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MORPHOLOGICAL CHARACTERISTIC OF ERYTHROCYTE SHADOWS

Introduction. One of the ways of increasing the efficiency of a drug effect, reduction of its dose and side effects on organs and body systems is application of the targeted transport of drugs. In this case erythrocytes are the most accessible for immobilization drugs that can be used as whole cells and as erythrocyte «containers» containing a drug [Siplivaya et al., 1999]. The efficiency of applying the targeted transport of antibiotics included into erythrocyte shadows was shown in a number of clinical researches dedicated to treatment of pyoinflammatory diseases of the liver and biliary tracts [Nychytailo et al., 1999; Verba, 2010], ischemic-gangrenous form of the diabetic foot syndrome [Burkovskyi, 2010]. At present erythrocyte shadows can be prepared by different methods and depending on the preparation method they can have different morphological traits. In particular, the erythrocyte shadows size can influence the intensity of their accumulation in the area of a pathologic process during the regional delivery. So, the aim of our research is to study the morphological traits of erythrocyte shadows prepared by different methods.

Materials and methods. The samples of 15 ml of the venous blood were collected from 5 volunteers (into three vials, 5 ml per each, containing 5 ml of the

physiological solution of sodium chloride and 1800 units of heparin each). Erythrocyte shadows from the received blood portions of each volunteer were prepared according to three methods: the first one – using the aminazine solution [Medvetskyi, Gyndych, 1998]; the second – using the solution of promethazine hydrochloride (Burkovskyi et al., 2012); the third – using the solution of trifluoperazine hydrochloride [Petrushenko et al., 2012]. The received erythrocyte shadows were studied using the phase-contrast microscopy. For this purpose the microscope «MIKMED-2» with the MEDICAL IMAGE VIEW STATION and computer image analyzer UNHSCSAImageTool v.3.0, computer program for morphological researches – Paradise was used. The diameter of erythrocyte shadows was studied in each portion by measuring it in 30 shadows in different fields of vision. Statistic processing of the received results was performed using a personal computer with the help of the program package STATISTICA 6.1. The feature distribution type in the groups was assessed using Kolmogorov test, significance of the result difference in the investigated groups – according to Kolmogorov-Smirnov criterion. The statistical level of significance was admitted as $p \leq 0,05$.

Results. During preparation of erythrocyte shadows the erythrocyte ghosts lose their disk-like form and acquire the form of an ellipse or shaped circles. The formed shadows are smaller than erythrocytes and their sizes vary depending on the preparation method. The sizes of erythrocyte shadows prepared using the aminazine solution ranged from 1,6 μm up to 2,8 μm, the average size was 2,16±0,08 μm.

While using the trifluoperazine hydrochloride the erythrocyte shadows sized from 1,4 μm up to 2,6 μm with the average size of 1,62±0,09 μm were formed. The erythrocyte shadows prepared using the promethazine hydrochloride were the smallest. Their sizes ranged from 0,6 μm up to 2,2 μm, the average size was 1,33±0,07 μm. Between the average sizes of the erythrocyte shadows prepared using different methods the statistically significant difference was determined ($p \leq 0,001$).

Conclusions. Erythrocyte shadows prepared by different methods differ in sizes. The erythrocyte shadows received while using the promethazine hydrochloride have the smallest size. Erythrocyte containers prepared using the aminazine solution have the

largest size. Different sizes of erythrocyte shadows prepared by different methods require further experimental and clinical researches concerning determination of the optimal variant for their preparation.

Key words: erythrocyte shadows, targeted transport of drugs.

UDC:340.6:616-036.887:616.45:547.922/.922.5

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ESTABLISHING OF DIAGNOSTIC CRITERIA FOR DETERMINING THE TRAUMATIC DEATH GENESIS AND THE DURATION OF A LETHAL MECHANICAL TRAUMA BASED ON THE CHOLESTEROL ESTER/CHOLESTEROL RATIO IN HUMAN ADRENAL TISSUE

Introduction. Determining of the mechanism of injuries, their circumstances and the duration of a trauma in case of death are the main answers that are to be provided by forensic medical examination. They can be found out both with the help of local symptoms in a body organ or tissue, and according to the systemic changes in the body. Functioning of adrenal glands in case of the stress reaction proved to be of interest for us because according to the results of our research the content of cortisol and conrtisone in adrenal glands is a diagnostic criterion for determining the duration of a traumatic process. The source of synthesis of the mentioned hormones is esterified cholesterol. Changes of the synthesized steroid amount under the circumstances of the stress reaction influence the quantitative content of cholesterol esters and cholesterol, and that is why the cholesterol ester/cholesterol ratio can be used as a diagnostic criterion for determining the traumatic death genesis and the duration of dying. The objective of our work was to establish the diagnostic criteria for determining the traumatic death genesis and the duration of dying based on the

cholesterol ester/cholesterol ratio in adrenal tissues of persons who had died at an early stage of antemortem period: immediately after the trauma, within a short period of time (from several to some tens of minutes) and 1 to 2 hours after the injury.

Materials and methods. Samples of adrenal tissue were extracted from corpses of persons who had died due to the influence of traumatic factors. They were divided into groups according to the duration of the trauma. The control group included persons whose death had been caused by a chronic and acute ischemic heart disease. Cholesterol and its esters were studied using thin-layer chromatography with Sorbifil plates. Their quantitative content was estimated with the help of an in-house developed software and a patented method (useful model patent No. 54582 registered on 10.11.2010) that assesses the area of a substance patch being investigated automatically based on the chromatogram after it is scanned and compared with the patch area of the standard. Taking into account the great diversity of cholesterol esters, their quantitative content was determined in relation to the cholesterol standard. In general 80 tests were conducted, 60 of which were used to estimate the content of cholesterol and its esters in case of violent deaths and 20 tests were made using the tissues of the persons who had died due to ischemic heart disease. 40 values of the cholesterol ester/cholesterol ratio were found out in 4 analogous groups based on the research data. The research results were statistically processed using the Student method.

Results. The results of estimating the cholesterol ester/cholesterol ratio in adrenal tissues of the persons who have died as a result of a trauma of different duration as well as diagnostic criteria for determining the genesis and duration of a lethal mechanical trauma are represented in Table 1.

Table 1.

No	Cause of death	Duration of dying	n	Cholesterol ester/cholesterol ratio, X±x	P	X±2σ
1	Ischemic heart disease	Sudden (short term) death (control)	10	2.61±0.14	P1-P2 > 0.05 P1-P3 < 0.001	1.75-3.47

					P1-P4 < 0.001	
2	Traumatic injuries	Immediately after the trauma	10	2.29±0.07	P2-P3 < 0.001 P2-P4 < 0.01	1.85-2.73
3	Traumatic injuries	Within a short time period after the trauma	10	1.36±0.03		1.14-1.58
4	Traumatic injuries	1 or 2 hours after the trauma	10	1.89±0.04		1.61-2.17

Conclusions. Cholesterol ester/cholesterol ratio within the range 1.14 to 1.61 can signify that death occurred because of the trauma, and its duration is from several minutes to some tens of minutes. If the traumatic death genesis is evident without doubts, cholesterol ester/cholesterol ratio within the range 2.17 to 2.73 shows that death occurred immediately after the injury. Ratio fluctuations from 1.61 to 1.75 also indicate the traumatic genesis of death which lasted for about 1 or 2 hours. However, such results were found only in 10% of the cases during our research, consequently, they are the least informative for any practical use.

Key words: cholesterol, cholesterol esters, lethal trauma, ratio.

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INFLUENCE OF ADAMANTANE DERIVATIVE ON METABOLIC PROCESSES IN THE ORGANISM OF EXERCISING RATS IN COMPARISON WITH BEMITHYL

Introduction. It was shown in previous investigations that the new derivative of adamantane (UK-1) has actoprotective activity. So in the present study our purpose was to study mechanisms of its actoprotective action in comparison with reference actoprotector bemithyl.

Materials and methods. 56 rats weighing 180-220 g were divided into 4 groups: 1st - intact rats, 2nd - control rats, 3rd – group, which received compound UK-1 intraperitoneal, 4th – group, which received bemithyl intraperitoneal. Rats from 2nd , 3rd, 4th groups were exercised during 15 days in treadmill. On the 15th day the half of rats from every group was exercised till exhaustion, another half of rats was researched with biochemical tests. The adenyl nucleotides (ATP, ADP, AMP), glycogen, glucose were studied in skeletal muscles. The adenylate energy charge was calculated from the adenosine nucleotide pool measurement according to the definition given by Atkinson (1968). Lactate, pyruvate, lactate/pyruvate ratio, glucose and lipid levels were studied in the blood. Malonic dialdehyde (MDA), reduced glutathione (GSH) and glycogen levels were researched in the liver.

Results. It was researched, that course introduction to exercising rats of adamanatane derivative UK-1 (2,8 mg/kg intraperitoneal), as well as bemithyl (33,5 mg/kg intraperitoneal), promoted the significant increase of glycogen level in skeletal muscles and liver, removing lactoacidosis and decrease lipid level in the blood, decrease liver level of malonic dialdehyde and increase liver level of reduced glutathione.

Conclusions. The mechanism of actoprotective action of adamantane derivative UK-1, as well as bemithyl, associated with their ability to improve the metabolic processes in the skeletal muscles, blood and liver of exercising rats. The compound UK-1 is interested for next investigation as perspective actoprotector.

Key words: derivative of adamantane, bemithyl, actoprotective action, metabolic processes.

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BIOCHEMICAL STATUS AND LIPID PEROXIDATION IN RATS IN CONDITIONS OF STARVATION

Introduction. Results of molecular mechanisms, which are under-laid development of changes on a background starvation is the issue of the day of biology and medicine. As known, starvation is widely used with a medical purpose, sometimes accompanied many diseases and states. In the last decades, attention of humanity grew to the use of method of starvation for the decline of mass of body and quite often used without control and supervisions from of doctors [Faria et al., 2012].

Starvation causes reaction of metabolism the ultimate goal of which is adaptation to the sharp power deficit [John Stone et al., 2002].

It is known that on a background starvation changes and the state of peroxidation of lipids [Mathias et al., 2010], predetermines expedience of study of it in cells. The aim of work was to confirm literary information in relation to biochemical status of animals on a background starvation and to find out consistence of peroxidation of lipids of cells of liver at these terms.

Materials and methods. Experiments are conducted on 50 white nonlinear rats (males) by mass 150-210 g. Rats of all groups before experience within a week got a valuable ration. Then part of animals was deprived food during 1st, 2nd and 3rd day, abandoning free access to water. In a controlled group, animals got a valuable ration during all experiment, and in a group, the rats got a ration after two days of starvation. The table of contents of ketonic bodies in blood of rats was determined after besieging of albumens the sulfate of zinc and hydroxide of barium. Non esters (free) fatty acids determined after extraction of copper salts of fatty acids from plasma of blood by an organic solvent and next determination of amount of copper [Men'shikov, 1968]. Activity of glucose-6-phosphate microsome (KF 3.1.3.9)

estimated after the amount of inorganic phosphate which liberate at a hydrolysis β-glycerophosphate, whether glucose-6-phosphate [Pokrovskiy, Archakov, 1968]. Determination NADPH -dependent peroxidation lipids conducted in the incubation environment of such composition: 0,05 M phosphate buffer, pH 7.4, 0.05 mM EDTA, 10 mkM iron(II) sulphate, 0.3 mM NADPH, 2-3 mg microsomal protein [Kostyuk, 1991]. CCl_4- dependent peroxidation of lipids determined, used the incubation environment of the following composition: 0,05 M phosphate buffer, pH 7.4, 0.6 mM EDTA, 3.4 mM tetrachloromethane (as alcoholic solution with the eventual concentration of ethanol no more 10%), 0.3 mM NADPH, 2-3 mg microsomal protein.

Results. In the first stage of work influence of starvation on biochemical status of animals was appraised. It is set that starvation causes the substantial changes of carbohydrate and lipid exchange for rats. Already on the first day of experiment in the whey of blood of animals the concentration of glucose (on 13%) goes down for certain, the level of free fatty acids (on 43%) and ketonic bodies grows (almost three times). At the same time in a liver content of hepatin (on 30%) diminished with simultaneous sharp growth of activity glucose-6- phosphatase microsome of liver (on 62%). The changes induced by starvation increased with every day of experience and arrived at the maximum on a 3rd day. In a particular content of glucose on this term of research fell 31%, the concentration of hepatin in a liver went down in 2.8 times, and the level of ketonic bodies and free fat acids grew 2.1 and 5.6 times, accordingly. In the second stage of research we studied, how starvation influences into on the state peroxidation of lipids in the cells of liver. It is discovered that under act of starvation in microsome of liver, intensity of NADPH- and CCl_4- dependent peroxidation of lipids grew from the first day (33% and 64%, accordingly). On the 3rd day activity of NADPH- and CCl_4- depending on peroxidation lipids exceeded by 1.7 and 2.5 times, accordingly.

Conclusion. Starvation is reduced by the level of glucose in blood and hepatin in the cells of liver and promotes the level of ketonic bodies, fatty acids, in blood and activity of glucose-6-phosphatase in microsom of liver. On a background starvation

NADPH- is activated and especially CCl_4- dependent peroxidation of lipids in microsom of liver.

Key words: starvation, glucose, glycogen, ketone bodies, glucose-6-phosphatase, lipids peroxidation

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INFLUENCE OF VINBORONE ON THE OXIDATIVE STRESS DEVELOPMENT AT EXPERIMENTAL ALCOHOL-INDUCED CARDIOMYOPATHY ACCORDING TO DYNAMICS OF BIOCHEMICAL INDEXES IN RATS

Introduction. One of the serious complications of alcohol is the development of alcohol cardiomyopathy (AKMP). It is known that in the pathogenesis AKMP leading role played by increased free radical reactions of lipid membranes. As a means of metabolic therapy in various types of cardiomyopathies often use drugs such as thiotriazoline, mildronate, etc. However, the question of adequate correction of metabolic disturbances that accompany AKMP remains to be fully elucidated.

Purpose of experiments – to describe the impact vinborone compared with thiotriasoline on ethanol-induced oxidative stress in experimental alcoholic cardiomyopathy the dynamics of biochemical parameters.

Materials and methods. Experiments conducted on 56 male rats weighing 180-230 g rats were kept in standard vivarium VNMU with free access to food and water. Experimental toxic alcoholic heart disease simulated intragastric administration to rats of 50% ethanol (6 g/kg) for 9 weeks. Animals were divided into 4 groups: the first group, intact, the second group of animals with AKMP untreated (control), 3rd and 4th groups – animal AKMP treated vinborone and thiotriasoline respectively.

Treatment of experimental AKMP conducted separately vinborone (5 mg/kg) thiotriasoline (100 mg/kg) in 2 divided doses for two weeks, starting from the 2nd day after modeling pathological condition. The content of malondialdehyde (MDA) in heart homogenate was determined by reaction with thiobarbituric acid [Vladimirov, 1972]. Activity of superoxide dismutase (SOD) was assessed by the percentage inhibition of oxidation of quercetin [Kostiuk et al, 1990] and catalase - the speed of degradation of hydrogen peroxide [Korolyuk, 1988].

Results. In experiments on rats with experimental alcohol cardiomyopathy it has been determined that vinborone, as well as thiotriasoline, intensified free-radical transformation of membrane lipids of cardiomyocyte due to its prooxidantive action was observed that showed up the content growth in myocardium final (MDA) products of POL and inhibited an activity of AOS enzymes (SOD, catalase). On background of the course (during 14 days) treatment ACMP by vinborone in a dose (5 mg/kg intramuscularly twice a day) an activity of the alcohol-induced oxidative stress was diminished, due to its ability to normalize the indexes of the POL and recovery the activity of the AOS enzymes (SOD and catalase) was observed. Vinborone, thus showed an antioxidative and membrane stabilizing effects under the experimental conditions. As to the results of this effect vinborone has the same effect as that of the drug under experiment.

Conclusion. Course (14 days) treatment of experimental alcoholic cardiomyopathy using vinborone dose (5 mg/kg), as well as thiotriazoline lowers the content of damaged myocardium MDA by 22,5 and 45,1%, relative to controls. Amid the treatment of experimental alcoholic cardiomyopathy vinborone has been an increase in the activity of SOD and catalase by 46,2 and 42,4% relative to control. According to the severity of the antioxidant effect vinborone not inferior product compared to thiotriazoline. Based on the results of the studies vinborone has the same effect as that of the drug under experiment end can be recommended for clinical study of its efficacy in the treatment of patients with AKMP.

Key words: vinborone, thiotriasoline, oxidative stress, alcohol cardiomyopathy.

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INFLUENCE OF THE ANTISEPTIC DRUG HOROSTENUM® ON THE MORPHOLOGICAL STRUCTURE OF ANIMALS' SKIN AND INNER PARENCHYMATOUS ORGANS

Introduction. Colonization of hands by microorganisms has a considerable epidemiologic meaning. Many cases describe that during episodes of healthcare-associated infections (HAI) hands become a direct factor of bacterium transfer to patients. In this situation the domestic pharmaceutical industry proposes the first domestic product for hygienic antiseptics - Horostenum® produced by Yuria-Pharm Ltd. The objective of the research was to analyze the morphological changes of the structure of animals' skin and inner parenchymatous organs using the antiseptic drug Horostenum®.

Materials and methods. The antiseptic drug Horostenum® produced by Yuria-Pharm Ltd. was used for the research. Horostenum® consists of acting and auxiliary components, mass %: decamethoxinum 0,025 (active component); ethyl alcohol 15,0; glycerine 5; citral alcoholic solution 0,5; water up to 100,0. The irritant effect of Horostenum® was studied according to the commonly known methodology by skin application of the drug on Red river hogs. The generally accepted methodology was used for research of the histologic material. The drugs were stained using hematoxylin and eosin.

Results. The morphological changes of the structure of animals' skin and inner parenchymatous organs using the antiseptic drug Horostenum® in comparison with the same in the control group of animals were analyzed. The received data of the histologic examination made it possible to state that there is no pathological influence

of the drug Horostenum® on the morphological structure of animals' skin and inner parenchymatous organs.

Conclusions. As the number of the existing products for skin hygienic disinfection is not large appearance of the drug Horostenum® of domestic production can be considered a step forward. Taking into account the above-mentioned information Horostenum® should be recommended for wide every-day use in medical institutions, public services establishments and public catering facilities, in household use in case of the increased risk of skin microbial contamination to reduce the threat of development of the infectious genesis diseases.

Key words: antiseptics, antiseptic products, Horostenum®, decamethoxinum, skin, morphological structure.

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CORRELATIONS BETWEEN REACTIVE OXYGEN SPECIES, TRANSMEMBRANE MITOCHONDRIAL POTENTIAL AND APOPTOSIS IN BLOOD AND BRONCHOALVEOLAR LAVAGE IN RATS WITH MODULATED HEPATOPULMONARY SYNDROME

Introduction. The presence of comorbidity liver and lung was first described by M. Fluckiger (Austria) back in 1884, when he saw in young woman with cirrhosis due to the syphilis presence of cyanosis and finger as «drumsticks». Hepatopulmonary syndrome (HPS) is defined as a defect of arterial oxygenation caused by dilatation of intrapulmonary vessels associated with liver disease. Taking into account that in the pathogenesis of HPS mononuclear phagocytes play an important role, and during activation they produce a large number of biologically active substances, which are involved in the mechanisms of programmed cell death, we considered appropriate to

further explore the mechanisms of apoptosis. Objective: to carry out a comparative analysis of correlations between the level of apoptosis, mitochondrial transmembrane potential indices and reactive oxygen species contents in blood and bronchoalveolar lavage in rats to identify additional pathogenic mechanisms of hepatopulmonary syndrome development.

Materials and methods. The experiments were performed on 48 nonlinear mature rats with two experimental models of hepatopulmonary syndrome. The first experimental model of hepatopulmonary syndrome we created by common bile duct ligation and further its intersection by scalpel. Second experimental model of hepatopulmonary syndrome we created by carbon tetrachloride-induced cirrhosis plus fed a diet of maize flour, lard, cholesterol and alcohol. Correlative analysis among all the studied parameters was carried out.

Results. The correlation analysis showed a strong direct correlation between the rates of apoptosis, mitochondrial transmembrane potential and reactive oxygen species of blood monocytes in rats with two models of hepatopulmonary syndrome ($p<0,01$). After a comparative analysis of the correlation links between the studied parameters in bronchoalveolar lavage it was determined that in rats with two models of hepatopulmonary syndrome is present reliable positive correlation between the contents of reactive oxygen species and apoptosis, and a strong correlation in the case of comparing mitochondrial transmembrane potential with intracellular contents of reactive oxygen species and the percentage of apoptotic cells.

Conclusions. Significant positive correlation between the level of apoptosis, reactive oxygen species and mitochondrial transmembrane potential of mononuclear phagocytes in blood and bronchoalveolar lavage was found. This indicates the significant role of mitochondrial-mediated pathway of cell death in the pathogenesis of hepatopulmonary syndrome.

Key words: correlation, apoptosis, mitochondrial transmembrane potential, reactive oxygen species, hepatopulmonary syndrome.

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HANDLING OF IMPUTATION FOR MISSING DATA AS A CRITERIA OF STRUCTURAL AND FUNCTIONAL BONE TISSUE DISORDERS FOR ESTIMATION IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE MODEL

Introduction. Experimental modeling of pathological process plays an important role in studying the mechanisms of disease development. The experimental settings offer the possibility to identify and characterize the peculiarities of the process or subject phenomenon, and verify theoretical concepts. All above stated justifies the importance of our work aimed at reproduction of broncho-pulmonary pathology and detection of early structural changes in the musculoskeletal system of animal subjects within different periods after creating a chronic obstructive pulmonary disease (COPD) model.

Materials and methods. The experimental study involved 118 healthy white Wistar rats. Animals were divided into four groups. The first group consisted of 40 rats with simulated COPD. The second group included 40 animals simulated COPD after prior ovariectomy. Third group consisted of 20 animals with only ovariectomy (OE). The control group consisted of 18 healthy rats. The investigation of bone mineral density (BMD) was performed using the Experimentalanimals software integrated with Prodigy X-ray densitometer before start of the experiment and within 3, 6 and 9 months after pneumoconiosis. The evaluated parameters were BMD Spine, BMD Total, BMC Spine, and BMC Total.

Results. The critical moment of evaluation of the study results was the loss of rats during the pilot study, both as a result of animals withdrawal at 3, 6 and 9 months of the experiment, and due to their death caused with impairment of vital organs. If

subject variables somehow related to mortality in rats, it could lead to shift in effect assessment results. Given this fact, a missing values substitution model was selected to evaluate the structural and functional changes in bone tissue. The results include a general review of model-data compliance, evaluation of covariation block matrix V, the assessment of fixed effects model coefficients, and testing the hypotheses based on linear combinations of marginal means. The hypothesis regarding differences in BMD Spine, BMS Spine, BMD Total, and Total BMS means of comparison groups creates a contrast between them. Yet more powerful is a hypothesis about difference in variables dynamics observed in the study by groups. Practically all groups of rats demonstrated significant decrease in BMD dynamics. The survival effect was assessed by replacing of missing values. The study found no difference in the dynamics of the survivors and the dead rats. Thus, the conclusions of the study based on the dynamics contrasts may be translated into the general population without significant drifts.

