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INFLUENCE OF ATMOSPHERIC GAS COMPOSITION INCUBATION ON A STAPHYLOCOCCUS AUREUS SENSITIVITY TO ANTIBIOTICS

Introduction. Hospital infection of staphylococcal genesis complicate for almost 30 % all surgical procedures. This increases the duration of the patient's stay in the hospital an average of 12-16 days. The biological properties of of Staphylococcus aureus were studied most in terms of sufficient oxygen. However, it is known that the surfaces of mucosal and submucosal layers different in concentration of oxygen. This difference of the gas composition can significantly affect the biological properties of pathogens and lead to incomplete eradication followed by the formation of antibiotic-resistant populations.

Materials and methods. The object of the study was antibiotic sensitivity of staphylococcus isolated from the mucous membranes of the nose and throat in chronic tonsillitis and rhinosinusitis and from the medical staff of a hospital. Kharkiv (n=23) and the reference strain of S. aureus ATCC №25923. The sensitivity of S. aureus to antimicrobial drugs during 10 passages were studied for determination of

the influence of the gas composition of the atmosphere cultivation. Antimicrobial agents are recommended for the treatment of staphylococcal infections primarily: benzylpenicillin, oxacillin, erythromycin, gatifloxacin and were selected for the study. The sensitivity of S. aureus was studied by serial dilutions (method of successive two-fold dilutions of antibacterial drugs (ABD)), with the definition of the MIC of the drug.

Results. Results of the research of antibiotic susceptibility test cultures were determined in accordance with the Order of the Ministry of Health of Ukraine № 167. The results were evaluated according to the tables containing the limit values MIC for antibiotic resistant, moderately resistant and susceptible strains. The obtained MIC values were compared with the limit values of the tables and carried the studied strains into one of three sensitivity categories.

Under aerobic conditions the cultivation of clinical isolates of S.aureus 83,3% of strains were susceptible to penicillin, 86,6% to oxacillin. All clinical isolates were susceptible to gatifloxacin and erythromycin (100%). Terms of micro aeration did not lead to significant changes in antibiotic sensitivity of clinical isolates against to benzylpenicillin and gatifloxacin. MIC of erythromycin, in the first to seventh passages reduced by 2 times, while MIC of oxacillin increased by 1,5 times (in first to ninth passage) in 66,6% of clinical isolates.

Thus, it was determined that the decrease of partial content of oxygen and increase the carbon dioxide content influences the antibiotic sensitivity of S. aureus. It may have a pathogenetic role in the development of infectious agents in the deeper layers of tissue, where the conditions of low oxygen concentration are formed.

Conclusions. It has been established that at aerophilic cultivation conditions of reference strain S. aureus ATCC №25923 MIC of benzylpenicillin was 2 μg/ml oxacillin – 0,25 μg/ml, gatifloxacin – 0,12 μg/ml, erythromycin – 0,5 μg/ml. These figures correspond to the requirements specified for the control strain. The sensitivity of the κeference strain to benzylpenicillin action, oksatsilin action, gatifloxacin action increased 2-8 times (depending on the passage) under micro-aeration. Regarding erythromycin, after the first passage in microaerophilic conditions, the sensitivity of

S.aureus ATCC №25923 was increased by 2 times, after passage 2-5 - 4 times. Further isolation of the reference strain of Staphylococcus aureus under micro-aeration led to the gradual restoration of sensitivity to the original level.

Key words: S. aureus, micro-aeration, antibiotic sensitivity.

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REGRESSION MODELS SONOGRAPHIC SIZE OF THE UTERUS AND OVARIES IN DIFFERENT PHASES OF THE MENSTRUAL CYCLE DEPENDING ON THE CHARACTERISTICS OF THE BODY STRUCTURE OF PRACTICALLY HEALTHY GIRLS OF MESOMORPHIC SOMATOTYPE

Introduction. *Aim* of this work – build and conduct the analysis of regression models individual regulatory sonographic size of the uterus and ovaries in different phases of the menstrual cycle (MC), depending on the characteristics of anthropo-somatometric parameters of practically healthy girls of mesomorphic somatotype.

Materials and methods. Accordance with the purpose of research primary indicators of sonographic size of the uterus and ovaries as well as anthropometric and somatotypological parameters of 108 practically healthy city girls of Podillya received from the bank of the materials Scientific and Research Center Vinnitsa National Medical University named after Pirogov. Ultrasound examination of the ovaries and uterus conducted using devices Voluson 730 Pro (4-10 MHz convex detector) and "Toshiba SSA-220A" (3.75 MHz convex detector) and at 7, 14 and 21 days MC that is for follicular, ovulation and luteal phase. Anthropometric survey of girls conducted by the scheme V. V. Bunak. Somatotypes of girls we determined by

the method of J. Carter and B. Heath, component composition and body mass - by the method of J. Matiegka and the American Institute of Nutrition.

In licensing package "STATISTICA 6.1" to develop individual sonographic size of the uterus and ovaries, depending on the characteristics of anthropo-somatotypological indicators in mesomorphic girls (n = 28) somatotype in different phases of the MC, was used the method of stepwise regression analysis.

