nosyla experimental in nature and has been performed using 50 laboratory rats.
Chemically induced carcinogenesis causes essential changes in a liver of experimental animals at all levels of its structural organization.
Results. Microscopic examination of the liver found that chronic endotoxemia observed neoplastic destructive and necrobiotic changes in body pieces. In many parts of the broken beam location hepatocytes. In the intermediate zone and the periphery of liver lobules leukocyte infiltration observed small in place of destroyed cells. As part of an organ available and greatly expanded krovonapovneni vessels, necrosis and leukocyte infiltration of the gland parenchyma. It is established that at chronic neoplastic endotoxycosis destructive and nekrobiotichesky changes in body segments are observed, the frame arrangement hepatocyte is broken. In an intermediate zone and on the periphery of hepatic segments moderate leukocytic infiltrate is observed. In studied body there are considerably expanded and full-blooded vessels, the centers of a necrosis and a leukocytic infiltration of a parenchyma of gland. It is more often observed full-blooded the central veins, and also hypostasis around the segment of arteries and veins of triads is expressed. Submicroscopic it is established that under conditions simulated neoplastic endotoxicosis in a liver there are expressed damages of plasmatic and organoid membranes hepatocyte, in part hepatocyte there is a deep destruction of kernels and cytoplasm.
Conclusions. 1. Chronic neoplastic intoxication induced 1.2-dymetylhidrazynom, liver of experimental animals exposed to significant morphological changes in hepatocytes of destruction available deep nuclei and cytoplasm.
2. submicroscopic found that under conditions of simulated endotoxemia neoplastic liver damage occurring distinct plasma membrane of hepatocytes and orhanoyidnyh against the backdrop of significant disturbance of microcirculation.
3. Structural changes reflect violations of metabolic and functional capacity of the liver as the primary organ of detoxification.
Key words: 1,2 dimethylhydrazine, liver morphology.

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CHANGES IN THE CELLS OF THE DIFFUSE NEUROENDOCRINE SYSTEM IN THE SURGICAL CORRECTION OF ACUTE INTESTINAL OBSTRUCTION IN THE EXPERIMENT

Introduction. This article describes the changes in the endocrine cells of the small intestine at high obstructive acute intestinal obstruction. One problem is acute

intestinal surgery obstruction. The most acute intestinal obstruction is one of the leading places in the structure of morbidity for many years, despite the fact that the last time this issue are paying enough attention. It takes 4-5 place in the structure of abdominal surgical pathology. Despite the constant search for new approaches to the treatment of this disease, mortality remains high, reaching, according to different authors, from 3.7% to 15-45% [Mityuk, 2007; Galeev, 2008].

The aim of the study was to examine changes in the small intestine caused by endocrinocytes modeling high obstructive acute intestinal obstruction (VOHKN) and its surgical correction.

Materials and Methods. The objects of experimental studies were mongrel dogs weighing 10-15 kg. The animals were kept under identical conditions to normal diet. Operations carried out in compliance with all rules of asepsis and antisepsis. For anesthesia using 2% freshly prepared solution of sodium thiopental at the rate of 30-40 mg / kg animal. For sedation used intramuscular injection of 1% solution dimedrol rate of 5 mg / kg and 2.5% solution of chlorpromazine rate of 5-7,5 mg / kg.

Animals were divided into control and experimental group 3 (5 animals). The animals all research groups created a model of high obstructive acute intestinal obstruction by ligation hungry gut, departing 30 cm from the beginning. On the third day they performed surgical correction of intestinal obstruction by the drive loop resection of the small intestine and anastomosis formed mezhkishechnogo "side-to-side." Biopsy for histological studies performed in animals of group 1 with surgical correction in 2 groups of animals on the first day, and 3 groups of animals on the second postoperative day.

Results. Condition of the small intestine as a result of surgical correction in 3 days after modeling VOHKN the first and second postoperative day deteriorated. This was manifested damage enterocytes up to exfoliate them with surface villi, edema of the lamina propria of the mucosa, the development and progression of interstitial myositis and peryvaskulitu in muscle membrane.

We investigated the quantitative and qualitative changes in the endocrine cells in the postoperative period after surgical correction of intestinal obstruction. The correlation between the level of endogenous intoxication and quantitative indicators of endocrine cells is determined.

Conclusions. 1. Проведене оперативне втручання не знижує ендогенну інтоксикацію (концентрація молекул середньої маси у сироватці крові зростає). 2. Встановлено достовірне зменшення клітин ДНЕС на першу та другу добу післяопераційного періоду, зменшення грануляційного індексу в 4,2 рази та індексу насичення в 1,4 рази порівняно з контролем.

Key words: endocrinocytes of small intestine, ileus, endogenous intoxication.

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STRUCTURAL ALTERATION OF RAT'S SUBMANDIBULAR SALIVARY GLANDS AND THEIR VASCULAR BED UNDER THE CONDITION OF EXPERIMENTAL DIABETES MELLITUS

Introduction. One of the most common pathologies at present is diabetes mellitus (DM), which is extremely increasing worldwide. The earliest disability and high mortality among patients made DM a priority problem in national health systems in the world.

Materials and methods. 40 male Wistar rats, weighing 100-110 g were used in the experiment. All animals were kept in vivarium and experiments on them were performed according to "Legislation for the protection of animals used for scientific purposes" [Regulations and ethical considerations in animal experiments, 2003]. Experimental diabetes mellitus was induced by single intraperitoneal injection of streptozotocin ("Sigma" company) in the dose 7 mg per 100 g of body weight. The research was conducted beginning with the 2^{nd} week of experiment on animals with glucose level exceeding 13.00 mmol/1l. Material from the rat's submandibular gland was taken at the end of the 2^{nd}, 4^{th}, 6^{th} and 8^{th} weeks of the course of experimental diabetes mellitus.

Results and discussion. In 2 weeks of the course of streptozotocin-induced diabetes mellitus submandibular salivary gland had near normal structure. Acini were formed by 6-8 pyramidal cells with slightly basophilic fine-grained cytoplasm. Cells with cytoplasm swelling in the basal region and shift of nuclei from the basal to apical pole were clearly seen in duct system, particularly in the intrasegmental ducts (intercalated and smooth). The ducts were filled with secretory masses with oxyphilic signs, especially intersegmental ones. Some intersegmental veins were considerably dilated, filled with erythrocyte sludges. At the same time arteries contained single erythrocytes. On the 2^{nd} week of the course of streptozotocin-induced diabetes mellitus sublingual gland had near normal structure and terminal secretory divisions of 2 types, mucous membranes, formed by light cells with fine-grained cytoplasm and basal stratification of nuclei with low content of chromatin, and mixed ones, formed by serocytes with basophilic fine-grained cytoplasm and nuclei with low amount of heterochromatin.

Intensive swelling of the interstitium was observed on the 4^{th} day of the course in submandibular salivary glands. Vessels of microcirculatory bed, both arterioles and venules, were narrowed. Passing of formed elements beyond hemocapillaries was observed in some regions. Intersegmental excretory ducts were with destructive signs, filled with secretory masses. Parenchyma of the gland was dense. Swelling of the stroma was observed around intrasegmental ducts, their lumina appeared to be narrow.

Hardening of parenchyma in submandibular salivary glands occurred on the 6^{th} week of the course of diabetes mellitus. Acini were arranged quite densely. They were principally formed by serocytes with slightly basophilic cytoplasm and basal arrangement of nuclei.

Generalized modifications were observed on the 8^{th} week of the course of experimental diabetes mellitus. Vessels of microcirculatory bed were dilated, filled

with erythrocyte sludges. Ruptures of hemocapillary walls with passing out of formed blood elements were seen in some areas. Acini were densely located, mucocytes were almost absent. Destructive modifications of certain secretory divisions and excretory ducts were also observed.
Conclusions. Changes in rat's submandibular gland and its vascular bed confirm that diabetes mellitus is a generalized damage to all body organs and systems, in particular, vascular bed. The obtained data can be applied in further research in morphology and stomatology.

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CHANGES IN HEMOSTASIS AND THIOL-DISULFIDE TUNOVER IN RATS WITH HOMOCYSTEINE, CYSTEINE AND HYDROGEN SULFIDE EXPERIMENTAL METABOLIC DISODERS

Introduction. Disturbances of sulfur amino acids metabolism are important independent risk factors of cardiovascular diseases, thrombosis and other pathologic conditions. Hyperhomocysteinemia and hypercysteinemia were observed among 10% healthy adults, 40% patients with cardiovascular disease and 30% patients with venous thrombosis. Homocysteine and cysteine are known as main sources of endogenous hydrogen sulfide, an important signaling molecule in cardiovascular system, antioxidant, cytoprotector. However, the role of homocysteine, cysteine and hydrogen sulfide in hemostasis system and formation of metabolic thrombophilia is not completely clear. The purpose of this paper was to study the changes of hemostasis system and thiol disulfide turnover in different experimenal models of homocysteine, cysteine, hydrogen sulfide violations in rats.
Materials and methods. We studied parameters of coagulation and fibrinolysis in 110 male Wistar rats (200-270g) with various disturbances of sulfur amino acids metabolism which were caused by homocysteine thiolactone loading (100 mg/kg), its combination with L-NAME (30 mg/kg), cysteine loading (250 mg/kg), methionine-enriched diet with vitamins B_6, B_9, B_{12} restriction, administration of sodium sulfide (Na_2S $9H_2O$) 3.6 mg/kg i.p.) or DL-propargylglycine (50 mg/kg i.p.).
Results. Hyperhomocysteinemia, hypercysteinemia and hydrogen sulfide synthesis inhibition led to imbalance in thiol disulfide turnover and disturbances in hemostasis. It was established that hypovitaminosis-methionine hyperhomocysteinemia increased homocysteine (82,1±4,73 vs 6,23±0,62 micromol/l, $p<0.001$) and cysteine (157±9,40 vs 128±6,41 micromol/l, $p<0.05$) blood level, decreased SH-group (5,59±0,43 vs 8,84±0,38 mmol/l, $p<0.05$) and hydrogen sulfide (33,4±5,73 vs 79,0±6,76 micromol/l, $p<0.05$) blood level. Homocysteine thiolactone loading increased blood level of homocysteine (15,3±0,84 vs 6,54±0,23 micromol/l, $p<0.05$) and decreased blood levels of cysteine (97,4±4,21 vs 124±6,83 micromol/l, $p<0.05$), SH-group

(5,66±0,25 vs 8,38±0,36 mmol/l, $p<0.05$) and hydrogen sulfide (51,7±4,80 vs 78,3±6,45 micromol/l, $p<0.05$). L-NAME administration potentiated negative influence of homocysteine thiolactone and increased hyperhomocysteinemia (18,0±0,93 micromol/l, $p<0.05$) and hydrogen sulfide deficit (45,5±4,92 micromol/ l). At the same time, cysteine loading increased blood level of cysteine (170±6,76 vs 125±4,77 micromol/l, $p<0.05$) and decreased levels of homocysteine (4,73±0,15 vs 6,34±0,14 micromol/l, $p<0.05$). Hypercysteinemia decreased levels of hydrogen sulfide (58,6±3,77 vs 69,9±3,63 micromol/l, $p<0.05$) and SH-group in blood also.

Hypovitaminosis-methionine hyperhomocysteinemia resulted in thrombophilia formation. Thrombinemia (increase of prothrombin time, activating partial thromboplastin time, soluble fibrin monomer complex), hyperfibrinogenemia, decrease of antithrombin III and protein C activities, and increase of plasminogen activator inhibitor 1 (3,43±0,13 vs 1,61±0,14 pg/ml, $p<0.05$) are all characteristic features of this metabolic thrombophilia. Homocysteine thiolactone loading within 4 weeks also caused complex disturbance in hemostasis system such as thrombinemia, hyperfibrinogenemia, decreasing of anticoagulant and fibrinolytic activity. L-NAME administration potentiated negative influence of homocysteine thiolactone on hemostasis system. Influence of hypercysteinemia within 4 weeks on hemostasis system in rats was investigated also. It was shown that hypercysteinemia induced light metabolic thrombophilia (thrombinemia, decreasing of anticoagulant activity) without hyperfibrinogenemia.