Conclusions. Almost all groups of rats demonstrated a significant decrease in the dynamics of BMD: for BMD Spine (F=2,27; p=0,024), BMD Total (F=6,26; p<0,0001), and the BMC Total confidence limit (F=1,93; p=0,056). BMD Spine showed significant differences in COPD + OE group versus OE (t=2,49; p=0,014). BMC Spine showed significant differences in bone density dynamics observed in COPD + OE group versus OE (t=2,49; p=0,014). BMD Total showed significant marginal differences in dynamics in COPD + OE group compared with COPD (t=1,93; p=0,054). BMC Total demonstrated significant differences in the dynamics of COPD + OE group compared with control group (t=2,52; p=0,013), in COPD + OE group versus OB (t=2.19; p=0,029), in COPD + OE group compared with COPD (t=3,08; p=0,002). The body weight appeared to be important statistically significant covariate for all subject variables. The survival effect has powerful mixing effect for testing hypotheses not related to the dynamics, nevertheless the effect of its combination with time is insignificant and practically has not changed findings based on the dynamics of subject values.

Key words: missing values imputation, chronic obstructive pulmonary disease model.

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RESEARCH OF FORMATION OF STAPHYLOCOCCUS AND ESCHERICHIA RESISTANCE TO ANTISEPTIC AGENTS

Introduction. Medical efficacy of current antiseptics is constantly reducing due to the obtained resistance of microorganisms to antiseptic drugs. Absence of results of broad-scale researches of frequency, dynamics, conditions of origination and spreading of antiseptic resistant variants of microorganisms is one of the reasons for this problem. Objective: To do an experimental research concerning forming of staphylococcus and Escherichia resistance by continuous passaging of test-cultures in the presence of subbacteriostatic antiseptic concentrations.

Materials and methods. The research included 50 passages performed in MIB (meat infusion broth) in the presence of subbacteriostatic concentrations of DC (comparator drug), nitrons 1; 2; 3. Creation of resistant forms of microorganisms to palisept (DC), nitrons (1; 2; 3) was examined. Experiments were performed using S.aureus ATCC 25923, S.aureus 21, E.coli ATCC 25922. Staphylococci and Escherichia coli were passaged in the presence of increasing concentrations of antimicrobial drugs. After 10 passages of bacteria in the presence of antimicrobial drugs the cultural, morphological and tinctorial properties of test-strains and their sensitivity to DC, nitron (1; 2; 3) antiseptic agents were studied.

Results. The sensitivity of staphylococci to DC did not change during 10 passages. During the next 10 passages the sensitivity became 4 times less and made up 1,95 μg

/ml for S.aureus ATCC 25923 and 3,9 μg /ml for S.aureus 21 respectively (the 20th passage). After the 40th passage the sensitivity decreased 16 times for S.aureus ATCC 25923 (7,8 μg /ml) and for S.aureus 21 (15,6 μg /ml). After 50 passages the resistance increased 64 times – 31,25 μg /ml for S.aureus ATCC 25923 and 62,5 μg /ml for S.aureus 21. During 10 passages E.coli ATCC 25922 in MIB with DC the sensitivity changed twice as much and the minimum bacteriostatic concentration (MBC) equaled 15,6 μg /ml. During the next 40 passages the resistance increased 64 times and the MBC made up 500 μg /ml (50 passages). MBC of nitron 1 for S.aureus ATCC 25923, S.aureus 21 made up 0,12-0,24 μg/ml (control). After 20 passages the sensitivity of cocci decreased 8 times and made up 0,97-1,95 μg /ml. After 40 passages with nitron 1 the resistance increased 32 times, after 50 passages - 128 times; MBC for S.aureus ATCC 25923 - 15,6 μg /ml; for S.aureus 21 - 31,25 μg /ml. For E.coli ATCC 25922 the MBC of nitrone 1 was 3,9 μg /ml in the control. After 20 passages the resistance increased up to 15,6 μg /ml, that is increased 4 times. During 50 passages it was revealed that the resistance became 64 times as much (MBC - 250 μg /ml). Resistance of staphylococci to nitrons 2, 3 formed similarly to the same process of nitron 1. The resistance development of E.coli ATCC 25922 in the presence of nitrones 2, 3 was characterized by slowness. After 50 passages the MBC of nitrone 2 made up 8000 μg /ml and increased 256 times in comparison with the control. After 50 passages the MBC of nitrone 3 reached 16000 μg /ml and increased 128 times in comparison with the control (125 μg /ml).

Conclusions. Resistance of the test-strains to DC was not accompanied by the development of cross-resistance to nitrons. The development of the obtained resistance to DC, nitrons 1, 2, 3 should be considered as a biological phenomenon that provides preservation of these kinds of microorganisms.

Key words: Decamethoxinum, resistance formation, Staphylococci, Escherichia.

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MORPHOMETRIC PARAMETERS OF THE SPINAL CORD STRUCTURES OF HUMAN FETUSES AGED 11-12 WEEKS OF THE INTRAUTERINE DEVELOPMENT

Introduction. One of the most important tasks of the current neuromorphology is a detailed study of the development and structure of the central nervous system in the human prenatal ontogenesis. At present the stated issue acquires new aspects due to the attempts of modeling the nervous system structures on the whole and its separate components, and particularly formation of topographic maps of the neurons and cells of the spinal cord glia. The objective of our scientific research is determination of the spinal cord morphometric parameters of fetuses aged 11-12 weeks of the ontogenesis intrauterine development and namely of the segment longitudinal and cross dimensions, areas of the grey and white matter, dimensions and areas of the central canal.

Materials and methods. The morpho-histological research of human fetuses aged 11-12 weeks of the intrauterine development was performed using anatomic, histological and morphometric research methods.

Results. The spinal cord length (from the pyramidal decussation of the medulla oblongata to the apex of the medullary cone) made up 47,0±2,0 mm that equaled 87,0% of the length of the fetus spinal column length. The lower limit of the spinal cord was skeletopically determined at the level of the upper side of S_2 – in 23 cases, at the middle level of S_2 - in 8 cases and at the lower end level of S_1 – in 3 cases. The width of the cervical intumescence of the spinal cord was 2,4±0,2 mm, width of the lumbosacral intumescence – 2,2±0,1 mm. The longitudinal dimension at the level of the cervical segments C_6 – C_7 of the spinal cord was 1,4±0,2 mm, cross dimension – 2,4±0,2 mm. The area of the grey matter was: of the right half - 0,76±0,03 mm^2, of

the left half – 0,73±0,03 mm^2. The area of the white matter was: of the right half – 0,52±0,02 mm^2, of the left half – 0,55±0,02 mm^2. The central canal on the horizontal section had the following dimensions: longitudinal – 0,12±0,02 mm, cross dimension – 0,06±0,01 mm. The area of the central canal was 0,02±0,005 mm^2. The thickness of the dura mater at the level of the cervical segments $C_6 – C_7$ of the spinal cord was 0,07±0,01 mm. The epidural space was relatively non-marked. The width of the subdural space at the front was 0,22±0,04 mm. The width of the subdural space behind was 0,51±0,06 mm and the width from the lateral surface of the medulla to the dura mater – 0,78±0,05 mm. The longitudinal dimension of the spinal cord at the level of the thoracic segments $Th_3 – Th_4$ was 1,2±0,3 mm, the cross dimension was – 1,4±0,3 mm. The area of the grey matter was: of the right half - 0,38±0,03 mm^2, of the left half – 0,39±0,04 mm^2. The area of the white matter was: of the right half - 0,34±0,03 mm^2, of the left half – 0,31±0,03 mm^2. The central canal on the horizontal section of the thoracic segments $Th_3 – Th_4$ had the following dimensions: longitudinal – 0,08±0,01 mm, cross dimension – 0,03±0,01 mm. The area of the central canal was 0,01±0,005 mm^2. The thickness of the dura mater at the level of the thoracic segments $Th_3 – Th_4$ of the spinal cord made up 0,06±0,01 mm. The epidural space behind and on the lateral surfaces was relatively mildly marked, its width was 0,01±0,005 mm. The width of the subdural space at the front was 0,15±0,05 mm, the width of the subdural space behind was 0,42±0,06 mm and the width from the lateral surface of the medulla to the dura mater - 0,62±0,08 mm. The longitudinal dimension of the spinal cord at the level of the lumbar segments $L_4 – L_5$ was 1,3±0,2 mm, the cross dimension was – 2,2±0,3 mm. The area of the grey matter was: of the right half - 0,59±0,03 mm^2, of the left half – 0,62±0,03 mm^2. The area of the white matter was: of the right half - 0,41±0,03 mm^2, of the left half – 0,42±0,04 mm^2. The central canal on the horizontal section of the lumbar segments $L_4 – L_5$ had the following dimensions: longitudinal – 0,07±0,02 mm, cross – 0,04±0,01 mm. The area of the central canal was 0,01±0,005 mm^2. The thickness of the dura mater at the level of the lumbar segments $L_4 – L_5$ of the spinal cord made up 0,04±0,01 mm. The epidural space was mildly marked behind and on the lateral surfaces. The subdural space at

the front was 0,31±0,03 mm. The width of the subdural space behind was 0,54±0,04 mm and the width from the lateral surface of the medulla to the dura mater – 0,48±0,04 mm. The longitudinal dimension of the spinal cord at the level of the sacral segments $S_2 – S_3$ was 1,3±0,3 mm, the cross dimension was – 1,4±0,2 mm. The area of the grey matter was: of the right half - 0,43±0,03 mm^2, of the left half – 0,44±0,02 mm^2. The area of the white matter was: of the right half - 0,29±0,03 mm^2, of the left half – 0,32±0,02 mm^2. The central canal on the horizontal section of the sacral segments $S_2 – S_3$ had the following dimensions: longitudinal – 0,10±0,05 mm, cross - 0,05±0,01 mm. The area of the central canal was 0,02±0,01 mm^2. The thickness of the dura mater at the level of the sacral segments $S_2 – S_3$ of the spinal cord made up 0,04±0,01 mm. The epidural space was mildly marked on the lateral surfaces. The subdural space at the front was 0,20±0,03 mm. The width of the subdural space behind was 0,48±0,04 mm and the width from the lateral surface of the medulla to the dura mater – 0,45±0,05 mm.

Conclusions. During this period of the intrauterine development a higher intensity of formation of anterior and posterior horns of the grey matter is observed at the level of the cervical and lumbar segments. Lateral horns are formed in the thoracic segments. The longitudinal and cross diameters of the spinal cord vary along its whole length. The largest longitudinal dimension of the spinal cord is observed at the level of the cervical segments, the least - at the level of the thoracic segments $Th_3 – Th_4$. The largest cross dimension of the spinal cord corresponds to the cervical segments at the level $C_6 – C_7$, the least - at the level of the thoracic segments $Th_3 – Th_4$ and sacral segments $S_2 – S_3$. The value of the grey and white matter area varies along the whole length of the spinal cord. The largest grey and white matter area was determined at the level of the cervical segments $C_6 – C_7$. The smallest area of the grey matter - at the level of the thoracic segments $Th_3 – Th_4$. The smallest area of the white matter - at the level of the sacral segments $S_2 – S_3$. The largest area of the central canal on the horizontal section is at the level of the thoracic segments $C_2 – C_3$ and it gradually reduces in the caudal direction but at the level of the sacral segments $S_2 – S_3$ it increases again a little. The thickness of the dura matter reduces in the caudal

direction. The epidural space is relatively marked at the level of the upper cervical segments and is mildly marked on the lateral surfaces at the level of the other segments. The subdural space is relatively marked along the whole length of the spinal cord.

Key words: intrauterine development, spinal cord, morphometric parameters.

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THE PECULIARITIES OF COMBINED ACTION OF OMEPRAZOLE AND FAMOTIDINE ON THE PHYSICAL AND CHEMICAL PROPERTIES OF RAT GASTRIC JUICE AT THE IMMUNODEPRESSION

Resume. It has been shown that after 21 days, the combined action of omeprazole and famotidine increases twice the value of pH gastric juice of animals, as well as indicates a change in the composition of proteins of the latter.Additional influence of antitymocyte serum(immunodepression) and ethanol aggravated the effect of the used preparations, to what the further defeat of gastric mucosa and presence of low-molecular protein factions testifies in gastric juice.

Key words: SSK-2/gastrine receptors, H2-histamine receptors, M1-choline receptors, phamotydine, omeprazole.

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CORELATIONS AMPLITUDE ELECTROCARDIOGRAPHIC INDEXES WITH SOMATOMETRIC PARAMETERS IN SPORTSMEN AND GIRLS WHO ARE NOT INVOLVED IN SPORTS

Introduction. Within diseases of the cardiovascular system occupy a leadership position and largely determine the level of temporary and permanent disability and mortality. For prevalence, severity of complications, damages caused to society, diseases of the cardiovascular system is a major medical and social problems of modern society. And to solve this problem is possible with the application of various cardiac applications surveys aimed at discovering underlying cardiovascular disease and the factors that cause them, in order to prevent mass emergence and development of these diseases. However, we know that the factors that cause the disease, each person acting alone individually, and requires certain criteria in order to effectively use primary prevention and to evaluate its results. These criteria may be individual anthropo-somatotypologic characteristics of an organism. In the study cardiometric indicators found that many of them find a relationship with the constitutional parameters.

Materials and methods. We surveyed 80 athletes (from the first level to the adult masters of sports) the following sports: volleyball (46), wrestling (1), athletics (27), swimming (2), tumbling (4) and 127 people who are not engaged sports. All studied ranged in age from 16 to 20 years and belonged to the juvenile period of ontogenesis [Nikityuk, Chtetsov, 1990]. We carried out anthropometric research methodology Bunaka [1941] somatotypologic – estimated by a modification of the method of Heath-Carter [1990], the definition of composition of body weight per Matejko [Koveshnykov, Nikityuk, 1992], the definition of lean body mass by the method of the American Institute nutrition [Heymsfield et al., 1982] and ECG study in 12

standard leads using computer diagnostic complex. Analysis of the results carried out using STATISTICA 5.5 (CNIT VNMU be named after NI Pirogov, license № AXXR910A374605FA). Analysis of correlations were performed using the statistical method of Pearson.

Conclusion. Established in athletes are not numerous, mostly weak significant correlation between the amplitude electrocardiographic parameters and somatometric and torque characteristics. Most numerous correlations established for the P wave, all reliable connections in the second reverse leads in the first - straight. In women who are not involved in sports, installed a large number of significant relationships in the first recording. In the second set lead only a few reliable weak correlation. The amplitude of the Q wave has the greatest number of significant correlations. The largest and most established power relationships between amplitude electrocardiographic parameters and anthropometric indices of height points and girth body size. The results of the correlation analysis allow to determine the characteristic peak performance with regard to individual constitutional characteristics that allow early identify risk among athletes with diseases of the cardiovascular system and more accurately differentiate in their state of overtraining.

Results. In first leading the scope of P-wave correlates directly with only one weak parameter. Q wave amplitude does not correlate with any measure. The amplitude of the R wave has trusted relationship with weak figures 3 (2 forward and 1 reverse). S-wave amplitude correlates with 5 somatometic indicators representing 8.33% of 1 and 4 medium strength weak, 4 reverse and 1 straight. In second leading the scope of the T wave is correlated with only one constitutional terms, it is a direct and easy. The scope of P-wave correlates with 15 somatometrychnymy parameters, representing 25% of the total number of links, including: weak 8 and 8 secondary, all links are reversible. Q wave amplitude does not correlate with any measure. The amplitude of the R wave has trusted relationship with one weak direct parameter. S-wave amplitude did not correlate with any measure. The scope of the T wave is correlated with only one constitutional terms, it is a direct and easy.

Key words: correlation, electrocardiogram, anthropometry, somatotype, components of body weight, athletes, girls, adolescence.

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CORRELATIONS OF THE CARDIOINTERVALOGRAPHY INDICES WITH THE ANTHROPOMETRIC AND SOMATOTYPOLOGICAL PARAMETERS IN MEN AND WOMEN OF THE FIRST MATURE AGE WITH THE EUKINETIC TYPE OF HEMODYNAMICS

Introduction. Up to the present the large-scale population investigations which are needed for standard-setting of the cardiac rate variability (CRV) for different age and sex categories of practically healthy people were not conducted in the world.

The purpose of the research was to investigate the correlations of the cardiointervalography (CIG) indices with the anthropometric and somatotypological parameters in practically healthy men and women (inhabitants of the Podillya region) of the first mature age with the eukinetic type of hemodynamics.

Materials and methods. Results of the anthropometric examinations after Bunak method [1941], determination of the somatotype components after J. Carter and B. Heath [1990] method, component body mass composition after the methods of J. Matiegka [1921] and American Nutrition Institute [Heymsfield, 1982], the CIG indices of 36 healthy urban men and 65 women (inhabitants of the Podillya region) of the first mature age with the eukinetic type of hemodynamics were taken from the database of the university subjects materials «Development of the normative health criteria of the different age and sex population groups on the basis of the anthropogenetic and physiological organism characteristics examination with the aim

to determine the markers of multifactorial diseases». Rheovasographic and cardiointervalographic investigations were carried out by means of the cardiological computer diagnostic complex. The statistical indices of the CRV, indices of the variation pulsometery, indices of the vegetative homeostasis after Bayevskyy method, and spectral indices of the CRV were determined. Correlation analysis of the CIG indices dependence on the anthropometric and somatotypological parameters in men and women of the first mature age with the eukinetic type of hemodynamics was carried out in the standard package «STATISTICA 6.1» (belonged to VNMU Research Center, license № BXXR901E246022FA).

Results. It has been set that in the men the statistical CRV indices have the single statistically significant correlations with the anthropometric parameters. Among the anthropo-somatotypological signs with which in the men the CIG indices correlate more often are the head girth, right forearm distal epiphysis width, pelvis interspinal distance and thickness of the skin-fat fold on the chest. It has been set that in the women majority of the CRV indices have more amount of correlations with the anthropo-somatotypological signs than in the men. In particular, all indices of the vegetative homoeostasis in the women have statistically significant direct weak correlations with the foot girth (r from 0,26 to 0,29) and significant inverse weak correlations with the right shin distal epiphysis width (r from -0,25 to to -0,26). For the spectral CRV indices it has been shown that in women of the first mature age with the eukinetic type of hemodynamics the record total power in all ranges, record powers in the low and high frequency ranges have significant direct mean correlations with the head sagittal arc (r from 0,30 to 0,37) and statistically significant inverse weak correlations with the maximal head width (r from -0,25 to -0,29). On the whole, in the women the CIG indices more often correlate with the sagittal arc and maximal head width, right shin distal epiphysis width, shoulders width, intertrochanteric pelvic distance, thickness of the skin-fat fold on the shoulder back surface.

Conclusion. It has been set the existence of the correlations of the CIG indices with the anthropometric and somatotypological parameters.

Key words: cardiointervalography, eukinetic type of hemodynamics, anthropo-somatotypological indices, correlation analysis.

CLINICAL RESEARCHES

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GENOTYPE POLYMORPHISM N-ACETYLTRANSFERASE 2 IN PATIENTS WITH TUBERCULOSIS

Resume. The important differences concerning N-acetyltransferase 2 (NAT2) are observed among different ethnic groups that determine a significant variation of the medical drugs acetylation, for instance of antituberculous agent isoniazid. The aim of the present work was to investigate NAT2 polymorphism in the patients with pulmonary tuberculosis (TB) on the base of Odesa region. NAT2 polymorphisms C>T 481 NAT2*5A, G>A 590 NAT2*6A, G>A 857 NAT2*7A/B were analyzed with the help of polymerase chain reaction. The blood samples were obtained from patients with new cases of pulmonary TB from Odesa regional antituberculous dispensary and healthy donors in Odesa district station of blood transfusion in 2010-12 yy. Among patients with pulmonary TB according to NAT2 genotype 3,6% individuals were rapid acetylator, 34,6% were moderate acetylators and 61,8% individuals were slow acetylartos. In healthy donors before mentioned categories included 8,4%; 38,7 and 52,9% correspondently. Around 66,7% of female patients with TB were slow acetylators that is in 2,3 times more than in healthy donors. Among male patients with TB around 57,1% were slow acetylators. With ageing it was observed a tendency of dropping of slow acetylators amount.

Key words: N-acetyltransferase 2, polymorphism, acetylation, tuberculosis.

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COMBINATION GENE MUTATION ENZYMES OF HOMOCYSTEINE METHYLENTETRAHYDROFOLATEREDUCTASE C677T AND NITRIC OXIDE SYNTHASE T786C IN PATIENTS WITH PSEUDARTHROSIS OF LONG BONES

Resume. In article described research the comparative results of the gene mutation of enzymes methylentetrahydrofolatreductase MTHFR C677T and nitric oxide synthase eNOS T786C in 118 patients with pseudarthrosis of long bones and in those with consolidated fractures. The pathogenetic mechanisms of the effect of mutation MTHFR C677T and eNOS T786C on the structural and functional state of bone tissue, impaired reparative osteogenesis acceleration is negative pattern in the form of hyperhomocysteinemia, inflammation syndrome, atherogenic dyslipidemia, endothelial dysfunction and vascular remodeling.

Key words: mutation, methylentetrahydrofolatreductase C677T, nitric oxide synthase T786C, pseudoarthrosis, hyperhomocysteinemia.

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CHANGES OF INDEX CONTENT OF OXIDATIVE STRESS IN PATIENTS WITH HIV-INFECTION ON THE BACKGROUND OF HIGHLY ACTIVE ANTIRETROVIRAL THERAPY

Introduction. HIV infection remains today one of the main problems of global health care. According to UNAIDS, Ukraine is classified as a country where are the highest revalence rates of HIV in Europe and Central Asia with the national HIV prevalence rate among adults that is 1,1%. Application for more than a decade of highly active antiretroviral therapy (HAAT) for the treatment of HIV-infected patients allowed to reduce lethality 7 - 8 times as much. However, HAAT, which includes a combination of at least three drugs is characterized by a large number of adverse events, including hepatotoxicity. Pathogenesis of HIV infection, as well as any other infectious pathology, involves two competing elements – active destruction of HIV action and appropriate protective and adaptive body reactions. In recent years there have been notifications about disorder of oxidation-reduction homeostasis in HIV-infected people, accompanied by the intensification of free radical oxidation of biomolecules and lipid peroxidation as well as disturbance of antioxidant protection. However, the interrelation of oxidative stress with HIV complications and taking antiretroviral therapy that involves mitochondrial toxic and metabolic complications remains indeterminate in full. That's why the purpose of our research is to study the changes in the antioxidant protection system and determine the most efficient and safe HAAT schemes.

Materials and methods. We examined 120 patients with HIV infection who were registered at inpatient or outpatient departments in Vinnytsia Regional Center for AIDS Control and Prevention, Kyiv City Centre for AIDS Control and Prevention and Ivano-Frankivsk Regional Centre for AIDS Control and Prevention during 2007 to 2011 and these patiens were on HAAT. Patients examined were the main group. Among the examined patients dominated men who were 85 (70,83%) persons, average age of patients was 36,67±0,66 years. We used epidemiological, clinical, biochemical, serological, tool, statistical methods of research in our paper.