Results. In girls of mesomorphic somatotype from 13 possible models echometric genital parameters:

in follicular phase of MC - 9 depend on the total complex of anthropo-somatotypological signs more than 50 % (R^2 from 0.547 to 0.832); among which 5 models size of the uterus (R^2 from 0.626 to 0.832), 3 models – the size of the ovaries (1 for right, R^2 = 0.547, and 2 for the left R^2 = 0.663 and 0.781) and ovarian-uterine index (OUI) model (R^2 = 0.624);

in the phase of ovulation - 8 models depend on the total complex of anthropo-somatotypological signs more than 50 % (R^2 from 0.598 to 0.807); among which 5 models size of the uterus (R^2 from 0.642 to 0.807), 2 models – the size of the ovaries (1 for right, R^2 = 0.666, and 1 for the left R^2 = 0.618) and the model OUI (R^2 = 0.598);

in the luteal phase of MC - all 13 models depend on the total complex of anthropo-somatotypological signs more than 50 % (R^2 from 0.528 to 0.862); among which 6 models size of the uterus (R^2 from 0.611 to 0.862), 6 models – the size of the ovaries (3 for right, R^2 = from 0.553 to 0.700 and 3 for the left R^2 = from 0.528 to 0.697) and the model OUI (R^2 = 0.637).

In analyzing the echometric parameters of constructed models of genitals in girls with mesomorphic somatotype found:

in the follicular phase of MC they contain covering body dimensions - 29.8% (of which 57.1% are included to the size of the uterus, and 35.7% - to the size of the ovaries), body diameters - 17.0% (of which 37 5% are included to the size of the uterus, and 50.0% - to the size of the ovaries), thickness of skin and fat folds (TSFF) – 14,9 % (among which 42.9% included the size of the uterus, and 28.6% - to the size

of the ovaries), somatotype components - 14.9% (among which by 42.9% included the size of the uterus and ovaries), longitudinal body dimensions - 12.8% (all included to the size of the uterus), width of distal epiphysis of long bones of the extremities (WDE) – 6,4 % (among which 33.3% included in the size of the uterus, and 66.7% - to the size of the ovaries) and indices component of body weight - 4.3% (all sizes included in ovaries);

in ovulation phase their composition include encompassing body dimensions - 30.6% (among which 81.8% included in the size of the uterus, and 18.2% - to the size of the ovaries), TSFF - 22.2% (among which 12.5 % included in the size of the uterus, and 50.0% - to the size of the ovaries), longitudinal body dimensions - 16.7% (all included in size of the uterus), the diameter of the body - 16.7% (among which 50.0% included in size uterus, and 16.7% - to the size of the ovaries), WDE long bones of the extremities - 5.6% (all included in size of the ovaries), somatotype components - 5.6% (all included in size of the uterus) and component indices of body weight - 2.8% (all sizes included in ovaries);

in the luteal phase of MC they consists of encompassing body dimensions - 34.4% (among which by 45.5% included in the size of the uterus and ovaries) TSFF - 20.3% (among which 15.4% belong to uterine size, and 69.2% - to the size of the ovaries), the diameter of the body - 17.2% (among which 36.4% belong to the size of the uterus, and 54.6% - to the size of the ovaries), longitudinal body dimensions - 12,5% (75.0% of which belong to the size of the uterus, and 25.0% - to the size of the ovaries), WDE long bones of the extremities - 7.8% (of which 40.0% belong to the size of the uterus, and 60.0% - to the size of the ovaries) and somatotype components - 7.8% (of which 60.0% belong to uterine size and 40.0% - to the size of the ovaries).

Conclusion. Constructed regression model individual regulatory linear dimensions of the uterus and ovaries in different phases of the MC will highlight the risk of developing a disease of female genital mutilation, which will help improve early diagnosis and provide skilled care.

Key words: regression models, uterus, ovaries, sonographic study, girls, body size, somatotype.

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FEATURES MORPHOMETRIC MEDULLA IN CONJOINED TWINS

Introduction. In the available scientific literature describes in detail the features of topography and structure of internal organs and MRI parameters in conjoined twins, but no information on the structure and morphometric parameters of brain conjoined twins in the prenatal period of development, especially in different periods of gestation. Therefore, requiring deeper and detailed study of morphometric parameters structures of the brain in fetuses with this defect and comparing them with similar parameters in fetuses without malformations. *The purpose* – determine morphometric parameters and structure of the medulla of Siamese twins 17-18 weeks of fetal development and compare the findings with those in fetuses without malformations.

Materials and methods. An anatomical and histological study of 15 human fetuses aged 17-18 weeks of fetal development, parietal-coccygeal length was 152,6 ± 4,9 mm, weight - 262,7 ± 11,2 g (congenital malformations of the central nervous system are not available) and anatomical and histological study of the medulla oblongata female Siamese twins (thoracoomphalopagus) 17-18 weeks of fetal development. Thyme-coccygeal length was 115.0 mm fetus right, left - 119.0 mm; torakoomfalopaha a total weight 380.0 g. Material for the study was obtained as a result of late abortions in the Regional Office postmortem s. Vinnytsa, after which it was fixed in 10% neutral formalin solution. With paraffin blocks performed serial horizontal sections of the medulla oblongata thickness of 10 - 15 microns. Preparations stained with hematoxylin-eosin, toluidine blue and the Van-Gisoni. Obtained drugs evaluated visually using microscopes Unico G380, MBS-9, perform

video capture camera Trek. During morphometric study used a software ToupViev. Digital data were processed statistically.

Materials research is not contrary to the fundamental bioethical norms Helsinki Declaration adopted by the 59 General Assembly of the World Medical Association in 2008.

Results. The study establishing differences morphometric parameters and structure of the medulla oblongata Siamese twins 17-18 weeks of fetal development compared with similar parameters in fetuses without malformations.

Conclusions. When comparing the structure and morphometric parameters of the medulla oblongata in conjoined twins 17-18 weeks of fetal development with similar parameters in human fetuses without abnormalities found a number of differences: In both Siamese twins in the structure of nucleus ambiguus and found a large area linear dimensions of nerve cells and their nuclei compared with similar parameters in fetuses without malformations; Nerve cells dorsal nucleus of the vague nerve in both Siamese twins have a smaller footprint and dimensions compared with the nucleus of nerve cells in fetuses without malformations. In the future, further developments planned for conjoined twins to determine the topography of neurons and glia cells of the medulla oblongata expression using immuno-histochemical markers and compare the results with those in fetuses without malformations.