7-days administration of propargylglycine decreased hydrogen sulfide blood level (42,6±3,14 vs 68,3 ±3,56 micromol/l, $p<0.05$), increased homocysteine (8,27±0,42 vs 6,36±0,54 micromol/l, $p<0.05$) blood level and resulted in enhancement of hemocoagulation. At the same time, administration of hydrogen sulfide donor $Na_2S \cdot 9H_2O$ increased hydrogen sulfide blood level (84,7±3,14 micromol/l, $p<0.05$), decelerated prothrombin activation and induced hypocoagulation. Obviously the deficit of hydrogen sulfide became the new pattern of thrombophilia formation induced by hyperhomocysteinemia or hypercysteinemia.

Conclusions. 1. The models of hypovitaminosis-methionine hyperhomocysteinemia, homocysteine thiolactone loading, its combination with L-NAME and cysteine loading assosiated with decreased hydrogen sulfide and SH-group in blood but had differences in homocysteine and cysteine levels.

2. Hyperhomocysteinemia or hypercysteinemia induced imbalance in hemostasis such as hypercoagulation, decrease of antithrombin III and protein C activities and increase of plasminogen activator inhibitor. Hypovitaminosis-methionine hyperhomocysteinemia caused the most severe hemostasis disbalance.

3. Inhibition of hydrogen sulfide synthesis by propargylglycine induced hypercoagulation, but hydrogen sulfide donor $Na_2S \cdot 9H_2O$ induced hypocoagulation.

Modulation of hydrogen sulfide production may be useful therapeutic strategy for hyperhomocysteinemia and hypercysteinemia induced metabolic thrombophilia.

Key words: homocysteine, cysteine, hydrogen sulfide, hemostasis.

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THE DYNAMICS OF STRUCTURAL CHANGES OF THE MYOCARDIAL TISSUE DURING EARLY AND LATE MANIFESTATIONS OF EXPERIMENTAL TRAUMATIC DISEASE

Introduction. Modern injury characterized by high levels of multiple and cumulative damage [Yelsk et al., 2002; Kozak, 2011, 2012]. From 6.4% to 59.6% of mechanical injuries of various localization characterized by the development of secondary changes of heart in the form of post-traumatic myocardiodystrophy with cause and effect of trauma [Kostenko, 2008; Kozak, 2011; 2012b; Patent ... 2011; Hotchkiss, Karl, 2003]. Poschkodzhennya infarction in TX determined by the presence of a number of important issues, such as compensation mechanisms violations and the pumping function of the heart, diagnostic criterion and the nature of myocardial injury in different periods TX [Roschin et al., 2003].

Objective: To investigate the structural changes in myocardial tissue during early and late manifestations of traumatic disease.

Materials and Methods. The experiment was performed on 109 nonlinear white male rats weighing 180-200 g, which is maintained on a standard diet vivarium. Animals were divided into 7 groups (2 hrs., 1, 3, 7, 14, 21 and 28 days) and a control group that were 20 intact animals. In the experimental groups (8-14 individuals) politravmu modeled by the developed method: bleeding from the femoral vein (BCV 20-25%), hip fracture with intraperitoneal injection of 1 ml to play hematoma RMLevy .]et al [2007 kh-1).·Injury occurred in a thiopental sodium anesthesia (40 mh The control group was administered only in thiopental sodium anesthesia. The animals were taken out of the experiment after 2 hr., 1, 3, 7, 14 and 21 and 28 days post-traumatic period. For histological studies of myocardial tissue was fixed in 10% neutral formalin solution and embedded in paraffin. Histological sections were stained with hematoxylin and eosin. Assessed cardiomyocyte structure and stroma.

Results. It was established that the perception of dyes cardiomyocytes ondoridne, individual fibers are saturated color that indicates their pereskorochennya. Cardiomyocytes housed evenly, they sarcoplasm was homogeneous nucleus clearly konturovanymy. Vessels as small and medium caliber manifestated, perivascular edema was minimal. Only in some of the fields are identified single cell infiltrates.

Histological examination of myocardial tissue after 1 day it was revealed vascular blood supply of low-blood type in the epicardium and dilated blood vessels isolated venous type of small perivascular edema.

After 3 days of the experiment revealed that in the stroma of the myocardium were growing phenomenon of increased blood supply, perivascular edema and small hemorrhages point. The fibers have been changing, as evidenced by their tortuous course, sarcoplasm prosvitlyuvalas places, some core hipertrofuvalys. In perymiziyi met single cell infiltrates

After 7 days of the experiment in myocardial tissue continued to grow cardiomyocytes changes, resulting in the development of lesions hlybchatoho collapse cytoplasm. This hiperhromiya observed nuclei. While the number of fragmented fibers was negligible. In the study of tissue was found moderate atrophy cardiomyocytes placed perivascular.

After 14 days of the experiment medium caliber vessels were dilated myocardium stroma and krovonapovnenymy, resulting in the development peryvakulyarnoho edema, which was distributed to all the stroma. Fibres cardiomyocytes rozsharovuvalys between them could detect small erythrocytic infiltrates. Sarcoplasm thus was homogeneous kernel of normal shape and structure. Lymph histiocytic infiltration was minimal.

After 21 days of the experiment histological examination of myocardial tissue was detected slight vasodilatation medium caliber, especially in areas epikardialnyh. Their lumen was filled with erythrocytes malozminena wall. Perivascular edema was mild, lymph histiocytic infiltration is minimal. There was a moderate edema of the stroma, which is distributed throughout the thickness of the myocardium

The starting from the second hour of the experiment, minimal structural changes were developed to the 1st day accompanied with small vessel circulation disorders. For 3 days the structural changes were accompanied by increased permeability of the vascular wall, up to 7 days - interstitial edema, up to 14 days - moderate perivascular edema of the stroma, up to 21 days - an increase of interstitial tissue edema with severe erytrodiapedezom and 28 days in the myocardium of animals were isolated dystrophic - necrotic changes of cardiomyocytes.

Conclusions. 1. In the early period of traumatic disease in myocardial tissue, starting from the second hour of the experiment, developed minimal structural change that to 1 day accompanied by minor disorders circulatory vessels mainly pericardium to 3 days revealed changes were accompanied by an increase in vascular permeability, which was reflected stromal edema and diapedeznymy small hemorrhages. After 7 days interstitial edema resulted in severe degenerative changes in myocardial fibers.

2. In the remote periods of traumatic disease, namely 14 days in the myocardium was detected moderate perivascular stromal edema with moderate them diapedesis hemorrhage. These events strengthened to 21 days and accompanied by the growth of intermediate tissue edema with severe erytrodiapedezom. Up to 28 days in the myocardium of animals have been isolated dystrophic cardiomyocytes-necrotic changes in the form of finely destruction of circulatory disorders and slight edema of the stroma.

Key words: multiple injuries, traumatic disease, myocardium, pathomorphological changes.

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SUBMICROSCOPIC CHANGES OF BURN WOUNDS IN EXPERIMENTAL THERMAL INJURY

Introduction. In today's life with many industrial, residential complexes, transport increasing proportion of burn injuries in peacetime [Pysmenna et al., 2011; Kornienko, 2013]. Despite the significant progress made in Combustiology problem of thermal lesions continues to be one of the most urgent in medicine [Litvinyuk, Volkov, 2011]. Injuries of this type cause considerable structural and metabolic disorders of all organs and systems of the body, but direct damage to exposed skin [Paramonov et al., 2000].

The aim of this work was to establish the state of burn wounds ultrastructural at different times after experimental thermal injury.

Materials and Methods. Experimental studies performed on 18 mature guinea pigs. When conducting research followed international rules and principles "of the European Convention for the Protection of Vertebrate Animals used for experimental and other scientific purposes" (Strasbourg, 1986) and "general ethical principles of animal experimentation" (Kyiv, 2001). Commission on Bioethics State University "Ternopil State Medical University Horbachevsky" violations of ethical standards in the conduct of research is not detected (protocol number 11 of 15/04/11).

In experiments on guinea pigs were studied ultrastructural status of burn wounds in severe thermal injury.

Results. Past electron microscopic studies of burn wounds found that after experimental thermal injury in the third degree skin gradually develop morphological changes of its structural components.

Submicroscopic 7 day experiment in central and marginal areas there is a deep wound epidermotsytiv destruction. Most cells of the basal and spinous layers.

Vascular disorders and connective tissue damages cause inhibition of regenerative processes in the boundary area of the wound.

Significantly damaged structural organization hemokapilyariv, many trombuyutsya and die. Violation of wall permeability accompanied by swelling of the dermis, the connective tissue cell infiltration and significant bleeding.

After 14 days in the burn wound, there is an increase ultrastructural changes. In ranovomu fire submicroscopic observed diffuse homogeneous mass, which contains fragments of destroyed cells, intercellular substance swollen and damaged collagen and elastic fibers.

Conclusions. Past research submicroscopic damaged skin of experimental animals have found that third degree burns in the fire wound dystrophic and necrotic changes of its structural components. The development of granulation tissue, mature, formation and transformation in connective tissue and marginal epithelization is slow, even in the later periods after thermal damage.

Key words: submicroscopic changes, burn wound, thermal injury.

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ULTRASTRUCTURAL ORGANIZATION OF ALVEOLOCYTES OF II TYPE ON EARLY STAGES OF DEVELOPMENT OF STREPTOZOTOCIN INDUCED DIABETES

Introduction. It is known that diabetes is one of the main problems of modern medicine. From the literature sources it is well known about the changes of cardiovascular system, also well enough are depicted diabetic nephro- and retinopathy and neuropathy. But alongside there is little data concerning lesion of the respiratory system during diabetes. In particular, the matter of alveolocytes of II type (A-II) whose function is synthesis and secretion of surfactant, is not elucidated.
Aim: to study changes of ultrastructural organization of alveolocytes of II type on early stages of development of streptozotocin induced diabetes.
Materials and methods. Experiments were done on 40 white male rats of 180-220 grams of weight that were divided into three groups: 1st – intact, 2d – control, 3d – experimental. In experimental group diabetes was induced by intraperitoneal injection of streptozotocin of "Sigma" company (USA) in the amount of 60 mg/kg of body mass. The sampling of lung tissue for electronic-microscopic examination was carried out under ketamine anaesthesia in 1, 2, 4 weeks after streptozotocin injection. Pieces of lung tissue were fixed in 2,5% solution of gluteraldehyde with following postfixation in 1% solution of osmium tetroxide. After dehydration material was embedded into epon-araldite. The cuts, received using ultratome "Tesla BS-490", were studied on electronic microscope "ПЕМ-125 К".
Results. Analysis of the results of submicroscopic investigation has shown that in 1 week after modelling of diabetes significant changes were not noted in structural organization of alveolocytes of II type. In 2 weeks after beginning of investigation the nucleous membrane had sinuous contours and formed shallow invaginations. Mitochondria of different dimensions and forms with matrix of average electron-optical density. In some cells could be observed enlarged mitochondria. In the perinuclear zone could be defined Golgi apparatus with small vesicles. Granular endoplasm grid was represented by evenly dilated canaliculi and cisterns. Changes were also observed in lamellar bodies and were characterized by emergence of uneven lucid spaces between bimembrane osmiophilic sheets. Basal membrane of A-II mainly preserved its normal structure. The structure of intercellular contacts had no changes. On the apical surface of A-II became apparent mosaically located microvilli. In 4 weeks after beginning of investigation the perinuclear space was somewhat dilated. Components of Golgi apparatus and granular endoplasm grid were dilated. Mitochondria were edematic with randomly oriented cristas. There could be found vacuolated lamellar bodies with fragments of osmiophilic sheets inside. Basal membrane was somewhat thickened, with unclear contours. Apical surface of many A-II was levelled. Alongside could be found A-II with features of increased functional activity. The received data agree with the results of other authors that studied changes in lungs caused by different endogenous factors.

Conclusions: 1. Streptozotocin induced diabetes is accompanied by the expressed ultrastructural changes of alveolocytes of II type. 2. Character and expressiveness of changes A-II depends on duration of diabetes.
Key words: streptozotocin induced diabetes, alveolocytes of II type.