Results. It was found that the levels of catalase and superoxide dismutase in patients with HIV infection were 2.3 and 2 times respectively lower than similar rates in healthy people. At the same time the level of glutathione-S-transferase was 1.9 times higher in the group of patients compared with healthy ones. Receiving HAAT was accompanied by a reduction of rates under study. Thus, the levels of catalase and superoxide dismutase in patients with HIV infection after 6 months of therapy decreased by 1.3 times, and the level of glutathione-S- transferase in 1,8 times. In coinfected patients with HIV / HCV and HIV / HBV there has been a more significant exhaustion of antioxidant enzyme systems. So, before HAAT the content of catalase in patients with co-infection of HIV / HCV was lower by 1.5 times compared with patients with monoinfection HIV, superoxide dismutase by 1.9 times, and the level of glutathione-S-transferase by 1,2 times, respectively. Slightly smaller difference was observed in coinfected patients with HIV / HBV, where the level of catalase was lower by 1,2 times, superoxide dismutase by 1,5 times respectively than in patients with monoinfection. After 6 months of therapy a significant exhaustion of enzymes antioxidant protection was observed in patients with co-infection of HIV / HCV. The dependence between rates of oxidative stress and levels of hepatotoxicity was established. The most evident exhaustion of antioxidant enzymes was observed in patients with the third level of hepatotoxicity.

Conclusions. It was found that the vast majority (61,67%) of patients with HIV infection, regardless of gender, has liver affection in the form of evident cytolysis syndrome. In the group of patients with the increased level of aminotransferase 1.5 times more there were patients with III disease clinical stage. The course of HIV infection is accompanied by exhaustion of antioxidant protection system that is more observed in patients with III level of hepatotoxicity, while catalase and superoxide dismutase levels are lower, respectively, by 1,5-1,9 times in comparison with the similar patients with I level. More significant changes of antioxidant protection are registered on the background of HAAT dosage regimen, containing nevirapine, thus there is reduction of catalase and superoxide dismutase, respectively, by 1,6-1,8 times in comparison with the dosage regimen of lopinavir / ritonavir.

Key words: Acquired Immune Deficiency Syndrome, HIV infection, highly active antiretroviral therapy, hepatotoxicity.

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CLINICAL-DIAGNOSTIC FEATURES OF CHRONIC HEPATITIS C IN PERSONS INFECTED BY HUMAN IMMUNODEFICIENCY VIRUS

Introduction. Since the beginning of the application of highly active antiretroviral therapy in the treatment of HIV patients, chronic hepatitis C (CHC) has taken a leading role in the structure of morbidity and mortality of patients with this pathology. The frequency of HCV - infection in HIV - infected is on the average 40-80 % and depends on the ways. It is believed that co-infection reduces immunological control for HCV replication and leads to higher levels of viral load in this group of patients. A number of studies found a correlation between viral load and the level of CD-4 lymphocytes. Although the fact that the growth of HCV viral load in co-infection is confirmed by many authors, its role in the progression of liver viral affection is constantly discussed. Until recently, the impact of HIV-infection on the course of chronic hepatitis C and main clinical features of co-infection are still not fully determined. Hence the purpose of our study was to determine the features of clinical course of chronic hepatitis C in persons infected with human immunodeficiency virus.

Methods and materials. We examined 190 patients with HIV infection who were registered at outpatient or inpatient departments in Vinnytsia Regional Center for AIDS Control and Prevention, City Center for AIDS Control and Prevention at City Clinical Hospital № 5 in Kyiv during 2007-2012. We used epidemiological, clinical,

biochemical, serological, molecular-biological, tool and statistical methods of research in our paper.

Results. In 57,89% of patients with HIV infection we observed CHC. Among coinfected patients men were dominating (73,64 %), which was 1,3 times more than among patients with monoinfection (57,14 %). Half of patients with CHC / HIV was aged 30-39 years (50,91 %), average age of the coinfected patients was 31,59±2,51 years.

The leading way of transfer for more than a half of patients with co-infection (55,45 %) was injectable using of addictive substances, on what indicated 23,3 times more often in comparison with patients with monoinfection (2,38 %). More than a half of the patients of the main group (57,27 %) had genotype 3 HCV.

Conclusions. The vast majority of patients with co-infection (86 persons – 78,18 %) had high HCV viral load, which is 1,3 times higher than the similar index in the group with monoinfection CHC. In most patients with co-infection (85 persons – 77,27 %) we established that CD4 level was above 200 cells / ml, and we also observed an inverse relationship between viral load RNAHCV and CD4 level. Thus, among 18 patients – 72 % of patients with CD4 level below 200 cells / ml had high HCV viral load, which is 1,9 times higher than the number of patients with a high viral load in the group with CD4 above 200 cells / microliter. In patients with co-infection dominated manifestations of asthenovegetative and dyspeptic syndromes. There was an increase of index level of cytolysis and cholestasis in blood serum and significant correlation between CD4 level and cytolysis index (with CD4 <200 cells / microliter the level of AST and ALT in blood serum was 3,6 and 4,1 times higher than the similar level in patients with CD4 > 500 cells / microliter).

Key words: chronic hepatitis C, HIV-infection, fibrosis.

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PROGNOSIS DEVELOPMENT AND METHODS OF PROPHYLACTIC OF POSTDECOMPRESSION FAILURE OF LIVER WITH PATIENTS IN NONCANCER OBSTRUCTIVE JAUNDICE

Resume. The analysis of the dynamics of systemic metabolic markers in the postoperative period of the 510 patients with non-critical and critical forms of non-tumor obstructive cholestasis after internal and external biliary decompression in various ways is conducted. There are revealed characteristic patterns of postoperative dynamics observable indicators of the presence of specific critical moments of maximum risk of complications (hepatic dysfunction) in the aftermath of the internal biliary decompression, which should be identified for the preventive conservative therapy.

Key words: noncancer obstructive jaundice, postdecompression failure of liver, prognosticates, prophylaxis.

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FEATURES OF CYTOKINE-INDUCED ANEMIA PROGRESSION IN CHRONIC HEPATITIS C

Introduction. HCV-infection remains a complicated and not fully studied problem of global hepatology that in many cases leads to the development of hepatocirrhosis, hepatocellular carcinoma and lethality. A well-known is the fact of overproduction of

some proinflammatory cytokines, namely, IL-1 and IL-6 in serum of patients with chronic hepatitis C who do not always have correlatation with indices of T-cell immunity, histological activity index and fibrosis degree, however, remains unclear the role of the named cytokines in a complex cascade of immunoregulatory effects in chronic hepatitis C (CHC). Anemia of various etiologies is found in 75% of patients with chronic liver diseases, which explains the need for a detailed study of the role of liver affection in its development. Anemia in chronic diseases, including those with chronic hepatitis C is mainly cytokine-induced (TSIA), interleukins and cells of the reticuloendothelial system affect iron homeostasis, proliferation of erythroid progenitor cells, erythropoietin production and lifespan of red blood cells, that is the basis of the mechanism of its formation. A distinctive feature of anemia of chronic diseases is the development of iron homeostasis disorders, followed by an increase in absorption and accumulation of iron in the cells of the reticuloendothelial system. This contributes to recently opened iron-regulatory hormone hepcidin that inhibits iron absorption in the intestine – and it leads to its retention in enterocytes, macrophages and hepatocytes. The purpose of our research is to study the features of CIA progression in patients with CHC.

Materials and methods. We examined 220 patients with chronic hepatitis C with 1st genotype virus who were registered at Vinnytsia city hepatological center during 2007-2011. Among the examined group of patients men were dominating – 145 (65,91%) persons, there were 75 women (34,09%). The average age of patients was 38,46±8,53 years. The paper used in epidemiological, clinical, biochemical, serological, tool, statistical methods. We used epidemiological, clinical, biochemical, serological, tool, statistical methods of research in our paper.

Resalts. According to the received data, among 137 patients with chronic hepatitis C and anemia prevailed patients with CIA without iron deficiency, which made 61,31%. The second place in frequency was taken by cases of combination CIA with iron deficiency 19,71% and only 18,98% of patients had signs of IDA. In general, half of the patients with chronic hepatitis C, showed signs of CIA (50,45%). In the course of study it was established that hyperproduction of IL-6 was found in 59,54%

of patients with chronic hepatitis C, while this index was 4.8 times higher compared with healthy people. In the group of patients with chronic hepatitis C with the presence of anemia without iron deficiency as well as with its deficiency, there was a significant increase of IL-6 level by 8,3 times in comparison with healthy people and by 6,2 times compared with patients with absence of anemia.

According to the received data, the level of serum prohepsidin was significantly lower in patients with CHC compared with a group of healthy people and was 46,67±7,96 ng / ml vs 104,5±11,3 ng / ml ($p<0,0001$). The level of prohepsidin in healthy men was 1,5 times more than in women, in the group of patients with chronic hepatitis C, this difference was 1,3 times. In general, this index in men with chronic hepatitis C was lower by 2,5 times in comparison with healthy men and among women by 2,1 times. Development of anemic syndrome was followed by the increase of levels of prohepsidin in blood serum. Thus, the given index in the group of patients with chronic hepatitis C and anemia was 1,2 times higher, and in patients with iron deficiency was 1,28 times higher compared with the group of patients with the absence of anemia.

Conclusions. In 50,45% of patients with CHC, cytokine-induced anemia was found, while it significantly depended on the duration of the disease. Among patients with anemia complaints about increased fatigability and general weakness were frequently observed, and visceral syndromes in the form of hepato-and splenomegaly were found more often. The increased content of proinflammatory interleukin-6 in blood serum was found in 59,54% of patients with CHC, its level was 4,8 times higher than the similar level in healthy people, and its dependence on the biochemical activity of the disease was detected. The most important regulatory protein of iron metabolism in the human body is prohepsidin the content of which in serum of patients with chronic hepatitis C was 46,67±7,96 ng / ml, which is 2,2 times lower than in healthy persons, though there were found some sex differences. Development of anemic syndrome was followed by the increase of prohepsidin level in blood serum in patients with chronic hepatitis C and anemia by 1,2 times, and in patients with iron deficiency by 1,28 times compared with the group of patients with the absence of anemia.

Key words: chronic hepatitis C, interleukin -6, hepsidin, prohepsidin, ferritin.

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OSTEOSYNTHESIS OF CASUALTIES WITH INFECTIOUS COMPLICATIONS OF A POLYTRAUMA

Resume. In the article it is a question of infectious complications after an osteosynthesis of casualties with a polytrauma. According to the actual material emergence there was analysed the appearance of the purulent-septic complications after an osteosynthesis of casualties with a polytrauma. The dependence between a type of an osteosynthesis and emergence of infectious complications is revealed. It is proved that a choice method of casualties with a polytrauma have an intramedullyarny osteosynthesis cores with an antibacterial covering that reduces emergence of infectious complications almost by 4 times and considerably improves results of treatment.

Key words: casualties, polytrauma, osteosynthesis, infection.

UDC: 616.24-002:615.036.8:615.33

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COMPARATIVE EVALUATION OF ANTIBIOTIC THERAPY OF COMMUNITY-ACQUIRED PNEUMONIA IN THE CITY CLINICAL HOSPITAL AND THE CENTRAL DISTRACT HOSPITAL

Resume. Comparative prospective study of correspondence of antibiotic prescription due to community-acquired pneumonia (CAP) to the national guidelines in the City clinical hospital (CCH) and the Central district hospital (CDH), evaluation of influence of recommended and non-recommended antibiotic therapy on efficacy of CAP treatment has been performed. It was revealed that before hospitalization the severity of CAP was overestimated and 45 (95,7%) patients from the CCH group and 34 (83%) patients from the CDH group were admitted without appropriate severity of the disease. Antibiotic choice at 91% of prescriptions was in accordance with the national guidelines for CAP therapy. Corresponding combinations of antibiotics were prescribed more frequently in the CDH group (31 (58,5%)), than in the CCH (13 (27,6%)) ($p<0,001$). Level of complete recovery was higher in the CDH group - 35 (66%) patients vs 25 (53,2%) patients of the CCH group ($p<0,05$). Prescription of the antibiotic therapy in the CDH group more corresponded to national guidelines. It caused higher level of the complete recovery without additional ambulatory treatment.

Key words: community-acquired pneumonia, antibiotics, efficacy of treatment.

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PROSPECTS FOR USE DERMATOSCOPY OF ICHTHYOSIS

Introduction. Ichthyosis is by far the largest common skin disease that is accompanied by genetic predisposition of the body to the formation of keratin

disorders. Diagnosis ichthyosis, as is customary, conducted in the presence of classical signs are detected during the inspection. Important is the development of new methods of diagnosis ichthyosis, which will increase the verification of diagnosis. One of the modern and accessible methods of diagnosis in dermatology is dermatoscopy. In the literature there are isolated reports of the use of dermatoscopy in the diagnosis of ichthyosis. The aim of the work was to evaluate the prospects of dermatoscopy with ichthyosis.

Materials and methods. We have conducted a comprehensive survey of 10 patients with ichthyosis, which were under the supervision of dermatologist. All patients in addition to standard clinical and laboratory tests conducted dermatoscopy.

Results. According to a survey we can conclude that the presence of several options dermatoscops skin damage on the background of ichthyosis. Found that dermatoscops manifestations ichthyosis can be in the form of hyperkeratosis distributed nature combined with hyperkeratosis skin was peeling plate and vascular pattern represented by the same type of vessels and structures by type «splashes of champagne». Also, all patients marked the uneven follicular hyperkeratosis with marked atrophy of the hair follicle. It should be noted that two patients experienced some features displays that were localized. Application of dermatoscopy does not require special preparation of the patient, no hits against the prospect for further research is the creation dermatoscops diagnostic criteria ichthyosis.

Conclusions. Dermatoscopy is a promising method for diagnosis of ichthyosis and control of the disease. Identified specific dermatoskops skin changes on the background of ichthyosis. Application of dermatoscopy in patients with ichthyosis can improve the diagnosis and control of the results of therapy.

Key words: ichthyosis, dermatoscopy, research methods.

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CLINICAL CASE OF DIAGNOSTIC SEARCH OF CAUSE OF FEVER OF UNKNOWN ORIGIN

Resume. According to many clinicians, the ability to understand the causes of prolonged fever of unknown origin is a touchstone of diagnostic abilities of doctor. However, to detect disease, that is difficult for diagnosis in some cases impossible. Among patients with fever, which was initially diagnosed as a "fever of unknown origin" the part of fully recognized cases account for, according to different authors, 5 to 21% of such patients. Pathological conditions that can cause fever include: infectious, toxic, immunologic, collagen, vascular, degenerative, demyelinating, endocrine, metabolic, congenital, traumatic, neoplastic, and unknown reasons. Consequently, the diagnostic search in this case is quite broad. Also very important is not only highly qualified of doctor, his attention to anamnesis, complaints, physical examination and dynamic of semiotics, concomitant to a fever, but also raises the important question of adequate equipment of biochemical laboratory and instrumental diagnostic level of medical institution. According to various authors, fever of unknown origin in 70% of cases is the «great trinity»: infections – 35%, malignant tumors – 20%, systemic connective tissue diseases – 15%. Just such interesting, in our opinion, was ambiguous case of search of the causes of prolonged fever of unknown origin, which we present for consideration. During hospitalization diagnostic search for the causes of prolonged fever was intended to exclude diseases of «great trinity».

In our case only appointment of pathogenetic therapy was crucial in diagnosing the cause of fever. The lack of effect of antibiotics, the efficiency of pharmacotherapy by glucocorticosteroids, previous infection, data of ultrasonography of thyroid gland, dysfunction of it, inflammatory changes in laboratory values (especially ESR increase to 45-50 mm/h) are pointed to subacute thyroiditis as a cause of long febrile state. The appointment of methylprednisolone in dose of 16 mg per day and thiamazole 10 mg led to normalization of body temperature, decrease of total intoxication,

improvement of health of the patient. But one of the brightest diagnostic clinical signs of subacute thyroiditis in the early stages of its development as a pain in the neck and pain at thyroid palpation, at prehospital stage probably been underestimated or incorrectly interpreted by patient and primary care physician which possibly slowed diagnosis of disease and led to unnecessary prolonged use of antibiotics.

Key words: fever of unknown origin, subacute thyroiditis.

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RECONSTRUCTIVE-RESTORATIVE OPERATIONS IN PATIENTS WITH COLOLRECTAL PATHOLOGY WHO UNDERWENT STOMA SURGERY

Introduction. Reconstructive-restorative treatment of patients with colostomy is an urgent problem nowadays as it leads to their physical and psychic sufferings, seclusion and self-isolation as well as to considerable economic losses for the state budget because of disability of such patients.

Materials and methods. Complex analysis of reconstructive-restorative operations performed in 163 patients with colostomy during 2000-2012 years within the period of one month to two years after the primary surgery was done. The choice of colostomy technique depended on complex assessment of a number of preoperative and perioperative factors: topographic and anatomical characteristics of ascending and descending portions of the colon, colon walls status, blood supply, proportions of intestinal lumens, the length of mobile parts, the possibility of retroperitoneal anastomosis as well as the presence of concomitant pathology (diabetes mellitus, atheroslerosis etc).

Results. Assessment of anastomosis patency was one of the major criteria of operations' results. In 147 patients (90,2%) anastomosis was patent after surgical treatment. In 108 patients (66,2%) the operation was done within 2-3 months after primary surgery. In 14 operated patients (8,5%) incompetence of anastomosis sutures occurred on the 5-7th days after the operation. 8 of those patients (4,4%) were operated within one month, 3 patients (1,8%) – within 2-3 months, the remainder 3 patients (1,8%) – following 6 months after the primary surgery. 6 patients (3,7%) underwent repeated colostomy and drainage of abdominal cavity. In 8 patients (4,9%) anastomosis incompetence resolved spontaneously.

Conclusions. Reconstructive-restorative operations are considered to be complicated surgical interventions because of difficulty to predict the most suitable type of anastomosis and potential postoperative complications. Anastomosis patency depends mainly on adequate restoration of body functions, body weight, intestinal wall structure, severity of cicatrical adhesions in the abdominal cavity. Thorough preoperative and perioperative assessment of topographic and anatomical characteristics of anastomotic portions of intestine is mandatory. The most optimal period for reconstruction is 2-3 months following the first operation in compensated concomitant pathology. Elaboration of a complex program to determine the proper date of reconstruction and individual choice of the type of anastomosis for every patient is the object of our further investigation.

Key words: reconstructive-restorative operations, colostoma, patients with colorectal pathology.

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DRUG THERAPY OF PATIENTS WITH ULCERATIVE GASTRODUODENAL HEMORRHAGE

Resume. The article analyzes the results of treatment of 2986 patients with ulcerative gastroduodenal hemorrhage in the conditions of the specialized surgical hospital. The features of infusion-transfusion therapy in patients with hemorrhagic shock are revealed.

Key words: ulcerative gastroduodenal hemorrhage, infusion-transfusion therapy, hemorrhagic shock.

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INTERNAL OSTEOSYNTHESIS OF ACETABULAR FRACTURES

Introduction. The complexity of the acetabulum structure and the variety fracture options are necessitate a differentiated approach to the surgical tactics, both in the planning phase and in during the operation. The purpose of the study – substantiation of indications for osteosynthesis and technical features of its implementation for acetabular fractures.

Materials and methods. Internal fixation was used in 74 patients. There were 70 men and 4 women. Age of patients – from 17 to 65 years (mean age – 42±2,6 years). 65 patients were injured in road accidents. Internal osteosynthesis was performed from 2 to 37 days (average time – 8,6±3,1 days), it depended on the severity of the injury and timely diagnosis of hip joint injuries. Preoperative examination included X-ray radiographs of the pelvis and damaged hip joint in standard Judet view. Spiral computed tomography is strongly recommended. Fractures of the acetabulum were identified according to the AO classification: type A 1.1 - 44, and A 2.2 - 5, 1.3 - 14 2.2 - 4, a 3.3 - 3, C 1.2 - 2, C 2.3 - 2.

Results. The main criteria for the choice of treatment methods was a violation of the stability of the damaged hip joint. For posterior wall and column fracture was performed postero-lateral Kocher-Langenbeck surgical approach. For optimal visualization and complete reposition of bone and cartilage fragments in the central area of acetabulum intraoperative hip dislocation was performed. It is strictly necessary to save attachment of the posterior wall fragment with joint capsule to prevent of avascular necrosis. For displaced transverse acetabular fractures in the region of the posterior columns Koher-Langenbeck approach was used, in some cases – with large trochanter osteotomy. When complex transverse type B fractures and the type C (both column fractures), intrapelvic surgical approaches were used – not extension anterior iliofemoral or extension ilioingvinal approaches. The development of osteoarthritis or avascular necrosis of the femoral head depended on the type of acetabulum fractures. Functional results were studied for 73 patients for the period from 1 to 8 years (Harris Hip Score). Excellent functional outcomes (GPA 94±2,23) were observed in 43 (58,90%), good (average 85,7±3,17) – 15 (20,55%), satisfactory (average score of 77 83±3,67) – 6 (8,22%), poor (average 38,58±2,26) – in 9 (12,33%). Development of avascular necrosis of the femoral head we observed for fractures of the posterior wall of the acetabulum (A 1.1 and B 1.3). Fracture related to type B and C.

Conclusions. When planning a treatment strategy for fractures of the acetabulum it's necessary to account the severity and variety of damage of all elements of the hip joint, and the type and location of damage of the pelvic ring. The nature and progression of degenerative changes in the damaged joint, depending on mechanogenesis injury, the time of eliminating hip dislocation, type of fracture, repositioning quality and time of osteosynthesis. During the open reduction, especially in fractures of the posterior wall, for imaging and restoration of the articular surface hip dislocation should be perform, without cutting of the bone and cartilage fragments from the joint capsule. When complex transverse (type B) and at both column (type C) ractures, using of extensive surgical approaches allows not only reposition and osteosynthesis of acetabulum, but stabilizing the pelvic ring.

Key words: acetabulum, fractures, internal osteosyntesis.

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LEPTIN OF BLOOD IN PATIENTS WITH CHRONIC HEART FAILURE

Introduction. Studies in the cardiology arena over recent years have proved the influence of leptin on the occurrence and progression of cardiovascular diseases through correlation with cardiovascular risk factors such as the concentration of lipids, level of arterial pressure, hemostatic disorders and inflammation. However, the resulting deduction about the level and the role of leptin in the presence of CHF has not been made. The aim of our study was to determine the amount of leptin and its correlation connections with laboratory-intstrumental parameters in patients with CHF.

Materials and methods. The study involved 24 patients with CHF, who underwent standard clinical, laboratory and instrumental examinations. In addition, the content of middle mass (average weight) molecules was determined as an indicator of endogenous intoxication and leptin of blood.

Results. In patients with CHF median of leptin was 6.94 [2.13, 10.7] ng/ml. The content of it in men was slightly higher than in women (7.26 [2.50, 14.57] ng/ml vs 5.5 [3.99, 10.73] ng/ml, p>0.05). The lowest median of leptin was in patients of IV FC-2.43 [0.86; 5.11] ng/ml, and almost the same in patients of II and III FC (7.05 [2.13, 17.31] and 7.39 [3,99; 14,57], p>0,05). Leptin resistance index exceeded the norm under conditions of (in the presence of) I-III FC CHF, and it was 4,42 [0,09; 4,58] at I FC, 4.02 [2.05, 7.35] at II FC and 7.47 [2.89, 20.84] in patients with III FC. Normal levels of leptin resistance was in patients with IV FC 2.49 [0.83, 3.80].