Key words: thoracoomphalopagus, morphometric parameters, medulla oblongata, the nucleus of the medulla oblongata.

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THE PREVALENCE OF CARDIOVASCULAR RISK FACTORS AMONG RESIDENTS OF KHARKIV REGION

Introduction. The high prevalence of coronary heart disease and its complications determine the search for new risk factors for this disease. There is evidence of the role of Helicobacter pylori in the atherogenesis. *Objective:* to study the prevalence of cardiovascular risk factors (modifiable and non-modifiable) in a random sample of the adult population of the Kharkov region.

Materials and methods. The study was conducted in 2 stages. The first stage included the evaluation of the prevalence of cardiovascular risk factors from 458 respondents. In the second stage, carried out a detailed examination of patients with a verified diagnosis of ischemic heart disease, diabetes and infections of Helicobacter pylori.

Results. During questioning patients all the major cardiovascular risk factors have been identified. We noted the absence of gender-sensitive. With the high frequency of respondents encountered physical inactivity, bad habits, psychological factors. We noted a high prevalence of passive smoking. It should be noted that patients not infected HP in family history had a greater incidence of stomach cancers, than HP seropositive.

Conclusions. The patients infected HP had significantly increased risk of the formation and progression of coronary artery disease, which is associated with an increased incidence of traditional cardiovascular risk factors.

Key words: prevalence, risk factors, cardiovascular disease, diabetes, infection with H. Pylori.

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INVESTIGATION OF THE HEAVY METALS COMPLEX (LEAD, IRON, GOLD, SILVER) EFFECT ON THE CONDITION OF REPRODUCTIVE SYSTEM

Introduction. The influence of lead compounds on human organism during prenatal and postnatal development is an important topic being discussed by modern scientists. Effects of lead exposure are multifaceted and cause a wide range of changes in organs of human body. Pregnant woman and fetus are particularly sensitive to lead exposure. So it is important to find ways to protect mother's and child's organism from the negative effects of lead.

The purpose of the research work: to investigate the effect of lead acetate and its combination with solutions of iron, gold and silver citrates on the reproductive system and embryogenesis of experimental animals.

Materials and methods. The study was conducted on 120 white mature pregnant female rats Wistar. All animals were divided into groups depending on the investigated substances and the stage of the planned removal of the fetus from female organism. All rats were divided into 3 groups (24-25 animals in each group): Group I - females with gestation term of 12 days, n = 24; Group II - females with gestation term of 16 days, n = 24; III group - females with gestation term of 20 days, n = 24. Each group of pregnant females was divided into five subgroups: 1st subgroup - animals injected with solution of lead acetate at a dose of 0.05 mg/kg, n = 8; 2nd subgroup - animals injected with solution of lead acetate at a dose of 0.05 mg/kg and solution of gold citrate at a dose of 1.5 mcg/kg, n = 8; 3rd subgroup - animals injected with solution of lead acetate at a dose of 0.05 mg/kg and solution of silver citrate at a dose of 2 mcg/kg, n = 8; 4th subgroup - animals injected with solution of lead acetate at a dose of 0.05 mcg/kg and solution of iron citrate at a dose of 1.5 mcg/kg, n = 8; 5th subgroup – control, animals injected with distilled water), n = 8. Rats were matched by the standard scheme. First day of pregnancy was identified from the moment of determining sperm in the vaginal swab. Solutions of heavy metals and nanometals were injected to pregnant female through a tube once a day, at one and the same time. During the experiment the general condition, behavior of pregnant females, dynamics of body weight were observed. Operative slaughter was performed on the 12th, 16th and 20th day of pregnancy. Ovaries and uterus with embryo were separated. The

animals were taken out of the experiment by overdose of ether anesthesia. Number of corpora lutea was determined in ovaries. Number of live, dead and resorbed fetuses was determined in uterus. Fetuses were studied by macro- and microscopic methods of investigation, weighed. Histological slides were made by the standard method, stained with hematoxylin and eosin.

Results. Embryotoxic effect of lead acetate and metal citrates was estimated by the following indicators: total embryonic mortality, preimplant and postimplant mortality, number of fetuses per 1 female. Embryotoxicity of lead acetate was established, the latter was manifested by a significant reduction of the number of live fetuses and increasing fetal mortality in comparison with the control group. The study showed that the combined injection of iron, gold, silver citrates against the background of the effects of lead prevents negative influence of lead acetate on the reproductive system and processes of embryonic development of fetus, which is manifested in decreasing of embryo-mortality and number of live fetuses.

Reduction of absolute and relative weight of ovaries in isolated administration of lead acetate was found. It shows the inhibition of gonad index and this is confirmed by the exposure index of impact of metal solutions (I) of test compounds less than 1,0. The combined administration of lead acetate with iron, gold and silver citrates in pregnant female rats reduces the toxicity of lead and causes a positive effect on masometric indicators of ovaries. This indicates the presence of compensatory reactions in the body under the influence of metal citrate conditioned upon administration of lead acetate, that is confirmed by exposure index being higher than 1,0. In the group of lead acetate injection the weight and diameter of the placenta decrease as compared to the control group. In the combined administration of lead acetate with gold citrate and lead acetate with silver citrate, placenta mass is close to that of in the control group and is increased as compared with the group of lead acetate injection.

Conclusion. The study found decrease of masometric parameters of ovaries, fetus and placenta in rats, an increase of fetus embryo-mortality. In combined injection of lead acetate with metal citrates there was found reduction of gonado- and

placentotoxicity of lead acetate solution and improvement of indicators of embryonic development of fetuses.