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FETAL TOPOHRAFIYA PANCREATODUODENAL ORGANOCOMPLEXES

Introduction. The article discusses the formation of a sphincter muscle of a common bile duct and a sphincter muscle of major duodenal papilla in the fetal period ontogenesis of human. Learn literature on structural features pancreatoduodenal Organocomplexes in the perinatal period of ontogenesis fragmented and a few [Davydenko et al., 2005; Lesko, 2007; Zheleznov et al., 2007; Leng, Lu, 2005]. Most of them are devoted to the investigation of the anatomy or of a certain age group Organocomplexes or embryonic transformation in the early stages of development [Schaser et al., 2005; Ceres et al., 2006; Shiono et al., 2006]. No common opinion about the interrelations of anatomical components pancreatoduodenal Organocomplexes each other and surrounding structures of the abdominal cavity. There is a need to identify the dynamics of morphometric parameters pantkreatoduodenalnoho Organocomplexes changes in the perinatal period of development.
This is what led to *the purpose* of our study: determine the features of formation of structure and topography pancreatoduodenal Organocomplexes and its components in human fetal period.
Materials and Methods. Morphometric study pancreatoduodenal Organocomplexes held on 58 cadavers fruit preparations in situ and 26 isolated Organocomplexes. Used histological examination to determine the microscopic anatomy components pancreatoduodenal Organocomplexes.
Results. Perinatal period of the duodenum and pancreas characterized by a change of placement of anatomical parts in planes, due to close topohrafoanatomichnym influence of adjacent organs and structures of the abdominal cavity. The most pronounced changes occur at the top and bottom of the duodenum. Bent and curved forms of the pancreas characterized by larger body size of the head, the determined 64% typical form duodenum - Annular. Curved pancreas often occur in combination with an annular duodenum in 17 ± 4%, at least - with a U-shaped intestine (4 ± 1%), the least - with the V- and C-shaped (2 ± 0,5% and 1 ± 0,5% respectively). Arched shape gland often combined with annular (4 ± 1%) and V-shaped (1,5 ± 0,5%) duodenum, sometimes with U- and S-shaped (1 ± 0,5% and 0,8 ± 0.4% respectively). Characteristic syntopichnyy influence in the early fruits (4-5 month old) detected by head cancer.

Late fetal and neonatal period there is a significant number of individual variants of the structure, regulations and interrelations SZHP with surrounding structures, indicating that a substantial individual variability.

Conclusions. 1. 4-5 months large papilla located on the border of the upper and middle thirds of the descending part of the duodenum at its anterior-medial wall in 6-10-month-old fetuses and newborns - usually on the medial wall or perednomedialniy middle third of the descending part.

2. Formation of nadduodenalnoyi common bile duct begins with a 6-month gestational period. Growth parts of the common bile duct is performed asynchronously with periods of acceleration (4-6 month and 9-10-month) and deceleration (8th month).

3. At the end of the gestational period (month 8-10 fruits) muscular sphincter of Oddi already established and is a complex musculo-valve structure in the final part of the common bile duct and the thickness of the big duodenal papilla, the structure of which becomes definitive evidence that determines its functional capacity.

Key words: pancreatoduodenal organocomplexes, fetuses, human.

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MORPHOFUNCTIONAL CHANGES IN THE LIVER, KIDNEYS AND ADRENAL EXPERIMENTAL ANIMALS AT LONG FEEDING RAUNDAPOSTOYKOY OF GENETICALLY MODIFIED SOYBEAN

Introduction. To date, many countries in the world is a problematic issue forage for animals and food for people of different GM crops as raw materials. Ukraine, including the skirts, significantly increased production raundapostoykoy soybeans. At the same time the use of biotechnology without a deep understanding of the results of their influence can lead to very tragic consequences. GMO least studied, it is impossible to stop and, if necessary, to eliminate. Risks of a comprehensive study of biology anticipates GM plants and fundamentals Gemonov expression regulation. Requires constant monitoring of each individual authorized to manufacture GM product , as well as a comprehensive and in-depth study of the potential adverse effects not only of GMOs and their metabolites, the quality and quantity of which are difficult to predict.

The purpose of this study was to evaluate the morphofunctional state of the liver, kidneys and adrenal glands of pigs during prolonged feeding raundapostoykoy GM soy.

Materials and Methods. Pigs for experiments used two months of age. Experimental group consisted of 4 pigs and 2 boar, which besides cereals included in the diet for 15-20% crude protein soybean raundapostoykoy thermally processed. Control group with a similar number of animals that except for soggy cereal protein (15-20%) were

fed sunflower meal and ground peas. Watching animals lasted 485 days. When slaughtering animals for histological cut fabric pieces of liver, kidney and adrenal glands, which were fixed in 10 % neutral formalin, conducted through a battery of alcohols and embedded in paraffin by the usual method. Tissue sections were stained with hematoxylin-eosin and Van Gieson.

Results. During the external examination of the internal organs of experimental animals drew attention uneven congestion and moderate laxity of tissues. As a result, the animals and weighing found a slight increase of their absolute and relative weight of from 0.03 % to 0.08 %. Histologically, the liver and kidneys except plethora uneven, and significant swelling of the liver and portal tracts, revealed very moderate sclerosis. In parenchymal cells dominate protein dystrophy: diffuse granular nature, which places goes into hyaline droplet and in the kidneys and hydropic and found nests of necrosis and apoptosis. Near past sometimes defined neobshirnye mononuclear infiltrates. In the cells of the liver parenchyma and renal biopsy revealed signs of adaptation: regeneration, polyploidy, hypertrophy and atrophy.

Particularly noteworthy are the morphological changes of the adrenal glands, the regulating effect which can affect other organs. Capsule bodies are unevenly thickened due to edema and increased collagen fibers. Along it are defined connective branches in the glomerular zone, which places significantly thinned and represented Minorities jacks endocrinocytes the presence of binucleated. In the beam zone draws attention uneven, sometimes very pronounced expansion of clear liquid lumen vystelennyh fenestrated capillaries sinusoidal endothelium direct type that causes weakening of cell-cell contacts and in endocrine diskompleksatsiyu tyazhah. Meet the visual field in which the contacts between cells are completely absent, the cytoplasm of endocrine povyshenno homogeneous eosinophilic and the nucleus deformed hyperchromic. Among them are defined and non-nuclear endocrinocytes, which is typical for pathogenic indicate nekroapoptoza.

Conclusion. With prolonged feeding pigs raundapostoykoy GM soy in the liver and kidneys dystrophic changes, indicating a decrease in reserves of the adaptation. In all zones of the adrenal cortex occurs with significant swelling disintegration endocrine, developmental lesions dystrophy, apoptosis, which can cause exhaustion function.

Key words: roundup GM soya, pigs, structure, liver, kidneys, adrenal glands.

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COMPARISON OF THE EFFECTS OF CYTOSTATIC COMPOUNDS DIHYDROPYRROLE DERIVATIVE AND 5-FLUOROURACIL ON THE RATS' LIVER HISTOLOGICAL STRUCTURE UNDER CONDITIONS OF COLON CARCINOGENESIS

Introduction. Increasingly popular trend gets targeted therapy of cancer, based on the target of action of therapeutic agent that affects the specific onkoproteyiny - important link signaling pathways that are violated in carcinogenesis. One of the main targets for targeted drugs targeting protein kinases are so actively being sought inhibitors of enzyme activity [Thaimattam et al., 2007]. For these compounds, a high specificity for the target molecule that causes cytostatic effect in malignant cells and low toxicity with prolonged use.

Purpose of this study was to evaluate the impact of derivative dyhidropirolu the state of rat liver at 7 weeks of oral administration, under simulation colon cancer in rats using 1,2-dymetylhidrazynu (DMH) [Perse et al., 2005] and compare the effect of dyhidropirolu original and traditional anticancer drug 5-fluorouracil (5-FU, 2,4-dioxo-5-ftorpirymidyn) [Garin, 2000].

Materials and Methods. The study was conducted on 90 bezporidnyh mature male rats. The substances were administered as follows: dyhidropirolu derivative (D1) (2.3 mg / kg body weight) per os daily dissolved in sunflower oil (0.1 ml) containing 15% DMSO (0.1 mL); 5-FU (45 mg / kg body weight) - weekly subcutaneously (0,32-0,34 ml depending on body weight); DMH (20 mg / kg body weight) - weekly subcutaneously dissolved in saline with a neutral pH (0.1 mL). The experimental animals were randomly divided into 7 groups

Results. The results of the study of morphofunctional state of the rats' liver at the 7 weeks administration of dihydropyrrole derivative which reveals the cytostatic effects in comparison with traditional anticancer drug 5-fluorouracil are shown. It was determined that the dihydropyrrole derivative exibits little damaging effect on the rats' liver, and the administration of 5-fluorouracil caused pronounced hepatotoxic effect. With the introduction of animals DMH there are serious violations histoarhitektoniky liver, which is typical when entering the compound [Lynchak et al., 2012]. Frequent areas in which the structure of beams broken liver, hepatocytes tsentrolobulyarnoyi and periportal areas of the liver lobules appear swollen, with heterogeneous cytoplasm, some components of the cytoplasm of cells shifted from the core to the periphery. Growing cross-sectional area of hepatocytes both zones.

Conclusions. 1. Derivative dyhidropirolu with cytotoxic properties when administered for 7 weeks has little toxic effect on the liver of rats, which is smaller than the traditional action of anticancer drug 5-fluorouracil.

2. When DMH-induced colon carcinogenesis in rats liver undergoes significant morphological changes, which dominate the effects of D1, while the introduction of 5-FU after carcinogen causing more pronounced toxic effects on the liver.

3. Combined effect of two cytotoxic drugs abuse involves specific histological structure of the liver, which are dominated by the effects of 5-fluorouracil.

Key words: dihydropyrrole derivative, 5-fluorouracil, liver, cytostatics, hepatotoxicity.

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HYDROGEN SULFIDE FORMATION IN RATS' AORTA: CORRELATION WITH THE LEVEL OF SEX HORMONES

Introduction. H_2S is signalling molecule that regulates vascular tone and myocardial contractility. The role of gender and sex hormones in H_2S production on rats' aorta remains unclear what became research objective.

Materials and methods. Sex hormones level in Wister rats was modulated by castration and hormone replacement therapy. H_2S content, cystathionine γ-lyase (CSE) activity and kinetic parameters in heart and aorta, sex hormones level in blood.

Results. Gender and the level of sex hormones are one of the key factors in regulation of H_2S metabolism in rats' aorta. Our research has shown that H_2S content and CSE activity in female rats' aorta are significantly higher (by 21,0-30,0 %) than in males. Testosterone shortage (castration of males) results in increase of H_2S (19.9%) with the increase of CSE activity (22.7%), while estradiol deficiency (female castration) shows opposite changes: H_2S reduction (in 23.2 %) and decrease activity of CSE (27.8 %) compared to control group. Hormone replacement therapy with testosterone / estradiol respectively contributes to H2S metabolism restoration in rats' aorta to the level of control animals. Sex hormones various saturation in rats affects not only the activity of H_2S synthesis in rats' aorta, but also changes the kinetic parameters of enzymatic reactions catalyzed by CSE.

It is shown that CSE affinity to cysteine in female rats' aorta and the maximum rate of enzymatic reaction of H_2S synthesis were significantly higher (by 14,0-24,0%) than in males. Ovariectomy causes significant lowering CSE affinity to cysteine (Km increases significantly to 26.4 %) and Vmax (16.7 %), whereas males gonadectomy is accompanied by opposite changes compared to the control group of animals. Substitutive introduction of sex hormones to castrated animals provides restoration of kinetic parameters CSE involving enzymatic reaction to the level of animals without changes in hormonal status.

The question is about sex factors and molecular mechanisms that are integrated in the formation of H_2S gender dimorphism in aorta. Therefore, estradiol deficiency decreases NO production, that is accompanied by decrease of CSE activity and H_2S synthesis, and vice versa, testosterone deficiency activates NO and H_2S synthesis

Conclusion. Thus, sex hormones are involved in regulation of H_2S production in rats' aorta.

Key words: hydrogen sulfide, cystathionine γ-lyase, kinetic parameters, gender, sex hormones, aorta.

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STATE OF AORTA AFTER EXPOSURE TO IRRADIATION AND SALTS OF HEAVY METALS

Introduction. Cadmium and lead are the most prevalent and toxic metals in Ukraine and outside the territory, they negatively impact population's health, being causative agents of development of vascular and other diseases. Together with the action of ionizing irradiation, organism is subjected to yet heavier loading, the effects of such a complex impact remain studied insufficiently.