Leptin resistance was observed in 70,0±8,4% of patients examined, in particular in 85,7% of patients suffering from obesity, 57.1% of patients overweighted ($p<0,05$), but it wasn't observed in patients with normal body weight ($p<0,05$). Median of leptin resistance index of patients examined was 4.00 [2.5, 7.35] c.u. The leptin resistance increased as the obesity degree grew. The level of leptin was directly proportional to the systolic (SAP) ($\tau = 0,4$; $p = 0.007$) and diastolic arterial pressure (DAP) ($\tau = 0,3$; $p = 0.01$), the amount of hemoglobin ($\tau = 0,4$ $p = 0.01$), stab neutrophils ($\tau = 0,5$; $p = 0.04$), the average size of erythrocytes (MCV) ($\tau = 0,4$; $p = 0.04$), total protein levels ($\tau = 0,3$; $p = 0.02$), fasting blood glucose ($\tau = 0,3$; $p = 0.02$), total cholesterol ($\tau = 0,5$; $p = 0.001$), high-density lipoprotein cholesterol (HDL-cholesterol) ($\tau = 0,3$; $p = 0.02$), low-density lipoprotein cholesterol (LDL-cholesterol) ($\tau = 0,3$; $p = 0.04$), very low density lipoproteins (VLDL) ($\tau = 0,4$; $p = 0.005$), triglycerides (TC) ($\tau = 0,4$; $p = 0.005$). Patients with a lower content of leptin had significantly lower rates of hemoglobin (125.0 [113.0, 130.0] gram per liter vs 145.0 [131.0, 148.0] g/l, $p = 0.05$) and size of red blood cells (MCV) (79.0 [69.1, 81.7] mkm3 vs 86.5 [83.0, 95.0] mkm3, $p = 0.04$), fasting blood glucose (5.1 [4.9, 5.5] mmol / l and 6.0 [5.2, 7.0] mmol / l, $p = 0.04$), accompanied by a smaller relative thickness of the interventricular septum (0.42 [0.37; 0.51] cm vs 0.64 [0.52, 0.71] cm, $p = 0.04$). Also almost all indicators of the lipid profile in patients of group 1 were significantly lower: total cholesterol (140.7 [123.7, 172.8] mg/dl and 191.2 [172.2, 213.1] mg / dl, $p = 0.0001$), HDL cholesterol (32.9 [23.2, 31.1] mg/dl and 40.5 [36.8, 55.2] mg/dl, $p = 0.04$), LDL-cholesterol (83.9 [68.0, 116.4] mg/dl vs 109.7 [93.9, 139.2] mg/dl, $p = 0.02$), VLDL-cholesterol (21.3 [15, 8, 24.4] mg/dl and 39.0 [30.9, 44.8] mg/dl, $p = 0.01$), TC (106.2 [79.7, 122.1] mg/dl and 199.0 [154.0, 223.0] mg/dl, $p = 0.01$) and the ratio leptin/TC (2.8 [0.9, 3.6] c.u. and 7.35 [4.03, 16.77] c.u., $p = 0.0004$). Low levels of leptin directly correlated with the magnitude of both SBP ($\tau = 0,6$; $p = 0.01$) and DBP ($\tau = 0,6$; $p = 0.01$), a syndrome of endogenous intoxication on the content of molecules of average weight in blood ($\tau = 0.5$, $p = 0.04$), erythrocyturia ($\tau = 0,6$; $p = 0.05$) and inversely - with growth ($\tau = -0,6$; $p = 0.008$). Leptin higher than the median correlated directly with the level of fibrinogen ($\tau = 0,5$; $p = 0.01$) and

the number of stab neutrophils (τ = 0,9; p = 0.008), body weight (τ = 0,5; p = 0, 04) and body surface area (τ = 0,5; p = 0.03), total protein level (τ = 0,5; p = 0.01), urea (τ = 0,7; p = 0.03) and thickness of left ventricular posterior wall (τ = 0,5; p = 0.03).

Conclusion. In patients with CHF blood leptin level was 6.94 ng/ml, it increased with the obesity degree increase and decreased with the progression of CHF, directly correlated with SBP and DBP, hemoglobin, stab neutrophils, levels of fasting glucose, total protein and blood all indicators lipid profile (cholesterol, HDL cholesterol, LDL-cholesterol, VLDL-cholesterol and TC). Leptin resistance was found in 70% of patients (85,7% with obesity, 57,1% with overweight) correlated with SAP, thickness of left ventricular posterior wall, cholesterol. Patients with lower levels of leptin had significantly lower rates of hemoglobin, the average size of erythrocytes, blood glucose, relative thickness of the interventricular septum, cholesterol and its fractions and triglycerides. Lower levels of leptin was directly proportional to the magnitude of SBP and DBP, content of molecules of the average weight and number of red blood cells in the urine. Higher level of leptin was directly related to nonspecific indicants of inflammation, weight and total body area, the level of urea and thickness of left ventricular posterior wall. Promising direction for further research may be assessment of other clinical and laboratory parameters in patients with CHF, depending on the level of leptin and its dynamics under the influence of treatment. The question on the level of leptin that is prognostically significant needs further study.

Key words: leptin, resistance to leptin, chronic heart failure.

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SURGICAL TREATMENT OF FEMORAL NECK FRACTURES IN YOUNG ADULTS

Introduction. Femoral neck fractures are ranges from 2 to 6% of all hip fractures at the age of 60, in most cases are the results of high energy trauma. Mechanogenesis of injury determines multiple and associated injuries, which makes femoral neck fracture difficult to diagnosis and early treatment. Careful reduction and internal fixation are the main treatment method of neck fracture in young adults. However, even at the present level of technology, there is a significant rate of complications: nonunion – 10-30%, head necrosis – 10-40%. Risk factors are varied. One of the ways for optimization of surgical treatment is to improving fixation methods, based on clinical and biomechanical studies of the design parameters and the parameters of their introduction into the proximal femur. The purpose of the study is analysis of the clinical application of internal fixation methods for femoral neck fractures in young adults.

Materials and methods. There is analysis of internal fixation of femoral neck fractures for forty-two patients with a mean age of 42,3±1,1 years (range, eighteen and fifty-eight years) that were treated between 2006 and 2012. 7 (16,7%) were injured in the fall on the hip during walking, 12 (28,6%) – road accidents, 23 (54,7%) – a result of falling from a height. 29 (69,1%) had multiple and associated injuries. In 9 (21,4%) cases, there was a traumatic shock of varying severity. There were 18 transcervical and 18 basal fractures. 7 patients had ipsilateral femoral neck and shaft fractures. There were 14 patients with Garden I and II, 28 with Garden III and IY. According to the Pauwels classification 6 patients had type II and the other type III fractures. CT scan were used for Garden types III and IY. In 3 patients osteosynthesis was performed in the first 12 hours, in 29 – in the period from 1 to 7 days, and 10-7 to 16 days after injury. We used a design that provides dynamic compression between the fragments (sliding screws, angular screw fixations, DHS, PFN, Reconstructive nail). The choice of design parameters and osteosynthesis determined based on the results of modeling the stress strain state of the proximal femur.

Results. Long-term results were studied in 34 patients during the period from 3.5 to 6 years. Functional results in a period of 3,5 to 6 years in 34 patients by Harris Hip Score: 93,3±1,1-21; 87,5±3,2-8; 76,31±5. In all cases consolidation has been achieved. There were no cases of peri-implant fractures during and after surgery. Late complications - the development of arthritic changes in the hip joint were observed in 7, the initial symptoms of avascular necrosis of the head were at 4 cases. The x-ray changes consistent with I-II of arthrosis stage.

Conclusion. Hip fractures are the result of high-energy trauma in young adult. Internal fixation restores the function of the damaged hip joint. It is strongly recommended to take into account anatomical and physiological characteristics of the proximal femur, location and Pauwel's type of the fracture.

Key words: femoral neck, osteosynthesis.

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CHARACTERISTICS OF CLINICAL PATTERN OF VIRAL DIARRHOEA IN CHILDREN OF EARLY AGE

Introduction. Viral infection with intestinal syndrome remains one of the actual problem in young children. Among them - rotavirus infection (RVI), which occurs with high frequency in all countries, is the most frequent causative agent of severe diarrhoea with dehydration. This pathogen causes gastroenteritis ≈ 30-50%, requiring hospitalization and intensive rehydration. Objective: To study the characteristics of clinical and diagnostic RVI in young children.

Materials and Methods. Under supervision there were 140 patients, aged less than 5 years who were hospitalized in the diagnostic department of infectious diseases of

Vinnitsa Regional Children's Hospital for a period of 3 years (2010-2013) with RVI diagnosis in all patients confirmed by immunoassay method for rapid diagnosis of rotavirus diagnostics «Rotatest». All patients underwent general clinical, biochemical, bacteriological examination, instrumental methods of research, consulting reviews related specialists.

Results. The general condition of the patients on admission to hospital with RVI, rated as severe (81%), mainly due to rapid dehydration and development of exicosis. Early and often symptoms of RVI were signs of intoxication syndrome of varying severity. Hyperthermia was observed in 93% of patients. The average duration of fever was 2±1,4 days. Most children were observed with lethargy, weakness, decreased muscle tone, sluggish sucking or refusal of food and fluid intake, somnolence, periodically impulsive and anxiety. In infants was seen often dry skin and mucous membrane, retraction of large fontanel. In 77% noted the presence of hemodynamic disorders. RVI leading symptoms were gastrointestinal disorders: nausea, vomiting, absent assimilation of enteral nutrition, which noted in 61% of patients. One of the leading symptoms of RVI were diarrhoea, pain, abdominal bloating and rumbling. Stool frequency ranged from 3-4 to 10-14 times a day (5 cases - 20 times). The average duration of diarrhoea was 8±2,8 days. RVI accompanied by symptoms of acute respiratory illness that could outpace gastrointestinal symptoms (23% of cases) or accumulate on RVI symptoms (39% patients). We observed that in early disease, in blood was detected: accelerated ESR, mild leucocytosis or normal WBC count with a shift to the left of leucocyte formula that during treatment may vary on an absolute or relative lymphocytosis.

Conclusions. For specific diagnosis of rotavirus infection and virological monitoring in children should use rapid tests based on immunoassay. Tests are easy to use, characterized by high sensitivity and specificity (over 96%), yield reliable quality results within 10 minutes. Features of rotavirus infection in young children is a severe disease with symptoms of intoxication, diarrhoea, vomiting, catarrhal symptoms, dehydration of third degree. Against Rotavirus infection occurs activation of pathogenic flora. In our opinion, the prospect for further research is the ability to

detect the formation of nosocomial rotavirus strains and study their resistance to most common disinfectants and antiseptic solutions used in children's hospitals.

Key words: children, rotaviral infection, clinical course, diagnostics.

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CLINICAL – DIAGNOSTIC CRITERIA AND CHARACTERISTICS OF THE TREATMENT OF HELMINTHIASIS IN CHILDREN

Introduction. The large percentage of imperfect diagnostic worm infestations remains without medical attention. So, direct methods (fecal analyses for helminth eggs, duodenal contents, scraping from perianal region, etc.) have certain disadvantages associated with the peculiarities of the parasite development (long periods of absence of egg laying, the stage of the migration of the larvae in the host), with parasitizing of males, immature or old females. On the other hand- the diagnosed helminthiasis does not always subject to the full and effective treatment, since the diverse effects of parasites on the host are ignored. The aim of the study was to investigate improved methods of diagnostic of helminthiasis and to choose its effective complex treatment.

Materials and methods. Under the supervision was located 121 child aged 2-16 years who were diagnosed ascariasis (106 child), giardiasis (10 child), toxocariasis (5 child). To confirm the diagnosis of helminthiasis used ELISA.Taking into account the amount of curative activities, all patients were divided into two groups. The main group (MG) consisted of patients (61 children) who received a complex staged

treatment of helminthiasis. Patients who received only traditional allopathic therapy (60 children) were included in comparative group (CG).

Results. In the main group there were 53 children (86,9%) with ascariasis, 4 (6,6%) – with giardiasis, and 3 (4,9%) – with toxocariasis. In CG the division of patients on appropriate invasions was he following: with ascariasis there were 53 children (88,3%), with giardiasis – 6 (10%), with toxocariasis – 2 (3,3%).

Table 1. Clinical manifestations of helminthiasis in the examined children.

N	The main clinical manifestations of the disease	Groups of children			
		CG		MG	
		Abs.	%	Abs.	%
1	Gastrointestinal dysfunction	51	83,6	57	95
1.1	unstable or undigested stools	27	44,3	31	51,7
1.2	the presence of spinach stools and mucus in the feces	9	14,8	3	5
1.3	constipation or inclination to them	24	39,3	24	40
1.4	flatulence, grumbling in the stomach and eructation	48	78,7	37	61,7
1.5	nausea, vomiting, regurgitation	37	60,7	45	75
1.6	anorexia	33	54,1	41	68,3
1.7	abdominal pain	28	45,9	31	51,7
2.	Asthenic-neurotic syndrome	24	39,3	36	60
2.1	lethargy, fatigue, decreased activity	22	36,1	23	38,3
2.2	irritability	21	34,4	19	31,7
2.3	poor concentration and memory impairment	18	29,5	14	23,3
2.4	violation of sleep	15	24,6	9	15
2.5	restless sleep (yelping, awaking, crying, insomnia, nightmares)	16	26,2	19	31,7
3	Allergic reactions	38	62,3	32	53,3
3.1	skin rash and atopic dermatitis	7	11,5	13	21,7
3.2	manifestations of food allergy	12	19,76	8	13,3
3.3	signs of bronchial obstruction	4	6,6	3	5

Conclusions. The results of the study confirm that the test serum by ELISA method used to confirm the type of helminthiasis, even in the early stages of invasion (and for ascariasis and toxocarosis - larval stages), on which the success of the treatment depends. Application of complex staged therapy according to helminthiasis form, which includes not only etiotropic, but also pathogenetic measures, has significant advantages comparing with the administration of monotherapy by allopathic drugs, which makes it easier to eliminate violations of the functions of all systems of the organism and to achieve a complete and consistent effect of the treatment. Offered drugs for complex therapy of helminthiasis do not cause side effects and are tolerated well by children.

Key words: helminthiasis, children, allopathic treatment, complex treatment.

ЧУГУ???????

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«VEGETATIVE PORTRAIT» OF THE BRONCHIAL ASTHMA PATIENTS

Resume. The article presents the survey 207 patients with bronchial asthma (BA) and 82 healthy subjects (control group), which studied the state of autonomic functions by complex methodology Waine A. et al. (1998). It has been found that they exhibit predominance of sympathicotonic effects in 41,5% and higher peak-ball integrative indicators of objective and subjective scales, indicating the presence of the polysystemic vegetative dystonia syndrome in 78,3% of BA-patients vs 14,6% in the

control (p<0,001) and is somatogenic conditioned. The frequency of psycho-vegetative syndrome in BA-patients was 48,5%. Women were significantly more advanced nature of the vegetative complaints (39,7 points against 31,8 for men) and had a tendency to sympathicotonic impacts of regulation proved statistically significant probability of deviations autonomic tone toward parasimpatikotonii men, resulting in the formation of a particular type of symptoms of bronchial obstruction.

Key words: bronchial asthma, vegetative dysfunction, diagnostics.

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CURRENT PROBLEMS OF THE HERNIAL ORIFICE PLASTY OF THE FRONT ABDOMINAL WALL

Introduction. The number of operations on hernia does not reduce but also has a tendency to increase. Up to 2 mln. laparotomies are performed in the USA every year after which in 2-11% of cases postoperative ventral hernias appear.

The work objective is to analyze treatment of the patients with abdominal hernias and to determine a rational approach to the choice of plasty.

Materials and methods.

Table 1. Operation indices on inguinal hernias.

Hernia types	Total	Men	Women	Bed-day	Operative treatment methods						
				Before/ after operation	Martynov	Kimbarovskyi-Girard	Bassini	Postemskyi	Mesh	Yanov	Complete closure

Inguinal	304	282	22	0,6/7,4	6	61	110	52	75	-	-
Recurrent inguinal	26	26	-	0,6/7,8	-	-	7	11	5	1	2
Inguinal-scrotal	36	36	-	0,6/8,2	-	3	11	10	10	-	2
Total	366	344	22	0,6/7,5	6	64	128	73	90	1	4

Table 2. Operation indices on ventral hernias.

Hernia types	Total	Men	Women	Unicameral	Multicamerate	Bed-day	Operative treatment methods			
						Before/ after operation	Sapezhko	Meyo	Yanov	Mesh
Postoperative and recurrent	67	16	51	36	31	1,5/10,2	19	13	19	16
Ventral	38	18	20	36	2	0,8/8,4	9	13	5	11
Umbilical	65	21	44	63	2	0,9/7,7	7	24	8	26
Total	170	55	115	135	35	1,1/9,0	35	50	32	53

Results. While using the plasty by Postemskyi skin necrosis was observed in 1 case, 3 patients suffered from bleedings, 3 other had postoperative orchitis or orchiepididymitis and 1 patient had thromboembolia of the pulmonary artery.

While using the prolene mesh a hematoma was diagnosed in one case and thromboembolia of the pulmonary artery in the other case. While using Yanov method lymphorrhea was observed in 2 cases and in one case the wound went septic.

Conclusions. It is recommended to apply hernioplasty using own tissues in the cases of noncomplicated hernias with not very large size of the hernia orifice. Mesh prostheses should be used in middle-aged and old people, in cases of recurrent and complicated hernias and if the size of the hernia orifice is large. Autodermoplasty with application of skin flaps is a reliable surgical method. Use of autoderma can be recommended for hernioplasty.

UDC: 616.314-002-053.7:577.7

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FREQUENCY OF CARIES INJURY OF FRONTAL TEETH IN HEALTHY URBAN ADOLESCENTS DEPENDING ON AGE AND SEX

Introduction. Clinical investigations are determined that permanent frontal teeth have been being damaged with carious process during 2-3 years after teeth eruption on the stage of their mineralization.Today there are only single reports in literature about the level of carious injury of the permanent frontal teeth in the practically healthy contingent of population without pathology of internal organs and systems, especially in adolescents. Therefore the aim of our research was determination of carious intensity and frequency ofcaries injury of frontal teeth and their surfaces in practically healthy boys and girls depending on age and sex.

Materials and methods. Complex observation of 242 practically healthy urban adolescent habitants of the Podollia region of Ukraine were conducted. In the group of adolescents there were taken girls from 12 to 15 years and boys from 13 to 16 years. The common quantity of the inspected girls were 116, and boys - 126.

Inspection of dental hard tissue of permanent teeth was provided on the generally accepted method with dental probes and mirrors. In examination of teeth paid attention to their color, localization, character and depth of caries demage of dental hard tissue.

Results. It should be noted that for the practically healthy urban adolescents of the Podillia region of Ukraine in the period of permanent bite on the stage of teeth mineralization and root formation depending on age and sex it is determined different level of frequency of caries injury of frontal teeth on the upper and lower jaws. Thus,

the conducted research is revealed that for girls the increase of middle readings of caries intensity is marked with age and a maximal peak of caries lesion is on 15 years, while for boys the high indexes of DMFt are characterized for age 13 and 14 years. In analysis of caries prevalence on the individual surfaces have been established that carious process in a lots of cases was damaged approximal surfaces of III and IV classes by Black. Little percent of carious lesions it is determined on the vestibular surfaces in boys and girls. Filling upper central and lateral incisors are oscillated from 2,27% till 13,65% in healthy adolescents.

Conclusions. It is determined the reliable increase of frequency of caries injury of upper central and lateral incisors with age for girls, while for boys is marked an irregular caries lesions these groups of teeth depending on age. In all inspected groups of adolescents carious process are damaged in most cases approximal surfaces of frontal teeth.There were complications of caries in single cases. Determination of frequency of caries injury of frontal group of teeth for practically healthy adolescents in different age-old periods will enable in future more certainly to provide early exposure and prognosis of caries in these groups of teeth for adolescents with further development and use of medical and preventive measures.

Key words: caries intensity, healthy urban adolescents, incisors and canines.

UDC: 617.711:615.275.2:615.457.2

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GANCICLOVIR AS TREATMENT OF PATIENTS WITH LESIONS OF CONJUNCTIVA WITH HUMAN PAPILLOMAVIRUS (HPV)

Resume. This topic represents the data collected from observation and treatment of 14 patients with human papillomavirus (HPV) lesions of conjunctiva. Three patients

were diagnosed clinically monocular peduncular papillomas, located in a limb zone. Peduncular papillomas were found in 11 patients, three of them had monocular lesions (3 eyes) and eight had binocular ones (16 eyes). Peduncular papillomas had the following localizations on the conjunctiva: tarsal -6, vault-8; bulbar-2, and lacrimal caruncle -2.

We assessed the clinical efficacy of complex antiviral therapy with topical application of ganciclovir. Treatment regimen was as follows: local instillation of ganciclovir with concentration 0.15% (VIRGHAN) 6-8 times a day for 14 days, and fluroquinolone antibiotic four times a day for the first five - seven days before disappearance of purulent discharge. Laferone, 3 million IU, was administered intramusculary as general therapy every other day from Day 6 through Day 10.

After 14 days of treatment complete disappearance of peduncular papillomas was observed in 8 patients on 11 eyes. The best results of complex antiviral therapy were obtained when peduncular papillomas were localized in vaults and in tarsal area of conjunctiva. If papillomas were located in the bulbar area, not a single recovery was observed in an eye of patient with monocular lesions. Papillomas located in the area of lacrimal caruncles appeared to be generally resistant to treatment. In these patients papillomas were removed by electroscission. Sessile papillomas located in the limb area did not change in shape and size after treatment. All patients who had had these papillomas were operated. The histomorphological study performed in two patients revealed dysplasia of epithelial cells. One patient was diagnosed intraepithelial cancer (Bowen disease).

The studies have shown that topical instillation of 0,15% ganciclovir 6-8 times a day for 14 days in a complex treatment of conjunctival HPV is effective against peduncular papillomas and has no effect on sessile papillomas. Sessile papillomas localized in the limb area feature high degree of tumorigenicity and patients with such lesions of conjunctiva should be treated in an ophthalmologic microsurgery clinic.

Key words: human papillomavirus, conjunctiva, topical therapy of gancyclovir.

UDC: 616.12-07: 616.127-005.8-071-08:616.13

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THE ROLE OF THE PEPTIC ULCER DISEASE IN DEVELOPING OF COMPLICATED COURSE OF POSTINFARCTION CARDIOSCLEROSIS

Resume. This article is devoted to establish the role of the peptic ulcer disease in developing of complicated course of postinfarction cardiosclerosis. 155 patients with chronic postinfarction cardiac aneurism with the average age of 52,71 ± 1,8 years were compared with 290 patients suffered from postinfarction (Q-positive) cardiosclerosis uncomplicated by chronic postinfarction cardiac aneurism. Gender- and age-related descriptions were same in both groups. Reliable differences in frequency of chronic postinfarction cardiac aneurism combined with the peptic ulcer disease are exposed. The differences are depending on age, gender, type on aneurism kinetic, somatotype, which can come forward as nosotropic preface of kinetic chronic postinfarction cardiac aneurism type. Findings are allow to forecast the chronic postinfarction cardiac aneurism in patients with the peptic ulcer disease in order to determine the differentiated approach to the therapy for this particular category of patients.