Key words: lead acetate, iron citrate, gold citrate, silver citrate, rat ovaries, rat placenta.

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COMPUTED TOMOGRAPHY CHARACTERISTICS OF DENTIN-ENAMEL LIMITS OF INCISORS AND CANINES OF UPPER AND LOWER JAWS IN BOYS AND GIRLS OF VARIOUS CRANIOTYPES WITH PHYSIOLOGICAL BITE

Introduction. Defining the parameters of dental system in normal considering the unmodified factors (age, sex, constitution, etc.) allows us to understand the mechanism of the above pathological processes and identify risk group with attraction of preventive measures. Visible on the CT image thinning of enamel-dentine limit in mesio-distal and vestibular-oral direction is visible marker (alarm) hormonal and metabolic disorders in the body and disturbance of demineralization and remineralization, which normally clearly balanced with each other.

Aim of our work – determine the features of computer-tomographic characteristics of dentin-enamel boundaries of incisors and canines of the upper and lower jaws in boys and girls with different craniotypes and physiological bite.

Materials and methods. Primary indicators computed tomographic head and teeth sizes of 44 boys and 57 girls from Podillia orthognathicbite derived from the data bank Scientific and Research Center VNMU named after Pirogov. To study were selected only scans youths with orthognathic bite, which was determined by 11-points by Bushan et al. (1990) and their cephalometric performance. For this study

used dental cone-beam tomography - Veraviewepocs 3D, Morit (Japan). Research conducted under the own developed schemes within the above characteristics. Volume three-dimensional image - cylinder 8x8 sm - thickness 0,2/0,125 mm, 0,11-0,48 mSv dose of radiation, voltage and amperage 60-90kV/2-10mA. We determined the dentin-enamel width limit in mesio-distal direction (Mddeg); the width of the dentin-enamel limit in vestibular-oral direction (Vdeg). Measured the following cephalometric dimensions: the biggest girth of the head through the uppernose and inion; transverse arch, measured by tape from the right trestle point to the left; sagittal curve, measured by tape from glabella to the occipital point. Established the following distribution of craniotipe: boys mesocephals - 16 boys brachycephals - 19, girls mesocephals - 16 girls brachycephals - 26.

Statistical analysis of the results was carried out by licensed statistical software package "Statistica 6,0" using nonparametric methods.

Results. Found that in boys of total group and young men brachycephalic value width of the dentin-enamel limit in mesio-distal direction of medial, lateral incisors and canines on maxillary and lateral incisors and canines in the mandible was significantly ($p < 0,05$-$0,001$) more compared with girls of similar comparison groups; in boys mesocephalic value width of the dentin-enamel limit in mesio-distal direction of canines in the upper jaw and the lower jaw was significantly ($p < 0,01$-$0,001$) more compared with girls mesocephalic.

In boys of general group and in young brachycephalic value of vestibular-oral sizes of enamel-dentine boundaries of medial, lateral incisors and canines in the upper jaw and the lower jaw was significantly ($p < 0,05$-$0,001$) more compared with girls of similar comparison groups; in boys mesocephalic value vestibulo-oral size of enamel-dentine boundaries of medial, lateral incisors and canines in the upper jaw and canines in the mandible was significantly ($p < 0,05$-$0,01$) more compared with girls mesocephalic.

Between boys or girls of general group and various craniotypes not established significant differences and trends of differences in computed tomographic characteristics of dentin-enamel boundaries.

Conclusion. Obtained difference computed tomographic characteristics of dentin-enamel limits incisors and canines of the upper and lower jaws of young men and women with physiological occlusion will adequately assess their gender characteristics.

Key words: computed tomographic characteristics of enamel-dentin border, boys, girls, craniotype, sexual dimorphism.

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ULTRASTRUCTURE OF *S. CEREVISIAE* CELLS UNDER THE ACTION OF NOVEL DERIVATIVE OF ARYLALIPHATIC AMINOPROPANOL

Introduction. Increase in the number of fungal infections, lack of efficiency of modern antifungal drugs requires the development and implementation into clinical practice of new safe and effective antifungal drugs. As potential drugs deserve attention derivatives arylaliphatic aminoalcohols because they exhibit a wide range of biological effects (neurotropic, antihypertensives, anesthetics, allergy), including antifungal activity. *Purpose* – to identify changes in the ultrastructure of yeasts under the action of first synthesized derivative of arylaliphatic aminopropanol KBM-194.

Materials and methods. An effect of the new arylaliphatic aminopropanol derivative KBM-194 on the ultrastructure of yeasts is present in the article. The study was carried out with transmission electron microscopy.

Results. It was shown that arylaliphatic aminopropanol derivative KBM-194 caused changes of the ultrastructure of fungi, damage to the cell membrane structure

and intracellular processes. The studies indicate that the derivative of arylaliphatic aminoalcohols КВМ-194 is able to influence the structure of the yeast cell S.cerevisiae. Effect of compound accompanied by degradation of the cell wall, however, is not complete destruction of cells and function as sferoplast, as evidenced by the rounded shape of cells, well-formed mitochondria and nuclear apparatus. Increasing the exposure time leads to destruction of vacuoles apparatus and probably – the endoplasmic reticulum. Note that in some fungi cell walls found (even after 24 hours exposure composite), but it is clear that these cells despite a complete cell wall, are in various stages of necrosis.

Conclusion. From the results of cytomorphologycal analysis it is evident binary response of yeast populations to the effect of the compound: passive – by necrosis (cells with intact cell wall) and active – by lysis and degradation vakuolyar apparatus and endoplasmic reticulum likely. These changes can lead to metabolic disorders, which generally can be interpreted as an active adaptive response of cells to the action of the compound. To clarify this question we must assess the ability of fungi cell to restore functional state in the absence of active compound.