Aim of the experiment was to investigate state of rats' aorta after separate and combined impact of irradiation, salts of cadmium and lead.

Materials and methods. Investigations were carried out on male rats of Wistar line. Total gamma-rays irradiation was carried out using facility «Rokus» (Russia); source – ^{60}Co, power of exposure dose - $4{,}3 \cdot 10^{-4}$ A/(kg·s). In the experiment 6 groups of animals were used. Rats of the 1st, 2nd and 3d group were irradiated in the dose of 0,5 Gy. In 3 months after irradiation rats of the 1st and 2nd and non-irradiated rats of the 4th and 5th group were subjected to daily loading with heavy metals in concentration of 1/10 LD_{50} during 10 days' period by means of intra-peritoneal introduction of cadmium chloride (1st, 4th groups) and lead acetate (2nd, 5th group), with the following 15 days' restoration period. In parallel, rats of the 3d and 6th group irradiated and non-irradiated correspondingly (the latter group was a control one), were injected with 0,9 % of NaCl. After irradiation with different doses and load with salts of heavy metals (3 months after exposure) the state of aorta vascular index, which was defined as the ratio of wall thickness to diameter of the vessel lumen was investigated. 10 days after beginning and 15 days after cessation of injections animals were withdrawn from the experiment under ether narcosis; for morphologic investigations a part of the aorta was taken and subjected to histologic processing. On semifine sections the diameter of lumen and thickness of wall in the aorta were defined. Vascular index (in mkm) as ratio of vascular wall thickness to diameter of its lumen was calculated. The data obtained were statistically processed.

Results. Impact of salts of cadmium and lead on the aorta without irradiation has a reverse effect, and after cessation of metal action was followed by normalization of vascular index values. Comparative analysis of changes of aorta wall thickness 15 days after restoration period after the impact of irradiation in the dose of 0,5 Gy and/or loading with metal salts showed absence of statistical discrepancy between control (6th group) and other groups of non-irradiated animals: $p>0{,}80$ with 4th group and $p>0{,}30$ with 5th group by Dannet's criterion. Simultaneously, impact of irradiation on aorta wall thickness was statistically significant. So, finding in the 1st group of animals (irradiation + cadmium) exceeded level of the control group by 1,9 times ($p<0{,}001$), in the 2nd group (irradiation + lead) – by 2,3 times ($p<0{,}001$), in the 3d group (irradiation + NaCI) – by 1,2 times ($p<0{,}01$ by Dannet's criterion).

Increase of aorta wall thickness was more expressed after lead intoxication, regardless of irradiation action. So, finding in the 5th group of animals (lead) on average made up 125,6±2,6 mkm against 118,4±1,6 mkm in the 4th group (cadmium) ($p<0{,}05$ by Newman-Keils's criterion). Combined action of irradiation in the dose of 0.5 Gy and cadmium salts progressively increases vascular index of the aorta.

Combined effect of irradiation at the same dose and that of lead more negatively impact the aorta, resulting in higher, relatively cadmium, indices of vascular index and formation of foci of connective tissue structures in the intima which protrude far into the lumen of blood vessels and unevenly narrow its lumen.

Conclusions. 1. Impact on cadmium salts aorta and / or concentration of lead in 1/10 LD50 no radiation effect is reversible after termination of metals by normalization of vascular index values.

2. United action of irradiation at a dose of 0.5 Gy and cadmium salts progressively increases vascular index in the aorta.

3. United action of irradiation at the same dose and lead more detrimental to the aorta, resulting in higher relative cadmium indicators vascular index and the formation of connective tissue in the intima lesions entities that act far lumen uneven and narrow lumen.

Key words: ionizing irradiation, aorta, cadmium, lead.

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EFFECT ON ULTRASTRUCTURE OF A RETINA OF RABBITS AFTER TWO-WEEK VITREOUS REPLACEMENT OF PERFLUOROCARBON LIQUID (EXPERIMENTAL STUDY)

Introduction. The use of materials with high specific weight for the short-term tamponade vitreous cavity - perfluororganic compounds (PFOS) - could expand the indications for surgical treatment detachments retina of various origins and improve not only anatomical but also functional results. Short-term tamponade provides intra- and interoperation evacuating residual subretinal fluid leads to the complete adaptation of the retina and may be used with the haemostatic purpose, which enables to inject silicone oil is "pure" retina, as well as the need to conduct additional argon laser coagulation. PFOS has a specific gravity in 2 times more water and a thousand times more air. PFOS chemically and metabolically inert, transparent and exhibit low viscosity. For the first time in medicine were presented in 1966 [Clark, Gollan, 1966]. Since the early 80s, liquid perfluorocarbons, thanks to its gas transmission functions are used as substitutes (perftoran). The first experience of intravitreal use of PFOS belongs SJHaidt and collaborators. They noted the absence of gross lesions of the retina, lens and cornea in terms of supervision of up to three months after surgery, allowing further use of PFOS in vitreoretinal surgery [Haidt et al., 1982].

The purpose of the pilot study - the study of the influence of short-term tamponade PFOS (14 days) on the ultrastructure of the retina of the rabbit in the experiment; comparison of the effects of PFOS, saline, "light" and "heavy" silicone oil in the

dynamics through EMR for varying periods after the end of tamponade (7, 14, 30 days).

Materials and methods. The experimental study was performed on 18 (36 eyes) rabbits. After undergoing vitrectomy, rabbits were injected with the perfluorocarbon liquid (right eyes) and silicone oil 5700 cs or heavy silicone oil or balanced salt solution (left eyes) for 2 weeks. The electron microscopy was performed in 7 days, 2 weeks, 1 month after substances removal.

EMR retinal held all the animals at various dates after the vitreous cavity tamponade PFOS, saline, "light" and "heavy" silicone oil. All animals after the completion of tamponade were divided into three groups, respectively, terms of research:

The first group (6 rabbits) - conducting EMR retina 7 days after completion of tamponade; The second group (6 rabbits) - conducting EMR retina 14 days after completion of tamponade; The third group (6 rabbits) - conducting research EMR retina 30 days after completion of tamponade; In all cases, the second eye (left) was the control.

Results. The electron microscopy demonstrated no structural differences in the retina between eyes injected different substances. However these changes were reactive, not damaging, and reversible. The perfluorocarbon liquid can use for temporally vitreous replacement.

Electron-microscopic examination 7 days after the 14-day tamponade saline showed a small hydropic change elements HPP RPE cytoplasm and disconnection NA FC. Other structures FK in the normal state (Fig. 7). The ultrastructure of the inner layers of the retina without any visible changes.

After 14 and 30 days after tamponade fiz.rastvorom ultrastructural state of the elements of the retina in the normal range.

Conclusions. 1. When comparing the use of light and heavy silicone can be noted in the first almost unchanged structures and FC RPE cells, except minor injuries NA FC disk membranes; and hydropic changes in the nervous elements of the outer plexiform layer and, to a lesser extent, the cytoplasm of the Civil Code and ILC. Administration of saline control, in all terms of studies caused mild hydropic changes reactive nature, mostly in RPE cells. 2. All three species studied effects on the retina are representative for the same type effect on the ultrastructure of the studied elements. This is mainly hydropic changes HPP RPE cells, mitochondria PES, Sun FC, SC and ILC. As well as compensatory and restorative processes to normalize the structure. 3. PFOS causes reversible reactions ultrastructures studied elements in practically all periods of observation, and in parallel, there are signs of intracellular compensatory and restorative processes. The differences in the effect of PFOS and silicone on the retina is mainly observed in the dynamics of ultrastructural changes. It is particularly close in their effect on the retina of PFOS and "easy" silicone, while "heavy" silicone is somewhat more pronounced reaction at the subcellular level. The findings suggest that the reversibility and the normalization of the observed changes in the elements of the retina and is not destructive when used for tamponade vitreous cavity for 14 days.

Key words: ultrastructure, retina, perfluorocarbon liquid, silicone oil 5700 cs, heavy silicone oil.

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MORPHOLOGICAL CHANGES IN BLOOD VESSELS OF PANCREATIC GLAND IN EXPERIMENTAL PERITONITIS CAUSED BY THE NALBUPHINE INJECTION

Introduction. Drug addiction has become today a serious social and health problem because about 200 million people worldwide use drugs [Pyholkyn, Hasanov, 2010; Brune et al., 2011]. Demands address the issue of chronic drug intoxication on the structure of various organs [Gerasimenko, Latartseva, 2002; Zavadovskaya et al., 2006; Kozlov, 2006; Bondarenko, 2007; White-Popovich, 2008]. Study of structural changes in the conditions of pancreatic pathology number of works devoted to professional literature [Watanabe et al., 2007]. An interesting study of the effect of opioids, including nalbuphine, the excretory function of the pancreas [Nagaine et al., 1993].

The aim of our study was to establish the characteristics of morphological changes in blood vessels of the pancreas with peritonitis, caused by the introduction of nalbuphine.

Materials and Methods. Experiments were performed on 26 white male rats, weighing 100-130 g, aged 4,5-7,5 months. Material research presented histopreparatamy pancreas of rats. For histological examination of sections stained with hematoxylin pancreas and eosin. Drugs studied, photographed under a microscope MBY-1 digital camera Olympus FE210 with increasing 100h. Nalbuphine administered intramuscularly as follows: a week - 8 mg / kg, the second week - 15 mg / kg, the third week - 20 mg / kg, IV week - 25 mg / kg, V Week - 30 mg / kg, VI week - 35 mg / kg [Lunkova et al., 2002].

Results. The article is devoted to the microstructural changes in blood vessels of the pancreatic gland at peritonitis, caused by the introduction of an opioid (nalbuphine). In this paper we presented new data on peculiarities of microcirculation changes on 2, 4 and 6 weeks of experimental peritonitis course. Clearly showed the negative impact of nalbuphine on the development of micro- and macroangiopathy at peritonitis.

Revealed thrombi in arterioles interlobular, separation of blood into plasma and formennyh elements in the lumen of interlobular venules (Fig. 3), and fibrin-leukocyte precipitates in the lumen of lymphatic vessels (Fig. 4). These vascular changes observed on the background of clear interlobular stroma edema of the pancreas.

Conclusions. 1. The first signs of the vascular bed of the rat pancreas seen within 2 weeks course of experimental impact nalbuphine. Macro- and microangiopathy occur against a background of pronounced signs of peritonitis. 2. During the course of the

experiment within 6 weeks of growing deep destructive changes at all levels hemomikrotsyrkulyatornoho bed pancreas, leading to disruption of pancreatic tissue.
Key words: pancreas, blood vessel, peritonitis, nalbuphine.

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MORPHOLOGICAL CHANGES IN THE PLACENTA AND UTERUS IN EXPERIMENTAL ANTIPHOSPHOLIPID SYNDROME AND PRESCRIPTION OF TIVORTIN

Introduction. Theaim – to confirm the usefulness of the precursor of nitric oxide synthesis – L-arginine to correct morphological disturbances observed in the placenta and uterus in the background of experimental antiphospholipid syndrome.
Materials and methods. APS was modeled in mice female line Balb/c by using cardiolipin (Sigma, USA), which was administered intramuscularly four times(30 mcg per 1 injection, intervals between injections were 14 days). To improve the efficiency of the immune response was used Freund's adjuvant. Model of APS was formed in 2 weeks after the last injection. Animals were divided into 3 groups; control,2 groups one of which was with APS, secondone– with APS which used L-arginine (Tivortin, Ltd. "YuriFarm", 25 mg/kg), administered 10 days before pregnancy and during 17 days of gestation. Histological examination of the placenta and uterus in all 3 groups of animals were carried out in 18^{th} day of gestation. Research of the histological structure was carried out by light microscopy.
Results. Structural features of uterus in animals with modeled APS were shown by significant expansion and hyperemia of vessels of the placenta, which was accompanied with the clot formation, perivascular edema, minor perivascular hemorrhages and focal leukocytosis. In cell infiltrates were many plasma cells, as a sign of immune inflammation.
In myometrium separate fibers become thinner, but the surrounding areas had signs of hypertrophy. In myometrial vessels was found the uneven blood filling, accompanied by expansion of some vessels and clot formation. There was a focal proliferation of endothelial cells and mucoid edema (weak walls degenerative changes). In the placental bed was found hemorrhages of different sizes and increased activity of macrophages.
Precursor of nitric oxide synthesis L-Tivortin improved hemodynamics in placenta and uterus. Correction APS with L-Tivortin reduced expression of dystrophic and necrotic changes and signs of the inflammatory response. Morphological picture of placental tissue was with inclose to normal.