Key words: postinfarction cardiosclerosis, complications, the peptic ulcer disease.

UDC: 616.832-004.2:616.8-009.17

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FATIGUE IN THE PATIENTS WITH MULTIPLE SCLEROSIS

Introduction. Clinical presentations of the multiple sclerosis (MS) include the chronic fatigue syndrome that can be observed in a half of the patients. Fatigue is characterized as a subjective sensation of a loss of physical and psychic energy, severe emaciation disturbing the daily life activities, negatively influencing the social activity and life quality of the patients with MS. That's why a great attention is paid to the comprehensive study of the fatigue presentations, its interrelation with neurologic disease symptoms. The objective of the research is to study the interrelation of fatigue with the type of the disease clinical picture, severity of disability, depression and anxiety in the patients with MS.

Materials and methods. 60 patients were examined for multiple sclerosis: 24 men and 36 women; the mean age made up 36,6 years. Complex examination of the patients was performed using the clinical-neurological method, the Kurtzke Expanded Disability Status Scale (EDSS), clinical psychological methods - Fatigue Severity Scale (FSS), Beck Depression Inventory (BDI), State Trait Anxiety Inventory (STAI) by Spielberger-Hanin. The statistical analysis was made using Pearson's $\chi 2$ test.

Results. The work defines special clinical features of the fatigue depending on the sex, age of the patients, type of the clinical picture, disease severity. A marked fatigue was found in 52% of the patients. The performed statistical analysis did not reveal a reliable connection of the fatigue severity with the sex and age of the patients. The received results provide evidence of a direct correlation of the fatigue with the exacerbation phase in case of a remittent-recurrent type of MS clinical picture, severity of disability. Depressive disorders were found in 77,4% of the patients with a marked fatigue. The statistical analysis revealed a direct correlation of the fatigue with depression in the patients with MS. A moderate and high both reactive and personal anxiety was revealed in all the patients

with a marked fatigue but at the same time a statistically reliable correlation relationship was not observed.

Conclusions. The fatigue is a wide-spread syndrome in the patients with MS, a marked fatigue is found in 52% of the patients. The fatigue syndrome does not depend on the sex and age of the patients with MS. A direct correlation of the fatigue syndrome with the exacerbation phase in case of a remittent-recurrent type of MS clinical picture, severity of neurological disability was detected. It has been revealed that there is a statistically reliable connection of the fatigue with a depression symptomatology and at the same time there is no such dependence with anxiety disorders in the patients with MS.

Key words: multiple sclerosis, fatigue, depression, anxiety.

UDC: 616.37-002-071-08:616.33:616-08-039.57

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CHARACTERISTICS OF PAIN SYNDROME IN PATIENTS WITH CHRONIC PANCREATITIS DURING EXACERBATION

Introduction. The main manifestation of chronic pancreatitis (CP) is an intense pain that responds poorly to conservative therapy. Currently, there are several hypotheses regarding pain in CP. Absence of clear specificity of abdominal pain syndrome in CP was the basis for the division of some the most typical its' variants. In recent years, CP is attributed to acid-dependent diseases due to the low efficiency of treatment without blockage of the stomach acidity. However, there is no data in the literature about the extent of dependency of the pain character and frequency on the gastric acidity.

Objective of the study: To compare the qualitative and quantitative characteristics of pain in patients with CP depending on the gastric acidity.

Materials and methods. A comprehensive investigation of 237 patients with CP was fulfilled in a scientific gastrointestinal diagnostic laboratory of National Pirogov Memorial Medical University, Vinnitsya. System of examination included both general clinical and special methods of examination. All patients selected for the study were in the acute stage of chronic pancreatitis. They were divided into two groups: basic and comparative. Patients were attributed to the basic group in case of stomach hyperacidity revealed by the method of computer intragastric express pH-metry (fourth and fifth functional intervals (FI) according to V.M. Chernobrovy. In case of normal acidity or hypoacidity in the stomach patients were attributed to the comparative group. According to the plan of examination qualitative and quantitative assessment of pain by international grade-rank scale with the maximum - 10 points was carried out before treatment during exacerbation in all patients with CP.

Pain intensity investigation during the first stage was carried out in the absence of taking any medicines, including anesthetics by patients.

Results. The classic pain character in CP was established (pain mainly appeared after 30-40 min. after eating, mostly after fatty, fried, spicy, sour, smoked foods or excessive eating). The severity of pain in the study group of patients was 8,28±0,63 points by grade-rank scale. The intensity of pain was 5,57±0,64 points in the comparative group ($p<0,05$). It should be noted that the difference between the rates of pain severity in the study and the comparative groups was reliable ($p<0,05$).

Based on the correlation analysis we found a direct positive relationship between the magnitude of pain intensity and the duration of intragastric pH stay in the FI 5 and 4 in the pH range - 0,86-1,59 ($r = 0,45$). We found that 73.49% patients of the main group described pain as the form of attacks and only a small part of the main group (26,51%) experienced constant pain. A slightly bigger part of patients in the comparative group (37,91%) complained on pain, resembling the attacks, and 62.09% felt permanent pain. Analysis of pain intensity in each subgroup of patients during the

night period showed a tendency to increase of pain intensity in all subgroups without exception.

Conclusions. In patients with CP during exacerbation intensity, nature and frequency of pain largely depends on gastric acidity. The hyperacidity syndrome for patients with CP is characterized by paroxysmal pain preferentially localized in the epigastrium and right hypochondriac region, high pain intensity, decrease of the pain intensity in the first half of the night and increase in the second half of the night. Night increase of the pain intensity in patients with CP with severe and moderate gastric acidity is caused by the lack of night alkalization of stomach and duodenum.

Key words: chronic pancreatitis, pain, intragastric pH-metry.

UDC: 616.981.551-08

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RISK FACTORS FOR HOSPITAL PNEUMONIA IN PATIENTS WITH SEVERE TETANUS

Introduction. The aims of this study were to estimate the incidence and outcome, identify various risk factors for hospital pneumonia in patients with severe tetanus.

Materials and methods. 157 case-records of patients with severe tetanus, 70 without and 87 with hospital pneumonia, in 1980–2010 were analyzed. The data was analysed by the SPSS 13 programme.

Results. It demonstrated that the most clinically significant complication of the severe tetanus is hospital pneumonia (55,4%). It´s the main direct cause of death of these patients in the later stages of the disease. The mortality of patients of the non-pneumonia group was found to be 16,3% while that of patients with hospital pneumonia was 70,2% (OR = 12.1; 95% CI: 4.9-29,87; $p < 0,001$). The mean length of stay was 35,71 ± 15,76 days for patients with hospital pneumonia and 23,08 ±

11,31 days for patients without hospital pneumonia (p = 0,015). Multiple logistic regression analysis identified 5 factors independently associated with increased risk of hospital pneumonia (p < 0.05): age ≥ 55 years (OR = 2.92; 95% CI: 1.99-3.66), chronic obstructive pulmonary diseases (OR = 2.73; 95% CI: 1.68-4.01), generalized muscle spasms with respiratory disorders (OR = 6.69; 95% CI: 4.4-10.97), bronchoscopy (OR = 6.27; 95% CI: 2.22-9.52), duration of ventilatory support for more than 48 hours (OR = 2,18; 95% CI: 1.24-3.29). Targeted strategies aimed at preventing hospital pneumonia should be implemented to improve patient outcome and reduce length of intensive care unit stay and costs.

Conclusion. The duration of hospitalization of patients with hospital pneumonia and their lethality increasing were observed. There was defined the representation of the major risk factors for pneumonia in patients with severe tetanus. Those risk factors could prove useful in identifying patients at high risk for hospital pneumonia and modifying patient care to minimize the risk of hospital pneumonia, such as avoiding unnecessary bronchoscopy.

Key words: tetanus, hospital pneumonia, treatment outcome, risk factors.

UDC: 616.12-008.331.1+616.126.3]-08

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IMPACT OF ANTIHYPERTENSIVE TREATMENT ON THE FUNCTIONAL CONDITION INDICATORS IN PATIENTS WITH HYPERTENSION AND CALCIFICATION OF HEART VALVES

Introduction. Patients who suffer from ecential hypertension (EH) and calcification of heart valves (HVC) is a selective group of patients with a high global risk of cardiovascular events. Optimization of treatment in these patients is extremely urgent. Purpose of research - estimate the impact of different options combined

antihypertensive therapy on the functional status of patients through a test with a 6-minute walking.

Materials and methods. Under the supervision were 245 patients with EH II-III and HVC, the average age (71,3±0,5) years, during 3 years of monitoring took offered them the option of basic antihypertensive and lipid-lowering therapy. According developed the study design, as antihypertensive treatment of 52 patients treated with carvedilol + ramipril (Ca + Ram), 40 patients – carvedilol + candesartan (Ca + Kan), 42 patients - bisoprolol + ramipril (Bis + Ram), 45 patients - bisoprolol + candesartan (Bis + Kan), 24 patients – + amlodipine ramipril (Ram + AML), 25 patients – candesartan + amlodipine (Kan + AML). 17 patients because of the inefficiency dual antihypertensive therapy was administered additionally torasemid 5 mg, and the ineffectiveness of triple therapy – amlodipine or BB (depending on the original combination) (reinforced antihypertensive therapy (RAT)). At the beginning of the study and every year after all the patients had a comprehensive survey. After the patients reach a euvolemic condition and a stabilized hemodynamic, the examinations commenced at a baseline and every year afterward of treatment there was a 6-minute walk test by the standard method.

Results. It was found that patients with EH and HVC significantly increased exercise tolerance while decrease the severity of breathlessness during the 3 years of treatment. This result was observed in 75,1% (in 184 of 245) of patients. This FC decrease in CHF on FC I was in 75,5% (139 out of 184) and FC II was in 24,5% (45 of 184) of patients. This reduced the incidence of CHF FC in different treatment groups from 58,8 to 88,5%.

Conclusions. In patients with essential hypertension and HVC most convincing positive haemodynamic effects after prolonged treatment was observed when using BB + ACE / ARB and, to a greater extent in the application of carvedilol with ramipril (increase distance walk by 35,4% compared to baseline) and bisoprolol with candesartan (by 37,3%), which was reinforced after 1 year of use. In patients with resistant forms of hypertension using 3 or 4 antihypertensive drugs positive

hemodynamic effect occurs only at sufficiently long (over 1 year) blood pressure control.

Key words: hypertension, valvular calcification, functional status of patients, combination antihypertensive therapy.

UDK: 616.3-008.14:616-77

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CHARACTERIZATION OF THE DYNAMICS OF CHANGES IN INFLAMMATION AREA OF ORAL MUCOSA IN TOTALLY EDENTULOUS PATIENTS WITH REMOVABLE PROSTHESIS WITH DAMPENING PROPERTIES

Introduction. The problem of improvement of the treatment efficiency of total edentia has been one of the most important and difficult problems in the clinic of the dental orthopedics. One of the main reasons for refusal of complete removable prostheses is the unsolved problem of provision of the chewing pressure rational perceptation by the prosthetic bed tissues that due to the anatomico-physiological traits are not adapted for such kind of influence. Of no less importance is the fact that false teeth of the removable prostheses and the basis in which they are structurally fixed is a «rigid monoblock» deprived of the possibility to provide dampening properties typical of natural teeth. Due to this fact it became necessary to produce such kinds of prostheses that could solve the problem of tolerant co-existence of the basis with the prosthetic bed tissues during the adaptation process and further use of the prosthesis. The research objective was to study the dynamics of changes in the inflammation area of the oral mucosa on treatment of totally edentulous patients with removable laminar prostheses with dampening properties of own construction.

Materials and methods. We treated 37 totally edentulous patients with removable laminar prostheses with dampening properties of own construction. According to certain clinical conditions while producing removable prostheses we examined the conditions of prosthetic beds and namely: we determined the severity degrees of alveolar bones and mucosa atrophy, detected and considered unfavourable factors for fixation and stabilization of prostheses, took into account the differentiated mucosa compressibility in various areas of the prosthetic bed, studied the inflammation area of oral mucosa.

Results. The mucosa condition according to Suppli was determined while treating the patients. The first class of the mucosa according to Suppli was revealed in 13,3% of totally edentulous patients only on the upper jaw. The second mucosa class according to Suppli was observed more often on the upper and lower jaws, 53,3% and 57,1% respectively. The share of patients having upper edentulous jaws with the 3rd mucosa class of the prosthetic bed was 33,4%, the similar index prevailed on the lower edentulous jaws – 14,3%. 28,6% of the patients were diagnosed the 4th class of the prosthetic bed on lower jaws, at the same time there were no signs of the 4th class on the upper jaws of the patients from this group. Generally, the mucosa compressibility of the alveolar bone vestibular area of the upper jaw depending on the measurement location did not differ ($p>0,05$), at the same time a significantly larger mucosa compressibility was revealed in the front area on the lower jaw ($p<0,05$). The mucosa compressibility of the alveolar bone oral area of the upper and lower jaw was the same ($p>0,05$). The examination of the mucosa compressibility of the hard palate areas made it possible to learn that the mucosa of the rear area had the largest compressibility (0,61±0,01) mm that was significantly more ($p<0,05$) that in the front area (0,40±0,01) mm and in the area of the palatine suture (0,30±0,02) mm. The largest absolute values of the mucosa compressibility among the patients of the examined group ranged from (0,61±0,01) mm up to (0,94±0,01) mm, and the lowest - (0,30±0,02) mm. We've determined that the compressibility of soft tissues in the alveolar bone area depends on their atrophy. The lowest compressibility values show the areas requiring relief during the functional imprint. The largest total inflammation

area of the prosthetic bed mucosa in the patients was maximum (41,7 cm2) while using removable laminar prostheses with rigid bases and after 7 days of using the removable laminar prostheses with dampening properties it decreased and made up 22,54% of the primary one; after 1 month of observance – 5,27% respectively; after 6 months – 1,25%; after 9 months the total inflammation area of the prosthetic bed mucosa in the patients increased a little and was 1,56% of the primary one.

Conclusions. On orthopedic treatment of patients it is necessary to consider the possibility of improvement of the functional efficiency of complete removable prostheses due to reduction of inflammation areas of the prosthetic bed mucosa in the patients while applying complete removable laminar prostheses with dampening properties. While using complete removable laminar prostheses with dampening properties it is possible to achieve a significantly smaller ($p<0,05$) inflammation area of the prosthetic bed mucosa during the first month of the prosthesis use. After 9 months of clinical operation of complete removable laminar prostheses with dampening properties an insignificant increase of the inflammation area of the prosthetic bed mucosa can be seen that is connected with non-observance of hygiene care requirements for removable prostheses by the patients and does not require correction.

Key words: removable prosthetics, elastic materials, inflammation of mucosa.

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NEW APPROACHES TO THE EARLY DIAGNOSIS OF DIABETIC NEPHROPATHY IN PATIENTS WITH TYPE 1 DIABETES MELLITUS

Introduction. Diabetes mellitus (DM) is one of the most common metabolic disease and is characterized by a disorder primarily of carbohydrate metabolism. This disease tends to have a progressive growth. At 2011 year the number of patients with diabetes was 360 million people [IDF Diabetes Atlas, 2009]. When decompensation of the disease developing macro-and microvascular complications leading to early disability and death. Microangiopathies include diabetic nephropathy, retinopathy, angiopathy.

Diabetic nephropathy (DN) - a kidney disease characterized by the development of glomerulosclerosis and leads to renal failure. Early manifestations of DM is the change in glomerular filtration rate (GFR), which first increases and then tends to decrease as a normalization, but it points to an existing progression of DM. The second criterion of developing the DM what is happening with GFR is the appearance of microalbuminuria. Microalbuminuria is already clinical manifestation of DM.

FR can be determined using exogenous and endogenous markers of glomerular filtration. Endogenous markers include serum creatinine and cystatin C. In 2004 cystatin C was officially recognized by the FDA (Food and Drug Administration of USA) as a marker for alternative definition of GFR, it is recommended formula for calculating GFR in single definition cystatin C in serum. The goal of study is evaluation and comparison of GFR, calculated by serum creatinine and cystatin C in patients with type 1 diabetes.

Materials and Methods. The study was conducted on the base of Vinnytsia Regional Clinical Endocrinology Clinic (VOKED). There were involved 25 patients (10 men and 15 women) with type 1 diabetes and normoalbuminuria. The mean age was 29,3 ± 8,72 years (18 - 52 years). Seniority disease in patients with type 1 diabetes was respectively 11,75 ± 6,02 years (4 - 24 years). In 23 patients diabetes was found moderately. All patients calculated GFR by serum creatinine (Cockroft-Gault formula and MDRD) and cystatin C (7 formulas). Exclusion criteria were patients with: pregnancy, lactation, presence of acute or chronic inflammation, the presence of cardiac disease, cerebrovascular event, nondiabetic kidney disease, the presence of cancer, liver disease. Average albumin excretion rate (AER) in these patients was

equal to 10,38 ± 6,04 mg / ml (from 3.34 - 24.8). Range for microalbuminuria was excretion of albumin from 25,0 to 250 mg / day.

Reference standards of cystatin C for men was values of 0,6 – 1,11 mg / l, for women – 0,57 – 1,12 mg / l. Reference standards for creatinine same for both men and women were in the range 0.035 - 0.124 mg / l. Statistical processing of the results of research carried out using licensing program «Statistica 7».

Results. Average creatinine for men was 0,067 ± 0,0124 mmol / L, which corresponded to the reference standards. Average creatinine for women was also consistent reference standards and totaled 0,064 ± 0,0142 mmol / l. Indicators creatinine between men and women did not differ significantly (p = 0,296). At patients who were examined, we found that the average cystatin C for men was 0,793 ± 0,344 mg / l, and for women - 0,968 ± 0,491 mg / l. These indicators meet reference standards for cystatin C. Indicators of cystatin C between men and women were not statistically significantly (p = 0,177).

For regulatory limits of GFR by Cockcroft-Gault formula and MDRD taken following indicators: men 90-140 ml / min., women - 90-130 ml / min. We have found that the average level of GFR in all subjects (n = 25) by the formula Cockcroft-Gault amounted to 138,3 ± 36,24 ml / min, the formula MDRD - 136,6 ± 37,66 ml/min/1, 73m ². These values were within normal limits. But the average GFR by Cockcroft-Gault formula for men was higher than the statutory limit and equal to 155,9 ± 31,67 ml / min. The same was observed for GFR by MDRD formula for men - 157,8 ± 34,69 ml/min/1, 73m ². For women, these figures were within the rules and equaled 123,8 ± 34,24 ml / min the formula Cockcroft-Gault and 119,23 ± 31,57 ml/min/1, 73m ² on a formula MDRD. Established reliability difference between the GFR for men and women in both formulas. Probabilities between indicators GFR by Cockcroft-Gault formula and MDRD separately for men and women has been established. There is a strong negative correlation between the average level of serum creatinine and mean GFR by Cockcroft-Gault formula and MDRD. In the first case it was r = -0,644, the second r = -0,754.

All figures of GFR what were calculated with seven formulas by cystatin C were different between each other, but were not statistically probable. Revealed that the first formula to calculate GFR by cystatin C gives the highest rates for both men and women, and the second formula - the lowest. Therefore, we do not recommend using them for calculating GFR by cystatin C. Importantly, the correlation between serum levels cystatin C and its indicators GFR for each of the formulas was strong and negative in all cases. But it was the highest for the sixth formula.

Cystatin C increased in patients with normoalbuminuria indicating the initial changes in the kidneys of patients with type 1 diabetes without established diabetic nephropathy.

Conclusions. When comparing the calculation of GFR by creatinine (Cockcroft-Gault formula and MDRD) and cystatin C (7 formulas) is set greater accuracy for calculating GFR by cystatin C. This can be explained by a smaller number of factors influencing to the rate of cystatin C than for creatinine. Determination of GFR by cystatin C is less labor intensive and don't requires to take account of patient's sex. From 7 analyzed formulas which determine GFR by cystatin C, the optimal configuration is the formula 100/cystatin C - 14.

Key words: diabetes mellitus, diabetic nephropathy, creatinine, cystatin C.

UDC: 616.00

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FEATURES THE COMORBIDITY OF FRUSTRATION AT PATIENTS WITH SCHIZOPHRENIA

Introduction. Addictive disorders are often combined with psychic forms of pathology among which schizophrenia holds an important place. Schizophrenia

causes the tendency to formation of addictive behaviour in patients. An increasing frequency of comorbid psychic pathology is typical for a modern addiction clinic. Based on the above the *objective* of our research was to study formation of different variants of addictions in patients with different clinical schizophrenia forms, types of its clinical course, mutual influence of schizophrenia process and addictive disorders.

Materials and methods. 346 patients suffering from schizophrenia with comorbid addictive disorders were examined. There were 291 men and 55 women among the examined patients with the prevailing age interval from 26 up to 35 years (53,8%). The clinical-anamnestic and clinical-psychopathological methods were used during the study; experimental program included the following methods: pictograms, Lüscher test, Rorshach test.

Results. 116 persons (33,5%) of 346 examined had a paranoid schizophrenia; 72 persons (20,8%) – simple schizophrenia; 69 persons (20,0%) – residual schizophrenia; and 89 persons (25,7%) had other forms of schizophrenia. Our clinical material most often included: alcohol addiction – 157 cases (45,4%), nicotinism – 33 cases (9,6%), art-graphomanic addiction – 125 cases (36,1%), and sexual addiction – 31 cases (8,9%). Narcotic addictions in patients with schizophrenia were observed only in some cases. The data received from this research contributed to detection of tendencies, motivations, emotional state and other personality peculiarities that considerably supplement the clinical data with the information concerning formation of the conception of addictive disorders on schizophrenia. The following types of addictive motivations were distinguished during the research process: ataractic motivation - when patients with the help of the addiction object tried to mitigate or prevent the phenomena of emotional discomfort, anxiety, fear, state of frustration, suicidal thoughts; submissive motivation – included such particular motives as inability to refuse friends; absence of will-power, use of alcoholic beverages in order «to follow the crowd»; pseudocultural motivation – attributive properties of the addiction object with typical ostentation and desire to make an impression on the others were the most important; hedonistic motivation – alcohol consumption or use of the other addiction object for improvement of mood and satisfaction. Motivation of

behaviour activation – desire with the help of the addiction object to get excited, activate oneself, get out of the state of boredom, mental laziness and inactivity, raise self-esteem; psychotic motivation originates from psychotic phenomena – hallucinations, delusional experience, psychotic anxiety.

Conclusion. Patients with schizophrenia are characterized by chemical and non-chemical forms of addiction manifested in alcoholism, nicotinism, art-graphomanic and sexual addictions. The addictive motivations: ataractic, submissive, pseudo-cultural, hedonistic, motivation of behaviour activation, psychotic motivation are important for formation of the clinical course of addictive disorders in patients with schizophrenia. The fact that one of the main syndromes of psychic pathology on schizophrenia is autism makes this research prospective as to study of its pathoplastic influence on the comorbid pathology.

Key words: schizophrenia, alcohol addiction, nicotinism, art-graphomanic addiction, sexual addiction.