Key words: arylaliphatic aminopropanol, ultrastructure of fungi, *S. cerevisiae*.

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ANALYSIS OF THE EFFECTS OF SOME MODULATORS OF THE ACTIVITY OF NMDA-RECEPTORS: MEMANTINE, AMANTADINE OR MAGNESIUM SULFATE AND ADEMOL TO OSCILLATION IN THE

NORMAL INTRAOCULAR PRESSURE AND UNDER MODEL OF ACUTE OPHTHALMO-HYPERTENSION OR CONTUSION INJURIES OF THE VISUAL ANALYZER

Introduction. Glutamate's Eksaytotoksychnist as oftalmohiper- or hypertension, is a potential target for possible development of pathogenic therapy of ischemic and traumatic lesions of the optic analyzer.

Objective. To investigate the presence of dose-dependent influence of memantine, amantadine or magnesium sulfate and ademol on the dynamics of intra ocular pressure (IOP) in regular use in animals without ophtalmopathology and under conditions that are associated with the syndrome increased or reduced IOP (under acute temporary ophthalmo- hypertension and contusion of the eye) for the possibility of differentiated neuroretynoprotections therapy.

Materials and methods. In experiments on rabbits breed Chinchilla in acute temporary ophthalmo- hypertension which simulated entering through orogastric tube distilled water and contusion of the eye caused by the action of carbon dioxide under pressure studied the impact of industrial design ampoule solution of 1-adamantyletyloksy-3-morpholino-2-propanol hydrochloride ("Ademol" Darnitsa, Ukraine) for intravenous injection (1.0%), the solution of magnesium sulfate and amantadine (under "Magnesium sulfate Darnitsa" Darnitsa, Ukraine and solution for intravenous (i / v) infusion "PC Dead», Merz Pharmaceuticals, Switzerland) memantine tablet form ("Mema" Actavis-Ukraine, Ukraine). IOP was measured by blood pressure monitor ICARE (Finland).

Results. On the background of seven days single introduction into the of rabbits body amantadine sulfate solution dose of 5 mg / kg in acute temporary ophthalmo- hypertension noticed that the using of this medicine prevented the rise of IOP compared to animals of the control group who received placebo (0.9% solution of NaCl). Under conditions of the visual analyzer contusion's injury amantadine sulfate solution (2.5 mg / kg), as well as Ademol (0.5 mg / kg) prevented fall IOP facilitating its normalization to baseline values. The dynamics observation of using

the memantine oral dose is 20 mg / kg are not accompanied by the statistically significant changes in IOP, as in normal (animals without ophtalmopathology) and with an eye contusion.

Conclusion. Perspectives of further developments: these data provide the foundations for differentiated neuroretynoprotections therapy. Depending on the pathology to choose one or other medication some dose that is perspective and needs further testing for therapeutic introduction.

Key words: intraocular pressure, memantine, amantadine sulfate, magnesium sulfate, ademol.

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CORRELATION OF CORNER PERFOMANCE OF THE LOWER JAW WITH THE TEETH CHARACTERISTICS AND FACE SOFT TISSUE PROFILE AMONG RESIDENTS OF UKRAINE OF ADOLESCENCE AGE

Introduction. Modern high-quality dental treatment consists in harmonious combination of health, function and aesthetics. Development of technologies and materials can significantly improve the dental rehabilitation of patients. In dentistry, as in any field of medicine, the primary objective of any treatment is to eliminate the disease, creating and maintaining a stable condition. *Aim* of our work – set features of connections angular parameters of mandible with the characteristics position of the teeth and soft tissue facial profile in adolescents residents of Ukraine.

Materials and methods. Using the device Veraviewepocs 3D, Morita (Japan) in 38 boys (age from 17 to 21 years) and 55 girls (aged from 16 to 20 years) with orthognathic bite were obtained and analyzed side teleradiography and scans.

Cephalometric points and measurements were performed according to the recommendations of C. C. Steiner, and anatomical - by Basavaraj Subhashchandra Phulari, S. I. Doroshenko and Ye. A. Kulhynskiy. Defined: teleradiography angular performance of the mandible; teleradiography and computer tomography characteristics position of teeth and soft tissue profile face.

Evaluation of correlations carried out in the license package "Statistica 6,0" using Spearman nonparametric statistics.

Results. Established that in young for corners Ar-Go-Me, G, FMA, ML_NSL, SN_GoGn and Y-axis installed the largest number of connections: mainly direct with the characteristics locking plane and return with vestibular-lingual inclination of the teeth, angular characteristics of position of the teeth and linear characteristics of soft tissue, and, conversely, for the corners SNB, SND and NBa-PtGn mostly reversible with characteristics of locking plane and straight with vestibular-lingual inclination of the teeth, angular characteristics of position of the teeth and soft tissue linear characteristics.

In girls set the largest number connections with characteristics of locking plane: mainly direct for angles FMA, ML_NSL, SN_GoGn and Y-axis and preferably reverse for angles SNB, SND, NBa-PtGn and POr_NPog.

Conclusion. The obtained results provide an opportunity for all types of prosthetic dentistry or orthodontic treatment to create a harmonious relationship of all organs and structures of the oral cavity for optimal aesthetics and maximize efficiency of the masticatory apparatus. Promising research is linear correlation parameters of mandible with the characteristics position of the teeth and soft tissue facial profile.

Key words: cephalometry, odontometry, boys, girls, performance of mandible, characteristics position of teeth and soft tissue profile.