The results are promising for targeted correction of blood coagulation disorders, the condition of placenta and uterus in obstetric antiphospholipid syndrome by agents wich are able to activate the synthesis of nitric oxide. L-arginine may be beneficial for preventionof complications in obstetric antiphospholipid syndrome such as preterm labor and recurrent miscarriage.

Conclusions. 1. In the experimental obstetric antiphospholipid syndrome marked by acute circulatory disorders in placenta formation of vascular thrombi, perivascular edema and hemorrhage, focal signs and leukocytosis immune inflammation. 2. Correction AFS L-tivortinom accompanied by improvement of hemodynamics in the placenta in small vessels, and medium caliber reduction dystrophic necrotic symptoms and signs of inflammatory response, normalization as uteroplacental and fruit-placental circulation.

Key words: obstetric antiphospholipid syndrome, placenta, uterus, structure, L-tivortin.

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EVALUATION OF THE THERAPEUTIC EFFECT OF 0.9% NACL SOLUTION FOR DYNAMIC PERFORMANCE OXIDANT-ANTIOXIDANT BALANCE IN THE ISCHEMIC BRAIN IN RATS

Introduction. All major pathogenetic links that accompany ishemik-hypoxic damage of brain along with a reduction in energy intensity of brain cells is the trigger to start the process of oxidative stress - lipid peroxidation (LPO) and oxidative modification of proteins (OMB). In view of this considerable interest is the study of the influence of a single course of therapy infusion solutions of different composition on the status of indicators of the oxidant-antioxidant balance in the ischemic brain.

The aim of this research was to explore the dynamics of indicators oxidative-antioxidative balance in the brain tissue of rats without treatment and during treatment with saline 0.9% solution of NaCl.

Materials and methods. ADCC was modeled by means of bilateral ligature of internal carotid arteries in the rats. 0,9% NaCl solution was introduced intravenous in conditionally effective dose 2,5 ml/kg 2 times a day (5,0 ml/kg a day).

First injection was conducted in 30 minutes after ADCC and further every day in every 12 hours during 7 days. Animals of the control pathology group didn’t get any therapy (ADCC without treatment).

Results. It was investigated that under the experimental ADCC in rats lipid peroxidation and oxidative modification of proteins were potentiated in the brain structures. The use of 0.9% solution of NaCl in animals with ischemic brain damage moderately but significantly reduced the content of products of lipid peroxidation and oxidative modification of proteins relatively untreated animals with ADCC. Infusion

of 0.9% NaCl solution to animals with ischemic brain damage did not significantly impact on degree nitrosative stress because there are no statistically significant change in the total activity of NO-synthase in brain cells compared to the untreated group of animals.

Conclusions. 1. Compared with untreated animals treatment of rats with model of cerebral ischemia of 0.9% NaCl solution to some extent helps to restore the dynamics of oxidant-antioxidant balance ($p<0.05$) and not significantly impact on degree of nitrosative stress and glutathione peroxidase activity in ischemic brain ($p>0,05$). 2. Therapeutic effect which was obtained in the experiment through infusion therapy 0,9% NaCl solution is the basis for studying protective influence of other groups of infusion preparations by acute disorder of the cerebral circulation.

Key words: ischemic stroke, infusion therapy, normal saline.

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DYNAMICS OF ULTRASTRUCTURAL CHANGES OF ILEAL CELLS OF RATS AFTER LIGATION OF ILEOCOLIC ARTERY

Introduction. Treatment of stenosing diseases of the esophagus remains a challenging and unsolved problem. This is evidenced by the large number of complications, high figures of postoperative mortality, which ranges from 3,5 to 30%. There is no consensus about optimal way of performing esophageal replacement in the world (stomach, small or large intestine used for esophageal replacement). So we can see the search for new methods of esophageal replacement. We proposed a new method of esophageal replacement that can be used for simultaneous impression of the esophagus and stomach, where sufficient conditions have been established blood supply to the graft, would be an opportunity to extend the graft to the required size, kept antireflux mechanism and function of the tank artificial stomach. This is achieved by holding of esophageal replacement by ileocecal segment. Therefore, we studied the ultrastructural changes in the wall of the ileocecal segment after ligation of appropriate feeding arteries in experiment, which is carried out at its mobilization for esophageal replacement. The aim of our study was to investigate the dynamics of ultrastructural changes in the cells of the ileum of rats after ligation of ileocolic artery in 7, 14 and 21 days.

Materials and methods. The experiment was carried out on white rats, male, weighing from 250 to 300 g. Experiments were performed in accordance with general principles of experiment on animals adopted by the National Congress of Bioethics. Before research animals passed quarantine in a vivarium a current of week, contained in identical conditions, received an identical diet. There was not any special preoperative preparation. In total 16 rats were operated on. Operations were performed under ketamin anesthesia. The ligation of ileocolic artery with the

subsequent studying of ultrastructural changes of a wall of ileum was carried out in all animals of skilled group (10 rats). There were 6 rats in control group. Animals were taken out of experience in 7, 14, 21 days by an overdose of ketamine and biopsy specimens were performed to study the ultrastructural changes in the cells of the ileum.

Results. It is shown that ligation of the ileocolic artery causes the development of dystrophic changes at the ultrastructural level which often turn into destructive phase in organelles of all epithelial, smooth muscle cells and endothelial cells of capillaries of the ileum. On the 7th days intracellular catabolic processes begins to dominate in epithelial cells, and also the activity of transcellular transport of substances, water and electrolytes decreases. It is established that ultrastructural changes of ileum cells were associated with the development of mitochondrial dysfunction. At 14 days after ligation of the ileocolic artery the degree of dystrophic disorders returns within physiological compensation, and to 21 day the main part of the ileum cells had acquired a typical structure.

Conclusion. After 21 day after ligation of the ileocolic artery the main part of the ileum cells got typical for them structure as opposed at 7 and 14 days.

Key words: cell ultrastructure of the small intestine, arterial ischemia, mitochondrial dysfunction.

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MORPHOMETRIC CHARACTERISTICS OF RATS' JEJUNUM WALL IN INTRODUCTION OF CRYOPRESERVED PLACENTA AGAINST THE BACKGROUND OF ACUTE ASEPTIC INFLAMMATION OF ABDOMINAL CAVITY

Introduction. The purpose of the research was to establish changes in morphometric parameters of rats' jejunum wall in single subcutaneous transplantation of cryopreserved placenta against the background of acute aseptic inflammation of abdominal cavity. The object of the experimental study was the wall of the small intestine, extracted from 60 Wistar pubescent male rats. Rodents were divided into three groups: intact animals were included into Group I (5); controlling animals were included into Group II; 45 animals, which were one-time introduced with cryopreserved placenta against the background of inflammation of abdominal cavity, initiated by introduction of α-carragheen, were included into Group III. General histological and morphometric methods of research have been applied.

Results. Introduction of cryopreserved placenta against the background of acute inflammation causes thickening of intestinal wall that becomes evident from the 1^{st} to 5^{th} day of the experiment, reliability of difference ($p>0,05$). On the 10^{th} day this index decreased significantly as compared with the 7^{th} day ($p<0,05$). From the 14^{th} to 30^{th} day this index was also decreasing but reliability of difference was not significant. While

comparing Group III with intact group it was discovered that from the 1st to 10th day this index was significantly greater ($p<0,05$); starting from the 14th to 30th day of the experiment it was scarcely similar to intact group ($p>0,05$).

The analysis of index of mucosa thickness showed that single introduction of cryopreserved placenta causes its growing from the 1st to 5th day of the experiment. Thinning of mucosa was discovered on the 7th day. From the 10th to 30th day this index was also decreasing but reliability of difference between terms of study was not significant.

The analysis of mucosa thickness between the Group I and Group III showed that from the 2nd to 10th day this index was significantly greater ($p<0,05$), as compared with intact group. Starting from the 14th to 30th day of the experiment reliability of differences was not significant.

Submucous coat thickness in introduction of cryopreserved placenta against the background of inflammation of abdominal cavity showed growth of this index from the 1st to 5th day of the study with difference between them of ($p<0,05$). Starting from the 7th day this index decreased. On the 10th -30th day this index decreased significantly as compared with the 7th day ($p<0,05$).

While comparing the index of the Group III between similar one in the intact group a significant increase has been discovered on the 2-7 day. On the 10-30 day no significant difference from the intact group was observed.

Thickness of muscular coat showed its thickening from the 1st to 5th day of the experiment, but reliability of differences was not significant. From the 7th to 30th day this index was also decreasing, but the reliability of the differences between terms of study was not significant. While comparing these indices between Group I and Group III it was discovered that from the 2nd to 5th day this index was significantly greater ($p<0,05$), as compared with Group I. Starting from the 7th to 30th day of the experiment thinning of muscular coat was observed, reliability of difference was not significant ($p>0,05$).

Thickening of serous coat was observed from the 1st to 3rd day of the experiment. On the 5th day this index was decreasing, as compared with the 7th day ($p>0,05$). From the 14th to 30th day this index was also decreasing but reliability of differences was not significant.

During the comparative analysis of Group III with intact group it was discovered that from the 1st to 10th day this index was significantly greater ($p<0,05$) and starting from the 14th to 30th day this index was decreasing, reliability of difference was not significant ($p>0,05$).

Thus, single subcutaneous introduction of cryopreserved placenta against the background of acute aseptic inflammation of abdominal cavity causes changes in jejunum's metric indices and has a positive impact on processes of its regeneration due to considerable release of bioactive substances.

Conclusions. Consequently, single subcutaneous introduction of cryopreserved placenta against the background of inflammation of abdominal cavity causes changes in morphometric indices under study. In this way, indices of overall thickness, thickness of mucous, submucous and muscular coats have responded by significant increase of its index maximum on the 5-7 day with restoration of these parameters on the 10-14 day of the experiment to the values of intact group. On the 2-7 day serous coat was significantly thickened as compared with intact group.

The perspective of further research is to study the dynamics of morphologic and metric changes in *ileum* during introduction of cryopreserved placenta against the background of acute inflammation to identify the patterns of this process.
Key words: jejunum, mucosa, cryopreserved placenta, aseptic inflammation.

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ANALYSIS OF MORPHOMETRIC DATA OF MYOCARDIUM IN RATS OF DIFFERENT AGES AT HIPOOSMOLAR HYPERHYDRATION

Introduction. *The aim* of this work was to study changes of morphometric parameters of the heart in rats of different age groups at hypoosmolar hyperhydration.
Materials and Methods. We used 36 white laboratory male rats which were divided into experimental and control series. The experimental series consisted of 6 young (3 months), 6 mature (8 months) and 6 old (22 months) animals, which simulated a severe degree of hypoosmolar hyperhydration. To achieve the hyperhydration we injected animals distilled water through a tube in an amount of 10 ml three times a day and fed them boiled demineralized food. To prevent physiological maintain of water homeostasis we injected synthetic analogue of antidiuretic hormone (vasopressin) "Mynyrin» (Ferring) twice daily at a dose of 0.01 mg. The modeling of severe hyperhydration was 15 days for young rats, 20 and 25 days respectively for mature and old animals. The control group consisted of 18 rats (6 animals in each age group), which were injected with "Mynyrin» (Ferring) twice daily at a dose of 0.01 mg. Animals received normal drinking water and food within the daily physiological needs.
We determined the net weight of the heart; Fulton index, ventricular index; cardiac index; weight of both atria; square of the left and right ventriclar endocardial surfaces; the ratio of ventricular weight to the square of its endocardial surface.
Results. We observed a violation of the studied parameters in rats of three experimental groups. In young rats the mass of the heart chambers increased uniformly and the right ventricular cavity expanded rapidly.
In mature animals results indicate marked increase in weight of the right ventricle and the expansion of its cavity.
In old rats we observed the vast right ventricular hypertrophy and uniform expansion of both ventricular cavities. The proportion of left and right ventricular weight shows growth of cardiomyocytes in the wall of the right ventricle; the left ventricular mass increases only due to stromal component.
Atrial weight increases uniformly in all age groups.
Conclusions. 1. In all age categories atrial weight increases evenly. 2. In young rats the left ventricular mass grows the most intensively. In mature and eldery animals we observed more rapid weight increasing of right ventricle. 3. Changes of masometric indicators in myocardium occur due to parenchymatous and stromal components. The

exception are the old rats, which weight increases solely due the stromal growing. 4. Changes of planimetric parameters in mature and young rats are characterized by a rapid expansion of the right ventricular cavity. The uniform expansion cavities of both ventricles takes place in elderly rats. 5. Dynamics of morphometric parameters are compensatory reaction of myocardium in response to increasing load.