UDC: 618.177:616.981.21

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STREPTOCOCCUS GROUP B AS ONE OF THE REASONS OF INFERTILITY DEVELOPMENT

Introduction. In Ukraine as in other countries of the world the reproductive loss at the extracorporal fertilization have enough high level (17,9%). The problem of the increase of the effect of auxiliary reproductive technologies (ART) is very important. One of the ways to increase the effect of ART and prophylaxis of possible complications is the examination of the patients before the realization the program ART with the goal of diagnostic of the pathology, which can have influence on the fertility of the women and also cause the different obstetric-gynecologic, intra- and

perinatal complications. Today it is proved, that in the aetiology of difficult bacterial infections at the chronic inflammatory diseases and reccurent infectionts of the genital tracts the microorganism of the kind Streptococci spp play the important role. That's why in the process of the preparation to the regnancy the specific bacterial examination to reveal Streptococcus group B and spend the corresponded treatment is very important. This bacteria can affect the skin, the central nervous system, the heart, the lungs.

The goal of the research is to learn the total clinic and anamnestic factors of reproductive, obstetric-gynecologic and somatic anamnesis of the pregnant women with the restored fertility with the ECF on the background of impurity of urogenital and rectal ways with the Streptococcus group B.

Materials and methods. The 184 patients of the late reproductive age (35-39 years old) are examined to reveal the somatic and obstetric-gynecologic pathology in the anamnesis: 132 women of the research group with the infertility in the anamnesis, the pregnancy of who came after extracorporal fertilization (ECF) in Kiev city centre of reproductive and perinatal medicine (KCCRPM) and 52 fertility women of the control group, who had to give birth secondly or thirdly.

The conditions of the selection for the examination of the women with the sterility in the anamnesis were SGB-positive bacterial tests. The spending the material for the bacterial examination was according to the recommendations of CDC.

For static cultivation of the got data one used the program mathematic specialized block of STATISTICA-5, Excel Microsoft Office. The estimation of probability of the results one spent with the help of the criterion student, the difference between compared values are considered reliable at the $p<0,05$.

Results. The reasons of appearance of the infertility as a component of the reproductive, obstetric-gynecologic and somatic anamnesis of the women who addressed for the usage of ECF methods are determined. So, in the group of the women to the cycle ECF with SGB-positive status for the time of appearance of monarche much later of its beginning is determined (15 years old), for the character of the menstrual function the privilege numbers of events of algodismenorrhea is

determined (46,21% against 11,54% in the control; p<0,001), irregular menstruations (22,7% i 5,77% in; p<0,01) and hyperpolymenorrhea (21,21% against 7,69% in the control; p<0,05) and hypomenorrhea (22,73% against 3,85% in the control; p<0,01). The aggravation of the somatic anamnesis is determined (privilege for the range of the nosology): the chronic inflammatory diseases of the urinary excretion system (37,88% against 1,92% in the control, p<0,001), the chronic diseases of the organs of the gastrointestinal tract (16,67% against 5,77% in the control, p<0,05), endocrinous pathology (28,79%) and endocrinous pathology (23,48%), and also obstetric-gynecologic anamnesis (privilege of the inflammatory diseases of the organs of small pelvis (54,55% against 11,54% in the control, at p<0,001), the operations on the uterus (47,73% against 5,77% in the control, at p<0,001) and unterine adnexa (20,45% against 7,69% in the control, p<0,05), and also for the number of the artificial abortions (43,94% against 26,92% compared with the control group at p<0,05).

Conclusion. The totality of 4 informative blocks of prognostic important criterions of the infertility of the women with SGV-positive status, that can be corrected with the way ECF: a) reproductive, b) somatic, c) obstetric, d) gynecological on the background of which one can foresee the complicated spent of the pregnancy and birth.

Key words: pregnant women, extracorporal fertilization, streptococci of the group B, reproductive function, obstetric-gynecologic anamnesis, somatic anamnesis.

UDK: 616.00

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CLINICAL AND PSYCHOPATHOLOGIC DISORDERS IN PATHOLOGICAL GAMBLERS

Introduction. According to its clinical presentations pathological gambling resembles chemical addictions most of all. The psycho-pathological symptomatology accompanying problem gambling as well as the interrelation of characterological properties with clinical peculiarities and severity of psycho-pathological phenomena has been poorly studied until recently. Such statement of facts impelled us to perform the research which *objective* was to study the interrelation of the personality characterological properties and clinical picture of psycho-pathological disorders in pathological gamblers. The research methods included: clinical-anamnestic and clinical-psychopathological ones. The statistical result processing was carried out with verification of the changes credibility between the groups using Student's t-test for scales with normal sign distribution.

Materials and methods. The survey of 110 men, ages from 21 to 30 years, pathologically addicted to gambling. Used methods: clinical-anamnestic, clinical and psychopathological.

Results. The analysis of socio-demographic characteristics of the examined showed that the average age of the addictive gamers made up 26,8±6,3 years. A large part (74,5%, n=82) of the pathological gamblers had diplomas on secondary and specialized secondary education and only 25,4 % (n=28) had diplomas on higher and incomplete higher education. The performed research showed that in the group of pathological gamblers the characterological traits were extremely marked significantly oftener in comparison with the control group (83,6% and 14,3%). The most frequent accentuations of personality traits were excitable and hyperthymic ones (27,3% and 23,6% of cases respectively), in 11% of cases the anxiety type of accentuation was revealed, in 10,95 – cyclothymic type. Depending on the clinical combination of symptoms the following syndromes were distinguished: anxiety-depressive – 56 cases (50,9%), asthenic-depressive syndrome – 44 cases (40,0%), depression with prevalence of apathy was detected in 12 cases (10,9%). In 99 patients

(90,0%) anxiety disorders were accompanied by ideas of reference caused by the psycho-traumatic situation and in 30 cases (27,3%) phobias took a considerable place in the depression structure. Phobic symptomatology was closely connected with the psycho-traumatic factors (availability of debts, in particular) and manifested itself in the necessity to avoid some places or actions, sometimes in the sensation of fear in the street (also caused by debts or conflict relations). 6 patients (5,5%) had symptoms typical of a post-traumatic stress disorder on the background of depression caused by large financial losses and family ruining. The following clinical-psychopathological periods of the game cycle were distinguished: game period; distress period immediately occurring after the game, as a rule it develops after loss – this is the stage of loss; a period of moderately marked anxious-depressive disorders that transform into subdepression with hyperesthesia, prevalence of asthenia or apathy – the stage of abstinent disorders; period of anxious and dysphoric disorders combined with subdepression – the stage of breakdown symptoms; period of narrowed consciousness that immediately precedes the breakdown – the stage of the game trance. For gamblers with excitable traits hostility and depressiveness is the most typical psycho-pathological phenomenon at the peak of the game addiction; with hyperthymic type – hyper hostility and aggression without depressive symptomatology is more typical; with anxious accentuation of personality traits – depressive presentations in the form of apathy, loss of vital power, melancholy, anxiety, suicidal thoughts.

Conclusions. Pathological gambling is accompanied by psycho-pathological disorders represented by depressive and anxious disorders, paranoia, obsessive-compulsive symptomatology as well as by states of changed (narrowed) consciousness, depersonalization and derealization phenomena. Pathological gambling can be caused by insufficient ability of the personality to deal with a stress conditioned by own unformed and ineffective adaptation mechanisms including psychological defense as stress compensation.

Key words: pathological gambling, men, personality traits, depression, dysphoria, anxiety, asthenia, apathy.

METHODS

UDC: 615.03: 371.3: 378

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PATTERN OF THE TEACHING OF CLINICAL PHARMACIST IN THE INTERNSHIP

Purpose of research. Department of clinical pharmacy and clinical pharmacology share an experience of teaching of interns - clinical pharmacologists and to draw doctors attention to profession «clinical pharmacist», as reliable assistant by choice of safe pharmacotherapy.

According to program training for clinical pharmacist the department of clinical pharmacy and clinical pharmacology Vinnica State M.I. Pyrogov Medical University work out programme from crisp distribution of functional chart of forward specialist by full-time studies and postal tuition. At the postal tuition cycle the intern - clinical pharmacologist collaborate with hospital doctors and with hospital pharmacists. Mainly directions of study in hospital – conduct of pharmacotherapy quality analysis to the treatment sheets through the comparison treatment regimen from clinical protocol of therapy assigned disease in Ukraine. The intern – clinical pharmacologists case mini-history filling, where they in detail describe the treatment regimen, characteristics of administer this drugs by patients from different age groups, from different concomitants pathology, with a glance of pharmacokinetics and pharmacodynamics characteristics the drugs, with a glance of interaction characteristics among the prescribe drugs. These mini-history the interns – clinical

pharmacologists use on full-time studies for co-education. The interns – clinical pharmacologists assist in daily inspection of patients, make recommendations relatively of frequency, peculiarity of reception every prescribe medicines, detect the risk factors of development the side reaction in patients and assume the measures of the prevention this side reactions. By revealing the side reactions on the drugs – the interns – clinical pharmacologists take theirs monitoring. The interns – clinical pharmacologists take an interest in making necessary drugs register.

Full-time tuition cycle conduct in three directions – clinical pharmacology, pharmacotherapy, pharmaceutical guardianship. The tasks of department of clinical pharmacy and clinical pharmacology study of the interns – clinical pharmacologists on the full-time tuition cycle: study the data of the demonstrative medicine to efficacy and safety of the drugs; understand the levels of validity studyes and their sense to clinical practice; can use the outputs of demonstrative medicine by prescription of drugs; generate clinical – pharmacological thinking by the choice of the pharmacotherapy capacity; know to use of clinical recommendation to the practice, consider basic principle of clinical pharmacology – individual approach with a glance the benefi to risk of reception drugs. For today, department of clinical pharmacy and clinical pharmacology see the answer there of task through involvement to teaching data of Internet-resource, job from mini- medical history of the interns - clinical pharmacologists and of archives hospital medical history, study of transaction rendering of medical care by different pathology, across decision of situational tasks. The department estimate of training degree on the test by come to an end the training epoch and by an examination. The examination consist in theoretical part and from the information of computer testing.

Conclusion. Today the clinical pharmacologists are accessible and qualitative information provider relatively to doctors and patients to the efficacy, the safety of the pharmacotherapy.

Key words: clinical pharmacist, internship, training technique.

UDC: 612:378(477.53)

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PRACTICALLY ORIENTED TEACHING PHYSIOLOGY AT VINNYTSIA NATIONAL MEDICAL UNIVERSITY

Introduction. The Bologna process is the process of creating a united European educational and research space, united criteria and standards in the medical realm at our continent's level.

A significant achievement of the home higher medical education on the way of reforms is the introduction of the credit-module organization of the academic process (CMOAP) designed to facilitate the Ukrainian higher medical school graduates and postgraduates' mobility in the European educational space and their employment in the global job market conditions.

The purpose of this paper is to generalize the experience of introducing CMOAP after the results of the Medical Faculty two-year students' being taught at the Normal Physiology Department during the last two years.

Materials and methods. There was performed the analysis of the Medical Faculty students' resuming module control (RMC) Works № 1-4 who were being taught at the Normal Physiology Department in 2009-2010 academic year (392 persons) and 2010-2011 academic year (401 persons).The correlation analysis between the assessment of the Medical Faculties №1and №2 students' current progress during the year of being taught at the Normal Physiology Department and results of their taking the licenced integrated examination Krok 1 (2011).

Results. The quality of the medical staff training at the Medical University, in particular at the Normal Physiology Department, is paid much attention to. The high level of the students' training is testified by the results of their current academic progress during the last two years.

Comparing the Medical Faculties students' current academic progress during the last two years, we observe a credibly better acquiring the second module material and a worse one in relation to the fourth module by the students taught in 2009-2010 academic year, contrarily to their colleagues taught in 2010-2011 academic year. But the Medical Faculty students' average current academic progress during the last two years has been remaining high and relatively steady (from max, i.e. from 200).

The credit module system is a more objective program which is confirmed by the data of the correlation analysis between the assessment of the Medical Faculties №1and №2 students' current progress during the year of being taught at the Normal Physiology Department and results of their taking the licensed integrated examination Krok 1 (2011).

The newest forms of the academic process organization favour the increase of the doctors' undergraduate training quality.

The introduction of practically oriented teaching Physiology unites the home traditions of training a professionally skilled expert with the demands for entering the world medical education space.

Conclusion. The newest forms of the academic process organization favour the increase of the doctors' undergraduate training quality. The introduction of practically oriented teaching Physiology unites the home traditions of traning a professionally skilled expert with the demands for entering the world medical education space. Thus the introduction of the credit-module system at the Vinnytsia National M.I. Pirogov Memorial Medical University is methodologically grounded, sufficiently effective in acquiring learning programs and will be able to fulfill its role in forming a creative personality and has all the prerequisites for further development and improvement.

Key words: credit-modular system, medical students, physiology.

UDC: 378.146:371.322+61

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USE OF COMPUTERIZED TESTING AS A WAY OF CONTROL OF THE STUDENTS' KNOWLEDGE AT THE CLINICAL DEPARTMENT

Introduction. Training of a future doctor at the Clinical Department provides theoretical training of a student and what is most important – use of the obtained knowledge and professional skills in practice. Unbiased knowledge assessment of a student from a higher educational establishment is a problem of no small importance in the educational sphere. Computerized testing contributes to systematization of the obtained knowledge and improvement of students' training quality and can be used as an unbiased knowledge assessment method of future doctors.

The research objective is increase of specialists' training quality by computerized testing as a way of unbiased assessment of students' theoretical knowledge at the Department of Internal Medicine №2.

Materials and methods. The research involved 72 students of the 5th course of Medical Faculty No.1 studying at the Department of Internal Medicine №2. All the students were divided into two groups. During the academic year after each part of internal medicine (cardiology, rheumatology and nephrology) and at the end of the academic year the students of the main group (36 persons) passed computerized testing and took an exam demonstrating their professional knowledge and skills. Tests for the computerized testing were prepared by the academic teaching staff of the Department of Internal Medicine №2 and published as a textbook «Therapy in tests» under the editorship of the Professor V.P. Malenkyi. The results of the computer control were received with the help of a special computer program. For determination of the knowledge quality of the students from the control group (36 persons) only oral examination was used.

Results. The obtained data show that according to the results of the exam in internal diseases passed by the students of the 5th course of Medical Faculty №1 the number of students that passed the exam with the mark «excellent» was 11 (32,12%) in the main group where computerized testing was used, and in the control group 8 students (25,25%) received an excellent mark at the exam in the internal medicine. Likewise there was a larger number of students in the main group that passed the exam with the mark «good» – 18 students (50%) compared to 15 students (41,66%) from the other group. The number of students with the marks «satisfactory» in the main group was 5 persons (12,38%) and twice as many, that is 10 students (24,76%), were in the control group. Two students (5,55%) had unsatisfactory marks in the main group and there were 3 students (8,33%) in the control group. So, computerized testing makes it possible to:

- find students with low level of training and develop a system of activities for support of their study;
- compare unbiased assessment of the level of learning the training material and subjective assessment of an examiner at the examination;
- provide the unity of requirements to each student;
- implement the principle of publicity and visibility of assessment results;
- stimulate students' educational-cognitive activity in order to form their estimated potential influencing the interim attestation results.

Conclusions. Thus, the use of interim and final computer control is an integral part of determination of the students' training level at the Clinical Department. Application of such a method increases the quality of specialists' training and is an unbiased assessment method of students' progress.

Key words: computerized tests, student, control of knowledge.

UDC: 616.314.5-084:616.31-073

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CASE-STUDY INTODUCTION FOR IMPROVING THE GUALITI OF SECTION'S TEACHING «DECEASES OF THE MUCOUS MEMBRANE OF ORAL CAVITI»

Resume. The article highlights the essence of using Case-method as the interactive training form for the students in the studying section of therapeutical dentistry «Deseases of the mucous membrane of oral cavity». The proposed innovative method allows to improve the level of future dentists training.

Key words: high medical education, Case-study, interactive methods, therapeutic dentistry.

UDC: 616.314.18-002.4-085.28

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METHOD OF TREATMENT OF GENERALIZED PERIODONTITIS USING NANOSCALE COMPOSITION «METROXAN» AND GEL «CHOLISAL»

Introduction. In the proposed method of treatment of generalized periodontitis, therapeutic effect of Metroxan directed to neutralize microbial agent in the first phase of the wound healing process in the second and third phase – we combined with gel «Cholisal». Mode of action of this drug has anti-inflammatory and analgesic directed character and antibacterial and antifungal effect. Actuality: Deep study of periodontal disease in many countries greatly enriched knowledge of this problem: extended range of etiological factors of disease elucidated new aspects of the pathogenetic mechanism of generalized periodontitis, refined differential - diagnostic and clinical and laboratory findings. But, despite the large number of proposed treatments and

ways to prevent, search and development of new drugs for the local treatment of GP targeted pathogenetically justified action remains a challenge of modern periodontology. The purpose of this study – to evaluate the therapeutic effect of combined use of Metroxan and Cholisal and the dynamics of changes of clinical, biochemical and immunological parameters in patients with generalized periodontitis immediately after treatment.

Materials and methods. In the course of work conducted clinical and laboratory research and treatment of 22 patients (aged 30 - 40 years) with a pointed light of generalized periodontitis severity, disease duration from 1 to 5 years without somatic pathology. Depending on the treatment patients were divided into three groups: control (6 people) and two major (6 and 10 people). In the complex treatment of patients in the control group had a common basic therapy that included professional cleaning of the oral cavity: antiseptic irrigation, mechanical and ultrasonic removal of dental plaque and applications on gums and putting into periodontal pockets 20% suspension syliksu, paste-like form. Patients first substantive session of the group after basic treatment at each visit was deposited by ash application on land and in periodontal pockets 1% suspension «Metroxan» exposure 15-20 minutes and patients of the second main group, in the first days of treatment, the same method – 4% suspension «Metroxan». Conducted definition and analysis of the following parameters: clinical indexes – (PMA Parma), bleeding index for Myullemanom, periodontal index Russell's character of discharge from the periodontal pockets - test with benzidine by S. Sorrin, biochemical markers of inflammation (content in oral fluid cathepsin D) and activity of superoxide dismutase (SOD) and immunological markers (content of IL-1 β in the gum liquid).

Results. On the fourth day after the application of 4% suspension metroxan .all patients with GP disappeared purulent discharge from periodontal pockets .in majority of patients treated with 1% suspension metroxan suspension and 20% silics purulent discharge has been observed and the 5-day treatment. Fastest clinical recovery occurred in patients of the second main group at 6-7 days of treatment, while patients in the first substantive and control groups inflammation disappeared at

8-10 days of therapy. Most significant dynamic changes ($p<0,05$) above indicators was registered in the second main group of patients, and was respectively 380±21% and 491±22% versus – 296±32% and 410±22% (first main group) and 251±18% 370±12% (control group). Credible changes of Russell index ($p<0,05$) after treatment in patients not recorded. The most favorable dynamics proved cathepsin D activity in the second group of patients - the enzyme activity in the treatment decreased by 33%. The first main group of patients, reducing the activity of the enzyme was 26% in the case of native silica – 16% respectively. Combined use of Metroxan and Cholisal leads to a significant increase in activity of the antioxidant enzyme Superoxide dismutase in oral fluid, which is likely to prevail activation of this enzyme in patients, which used only the pure sorbent. Were treated 4% suspension metroxan significantly reduces the content of IL-1β in the gum fluid of patients with GP.

Conclusion. All of the above confirms the effectiveness of metroxan in the initial period of suppurative inflammation in the periodontium, as an active converter parodontal pathogenic microflora, which the leading role in the onset of periodontal disease is not in doubt.

Key words: generalized periodontitis, local treatment, high disperse silica, metroxan, cholisal.

UDC:613.955 : 371.212

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HYGIENIC ASSESSMENT OF SOCIAL AND EDUCATIONAL SIGNIFICANT ASPECTS OF DAILY LIVING PUPILS 14-17 YEARS OLD OF MODERN SCHOOL

Introduction. An essential component of adequate scientific research in the field of preventive medicine and in preventive anthropology should be considered as a detailed study of the features of housing and living conditions of students who are in

today's secondary schools. The aim of the study was to hygienic evaluation of social, educational and important aspects of everyday life of students aged 14-17 who are in a modern school.

Materials and methods. Research, a program of study which included social, educational and important aspect of the everyday life of 256 students aged 14-17 years under hygienic use (assessment day regimen), medical and sociological (questionnaires, interviews, etc.) and epidemiological (score health) methods were carried out at secondary schools in the city of Vinnitsa. Statistical analysis of the results was carried out based on the application of the standard package of applications of multivariate statistical analysis «Statistica 6.0 for Windows» (owned by the Center for New Information Technologies Vinnytsya National University named Pirogov, license № AXX910A374605FA).

Results. In the course of studies during the evaluation features living conditions of stay, found that the vast majority of people surveyed lived in a completely satisfactory conditions (separate apartment, individual house, etc.). Thus, the proportion of students among girls and boys at the age of 14 years was respectively 87,4% and 84,3% among girls and boys aged 15 – 84,3% and 71,8% among girls and boys in age 16 – 81,2% and 81,2% among girls and boys aged 17 – 87,4% and 75,0%. Among 14-year-old girls and boys in the hired accommodation inhabited by 3,1% and 3,1% of the 15-year-old girls and boys - 9.3% and 12.5%, among 16-year-old girls and boys – 6,3% and 3,1% among persons and 17 year old girls – 6,3% of individuals. In addition, it was necessary to note that dorm room living 6.3% of boys aged 14 years, 9,3% of boys aged 15 years, 3,1% of girls under the age of 16, 6,3% of boys aged 16 years, 3,1% of girls aged 17 and 3,1% of boys aged 16 years.

Conclusion. The data obtained in the study of social and welfare aspects of everyday educational and extracurricular life girls and boys who are in the current school certify most favorable social and living conditions and material stays constant current students. The results indicated the presence of trends to increase efforts to improve their financial situation with age among girls and among boys, by means of additional types of jobs that paid, outside the classroom. This tendency, on the one hand,

positively characterizes contemporary youth who at least tries to depend on parents and help them financially, on the other. However, irregular activity in their leisure time that has either physical or intellectual content, creates additional psycho-emotional stress, is an important foundation for the formation of the manifestations of premature fatigue and exhaustion, is a significant risk factor for acquisition of deviations in mental health. Identified during the research social, educational and important aspects of everyday life of students require further consideration during the development and implementation of health-promotion technology.

Key words: school, pupils 14-17 years old, educational and non-school activities.

UDC: 57:371.24:378.4

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ADAPTATION OF FIRST COURSE STUDENTS OF MEDICAL UNIVERSITY TO STUDY ON CREDIT-MODULAR SYSTEM ON THE EXAMPLE OF THE MEDICAL BIOLOGY COURSE

Introduction. Learning at Medical University puts forward challenging requirements to students due to the high tempo of educational process and significant amount of informative loads. Therefore, the sufficient initial level of general intellectual development, scholarship, breadth of knowledge interests, and proficient skills in a number of logical operations are highly requested for successful assimilation of the curriculum material. All in all, the initial phase of teaching process is characterized with high intensity of adverse psychosocial factors that allow us to determine this period as difficult one, and first-year students as a risk group in terms of reducing their personal adaptive capacities. The purpose of our study was to analyze the adaptation of first-year students to the learning environment at higher education

institution and the factors that most influence the process of adaptation on the example of studying the medical biology course.