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EFFECT OF AMANTADINE HYDROCHLORIDE FOR THE INTENSIFICATION OF PROLIFERATIVE PROCESSES IN THE INFERIOR ALVEOLAR NERVE IN HIS EXPERIMENTAL COMPRESSION-TOXIC IATROGENIC LESIONS OF THE CHANGING TITERS NEUROMARKER PROTEIN S100

Introduction. Searching drugs with neuroprotektions action will help increase the effectiveness of the treatment iatrogenic compression-toxic lesions of the inferior alveolar nerve.

Objective. Carry out evaluation of the value amantadine hydrochloride neuroprotektions activity in experimental compression-toxic iatrogenic lesions of the inferior alveolar nerve rabbits by changing titer protein S100, a marker of damage to the myelin sheath of nerve. Estimate the possibility of using it for a new purpose in terms of the pathological condition.

Materials and methods. Experiments performed on the rabbits breed Chinchilla in conditions of compression – iatrogenic toxicity inferior alveolar nerve lesions, when the sealing material based on resorcinol-formaldehyde («Foredent») or epoxy resin («AH- Plus») has been injected into trepanation hole, which is located on the lower jaw projected nerve. Changes neuromarkers protein S100, verified by ELISA using a set S100 ELISAKIT (Fujirebio Diagnostics Inc., Sweden) on the instrument the company" Hipson "(Czech Republic). One hour later modeling a pathology was performed the first injection of the drug, which as active ingredient contains amantadine hydrochloride – neomidantan ("Amantadine" Olaynfarma, Latvia), the dose of 10 mg/kg intragastric. Treatment continued 30 days.

Results. Threaded entry sealing materials based on resorcin-formaldehyde («Foredent») or epoxy resin («AH-Plus») in trepanation hole located on the lower jaw projected inferior alveolar nerve, indicated destructive, degenerative changes, as evidenced probable escalation S100 protein titers relative to baseline values at the 30 th day of the experiment at an average of 30,18 and 26,30 times respectively. On the background doing treatment rabbits adamantane derivatives – amantadine hydrochloride (neomidantan) the dose of 10 mg/kg/sh, S100 protein titers in the blood serum of rabbits were significantly lower relative to the control animal diseases in average 1,84 («Foredent») and 1,71 time («AH-Plus»).

Conclusion. Neomidantan (amantadine sulfate) can be used for a new purpose in the compression-toxic iatrogenic lesions of the inferior alveolar nerve which is a promising and needs clinical confirmation of its effectiveness.

Key words: iatrogenic lesions compression-toxic inferior alveolar nerve, protein S100, neuroprotection, amantadine hydrochloride.

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INFLUENCE OF METEOROLOGICAL FACTORS ON THE CONCENTRATION OF HERBS' ALLERGENIC POLLEN IN THE ATMOSPHERIC AIR OF VINNYTSIA REGION

Introduction. Pollen air pollution and the number of patients with hay fever in recent years significantly increased, that was the *reason* why in our research we decided to study the connection between meteorological factors and changes in the concentrations of pollen of ragweed, ambrosia and sereal grasses as air allergens in Ukraine.

Materials and methods. Aerobiological surveillance was conducted by standard volumetric method during seasons of 2012-2014 years.

Every season, surveillance was conducted from March 1 to October 31. On the drum with tape "Melinex tape" selected 36 samples weekly air. In laboratory aeroallergenical research methods of VNMU tape removed from the drum was divided into 7 equal pieces, each of which corresponded to one time of observation. With each fragment was made one microscopic sample is fixed on a slide by gelatin and stained fuchsin. Research content and concentration of pollen in the air samples was conducted on a system of digital image analysis VIDAS-386 (Kontron Elektronik, Germany) using microscopes Zeiss (Germany), one of which was equipped with a highly sensitive camera COHU-7922. For analysis and counting pollen grains used 400 times magnification. Samples were analyzed by the standard method of twelve vertical transsekt. They answered the first 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23 hour each every day of observation. Identification of pollen was performed with the help of qualifier aeroallergens, issued by the National Allergy Bureau of the American Academy of Allergy, Asthma & Immunology (AAAAI)) and the program Pollen Identification Key The French national network of monitoring aerobiological monitoring (RNSA). Analysis of correlation concentration of pollen herbaceous plants and weather conditions was conducted by studying meteorological and synoptic factors of the examined hydrometeorological information Vinnitsa Regional Centre for Hydrometeorology.

Results. In the study where calculated limitary conditions, above which the concentration of allergenic pollen in the air increases. These conditions are the following: temperature over 17°C, atmospheric pressure over 980 Pa and humidity less than 67%. The integral characteristic “weather factor” (F) has been proposed.

Conclusion. The calculated critical values F, in excess of which the concentration of pollen grains in the air increases. Critical for Artemisia is: F_{ARTE} = 2,9; Poacea: F_{POAC} = 1,7. If the factor than this critical value, the risk of allergies is increasing.

Key words: seasonal allergies, pollen of herbaceous plants, meteorological factors, weather factor.

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THE RESEARCH OF QUALITIES OF MICROFLORA FROM TOOTH GINGIVAL SULCUS IN PATIENTS WITH GINGIVITIS

Introduction. The *aim* of the research was to study peculiarities of qualitative and quantitative composition and qualities of microflora representatives from gum pockets of oral cavity in patients with inflammatory diseases.

Materials and methods. In the research, there were examined 92 patients with generalized catarrhal gingivitis gum pockets in the period of 2011-2015 years and 89 healthy participants (comparison group). From patients there were isolated and identified 475 strains of opportunistic pathogens and 108 strains were isolate from gum pockets of healthy people. All clinical strains of microorganisms were identified by their morphological, tinctirial, cultural and biochemical qualities. All isolated bacteria were testified in their sensitivity to 17 antibiotics of different pharmacological groups by means of standard disc-diffusion method. There was also studied the sensitivity to amphotericin B, nystatin, clotrimazole, itraconazole, fluconazole in clinical strains of fungi *Candida* (n 102). The sensitivity of opportunistic microorganism, isolated from patient, to antiseptics decasan, horosten, miramistin, cholhexidine and therapeutic composition with decamethoxin was studied by means of standard serial dilution method.