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STUDY OF RAT PROGENITOR NEURAL CELLS (NC) SUPERNATANT ACTION ON CULTIVATED HUMAN GLIOMA CELLS

Introduction. Gliomas - primary brain tumors, which are characterized by infiltrative growth and resistance to treatment. Novel therapeutic approaches to combat gliomas based on the use of the ability of neurogenic stem and progenitor cells (NSC and NPK) migrate to sites of pathology in the CNS, integrate into the local environment and neural stably expressing genes replacing damaged tissues and triggering regeneration of CNS [Ito et al. , 2010; Kim et al., 2010; Kim, 2011; Ahmed et al., 2012; Bovenberg et al., 2013]. Through a unique tropism for tumor cell genetic structures based on NSC used to target delivery to tumor cytolytic viruses, genes encoding anti-tumor cytokines.
The purpose of the study was to evaluate the antitumor effect of rat progenitor neural cells supernatant (RPNS) gestation day 12-16 (E12-16) on human glioma suspensions and primary cultures.
Materials and Methods. The material for the cultivation served as fragments of brain tumors removed in patients during surgery (n = 37). Histological verification [Kleihouse, Cavanee-Lyon, 2000] tumor samples according to international pathological classification of tumors of the central nervous system diagnosed gliomas 9 2 degrees of malignancy (st.zl.) 16 3 st.zl. gliomas, glioblastoma 12 (4 tbsp .zl.).
In histological preparations cultures analyzed the frequency of mitotic division of tumor cells with mitosis pathology assessment and determination of mitotic index (MI). Counting was performed in mitosis 3 observations cultures of each sample in 10 randomly selected fields of view of the microscope (h400) output to the monitor image tsytoanalizatora IBAS-2000 (Germany). Each specimen was counted at least 1000 cells.
Statistical analysis of data was performed using the statistical software package "Statistica 6,0", the reliability of differences was assessed using the Student t-test.
Results. SNK study of the influence of short-term cultures of gliomas. With increasing concentrations of rat SNK 0.02 to 0.10 mg / ml increased the percentage of samples of human gliomas, which affect cytotoxic SNK, with 56.8% and 72.9%, respectively. Dose-dependent increased percentage of samples with TSI25 and

TSI50. At the same time, significant dose-related differences between the averages THESE were found (this was 30 - 34%).
RPNS influenced on 56-73% samples of human glioma (CI 30-34%). Cytotoxic action of RPNS increased with elevating concentration from 0,02 to 0,10 mg/ml. After incubation in presence of RPNS in primary cultures of human glioma the signs of dose-dependent cytotoxic effect were observed (retraction and thinning of growth areas, tumor cells dystrophy, necrobiosis, a significant decrease in the mitotic index), which aggravated by increasing the duration of incubation.
Conclusions. 1. SNK rat (E12-16), which is a blend of superior fractions with molecular weights of 46 and 67 kDa, showed cytotoxic properties against human gliomas cells in vitro. 2. Cytotoxic effect SNK amplified with increasing concentration of 0.02 to 0.10 mg / ml: THESE reached, on average, 30-38% in 72.9% of the samples gliomas person. 3. After incubation with SNK rat (E12-16) in primary cultures of human gliomas showing signs of dose-dependent cytotoxic and antiproliferative effects (retraction and dilution zone of growth, degeneration, morphologic alterations of tumor cells, significant reduction in mitotic index), which increase with the lengthening of the duration of incubation to 48 h.
Key words: rat progenitor neurocells, supernatant, human glioma, cytotoxic index.

METHODICAL ARTICLE

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EXPERIMENTAL DESIGN OF SURGICAL PATHOLOGY OF BOWELS FOR RATS

Introduction. The diseases of bowels occupy a leading place in surgery of child's age. The experimental design of surgical diseases of bowels will allow to set the new links of pathogeny, work out the effective methods of correction of pathology and ground grounds for application of them in a clinic.
Aim. To learn possibilities of design of surgical pathology of bowels for rats.
Material and methods. Experimental researches are executed on 287 infantile rats (age: a 40-45 days), by body weight 100 ± 20 mgs. During an experiment adhered to international principles of Helsinci of declaration about humane attitude toward animals. After own methodologies conducted the design of surgical pathology of bowels for rats.
Results. Technique of design of intraabdominal adhesiones (100 rats). 1 method - after the method of damage of parietal and visceral peritoneum. 2 methods - after the method of resection thin and large bowels. The counteretch of rats was executed in a

30 days after realization of experiment. At relaparotomy looked after the adhesion process of different degree of expressed.

Technique of design of pathology of ileocecal department of bowels (IDB) (137 rats).

1. Design of ileocecal intussusception (37 rats). After a celiotomy, through an anal channel in the terminal department of iliac bowel on a 2 - 3 cm from an ileocecal transition entered the catheter of Nelaton № 8, that was fixed by the filament conducted without regard to mesentery vessels is a kapron 3⁄0 on his eventual opening. Executed external drawing out of, conducting immersion of iliac the same in a blind gut, during a 2-2,5 cm.

Dipped bowels in an abdominal region, an operating wound was covered by a napkin from chorhexidine and expected during 30 minutes for the origin of the phenomena of edema of intussusceptum with the aim of impossibility of him further violence. The catheter was extracted.

At relaparotomy and revision of abdominal region the intussusceptum presented filling out and considerably megascopic in sizes was determined in 12 hours, by the bowels of darkly-crimson color, that did not yield to "squeezing" out, saturated with blood.

2. Design of primary insufficiency of ileocecal obturative of the device (25 rats). On the front surface of ileocecal transition executed a longitudinal cut with the section of serous-muscular layer of ileocecal shutter to the mucous membrane without her damage. A cut was continued on a blind gut and iliac bowel for a 0,5 cm. Layer-by-layer sewed up an operating wound.

3. Design of secondary insufficiency of ileocecal obturative of the device (IIOD) (25 rats). IIOD caused by the design of adhesion process in the area of iliac-cecal segment by the method of damage the brush of mesothelium of visceral peritoneum in the area of ileocecal corner to appearance of "blood dew".

4. Resection of IDB (25 rats). In a wound destroyed IDB Executed his mobilization by ligating of vessels, using vicril 4/0. Conducted the resection of IDB with forming of stump of colon continuous and by pouchlike guy-sutures (vicril 5/0). Laid on ileo-ascendo-abouchement end-to-side by the key inverted guy-sutures in one row, using PDS 6/0.

5. Translocation of IDB (25 rats). In a wound destroyed IDB. A 4 cm conducted crossing of iliac bowel (IB) in the distance from a ileocecal shutter with maintenance of vessels of mesentery. Formed distal IB stump continuous and pouchlike guy-sutures - PDS 5/0. A 4 cm executed crossing of ascending colon in the distance from a ileocecal shutter. Formed proximal stump of colon continuous and by pouchlike guy-sutures (PDS 5/0). Proceeded in communicating of bowel by imposition of ileo-ascendo-abouchement end-to-side between the proximal area of IB and distal area of colon, by the key inverted guy-sutures in one row, using PDS 6/0. In a wound a 8 cm destroyed the loop of thin bowel in the distance from a duodenum. Executed imposition of anastomosis between the loop of thin bowel and blind gut the key inverted guy-sutures (PDS 6/0) a to 0,3 cm in a diameter.

Technique of design of pathology of colon (30 rats).

Technique of design of dolichosigmoid. In a wound destroyed the recto-sigmoid area of colon. Executed fixing of her distal part to the parietal peritoneum of

terminolateral wall of stomach by two-three key guy-sutures of PDS 6/0. Manipulation was conducted along the opposite mesentery edge of colon in proximal direction. The counteretch of rats was executed in a 60 days after a design. At implementation of relaparotomy after the design of dolichosigmoid for all animals looked after lengthening of sigmoid bowel on 2 - 2,5 centimetres in relation to her normal length (length of sigmoid bowel was a 5-7,5 cm).

Conclusions. 1. Study of intraabdominal adhesiones in an experiment may be after methodologies: damage of peritoneum and resections of bowels, in accordance with the volume of adhesion. 2. The design of ileocecal intussusception by external immersion of iliac bowel in a blind gut for rats answers phasicness of flow of disease in a clinic and can be founding to development of new methods of treatment on the different stages of motion. 3. Longitudinal of section of front wall of ileocecal segment to the mucous membrane results in primary insufficiency of ileocecal obturative of the device, and deforming adhesion - his secondary insufficiency. 4. The translocation of ileocecal department of bowels can assist the study of his role in reflexogenic and endocrine influences on functional possibility of gastrointestinal tract. 5. Fixing of distal area of sigmoid to the parietal peritoneum of terminolateral wall of stomach results in the origin of dolichosigmoid in an experiment.

Key words: experiment, bowels, rats.

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EFFECTIVENESS OF OPTIMIZATIONS METHODS OF SURGICAL TREATMENT IN PATIENTS WITH TOTAL PURULENT PERITONITIS

Introduction. treatment of the problem of widespread purulent peritonitis is still far from actual and final solution [Kravets et al., 2005; Oliva et al., 2005]. Among the reasons that lead to unsatisfactory results of treatment of patients with disseminated purulent peritonitis is endogenous toxemia, progression and cell microcirculatory changes hepatosplanchnic Organocomplexes against the backdrop of enteral insufficiency and hypertension intraabdomianalnoyi which determine the beginning and progression of multiple organ dysfunction [Hsieh et al., 2006; Lin et al., 2006; Malbrain et al., 2006].

Existing perioperative corrective measures in the treatment of patients with disseminated purulent peritonitis not always achieve positive results [Grinchuk, 2007; Verdant et al., 2006].

The aim - to give clinical and laboratory evaluation of effectiveness of an optimized perioperative program Supervision patients with RSE-based follow-up markers of systemic inflammation, endotoxemia and intraperitoneal pressure (IOP).

Materials and Methods. The clinic Department of Surgery №2 Vinnitsa National Pirogov Medical University treated 37 patients with urgent surgical pathology, which was complicated by the development of RSE. To achieve the objectives of the study

patients were divided into representative by gender and age and nosological rates and severity to the control (72 patients, mean age 47,2 ± 3,72 years) and basic (65 patients, mean age 48,1 ± 4 26) group. Patients were 51 women (45.5%) and male - 76 (55.5%) patients.

Results. Was studed the problems of changes of the markers systemic inflammatory response, endotoxemia and intraabdominal pressure with 137 patients of the total purulent peritonitis estimation in the afteroperative and postoperative period after using traditional and optimization treatments methods. The high performance of an offered drugs complex in the metabolic disorders and intraabdominal pressure restoring in the afteroperative and postoperative period was established.

Positive dynamic changes in clinical outcomes and monitoring markers of systemic inflammatory response and endotoxemia had confirmation in determining the dynamic changes of peritoneal microbial contamination in the patients of the group. Already 3 days after surgery crops peritoneal contents patients of the group 1,2h104 CFU / ml, which was±given the growth of microorganisms 8,7h104 significantly less ($p < 0.01$) for control. On 0,9h102 CFU / ml, which was±day 5 the number of bacteria was 5,1h102 also significantly lower ($p < 0.05$) than in patients treated with traditional methods. After 7 days of observation in the experimental group patients isolated bacteria were sown only in 4 patients, whereas in the control group microorganisms were determined in 23 patients and their number was 2,2h102 ± 0,3h102 CFU / ml.