Materials and methods. The criteria and strategies that ensure optimum adaptation of students to educational process at medical university with credit-modular evaluation system, and improvement of methods for teaching the medical biology course have been developed on the basis of results of actual, modular progress (performance) demonstrated by the first-year students.

Results. Adaptation to educational environment is a process by which a person, on the one hand, meets his/her personal and educational needs relating to conditions and expected learning outcomes, and, on the other hand, meets the requirements put forward by a structure, contents and conditions of the educational process.

During the learning (educational) process students must not only adapt to the conditions of learning activities, but also to permanent changes in educational stereotypes and organization of the educational process. Intensive mental activity, apprehension of extraordinary information flow, high emotional tension, and precise regulation of work and rest are distinctive characteristics of learning process for first-year students. Quick and efficient adaptation of first-year students is a prerequisite for further successful learning. The first few months of learning, especially first exams, and further tests and examinations screen many students who, for various reasons, demonstrate difficulties in learning, and therefore need pedagogic assistance.

Conclusions. To develop tactics and strategies that provide optimum adaptation of students to learning at medical university, the improved teaching methods should be applied with due attention to extraordinary vulnerability of intellectual and psychological properties of new-comers.

Key words: adaptation, first-year students, educational process, medical biology.

UDC: 378: 004: 614.2.07

Savoluk S.I.

VALUE OF SEMINARS IN SYSTEM OF THE ASSESSMENT OF EFFICIENCY OF VOCATIONAL TRAINING OF DOCTORS INTERNS IN SPECIALITY «SURGERY»

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Introduction. A seminar, due to its specific, is one of the types of classes, which promote the motivation to the studies of the doctors -interns and instrumental in an active capture the listeners with the concrete theme, section and course of the curriculum. *The purpose* of the work – to systematize and generalize the information in relation to the role of seminars in the system of the medical postgraduate education; to show the necessity to change the methodological approaches to their leadthrough on the modern stage of the continuous professional and post-functional growth of doctors in the speciality «Surgery».

Results. The obligatory component of the curriculum of the before graduation and postgraduation studies of doctors are the seminar classes. About their content they are distinguished with the informative, research and control seminars. About the form of the leadthrough they are distinguished with the seminars: the seminar-conference, the seminar-discussion, the seminar-colloquium, the seminar, on the clinical analysis of hospital of patient chart, the seminar-excursion, the seminar, on the discussion of preliminary geared-up abstracts, the seminar on the discussion of control works, the seminar on the exchange of work experience, the seminar-training, the seminar-busy game, the seminar-conclusion and the special place is taken by the TV seminars. The mentioned forms of the seminars are differed with the purpose and the method of leadthrough. Among the forms of the seminars an important place is occupied by the seminars on the clinical analysis of patients, which enable maximally to control the degree of the mastering of receptions and the methods of inspection of patients, capture diagnostic, and differentially diagnostic technologies, charts, protocols and standards of treatment. Summarizing the own experience of preparation of the doctors-interns in the speciality «Surgery», we recommend the control classes-

seminars of such kinds: the initial control, the current control, the thematic (border) control, the final control, the remote control. The chart of the leadthrough of seminars, to our opinion, must be such: the introduction 15-20% from all of time, the main part – 50-60%, the finishing – 20-30% all of time. In the introduction one should report a purpose and ways of decision of the put tasks. In the main part the listeners work independently, deciding situational tasks, determining normatively technical document, orders, settings, orders, protocols of inspection and/or treatment, going out from the decision of concrete task. In the finishing part one determine the optimal variants of the accomplishment of the put tasks by the method of the debate and the constructive discussion.

Conclusions. The seminar classes are the constituent of multicomponent dynamic educational process, directed on forming and development of the base and professional components of personality of doctor and they are the effective methods of interactive new information transfer with their next systematization and analysis of the own experience with new knowledge, designing different clinical situations and jointly determining the ways of their decision.

Key words: seminar classes, doctors-interns, vocational training.

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MODERN TEACHING METHODS AND INNOVATIVE TECHNOLOGIES IN THE EDUCATIONAL PROCESS IN HIGHER EDUCATION INSTITUTIONS

Summary. The analysis of modern pedagogical approaches in higher education is given in the article. The perspectives to enhance the learning process and provide European quality education through the application of new and innovative teaching

methods, which is especially important in the process of entering the Bologna process in higher education are considered.

Key words: pedagogical innovation, problem lecture neosocratic dialogue, case method, lesson-shop.

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UDC: 378.147+378.147.88

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EDUCATIONAL TECHNOLOGY COOPERATIVE LEARNING - THE WAY TO BUILDING THE CLINICAL THINKING IN MEDICAL STUDENTS

Purpose of research. The review is devoted to the introduction of modern educational technology in medical education. The article contains of the information about the method of cooperative learning (CL) and the prospects for its use in training medical students. All aspects of the CL-method have been analyzed. The basic idea of CL - helping others learn to do - an equal opportunity to each student, makes it possible to successfully assimilate education programs, with uneven level of training in the previous courses and personality differences in the uptake of knowledge. There is plenty of evidence to support the effectiveness of the CL-method in various fields of education. At the department of internal medicine CL technique proposed for implementation in the course of teaching a number of topics on propaedeutics Internal Medicine. The recommendations for the implementation of the method for the department assistants were developed. Classes are building with the stages: creation and implementation of external conditions; the formation of small groups; assigning tasks; assessment of group and individual readiness. Mandatory step – implementation of practical skills at the bedside. The teacher monitors the

correctness of the implementation, make adjustments. In the small groups, each student has the opportunity to work with the patient, to evaluate the correctness of the colleagues' skills or to help those who have not mastered the technique. Evaluation of each student develops from the test results of individual and group readiness, assessment of practical skills in working with the patient.

Conclusions. Thus, the introduction of elements of cooperative learning method in medical education will encourage the development of individual and group responsibility for medical students. This method will allow to generate the skills of work in a team of physicians and other participants in medical care. However, the wider use of the method requires detailed development of standardized methods of assessment of students in accordance with the condition of the Bologna process.

Key words: cooperative learning, medical education.

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FEATURES OF TEACHING OF MEDICAL PARASITOLOGY ARE WITHIN THE FRAMEWORK OF PROFESSIONAL MEDICAL TRAINING OF FUTURE DOCTORS

Introduction. The increase of general level of morbidity on parasitogenic invasions among a population predetermines development of more improved methods of their diagnostics and prophylaxis, and also there is a necessity of increase of level of professional training of future practical doctors, constantly improve knowledge of medical workers in area of parasitology and epidemiology, that became the aim of our research.

Material and methods. The object of teaching methods research is the acquisition of knowledge and skills in parasitology students enrolled in the first year Vinnitsa National Medical University. Of course medical parasitology educational elements are: virulence and pathogenicity of pathogens, ways of panctration to the human body, mechanisms of infection, pathogenic influence, laboratory diagnostics and prevention of infestations.

Results. Pedagogical Practice in Universities puts the number of teachers methodological questions, which associated with the preparation and giving lectures, practical lessons drafting of teaching materials. In order to improve the quality of training future doctors lecturer lectures and texts developed guidelines for practical exercises. Preparation of teaching materials requires the ability to determine the relevance of the topic, its professional relevance, learning objectives of practical classes, the ability to differentiate them by level of training, to be able to organize and build lessons. In the study of medical parasitology important aspect is to determine the relevance of the topic classes because of the level of motivation depends the effectiveness of perception and memory training material and its subsequent use in professional situations. Already in the first year of medical university students learn the basic agents of parasitic diseases when studying the medical parasitology. Future doctors have the opportunity to get acquainted with such as virulence, pathogenicity of pathogens, resistance of the human body, its influence on the parasite and vice versa. In the list of elements must be included morphological features of the parasite, how to adapt to a parasitic lifestyle, ways of infection and methods of penetration into the host organism, the stage of the life cycle and the methods of diagnosis and prevention. Much attention is paid to developing clinical thinking students that achieved by examining the major symptoms of the disease due to the development of the pathological process in the body or system of bodies. The great value has inner subject relations to increase students is essential Interdiscipline thinking. For this purpose in the learning process useddifferent forms of structural-logic circuits to each class, which allows to identify links between certain themes.

Conclusions. Thus, to improve the quality of training future doctors to form preventive thinking necessary to properly organize practical training, to be able to develop the motivation to study the subject, provides educational process visual materials, create a tentative map for independent work with literature, logically structured educational material and also use different forms and methods of teaching.

Key words: parasitogenic invasions, medical parasitology, teaching methods.

SOCIAL MEDICINE, PUBLIC HEALTH ORGANIZATION

UDC: 616.832-004.2

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RISK FACTORS, WHICH LEAD TO NEGATIVE DYNAMIC OF THE QUALITY OF LIFE IN PATIENTS WITH MULTIPLE SCLEROSIS RECEIVING DISEASE-MODIFYING THERAPY

Introduction. The aims of this study were to assess the quality of life in patients with relapsing-remitting multiple sclerosis (MS) treated with Disease Modifying Agents and establish prognostic significance of several factors influencing the development of negative dynamic of the quality of life in patients with MS.

Materials and methods. 97 relapsing-remitting MS patients, 32 without and 65 with prior immunomodulation therapy, were assessed using the 36-Item Short Form Health Survey (SF-36) at baseline and in 12 months after initiation of disease-modifying therapy. Each patient underwent a complete clinical assessment, including that of disability status (Expanded Disability Status Scale), fatigue (Modified Fatigue

Impact Scale), depression and anxiety (Hospital Anxiety and Depression Scale). The data was analysed by the SPSS 13 programme.

Results. The results revealed a significant increase in quality of life in 51,4% of patients a year after the start of the disease modifying treatment. Increase in quality of life was associated with decrease in fatigue intensity. In 37,1% of patients the quality of life was decreased. MS-associated fatigue is common and treatable feature of MS, which could impact on quality of life, independent of physical disability. Patients with episodes of MS exacerbations and anxiety-depressive features – which occurred throughout the period of observation – assessed their quality of life to be much lower.

Conclusion. This study demonstrates that MS exacerbations, concomitant depression and anxiety are associated with impaired quality of life in patients with MS receiving disease-modifying therapy. Interventions that affect these factors might be expected to influence quality of life. Quality of life instruments can help to provide a broader measure of the disease impact and to develop a care program tailored to the patient's needs.

Key words: multiple sclerosis, disease-modifying therapy, quality of life.

UDC: 616.34:504.03:613.8

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INFLUENCE OF SOCIO-ECONOMIC FACTORS AND LIFESTYLE ON A DEVELOPMENT OF IRRITABLE BOWEL SYNDROME

Introduction. Functional disorders, among them irritable bowel syndrome (IBS), are very common and troublesome gastroenterological problems. Irritable bowel syndrome (IBS) is a functional gastrointestinal disorder affecting up to 15,0-20,0% of the general population. It is characterized by unexplained abdominal pain, discomfort and bloating. Diagnostic criteria for IBS (The Rome Criteria III) include recurrent

abdominal pain or discomfort at least 3 days per month in the last 3 months associated with 2 or more of the following: improvement with defecation, onset associated with a change in stool frequency or onset associated with a change in form (appearance) of stool.

The pathophysiology of IBS is considered to be multifactorial. IBS has been associated with abnormal gastrointestinal motor functions, visceral hypersensitivity and psychosocial factors. There are some hypotheses concerning the role of socio-economic factors in pathogenesis of IBS. To get further insight into the problem we decided to analyze the number of socio-economic factors and lifestyle in patients with (IBS).

Materials and methods. The study involved 100 patients with IBS and 110 age and sex matching healthy subjects. The patients were diagnosed according to Rome Criteria III. Socio-economic factors and lifestyle were studied with a special static worked out card, included 21 questions. For statistical analysis the packet of applied programs «Statistica 6.0» (StatSoft. Inc., USA) was used.

Results. Data of the correlation analysis showed relationship between IBS and a number of social factors. Strong connection between marital and social status, satisfaction with the microsocial relations and IBS development was identified. IBS positively correlated with a bad social interaction (r_S=0,29) and a bad interaction with relatives and friends (r_S=0,27), poor household (r_S=0,32) and financial difficulties (r_S=0,21), work-related stress (r_S=0,22). Furthermore IBS incidence is positively correlated with eating out in public (r_S=0,46), irregular nutrition (r_S =0,26), food poisoning (r_S =0,47) and an unsatisfying diet (r_S=0,38).

Conclusion. The results of the study suggest that socio-economic factors and lifestyle may be involved in the pathogenesis of irritable bowel syndrome. Taking into consideration factors, which influence health of the patients, there is an opportunity to correct a lifestyle, food and actively to influence on disease development in individual, family and collective levels.

Key words: irritable bowel syndrome, socio-economic factors, lifestyle.

UDC: 616.24-002.54-036.8

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EFFICIENCY OF A STATIONARY STAGE OF TREATMENT OF THE PATIENTS WITH A TUBERCULOSIS OF THE LUNGS

Resume. The efficiency of a stationary stage of treatment of 411 patients with a tuberculosis depending on the clinical form of a tuberculosis, presence of destructive processes in lungs and drug-resistant Mycobacterium tuberculosis is studied.

Key words: tuberculosis of lungs, efficiency of treatment, destructive processes in lungs, drug-resistant Mycobacterium tuberculosis.

UDC: 616.12-008.331.1:616.831-005.4:616.89-07-004.12-08

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EVALUATION OF PSYCHOLOGICAL STATE AND QUALITY OF LIFE DYNAMICS FOR PATIENTS WITH HYPERTENSION AND STROKE IN HISTORY UNDER DIFFERENT TYPES OF COMBINED ANTIHYPERTENSIVE THERAPY

Introduction. Leading risk factor for ischemic stroke is hypertension, which is accompanied by changes in the psychological state of patients and have negative influence to the quality of life, as a result affecting to the effectiveness of antihypertensive therapy. At present, there is insufficient research, reflecting features of psychosomatic state and quality of life of patients with hypertension after ischemic stroke, and the impact of different options of combination antihypertensive therapy on these indicators. The aim of our research is studying of life quality and psychological state dynamics for patients with hypertension who underwent ischemic stroke, under different types of combined antihypertensive therapy.

Materials and methods. 120 patients were studied: the main group includes 60 patients (age 61,3±0,9, men 59,2% and women 40,8% with hypertension and ischemic stroke in history who were randomized before treatment in the two groups: A and B groups (matched by sex and age). Patients were assigned to group A received combination antihypertensive therapy, including olmesartan at a dose of 10-20 mg and hydrochlorothiazide 12,5 - 25 mg per day, patients in group B received: 10-20 mg olmesartan and amlodipine 5 - 10 mg per day. Comparison group includes 30 patients with hypertension, matched by sex and age, with the main group of the study. In the control group – 30 people without cardiovascular disease, matched by sex and age. SMOL psychodiagnostic testing were conducted to evaluate physiological parameters and international certified questionnaire Medical Outcomes Study Form (SF-36) were used to evaluate the quality of life of considered pantients before treatment and a year later under antihypertensive therapy.

Results. In the main group average level according to scale 1 (hypochondriasis) was 60,13±1,01 points, in the comparison group – 47,73±2,25 points, $p<0,05$; according to scale 2 (depression) the level in the main group was 54,5±1,24 points, in the comparison group – 46,18±1,69 points, $p<0,05$; mean values for scale 3 (hysteria) in the main group – 56,05±1,05 points, in the comparison group – 53,82±1,44 points, $p<0,05$; the values according to scale 6 (rigidity) in patients with hypertension and a history of ischemic stroke were 51,28±1,05 points in the group comparison – 46,79±1,49 points ($p<0,05$). After a prolonged antihypertensive therapy by

combination treatment of olmesartan and amlodipine values according to scales of 1, 3 and 6 were: 49,33±2,25; 51,72±1,15 and 47,84±1,15 points, respectively, in group A during treatment the figures were: 54,81±3,01; 56,53±2,78 and 54,06±1,96 points ($p<0,05$). According to scale 2 values during treatment were: group A – 53,46±3,23 points, in group B – 49,49±1,57 points ($p<0,05$). Physical health component in the main group was 42,98±0,86, in the comparison group – 49,63±1,82 points ($p<0,05$). Mental health component in the main group was 33,39±1,04, in the comparison group – 42,85±2,19 points ($p<0,05$). Estimated physical health component under described treatment in group A was – 44,40±1,61 points, in group B – 50,13±1,51 points ($p<0,05$). Estimated mental health component after treatment in group A – 41,06±1,58 and in group B – 46,5±1,44 points, $p<0,05$.

Conclusion. Quality of life estimation and psychodiagnostic testing using SMOL test found in hypertensive patients underwent ischemic stroke, reliably higher mean levels as for depression scale as for «neurotic triad» scale, as well as reliably lower levels of role and physical functioning, general health. Antihypertensive therapy holding promotes reliably levels decreasing of anxiety, hypochondriac mood, increasing of social adaptation, improves values of life quality. Combined antihypertensive therapy with olmesartan and amlodipine, compared with the combination of olmesartan and hydrochlorothiazide, promoted a statistically significant greater reduction of anxiety-depressive disorders and improved the physical and mental components of health.

Key words: hypertension, ischemic stroke, quality of life, psychological assessment of personality, treatment.

UDS: 616.248+616.24-008:616-036.865 (477.44)

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THE STRUCTURE AND LEVEL OF DISABILITY DUE TO CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ASTHMA AMONG THE WORKING POPULATION IN VINNYTSIA REGION

Summary. The structure and level of disability due to COPD and asthma among the working population in Vinnytsia region in 2011 by reviewing medical expert documentation 692 people including 208 disabled people with COPD and 484 disabled people with asthma have been studied. The less severity of disability and younger age people with asthma compared with COPD have been revealed, which is promising in terms of rehabilitation, a significant percentage of people that disability is established in life, low levels of rehabilitation, particularly in COPD, and the necessity to develop recommendations on medical-social expertise and rehabilitation investigated contingent.

Key words: Disability, chronical obstructive pulmonary disease, bronchial asthma.

SCIENTIFIC REVIEWS

UDC: 611.81:612.01+612.667

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AGE, SEXUAL AND CONSTITUTIONAL PECULIARITIES OF THE STRUCTURES OF BRAIN OF THE HEALTHY POPULATION (THE REVIEW OF LITERATURE)

Current possibilities of diagnostic and treatment technologies in the medical science demand from fundamental disciplines – anatomy, medical and integrative anthropology - the study of the data concerning anatomic peculiarities of the human

body considering new visualization methods. Application of new neurovisualization methods - computer (CT) and magnetic resonance tomography (MRT) - changed approaches to diagnostics of brain morphological changes and opened up new horizons for study of its structure. The question about increase of the visualization accuracy arose implying a more detailed interpretation of the received data taking into account individual anatomic peculiarities of certain organs and systems, CNS in particular [Gunas et al., 2010]. This is a subsoil for further study of standards of certain CNS anatomic masses that consider possibilities of the MRT and CT volume visualization as well as age, sexual and somatotypical peculiarities of the human organism [Gunas, Gavrylenko, 2010].

This issue is especially important on assessment of these indices in young people as it is known [Draganski, May, 2008] that stability of the main brain and skull morphometric indices is established only since 21 years and it often has individual peculiarities within age parameters. There are also data of gender peculiarities of skull indices showing advantage of all morphometric indices in men, excluding the encephaloskull index that is larger in women [Pavlov, 2005]. It is suggested that exactly so sex hormones influence the osteogenesis during the pubertal period.

Besides, age changes also have sexual divergences that lie in different changes of the main skull sizes throughout the life in men and women though other authors point out at insignificant sexual dimorphism of the dynamics of facial bone indices with aging [Baybakov, 2008]. Morphometric sexual divergences of the brain and its components are recorded in numerous researches revealing the difference in the brain relative mass of men and women [Curiati et al., 2009]. But according to the other researchers [Baybakov, 2008] there is a larger neuron density in neocortex of women that compensates the mass difference. It is interesting that according to some researchers [Baybakov, 2008] the most marked gender difference is recorded in the age of 10-16 and it manifests itself by prevalence of increase of the end brain sizes in men and brain stem in women. The same author [Baybakov, 2008] in other researches on indices of brain structures in children of 10 years recorded essential increase of the

brain mass in boys, significantly larger sizes of the right and left hemispheres, cerebellum and its structures.

An interesting but poorly studied question concerns changes of certain brain structures with aging, that show up during the lifetime, and their normal variability. A wide range of the norm of the human brain structure is a commonly known fact that according to many scientists is an essential feature of a human being as a biologic species with CNS complex functional organization. Despite rather a complete belief concerning the main formation stages and maturation of certain brain structures, their detailing and research of individual peculiarities has been a poorly studied issue until recently due to absence of intravital visualization methods. And only after appearance of such methods as MRT and CT the research of age peculiarities of the brain structures maturation acquired a new impulse that made it possible to deepen the knowledge on this process.

It has been revealed [Soloviev, 2005] that the value of certain brain structures, particularly the cerebellum, significantly differs in men and women and in young (of 20 years) and older people - over 50 years.

According to the brain MRT data of 150 practically healthy children of different age [Strukova, 2006] it has been revealed that the growth intensity and differentiation of brain structures is the highest during the first and second life year and has a certain regularity of development and stages - it develops from brain caudal divisions to cranial ones and from dorsal to ventral ones.

Gender divergences in the thalamus structure have been examined in details in the sequence of works with the use of a postmortem material [Amunts 2008; Amunts et al., 2010].

Anatomic peculiarities of the organism structure should be considered according to its constitutional peculiarities. It is commonly known that the structure and topographic-anatomic relations of internal organs depend on the somatotype formed during the ontogenesis and conditioned genotypically and phenotypically [Nikitiuk et al., 1998]. Such dependence was also proved for certain brain structures both by the

national scientists [Gunas, Gavrylenko, 2010; Larkin et al., 2005] and by foreign researchers [Tisserand et al., 2004].

Thus, knowledge of individual anatomic variability of the human brain opens the door for development of new surgical approaches and procedures, improvement of diagnostic and treatment manipulations and specific therapy methods. And it is very important to consider both the average anatomic norm and regularities of the brain anatomic variability and its structures in practically healthy people of different age, sex and constitutional types.

Conclusions. The analysis of the available sources of scientific information has not revealed works either of the national or foreign authors that deal with issues on correlation of somatotype and analysis of the morphometric indices of the interior capsule thalamus of the healthy population including adults, teenagers and children. Taking into account the considerable scientific and practical interest in this issue we think that such a research is currently important.

Key words: somatotype, structures of brain, thalamus, interior capsule.

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FLAVONOIDS AND ISOFLAVONOIDS IN THE THREATNENT OF INFLAMMATORY DISEASES (REVIEW AND OWN DATA)

Complex and multicomponent pathogenesis of inflammatory process considerably complicates searches of universal anti-inflammatory medicines for treatment of chronic inflammatory diseases. Progression of diseases accompanies with development of new pathophysiological mechanisms and attenuation of adaptation reserves of organism. It requires more considerable pharmacological load on the patients. That’s why absolutely clear the attempts of doctors to use the most natural

drugs with complex action and high safety level. The optimal candidates on this role are medicines from plant origin. One of the most important biologically active substances are flavonoids – oxygen-containing heterocyclic compounds derivates of pyranes and flavanes. The main mechanisms of anti-inflammatory activity include inhibition of the activity of eicosanoids-produce enzymes such as phospholipase A2, cyclooxygenase, lipoxygenase, that lead to decrease of concentration of prostanoids and leukotriens, and modulation of pro-inflammatory genes and some cytokines expression.