Results. It was found, that in patients with chronic generalized catarrhal gingivitis gum pockets were colonized with opportunistic pathogens *Staphylococcus spp.* (28,8%), *Streptococcus spp.* (38,16 %), *Enterobacter spp.* (3,45 %), *Escherichia coli* (15,4 %), *Klebsiella* (10,33 %), *Proteus* (6,9 %), *Acinetobacterium*(1,72 %), *Pseudomonas* (4,31 %), *C. albicans* (19,73 %). Microorganisms colonized mucosa of gum pockets in oral cavity of patients with gingivitis in number of 10^{11}-10^{13} CFU/ml. Different sensitivity of *Streptococi*, *Staphylococi* and *Escherichia* was found. Effective antimicrobial activity against these bacteria was determined in gentamicin, ofloxacin, ciprofloxacin, levofloxacin, gatifloxacin. *Staphylococcus spp*. were resistant to chloramphenicol (80,26 %), clindamycin (80,69 %), erythromycin (80,3 %), ampicillin (72,37 %). Clinical strains of *Streptococcus spp*. were found to obtain resistance to tetracycline (84,28 %), streptomycin (85,71 %), erythromycin (71,04 %), vancomycin (70 %), polymyxin B (67,14 %). *E. coli* were sensitive to chloramphenicol (80,26 %), cefoperazone-sulbactam (73,96%), ofloxacin (86,29%), ciprofloxacin (82,19%), levofloxacin (80,82%), gatifloxacin (89,03%). The majority of *Escherichia* strains were resistant to polymyxin B (56,18 %), streptomycin (37 %). *C. albicans* were found to be sensitive to amphotericin B (72,84 %) and to have their resistance to nystatin (32,36%), fluconazole (32,36%), itraconazole (35,32%), clotrimazole (42,17%). There was found high sensitivity of *Staphylococcus spp*. to decasan (4,22±0,26 mkg/ml), horosten (4,16±0,21 mkg/ml) and palisept plus (3,23±0,21 mkg/ml). *E. coli* were sensitive to decasan (15,8±0,85 mkg/ml). Lower effectiveness against *E. coli* was found in chlorhexidine. There was determined fungicidal activity of decasan (13,25±0,82 мкг/мл) against *C. albicans*.

Conclusion. In patients with chronic generalized catarrhal gingivitis gum pockets are colonized with *Staphylococi*, *Streptococi*, *Enterobacteria*, *Escherichia*, *Klebsiella*, *Proteus*, *Acinetobacterium*, *Pseudomonas*, *C. albicans*. Clinical strains of *Streptococi*, *Staphylococi*, *Escherichia* have high sensitivity gentamicin, ofloxacin, ciprofloxacin, levofloxacin, gatifloxacin and are resistant to the majority of antibiotics. *C. albicans* obtain sensitivity to amphotericin B, and have resistance to nystatin, fluconazole, itraconazole, clotrimazole. Decasan, horosten are highly

effective against antibioticresistant strains of *Staphylococcus spp*., *Streptococcus spp*., *E. coli*, *C. albicans*.

Key words: antibiotics, antiseptics, inflammation, gingivitis, microflora.

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SOMATOTYPOLOGICAL PECULIARITIES OF PARAMETERS OF PERIPHERAL HEMODYNAMICS IN ATHLETES

Introduction. A large number of research aimed at studying the heart and central hemodynamic parameters of the position of the local constitution, based on the most specific morphological form organs. Using the methods of echocardiography, electrocardiography and tetrapolar reokardiohrafiyi set somatic features of parameters of central hemodynamics in athletes various sports. The existence of hemodynamic heterogeneity of people led to the emergence of new approaches to evaluating performance not only central but also peripheral hemodynamics. The aim of our study was to establish features of rheovazographic performance of hip and shin in high-level athletes sportsmanship youth with various somatotype.

Materials and methods. We carried out a comprehensive survey of athletes and youth period of ontogenesis (from 17 to 21 years inclusive) high level of sportsmanship (from first adult class to master of sports), which were divided into 3 groups: volleyball players (60 people), athletes (88 people) and wrestlers (61). Rheovazography parameters of the femur was determined by topologyattribute recorder. Assessment of quantitative parameters conducted by the method Ronkina and Ivanova. We conducted anthropometric research methodology Bunaka, somatotypological - estimated by a modification of Heath-Carter, determining a

component of body weight by the method Matejko. Analysis of the obtained results was performed using STATISTICA 5.5 with the use of nonparametric methods to measure indicators.

Resalts. Somatotypological differences were found for all amplitude rheographic parameters of hip, dykrotic index and speeds fast and slow blood supply. Between different somatotypes on leg compared with the thigh revealed greater number of significant differences. Among athletes with mesomorphic and ektomorphic types of body build figures regional circulation of hip and tibia highest point. Athletes of mesomorphic somatotype set significantly smaller quantities of all speed performance of blood supply and amplitude parameters rheogram hip. Athletes from ektomorfnym and ecto-mesomorphic somatotype by significantly higher bit rates of blood supply and amplitude parameters thigh.

Conclusion. Designated somatotipological features most indicators of peripheral blood in athletes is the foundation for further study of the relationships and interdependencies between rheohrafic parameters hip and shin and constitutional characteristics of the organism.

Key words: correlation, rheovasography hip, anthropometric dimensions, components of somatotype and body weight, wrestlers, athletes, volleyball players.