Conclusions. 1. Thus, the analysis of the dynamics of markers of endogenous toxemia, systemic inflammatory response of intraperitoneal pressure and dynamics of postoperative peritoneal microbial contamination suggests that the proposed use of an optimized perioperative program Supervision patients with RSE allows you to effectively reduce the negative impact of markers of endogenous toxemia, systemic inflammation and abdominal hypertension in the postoperative period, perform surgical correction phase in more favorable conditions stable hemodynamic, and that would reduce the number of complications during the postoperative course in patients with widespread purulent peritonitis.

Key words: total purulent peritonitis, intraabdominal pressure, systemic inflammatory response, endotoxemia.

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STUDY OF ANTIMICROBIAL PROPERTIES OF SUTURE MATERIAL FOR OPHTHALMOSURGERY

Introduction. It is well known that purulent inflammatory complications are an actual problem in ophthalmologic surgery. They are found in 1,8 – 21,5% of cases after operations on eye. The aim of the study was to research antimicrobial activity of antimicrobial suture materials.

Materials and methods. Antimicrobial activity of suture materials (polyglicolid (PGA), monofilament nylon), impregnated with antimicrobial composition (AC) of decamethoxin and carboxymethylamylum, oxyethylcellulose; Vicryl with triclosan (Vicryl plus) were studied against *S.aureus ATCC 25923, E.coli ATCC 25922, C. albicans CCM 885, P.aureginosa ATCC 27853*, and clinical strains of *S.aureus* (n 5); *E.coli* (n 5); *C. albicans* (n 5); *P.aureginosa* (n 5).
Results. The results of antimicrobial activity of suture materials demonstrated high qualities of nylon and PGA, impregnated with AC, against gram-positive, gram-negative microorganism and fungi *Candida*. Zones of growth retardation of *S. aureus* were 18,4±0,81 mm, when antimicrobial nylon was used. Vicryl plus provided zones of *S. aureus* growth retardation like 14,2±1,11 mm. Nylon have shown the best antimicrobial activity against *E. coli ATCC 25922* (growth retardation 20 mm). Antimicrobial activity of PGA according *E. coli ATCC 25922* was alike nylon activity (18 mm). In the case of Vicryl plus, zones of growth retardation were found to be no more than 5 mm. Sutures (nylon, PGA), impregnated with AC of decamethoxin, were active according to *P. aeruginosa*. We found zones of growth retardation of *P. aeruginosa* within the limits of 4,8±0,49 mm. Nylon and PGA were also active against *C. albicans* (zones of growth retardation 14,2±0,58 mm). Vicryl plus was found to have no activity against *P. aeruginosa*, *C. albicans*.
Conclusion. Using AC for impregnation suture materials gives the possibility to make modern antimicrobial sutures which have no analogues in ophthalmic surgery and outrank materials used in surgery today.
Key words: suture material, nylon, polyglycolid, vicryl, decamethoxin.

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METHOD OF FLUORESCENCE SPECTROSCOPY FOR DIAGNOSIS IN OBSTETRIC AND SURGICAL PRACTICE

Introduction. The issue of diagnosis has always been a priority in medical practice. Recent advances in medicine are closely associated with the successful development of biomedical research. Particularly promising at this stage of the research in diagnostic medicine is the usage of physical methods. Investigations performed in the last few decades have shown that the fluorescence spectroscopy is one of the most common and universal methods for studying biological objects. It is widely used in the world medical research for modern prospective clinical studies based on the latest achievements of molecular biology. It allows one to detect certain genetic mutations in humans and their individual susceptibility to development of specific pathological conditions. Thus, a conclusion may be made that the problem of development of new accurate methods for early diagnosis of various diseases is very topical, and

implementation of the physical methods, including the method of fluorescence spectroscopy, into the medical practice is ever increasing.

Sepsis and purulent-septic complications the unacceptable response to treatment of which is directly related to the lack of reliable specific methods for rapid diagnostics are one of the most urgent problems in modern medical practice. This challenge is extremely pressing both for developed and developing countries.

The aim of the study was to find a new research method for rapid diagnosis and for the disease prognosis assessment.

Materials and methods. Fluorescence of blood serum at the excitation light with a wavelength of 280 nm is due to albumin glow. Albumin has a high ability to form complexes, and at a severe endogenous intoxication typical for inflammatory processes in the body there are conditions for the formation of albumin forms with altered physical and chemical characteristics. Therefore, it was important to determine not only the amount of albumin in the blood serum, but also to study its functional activity.

Results. The method of fluorescence spectroscopy has been used for the diagnosis of sepsis and purulent-septic complications in obstetric and surgical practice. Excitation of serum of patients with sepsis and purulent-septic complications was performed at the wavelength of 280 nm which corresponds to the luminescence range of human serum albumin. In our studies of the fluorescence spectra of blood serum of sepsis patients significant changes in the structure of the spectra have been established for the first time; namely a significant reduction in the fluorescence intensity with the pathological tendency to form a two-peak structure was found. The presence of two peaks has been observed: the normal one at 340 nm and the "abnormal" one at 380 nm, corresponding to albumin molecules blocked by toxins. To confirm the validity of our arguments and to develop this concept further we have also studied the fluorescence spectra of serum dilutions with centrifuged and non-centrifuged bacterial cultures in different proportions, in distilled water and in 20% donor albumin. Studies of the fluorescent spectral characteristics of serum diluted by bacterial cultures revealed the tendencies similar to those observed in the fluorescence spectra of serum taken from patients with purulent-septic complications and sepsis. The results of in vitro and in vivo studies are in good agreement with each other. This made it possible to formulate the concept of changes in fluorescent spectral characteristics of blood serum of patients with purulent-septic complications and sepsis from the inception of the pathological process in the body and to follow its dynamics during the treatment. Thus, the changes in fluorescent spectral characteristics of serum taken from sepsis patients had been detected 24-48 hours earlier than the symptoms of infection appeared. It has also been clearly demonstrated that the fluorescent spectral characteristics of blood serum of patients with purulent-septic complications and sepsis in obstetric, gynecological and surgical practice changed similarly depending on the severity of the patients' status which is obviously due to the common mechanisms of sepsis in humans regardless of etiological factors.

Conclusions. We hope that our proposed technique to study the serum of patients with purulent-septic complications and sepsis will be promising and useful for the

diagnosis in both obstetric and surgical practice due to the common pathogenesis mechanisms regardless of the nidus localization.

Key words: physical methods of diagnosis, method of fluorescence spectroscopy.

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ENDOSCOPIC AND PATHOMORPHOLOGICAL CHANGES OF THE GASTRIC MUCOSA IN CHRONIC GASTRITIS

Introduction. Currently, the main pre-conditions include chronic atrophic gastritis (CAH) and infection Helicobacter pylori (H. pylori), and the main pre morphological changes - intestinal metaplasia and dysplasia of the gastric mucosa [Babak, Protas 2005; Stanley et al., 2000]. Central to the problem of precancerous gastric takes CAH. Diagnosis of chronic gastritis (CG) in medical practice rather difficult, due to the low number of appeals for medical care of patients, as these patients often have few subjective symptoms which do well enough alone. Clinic hCG has no specific symptoms and is characterized by different clinical symptoms: epigastric pain, nausea, belching air, food, feeling of heaviness and pressure on the sternum and others. It is now believed that "chronic gastritis" the concept of morphological, and the existence of it can speak only when it is detected at morphological study [Aruyn et al., 1998].

The aim of our study was to evaluate the effectiveness of endoscopic method in detecting metaplasia of the gastric mucosa and analysis of localization and prevalence in patients with chronic atrophic gastritis.

Materials and Methods. Endoscopic and pathological study was performed 167 patients (68 inpatient and 99 outpatient) that were sent to endoscopy departments and offices to clarify the clinical diagnosis. The men among them were 95 (57%), women - 72 (43%). The average age of the patients were examined in dynamics was 52,96 ± 1,13, mean duration of disease at diagnosis metaplasia - 2,6 ± 0,63 years.

Results. The advantage of chromoendoscopy over conventional endoscopy in diagnostics of intestinal metaplasia (IM) in chronic atrophic gastritis (CAG) was revealed as a result of the performed investigations. We marked out 3 main types of IM according to macroscopic changes of gastric mucosa: focal, focal and confluent and diffuse (multifocal). Depending on localization and extension of IM: 1) antral (predominantly around the pylorus); 2) subtotal (with extension along the lesser curvature up to the upper third of the corpus); 3) total (with extension along the lesser curvature and greater curvature and consecutive involving in process of the fundic and cardiac parts of the stomach). According to the involved area: slight extent – involving<20% of gastric mucosa area; moderate – 20-50%; severe extent – >50 %. The use of chromoendoscopy as screening test in patients with CAG and IM of a gastric mucosa was proposed.

When using vuzkospektralnoyi (NBI) endoscopy with methylene blue clear vizualizuvalysya regular arhitektonyka gastric mucosa, oval type epithelium, typical fundus of the stomach, and plot structures that were common to the CM. The color intensity is dependent on the degree of severity of degenerative and inflammatory changes in the gastric mucosa and metaplastic ranged from uneven spotted coloration to his absence or atrophy krapchastosti painting.

In conventional endoscopic examination is not always possible to detect a limited area of the lesion, which is little different in color and surface structure of the surrounding mucosa, and to determine the limit.

However, in our study often met the gastric mucosa cells slightly elevated above its surface, whitish or grayish-white, blidnishi for the surrounding mucosa (CO) that have different shapes and sizes (usually round or oval and paltsepodibni). When mahnifikatsiyniy endoscopy (MNM) lesions were villous structure.

The difference between conventional endoscopy and hromohastroskopiyeyu was vyskodostovirnoyu ($t = 7,97$, $p < 0,001$), hromohastroskopiyi data (tab. 2) is closely correlated with histopathological study ($r = 0,98$). The specificity of the method was hromohastroskopichnoho - 90%, sensitivity - 99% of conventional endoscopy 58.8% and 70.4% respectively.

Conclusions. 1. Comparison of the results with conventional endoscopic diagnostic gastroscopy and hromohastroskopiyi with methylene blue proved significantly more effective hromohastroskopiyi ($t = 7,44$, $p < 0,001$).

2. Use mahnifikatsiynoyi (MNM) and vuzkospektralnoyi (NBI) endoscopy compared with hromohastroskopiyeyu makes it possible to determine the macroscopic differential diagnostic criteria KM: PTP for typical villous surface structure of the gastric mucosa, for CCM - mostly mesh.

3. The extent of the CM is crucial for the prediction of dysplastic and neoplastic changes in the gastric mucosa. In its entirety, which exceeds 20% of the surface of the gastric mucosa, the conditions for the development of dysplasia and adenocarcinoma of the stomach.

Key words: chronic gastritis, diagnostics, endoscopy, precancerous changes.

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VERTEBROTHERAPIUTIC METHODS AS THE MEANS OF PREVENTION OF CEREBROVASCULAR COMPLICATIONS IN ARTERIAL HYPERTENSION

Introduction. One of the complications of arterial hypertension (AH) can be cerebrovascular disorders, which are caused by hypoperfusion of brain structures. In some cases, these conditions occur during the using of antihypertensive drugs,

especially in patients with AH and associated pathological changes in the cervical spine.

There are a lot of drugs used to treat hemodynamics brain disorders. But the problem of prevention and treatment of cerebrovascular complications remains the most difficult and insufficiently examined.

Implementation of methods in AH into the complex of rehabilitation measures that improve the micro- and makrohemodynamics processes in the brain tissue and does not cause adverse reactions remains relevant.

Materials and Methods. The study involved 125 patients, aged 45,54 ± 2,93with arterial hypertension of I-II stage associated with disorders of the cervical spine. Associated pathological changes, spine form disorder are determined with the help of somatography, x-ray, magnetic resonance imaging. Transcranial Doppler of brain vessel was used to study the cerebral blood flow. Rheography method was used for the integrated estimation of cerebral blood flow. Conjunctival biomicroscopy was used for indirect estimation of brain microhemodynamics.

All patients received vertebrology treatment. Number of sessions and choice of vertebrotherapeutic methods depended on the basic spin pathology and discovered injured elements.