It was shown that some flavones are able to inhibit expression of iNOS and activity of nuclear κβ-factor. Genisteine inhibits also IL-1β, IL-6, and TNFα production in vitro and in vivo. The most important moment in the intracellular regulation of inflammatory processes are influence of the flavonoids on the different proteinkinases which take part in the signal transduction, such as proteinkinase C an mitogen-activated proteinkinase. Ouercetine also inhibits iNOS expression through inhibition of p38 MAPK and lipopolisaccharide-inducing production of TNF-α. Some isoflavones like genisteine also inhibits activation of TNF κβ-factor. It was determines the patterns of relationship between molecular structure of isoflavone and its anti-inflammatory activity. The most important moment is the double bound in the position C-2,3, hydroxylic groups in 5 та 7 positions in ring A and 4'- or 3',4'-hydroxyl groups in ring B. In consideration of this mechanisms of action and significant in vivo activity bioflavonoids considered to be a candidates to new anti-inflammatory agents. Together with well known drugs corvitine and detralex it was described the new compounds from soya isoflavones – EKSO. It possess phytoestrogenic, anti-inflammatory, membrane stabilizing, cytoptotective, antioxidant, osteotropic and immunomodulating activity. Our researches show that application of corvitine, detralex and EKSO increase anti-inflammatory and analgesic activity of nonsteroidal anti-inflammatory drugs. It is established, that for increase the specific activity of nonsteroidal anti-inflammatory drugs and prophylaxis or correction of their gastro- and nephrotoxicity the most prospective are natural

preparations with estrogenic and antioxidant properties, such as a preparation of a soya isoflavones, named EKSO.

Conclusion. Anti-inflammatory activity of flavones and isoflavones is the result of the influence on the different parts of inflammatory process such as pro-inflammatory mediators, antioxidant activity and regulation of synthesis of vasoactive molecules (prostaglandins, nitrogen monoxide, hydrogen sulfide et al.). Increasing the therapeutic activity and decrease of the toxicity of other anti-inflammatory drugs after combined administration with bioflavonoids denote the perspective of the usage of these compounds for optimization of pharmacotherapy of inflammatory diseases.

Key words: flavonoids, isoflavonoids, anti-inflammatory action, EKSO, corvitin, detralex.

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MORPHOLOGICAL AND CLINICAL SIGNS OF PROGRESSION OF CHRONIC VIRAL HEPATITIS

Today there is no doubt that the progression of any chronic liver disease, regardless of etiopatohennoho factor develops only «scenario» - by fibrogenesis, cirrhosis formation and its decompensation. It is clear that the mechanisms of progression of fibrosis and cirrhosis and neurotransmitters that mediate them may become potential targets for immunosuppressive therapy. Terms onset of cirrhosis vary significantly, from several years to several decades. The reasons for such large individual fluctuations depend on the rate of progression of fibrotic changes in the liver, which leads to finding the factors that can accelerate or inhibit hepatic fibrogenesis. No currently clear understanding of the factors / mechanisms of acceleration or inhibition of hepatic fibrogenesis cannot predict the timing of development of cirrhosis in the

individual patient and inhibits the development of pharmacological approaches to inhibition of fibrogenesis and prevent the formation of cirrhosis. Objective – to identify invasive and non-invasive methods for assessing the activity of hepatic inflammation and fibrosis stage based on the mechanisms of progression of chronic hepatitis.

Conclusions. There are no clear criteria for inhibition of hepatic fibrogenesis has not been found, they need further studies and clinical trials. To date, the prevalence of various methods for assessing hepatic fibrosis can not single out one, and fully implement them in clinical practice. Find invasive and noninvasive methods for assessing liver inflammation and fibrosis stage, new approaches to the analysis of biopsies and identify the basic mechanisms of progression of chronic hepatitis B in the future will optimize existing approaches to predict disease.

Key words: liver cirrhosis, chronic hepatitis, hepatic steatosis, hepatic stellate cells, factors of hepatic fibrogenesis.

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MORPHOGENETIC FEATURES OF FETOPLACENTAL INSUFFICIENCY (FPI) IN SOME DISEASES IN PREGNANT

Fetoplacental insufficiency – a syndrome that consists of complex trophic disorders, endocrine and metabolic functions of the placenta, leading to the development of failure to maintain adequate and sufficient exchange between the mother and the fetus. Based on the analysis of literature data morphogenetic are analyzed According to the literature placental insufficiency in the structure of the pregnancy complications is up to 40%. The incidence of this disease has been growing steadily and now reaches 60-70%. Infringement forming villous trees of perinatal disease are

of particular importance, namely acute and chronic hypoxia and perinatal complications. Despite the obvious clinical importance of this disease has so far not developed a single criterion, suggesting violation villous tree in a pregnant woman in a certain case. However, knowledge of the morphological features of the placenta in cases of FPI in many cases can significantly change the tactics of pregnancy and childbirth. Study of etiopathogenesis and early diagnosis of this disease is important for prevention and treatment of FPI in the early stages of its occurrence. Currently, there are modern conventional methods of functional diagnostics FPI during pregnancy and childbirth (ehoskopiya screening, identification fetus biophysical cardiotocography, doppler, but there is no comprehensive approach to diagnosis FPI (which leads to its overdiagnosis or gipodiagnosis) and clear diagnostic criteria for chronic FPI, which creates difficulties in its detection and necessitates further development of this problem. The aim – to establish basic morphological fetoplacental insufficiency in some diseases in pregnant women and their diagnostic criteria. Fetoplacental insufficiency is a syndrome that includes a variety of violations of both the placenta and of the fetus, due to various diseases and obstetric complications. Various manifestations of placental insufficiency, the frequency and severity of complications for pregnant women and the fetus depends on gestational age, duration and nature of the damaging factors as well as the stage of development of the fetus and placenta, the degree of severity of compensatory-adaptive capabilities of «mother-placenta-fetus».

Conclusions. One of the major pathogenetic mechanisms of FPI is a violation of uteroplacental and fetoplacental blood flow, which is accompanied by increased blood viscosity, red blood cells and platelets hyperaggregation, disturbance of microcirculation and vascular tone, lack of blood flow. Regular and prolonged increase uterine tone contributes to circulatory disorders in between the villous space due to decreased venous blood flow. Infringement forming villous trees of perinatal disease are of particular importance, namely acute and chronic hypoxia and perinatal complications. Thus placental insufficiency develops at complicated pregnancy and somatic infectious diseases of women that needs the preventive measures aimed at

reducing obstetric pathology. The problem of the treatment of placental remains still unsolved, because correction of violations should be initiated prior to the pregnancy, which will reduce the incidence of complications of pregnancy, the fetus and newborn.

Key words: chronic placental insufficiency (FPI), pregnancy, disease, fetal hypoxia, miscarriages, perinatal complications, morphological criteria.

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MODERN TENDENCIES IN TREATMENT OF SUPERFICIAL SWELLING OF URINARY BLADDER

The complication of etiology and pathogenesis, the large variability of clinical picture, the variety of forms, presence of heavy complications which quite often result in the disability, and often to the lethal consequences, allow to consider this problem actual and to the end undecided in our time. This review of scientific literature is conducted in connection with the necessity of subsequent search of new approaches and methods of treatment of superficial swelling of urinary bladder (SS UB).

According to the data of the American and European urology association a transurethral resection of urinary bladder (TUR UB) is the «gold standard» of endoscopic treatment of SS UB, by the method of establishment of the morphological diagnosis and the phase of process, and also the method of radical treatment of superficial swelling of urinary bladder, in a complex with an immuno-chemotherapy at their intravesical introduction. Apply mono- and bipolar TUR UB. The last has the both considerable advantages and dangerous consequences in connection with high-frequency of relapses, especially early. Therefore put off the origin of relapse after

TUR or his non-admission is expedient in the search of new methods of treatment of SS UB.

The «gold standard» of treatment of SS UB is TUR with the rapid intravesical introduction of mitomycin-S one time a week for eight weeks. For the improvement of action of mitomycin-S and his penetration in a mucus membrane with the purpose of intravesical treatment of unmuscular transitional swelling of UB the range of researchers recommend to apply the irradiation of UB, stimulating the action on a mucus membrane.

Nowadays the perspective and modern method of the treatment of SS UB is application of photodynamic therapy. The complications, which arise up after radial therapy, have more expressed and irreversible character, than the use of chemotherapy.

A separate and very important question in the treatment of SS UB is a carrying out of the repeated TUR. There are known recommendations in relation to 6 weeks intravesical treatment by the vaccine of BCG before implementation TUR with positive results. Marked thus, that intravesical introduction of vaccine of BCG is expedient in treatment of carcin of in situ, and intravesical introduction of mitomycin can be the increase of efficiency of treatment appointed with a purpose. Lately the methods of immunotherapy of SS UB come into the notice of the researchers by interleukin, interferon and other immunomodulators.

Consequently, the search of new chemotherapy and immunomodulators proceeds in the whole world, as none of preparations proved the utility in prevention of progress of illness.

An important question is the mode of introduction of chemotherapy, as there is information, that both multiple and non-permanent, intravesical introduction of chemotherapic preparations results in the decline of cases of relapses of tumours at their combination with TUR in an identical measure.

Conclusions. Thus, a standard in treatment of superficial swelling of urinary bladder is a transurethral resection of urinary bladder, which forced out other surgical methods of treatment. The opened resection of urinary bladder is rotined at the

tumours of big sizes with periosteoma height, multumfocus defeat of mucus membrane, especially at tumour of low degree of atypia. In 31-64% cases unremote tumours stays after the transurethral resection of urinary bladder, that worsens motion of disease considerably. The use of the photodynamic diagnostics during an operation allows considerably to reduce the percent of relapse of tumours after the transurethral resection of urinary bladder. Application of intravesical introduction of chemopreparations and immunomodulators considerably increases a recurrent period for patients with the superficial tumours of urinary bladder in compared only to one transurethral resection of urinary bladder. Intraversical introduction of vaccine of BCG is more effective method of prophylaxis of relapses at compared with chemotherapy.

Consequently, till today the questions stay debatable about doses, modes of introduction, time of continuation of supporting therapy, application of different combinations of preparations.

Key words: superficial swelling of urinary bladder, treatment.

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REVIEW OF PROCESSES STUDY DIRECTIONS CONNECTED WITH ENDOTHELIAL DYSFUNCTION IN CHRONIC SKIN DISEASES (SCIENTIFIC REVIEW OF LITERATURE)

Review article presents information about nitric oxide exchange in the human body, its importance in physiological conditions and with pathology. We have studied the problem of endothelial dysfunction as a universal pathogenetic mechanism of microcirculatory disorder development. The purpose of literature review is to study the existing methods of influence on synthesis ways and NO exchange and its

metabolites and development of a new method of disorder correction for these processes in skin diseases. Nitric oxide (NO), having the properties of strong endogenous vasodilator, takes part in supporting vascular homeostasis, regulation of microcirculation, presses against proliferation of smooth muscle tissues of vessel wall. It regulates the activity of nervous system, respiratory apparatus, gastrointestinal tract, urogenital system. The mechanism of realization of nitric oxide biochemical effect in physiological conditions consists in short time increase of nitric output synthesis cNOS in response to the stimulation of vascular endothelium by acetylcholine, bradykinin, serotonin, glutamate, adenylic nucleotides. It is considered that under the conditions of chronic inflammation NO molecule is inactivated by superoxide anion (O_2^-). Under the conditions of oxidant stress there is a gene induction iNOS that causes NO strong synthesis and as a result – to evident vasodilatation, enchancement of vascular penetration, edema and inflammation progress. There is a general tendency to reduce the content of nitric oxide in patients with various somatic pathology and considerable growth of its content in burn disease, in patients with severe injury, after surgical interventions, with different types of shock. As a result of nitric oxide reaction with oxygen stable terminal metabolites are generated: nitrites (NO_2), and nitrates (NO_3), which are used as markers for nitric oxide concentration estimation in the human organism. One of the important characteristics of NO system functioning is a level of ethylated derivative of L-arginine – asymmetric dimethyl arginine (ADMA) and symmetric dimethyl arginine (SDMA). In experimental and clinical medicine actively studied the role of NO exchange in various diseases. In patients with chronic coronary heart disease, combined therapy using exogenous L - arginine improved endothelium function. We have found the regularity of nitric oxide metabolism change in patients with glaucoma. Received research data of NO metabolism in pregnant women certifies about its possible key role in reducing general peripheral vascular resistance. Researches in children with signs of cardiovascular collapse and pulmonary hypertension showed sufficient efficiency of using for curative purposes various forms of L - arginine and NO. It is known that products of modifications of amines

and DNA by reactive nitric oxides take part in the processes of cell malignant transformation. According to the results of modern researches it was found out that No metabolism disorder plays an important role in pathogenesis of system scleroderma. Significant disorders of NO system functioning have been found in patients with pemphigus. Pathogenesis of neurodermatitis is also associated with the development of endothelial dysfunction. Reproportion of antioxidant and oxidant systems causes gradual exhaustion of nitric oxide and formation of radical peroxynitrites (OONO-), which takes part in damaging cell membranes and lipid peroxidation. Considerable reduction of NO metabolites content was established in patients with neurodermatitis, that is followed by the increase of ADMA and SDMA number. Reliably proved the possibility to correct the found changes by adding exogenous L-arginine to medical treatment.

Conclusion. Determination of nitrites and nitrates in patients' blood serum is confidently used by many scientists to evaluate the functioning of vascular endothelium. As an additional diagnostic criteria it is suggested to estimate ADMA and SDMA concentration. Scientific studies that have been conducted in recent years, certify about the formation of innovative approaches to the treatment of a wide range of diseases in the pathogenesis of which lies endothelial dysfunction, accompanied by nitric oxide metabolism disorder. The results of numerous studies certify about the possibility of effective ways to influence the ways of synthesis and NO metabolism and its metabolites using exogenous donors of L - arginine. Various forms of using this amino acid found their place in the treatment of many pathological conditions. Prospective is further study of the interaction of NO system components in patients with skin diseases in order to improve the existing methods of their treatment. Application of exogenous donors of L - arginine in treating some skin diseases is reasonable and requires further thorough study.

Key words: nitric oxide, nitric oxide synthase, endothelial dysfunction, ADMA, SDMA, L-arginine, stress oxidative, homocysteine, diabetes, glaucoma, atherosclerosis, COPD, nephrology diseases, malignant new formations, systemic scleroderma, pemphigus, neurodermatitis.

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POPULATION, AGE, SEX AND CONSTITUTIONAL FEATURES OF THE CARDIOINTERVALOGRAPHY INDICATORS IN NORMAL AND

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Recently, a new stage of the using of methods of analysis of heart rate variability (HRV) is marked. An important feature of it is the great interest to the practical application of the new methodology in various fields of applied physiology and clinical medicine. However, in healthy people, the complexity of the practical use of this method is significant individual differences in parameters of heart rate, which complicates the physiological and clinical interpretation of the received parameters CiG. Populations of people living during many generations in different climatic and geographic regions, have differences in anthropometric and physiological characteristics, the structure of proteins, genetic apparatus of cells, the antigenic structure of tissues. Significant phenotypic variability is most apparent in regions with extreme conditions exist. This indicates that the biogeochemical conditions of the place of existence is certainly an important factor in physiological heterogenety, which is among healthy people. To assess the reactivity by analyzing the structure of sinus heart rate it is important to have a clear view of the performance CiG of healthy people of various age groups. It is known that each age period characterized by anatomical and physiological characteristics that are reflected in the SR. Analysis of nowadays literature shows that the most important reason that prevents formation of cardiointervalography method as a tool of clinical research is the lack of standards, norms of HRV in healthy people. Difficulties related with the influence on the value of performance of many factors, the main ones are gender, age and constitutional

factors.But only in some investigations was made an attempt which includes these factors for the correct definition of the indicators of KIH as in healthy and in sick populations.

Conclusions. Currently, there are no features defined parameters cardiointervalography and their connection with anthropologic somatotypologic body parameters in healthy young men and women,models of individual values of CiG are not built in boys and girls of different somatotypes. Identification of normal indicators of the cardiointervalography in healthy young men and women and their dependenc on anthropometric and somatotypologic parameters is extremely important for building regression models of individual indicators. Mathematical models will permit to conduct a correct estimations of the conditions of cardiovascular system and the various divisions of the autonomic nervous system in healthy populations. Identified indicators of cardiointervalography in healthy young men and women will allow to develop the individual and population medical prognosis, create groups of increased risk of disease and realisation a program of medical and social rehabilitation.

Key words: cardiointervalography, autonomic balance, somatotypes.

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SMOKING TOBACCO AMONG ADOLESCENTS AND ITS INFLUENCE ON THE FORMING OF ASTHENIC SYNDROME

Introduction. Smoking is one of the most dangerous impairment of the health life in all over the world. Smoking promotes occurrence and progression of the respiratory and cardiovascular diseases, it has negative impact on the emotional sphere. Smoking

also may leads to worsening of course of gastrointestinal, dermatological diseases. It increases risk of the occurrence of malignant tumors. Moreover, it is regarded that smoking may form vegetative disorders, it may make the people asthenic and impair adaptive mechanisms. The goal of the study was to estimate the pattern of the prevalence and intensity of the smoking among the persons of 13-16 years old and its influence on the forming of asthenic syndrome.

Materials and methods. 837 schoolchildren of 13 and 16 years old were enrolled into the study. They completed specially designed questionnaire. The measurement of the degree of smoking was performed using the scale of L.D. Malkova and adopted by T.G. Chernova on the basis of clinical and psychological observations and well-known questionnaire MMPI. The status of the smoking was estimated using the Fagerstrome's test. The statistical processing includes the calculation of the relative and average values as well as mean error for them. Analysis of the reliability of the differences between the values was held by the materiality criterion differences. The estimation of the t was performed with using of classical table of Student's criterion.

Results. The prevalence of smoking is sufficiently higher among the 16-years old adolescents versus this value in group of 13-years old children (24,2% vs 12,9%). There is a higher prevalence of smoking both among the male and female in 16-years old persons in comparison of group of 13-years old persons. The 13-years old children began to smoke at the age of 9,8 years. The 16-years old persons started to smoke when they were 11,9 years. The regularity of smoking was formed at the age of 11,8 years in group of 13-years old children and it was formed at the age of 14,5 years among the 16-years old persons. Thus, the habit of smoking was formed during the 1,9 years in 13-years respondents and it was formed during 2,5 years in 16-years old respondents. The 53,7% persons of 13-years old respondents and 44,5% persons of 16-years old persons consider that smoking indicates the psychological discomfort and internal psychological problems. The main part of respondents answered that fight against smoking is necessary but its intensity is not high enough. This part was 40,3% in group of 13-years old and it was 42,6% in group of 16-years old among the 16-years old. Prevalence of asthenic syndrome is higher in case of smoking (48,4%

vs 25,6%, p<0,001). The moderate correlation was find out between the smoking and manifestation of the asthenic syndrome (Q=0,48).

Conclusions. It was estimated that every seventh person smokes among the 13-years old children and every fourth person smokes among the 16-years old adolescents. The quantity of smoking girls rises from year to year. Smoking changes from marker of psychological discomfort into the habit. Smoking influences on the frequency of the occurrence of asthenic syndrome. This fact is especially well-seeing in girls.

Key words: smoking of tobacco, epidemiology**,** asthenic complex of symptoms.

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CURRENT STATE OF PSYCHOLOGICAL AND SOCIAL REHABILITATION OF PATIENTS WITH CHRONIC MENTAL ILLNESS

The article presents data on the state of psycho-social rehabilitation of patients with chronic mental disorders, including schizophrenia and correlates with modern scientific views on solving these problems.

A high level of mental health is an important factor of social cohesion, productive employment, social calmness and stability. Unfortunately, the indicators of mental health in Ukraine show negative trends in this area. In recent decades, the structure of mental diseases is determined by 1,2-1,5 times increase in the prevalence of non-psychotic mental disorders, mental disorders of organic origin, schizophrenia, mental retardation. The contingent of patients who have group disability caused by mental illness is increasing. According to modern ideas, medical component effectiveness in solving mental health problems is only 10% and the rest depends on public efforts directed to the reinforcement of mental health, social rehabilitation and integration of

patients with mental disorders into community. But traditional psychiatric practice of using clinical diagnostic approaches and pharmacotherapy focused on pathological process, does not take into account individual, social and personal characteristics of patients and makes it impossible to provide proper and high-quality medical and rehabilitative care. The modern concept of psychosocial rehabilitation focuses on the idea that even patients with limited abilities to integration into society can be integrated into the normal conditions of life, but they need long-term support and obligatory overcoming of problems in relations between people of the «label» psychiatric diagnosis and without such a label. Practically psychosocial rehabilitation must begin with the first contact of a patient with mental health services and continue until his or her social and professional status is renewed. This approach is economically more advantageous in comparison with only drug model of psychiatric care.

Conclusion. Thus, taking into account these facts, we can say that psycho-social rehabilitation of patients with chronic mental disorders in the early stages of the disease is one of the central problems of modern psychiatry and requires further study, development and systematization of theoretical views and practical approaches.

Key words: psycho-social rehabilitation, chronic mental disorders, schizophrenia, first psychotic episode.

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CURRENT UNDERSTANDING OF MORPHO-, HISTOGENESIS AND TOPOGRAPHY OF BRAIN STEM STRUCTURES DURING PRENATAL PERIOD OF HUMAN ONTOGENESIS

Due to the high perinatal mortality associated with congenital and acquired defects of the brain and rapid development of fetal surgery, as well as in order to improve the efficiency of cerebral transplantations, it is extremely important to supplement existing data and establish systemic understanding of the histo- and organogenesis of the brain stem in the fetus at different gestational periods, and to study their topographic and anatomic relationship. The objective of this study was to analyze the scientific and theoretical material regarding to morphogenesis, histogenesis and embriotopography of human brain stem and to determine the perspectives of further study.

Only a small number of works is related to the study of prenatal ontogenesis of the brain stem, for example investigated was the development of four major vestibular nidi in the human ontogenesis, cranial nerve nidi, nidi of inferior olive and vegetative nidi of the oculomotor nerve. The MR- and US- embriotopographic signs and structures of fetus brain have been thoroughly investigated due to new achievements in development of diagnostic equipment. These studies have been performed on human fetuses and substantially complemented the knowledge about development and topography of the nidi and individual neurons and brain stem. However, in our view, the studies did not fully cover such important issues as the relationship in the process of development of nidi between themselves, with the surrounding structures and bones of the skull that is certainly important for systemic understanding of brain structures development.

Conclusion. Lack of systematic, coherent data on formation of the brain stem in prenatal ontogenesis, the condition and magnitude of neurons differentiation, the topography of gray and white matter in fetuses of different periods provide an opportunity for further research. The development of fetal neurosurgery requires further study of relationship of brain stem nidi, individual neurons and glial cells between themselves and with the surrounding structures in different periods of embryogenesis.

The results of complex morphological and histometric studies of the brain in fetus may be further used to determine priorities in prevention and diagnostics of development disorders.

Key words: brain stem, prenatal period.

CHRONICLE

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NIKOLAI IVANOVICH PIROGOV AND OF HIGHER MEDICAL EDUCATION IN RUSSIA IN THE FIRST HALF OF XIX CENTURY