Results. According to the Doppler examination after vertebrology treatment the improvement of cerebral hemodynamics was noted. This was evidenced by a significant increase of linear velocity of blood flow: systolic (Vmax) ($p<0.001$), diastolic (Vmin) ($p<0.05$) and (Vmid) ($p<0.001$). Also asymmetry parameters received from the right and left vertebral arteries have disappeared. On the improvement of microcirculatory processes in the brain indicates the indexes normalization: pulsation (RI), which reflects the continuity and blood flow resistance ($p<0.05$) and circulatory resistance (RI), which reflects autoregulative reduction of vascular resistance by means of distention of terminal blood vascular. According to the rheoencephalography exanimation the improvement of venous outflow has occurred, increased maximum speed (Vmax) of blood supply ($p<0.05$) and significantly increased the average speed (Vmid.) of blood arterial vasculars ($p<0.01$). This shows an improvement of microcirculatory processes in the brain tissue. Conjunctival biomicroscopy also confirmed the positive impact of therapy on mikrohemodynamics processes in the brain: number of functioning capillaries increased, perivascular edema decreased, sludge syndrome disappeared. Also after vertebrology treatment a significant reduction in arterial tension (At) took place: systolic AT decreased from 167,00 ±1,81 mmHg to 123,32 ± 1,53 mmHg ($p<0.001$), diastolic - from 103,68 ± 1,15 mmHg to 78,44 ± 0,94 mmHg ($p<0.001$).

Conclusion. For the prophylactic of cerebrovascular complications of AH it is reasonable to insert in to the complex of treatment and rehabilitation measures vertebrotherapeutic methods, which help to normalize AH, improve cerebral blood flow and mikrohemodynamics processes in the brain structures.

Key words: hypertension, cerebral hemodynamics, vertebrology therapy.

REVIEW ARTICLES

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ROLE OF MODERN METHODS OF RESEARCH IN STUDYING MORPHOLOGICAL FEATURES AND BONE EARLY DIAGNOSIS OF PATHOLOGICAL CHANGES

Today, more and more authors drew their attention to the rejuvenation of bone pathology. The changes in the structure of the bone not always accompanied by clinical signs [Benevolenskaya, Lesnjak, 2005].

Osteoporosis - is one of the most important social and medical problems of our time, along with cardiovascular, cancer and diabetes [Benevolenskaya, Lesnjak, 2005; Henyk, TRIL, 2006]. The manifestations of osteoporosis were first described in scientific medical journals in the 60 years of the nineteenth century. And signs of osteoporosis is recorded by archaeologists in the North American Indians who lived in 2-2.5 thousand. BC. e. Since bone is mineralized tissue, for its comprehensive study is necessary to carry out fundamental morphological, physiological and biochemical studies.

Objective: To analyze new methods of radiation diagnosis to study age-related changes in bone tissue.

Today we have witnessed the era of classical X-ray gradually shifted during the complex beam diagnostics. Radiation survey methods have a special place in the clinic and is an integral part of many diagnostic studies, and especially - mineralized tissues, including - skeletal system, the study of pathological changes [Эsedova, 2005; Mass et al., 2008; Bugera, 2010]. But equally important for the clinic is knowledge of structural features in tissues studied age dynamics [Эsedova, 2005; Mass et al., 2008; Bugera 2010; Ketch, 2010]. Now it is especially important due to the significant rejuvenation of bone diseases, in particular - osteoporosis influenced by a number of environmental factors [Benevolenskaya, Lesnjak, 2005; Povorozniuk et al., 2005]. That possibility of repeated examinations of patients in different periods of life using modern radiation techniques allows detailed analysis and study individual age and sex peculiarities of bone tissue [fat, 2003; Mateshuk-Vatseba et al., 2003; Koveshnykov et al., 2004; Ternovoy, Sinitsyn, 2005; Kozlowski, 2002].

Modern beam methods (quantitative computed tomography, ultrasound densitometry) allow not only to diagnose certain diseases of bone but also to study the peculiarities of bone status in patients of different age groups according to sex and constitutional features.

Conclusions. 1. Thus, to date, there is an urgent need to study age-related changes of bone newest methods of radiation diagnosis based on functional state of the thyroid.

2. Methods of last generation have significant advantages over traditional methods beam inspection, as they allow for relatively little radiation exposure not only get high quality digital image of the object of study, but also information on the density of the investigated tissue, because bone density is universal quantitative measure that is in constant dynamics associated with continuity of bone remodeling.
3. This issue is important for regions endemic goiter.

Key words: bone, radiography, ultrasound densitometry, quantitative computed tomography, osteoporosis.

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MODERN ASPECTS OF DIAGNOSTIC AND THERAPEUTIC TACTICS EDEMA FORMS OF PREMENSTRUAL SINDROME (PMS)

At present one of the most pressing problems of gynecology is premenstrual syndrome, which refers to the most common and least conditions of the female body. Premenstrual syndrome is not just a deterioration of health before menstruation and multifaceted pathological syndrome, which manifests itself in the luteal phase of the menstrual cycle, and is characterized psycho, vascular and metabolic disorders whose frequency is variable and an average of 25-75% [Manuhyn et al., 2001] . According to other authors, certain manifestations observed in 95% menstruyuyuchyh women, over 35% of which use medication to alleviate their condition or seek help physicians, 4.5% of women suffer from PMS acute manifestations that lead to disability [Linda, Tatariv, 2005; Freeman 2005; Zukov et al., 2010].

The goal - to examine the feasibility of establishing a differentiated approach to the diagnostic criteria, choice of treatment, given the duration of the disease, the severity of clinical symptoms and age category of patients with edematous form of PMS.

The literature is mainly related to the characteristics of flow and treatment of PMS in women of late reproductive and premenopausal age. A more detailed study of age-grading PMS found that aged 19-29 years, the condition occurs in 20% of women in the 30-39 years - 47% after 40 years and 55% of women with regular menstruation [Serov, 2000].

However, in recent years began to appear information about the increased frequency of symptoms in younger women - 20-30 years. So edema is the most common form of early women of reproductive age (46.4%) and the least susceptible to her patient's active reproductive age (6.3%). On average, it is found in 20.0% of patients with PMS, ie, the prevalence ranks third after neuropsychiatric and tsefalhichoyi form [Smetnyk, Tumilovich, 2003].

In publications the different names and different mechanisms of occurrence this pathology can be found. All the above hypotheses explain most of the pathophysiological mechanisms of formation specific clinical symptoms of premenstrual syndrome, but few of these theories reveal the pathogenesis, modern,

economically feasible and minimally invasive methods of diagnosis and treatment policy edematous forms of PMS.

Conclusions. 1. remain contentious issue of the use of modern, minimally invasive, economically reasonable and objective methods of diagnosis, interpretation of their results, interpretation of clinical manifestations and peculiarities of oedematous form of PMS. 2. In medical tactics oedematous form of PMS should take into account individual characteristics, pathogenic variant, severity, and comorbidity. The use of combined hormonal contraceptives with drospirenone, which has antimineralkortikoidnoyu and antiandrogenic activity is modern, pathogenetically substantiated, efficient and economically feasible. 3. The above confirms the relevance of the issue and assures a need to improve methods of diagnosis, finding optimal diagnostic criteria that will distinguish pathogenic variants is undoubtedly important in the appointment effective therapy of early women of reproductive age with puffy form of premenstrual syndrome.

Key words: premenstrual syndrome, pathogenesis, swelling, diagnosis, drospirenone.

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MORPHOLOGICAL CHANGES OF THE KIDNEYS IN OBESITY, AREAS OF TREATMENT

In recent years, it is evident that obesity in the general population is one of the most significant risk factors for worsening function of internal organs, including the kidneys, and the probability of decline in glomerular filtration rate to a level that can diagnose chronic renal failure, increased 1.3 times.

Mechanisms of development and progression of the pathological process in the kidney under the influence of excess body weight was studied and known only a few studies on experimental work in this field [Butrova, Dzhoeva, 2004]. However, at present collected data gave an idea of the importance of obesity and accompanying metabolic, hormonal and hemodynamic disturbances in the formation of pathological changes in the structure and function of the kidneys.

Objective: To analyze the pathogenic mechanisms and morphologic changes in the kidney in obesity and basic methods of treatment and prevention of obesity.

The first picture of nephropathy associated with obesity began to form on the basis of observations of groups of patients without diabetes with proteinuria [Dedovo et al., 2003]. Morphological examination of kidney tissue obtained at biopsy revealed signs of focal segmental glomerulosclerosis, (FSHS). The characteristic morphological characters find a significant increase in glomerular capillary loops and as a result - the defeat of the carotid body - so-called hlomerulomehaliyu [Dedovo, Shestakov, 2000; Brenner, 2002]. Clinical features FSHS obesity are no signs of nephrotic syndrome (edema, hypoalbuminemia) even at very high protein excretion and

favorable long-term clinical outcomes. In association with obesity often FSHS blood pressure is normal or slightly increased.
According to current data, WHO prevalence of obesity is 56 % among the men and 62 % - women. The overweight reduces life expectancy 3 to 15 years. Only 60 % of people who are obese can live up to 60 years old, and only one-third – 70 years old. The problem of excess weight is called a real epidemic. Having extra pounds make the body work in stress mode, leading to the risk of many serious diseases. In particular, the cardiovascular system suffers from obesity in 80 % of cases, increasing the risk of hypertension in 3 times, coronary heart disease - a factor of 2, there are diseases of the kidneys and urinary tract due to violation of water- salt metabolism. This paper analyzes the pathogenic mechanisms and morphological changes in the kidney in obesity and the main methods of treatment and prevention of excess weight.
Conclusions. 1. Thus, the progression of renal disease in obesity have mentioned a range of metabolic, cardiovascular and hormonal disorders and kidney damage structures under the influence of biologically active compounds released by adipocytes. These factors are interrelated with each other and trigger a cascade of inflammatory, proliferative and hemodynamic changes in the kidney.
2. The end result of this effect on kidney disorders stage is the development of glomerulosclerosis and fibrosis tubulointerstytsialnoho kidney tissue. Interrupt this vicious circle and regression of changes is possible only in the early stages of the pathological process in the kidneys.
3. The main recommendation for patients with obesity should consider weight loss. At later stages, in addition, treatment should be aimed at reducing the impact of factors associated with obesity participating in the progression of kidney damage.
Key words: obesity, obesity, kidney disease, chronic renal failure, treatment.

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CLINICAL AND MORPHOLOGICAL ASPECTS OF OVARIAN ENDOMETRIOSIS, THE PROBLEM OF DIAGNOSIS, TREATMENT AND PREVENTION

The problem of ovarian endometriosis is one of the leading in gynecology, as the incidence of this disease every year is growing steadily and is mostly found in women of reproductive age with a frequency of 15-20% [Adamyan et al., 2006]. Despite the large number of clinical and morphological studies of this disease, many aspects of the problem remain unresolved [Anichkov et al., 2011]. An analysis of clinical cases of endometriosis on the basis of literature data and our own research to determine the precise clinical and pathological criteria for the diagnosis, treatment and prevention of this disease.

Objective: a comprehensive analysis of clinical, morphological, immunohistochemical studies of different morphological and functional options for ovarian endometriosis and long-term results of surgical and combined treatment. In the current clinical and morphological examination of women with internal endometriosis (adenomyosis) [Baskakov et al., 1998] found that adenomyosis develops mainly in women in the perimenopausal period (after 40 years) due to repeated abortions. In 90% of patients adenomyosis accompanied by the development of multiple leyomiomatoznyh nodes, 60% - glandular hyperplasia of the endometrium, in 100% of cases - fibrocystic transformation or fibrous degeneration of the ovaries.

Conclusions. 1. Leading clinical symptoms of ovarian endometriosis is pain syndrome (algomenorrhea, lateralization of pain, dyspareunia, constant pelvic pain), infertility, which is an indication for diagnostic laparoscopy.

2. The main criteria for the diagnosis of endometriosis include: reduction of apoptosis (CD-95), a relatively high proliferative activity (Ki-67), an intensive process of neoangiogenesis (CD-34) and the expression of growth factors (FGF, EGF receptor and to it - EGER) compared with autologous endometrial microcenters ovarian endometriosis.

3. Simultaneously with the destruction of endometriosis or ovarian resection necessary treatment of endometrial hyperplastic processes (thermal or lazeroablatsiya endometrium), as retrograde throw menstrual blood, and with it the cell hyperplastic endometrium, can support the progression and formation of new endometrioid ovarian cysts.

Key words: endometriosis, adenomyosis diagnosis, morphological criteria, localization, treatment.