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ACTIVITY OF LIPID PEROXIDATION PROCESSES IN THE TISSUES OF THE EYE CORNEA WITH HYPOTHYROIDISM MODELING

Introduction. The problem of ocular manifestations of primary hypothyroidism is relevant for ophthalmology in both practical and scientific standpoint. In the present study, *our purpose* was to explore the lipid peroxidation in the cornea, conjunctiva and lacrimal fluid in hypothyroidism modeling.

Materials and methods. The studies were conducted on rats, which divided into 3 groups: I group - control (14 rats), II group - experimental (14 rats), animals with mild (primary) form of hypothyroidism, III group - experimental (14 rats), animals with severe form of hypothyroidism. In the tissues of the cornea and conjunctiva and lacrimal fluid content determined malondialdehyde and diene conjugates

Results. Hypothyroidism observed dysregulation of lipid peroxidation and antioxidant system, which eventually leads to a state of oxidative stress, which is known to adversely affect the function and protective-adaptive mechanisms of eye tissue

Conclusion. It is established that in the experimental hypothyroidism increases the level of lipid peroxidation products in the tissues of the conjunctiva and cornea, with a particularly significant increase in malondialdehyde noted in the conjunctiva (70.5% - in the mild stages, 85.6% - in severe stage hypothyroidism). It was found that when in the tear fluid hypothyroidism increases in malondialdehyde concentration 1.5 times - during the mild stage of hypothyroidism and 1.65 times - in severe stages. This pathochemical index can be considered as a diagnostic sign of the state of oxidative stress in the body of hypothyroidism in the initial stages of its development.

Key words: hypothyroidism, tears, cornea, conjunctiva, malondialdehyde, diene conjugates, experiment.

CLINICAL RESEARCHES

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SPECIFIC LIPID METABOLISM INDICES IN PATIENTS WITH PARANOID SCHIZOPHRENIA TREATED WITH ANTIPSYCHOTICS

Introduction. Schizophrenia can destroy life of the patient and his family if left untreated. Modern antipsychotic therapy is an important part of patients with schizophrenia treatment. Usually, these patients require long-term or even lifelong antipsychotics administration. Treatment with these drugs is connected with the risk of metabolic complications that may cause the formation and decompensation of somatic pathology. Although metabolic disorders in psychiatric patients were first described before the introduction of antipsychotics, many authors associate metabolic complications in patients suffering from schizophrenia with their widespread introduction. Therefore, unfortunately, their use can not only successfully fight the productive symptoms, prevent the development of negative symptoms, but also causes metabolic disorders. *The objective* of our research was to study the effect of treatment with classical and atypical antipsychotics on lipid metabolism indices in patients with paranoid schizophrenia.

Materials and methods. The research was conducted at the Ivano-Frankivsk Regional Psychoneurological Hospital №3. 119 patients with paranoid schizophrenia were examined. The diagnosis was verified according to ICD-10 (F20.0). The average age of patients constituted 34.8±2.8 years. The patients were divided into three groups. Group I consisted of 30 patients treated with haloperidol in a dose of 1.4-6 mg/d (an average dose was 4.6±1.3 mg/d). Group II included 35 patients treated with atypical antipsychotic risperidone in a dose of 2 mg to 6 mg per day (average dose constituted 3.7±1.8 mg/d). Group III included 35 patients taking quetiron in a daily dose of 50-750 mg (average dose was 413±116 mg/d). The Control Group

consisted of 19 patients who did not undergo antipsychotic treatment during 6 months.

Examination technics included common clinical examination, determination of waist circumference (WC), body mass index (BMI). Abdominal obesity was determined according to the type of International Diabetes Federation (IDF) criteria – 2005. Indicators of total cholesterol (TC), triglycerids (TG), cholesterol of high density lipoproteins (C HDL) were determined in the fasted state in venous blood plasma according to generally known methods. The level of cholesterol of low density lipoprotein (C LDL) in the blood was calculated using mathematical formula: LDL=TC-(HDL+TG/2.2) mmol/L. Atherogenic index (AI) was calculated according to the formula: AI = (TC- HDL)/HDL. BMI was calculated according to the formula: BMI= body mass (kg)/ body height² (m²). AI normal does not exceed 2-2.5.

Statistical processing of the results was performed using statistical analysis software package Statistica 7.0. The results were presented as the arithmetic mean with standard error of the mean (M±m). Along with univariate statistics, bivariate Student t-test was conducted. The difference was considered significant at $p<0.05$.

Results. Lipid metabolism in patients with paranoid schizophrenia treated with antipsychotic therapy was analyzed and obtained data were compared with the data of patients in the Control Group.

Analyzing the clinical features of the examined patients, significant increase in WC in Groups I, II and III was observed in comparison with patients in the Control Group. This index was significantly higher in Group II among men by 6.7% and among women by 11.28% constituting 96.04±1.12 cm and 90.21±1.73 cm respectively, ($p<0.05$). WC was significantly higher by 10.7% among women in Group III and amounted to 89.62 cm ($p<0.05$). This index was higher among men by 1.46% compared to the Control Group.

During the research, a slight tendency to increase in body weight (by 0.97%) was observed in the group of patients treated with haloperidol. Body weight was significantly higher by 13.9% among the patients of Group II treated with risperidone and constituted 92.23±1.58 kg ($p<0.05$). Body weight was higher by 5.41% in Group

III treated with atypical antipsychotic quetiron in comparison with the Control Group. The effect of antipsychotics on BMI is observed: this index significantly increased in Group II constituting 32.95 kg/m^2 ($p<0.05$) and tended to increase among patients of Groups I and II.

Analyzing the obtained data, significant increase in blood pressure (BP) in all three groups was observed in comparison with the control group of patients. Systolic blood pressure (SBP) was higher by 18.13% on average and diastolic blood pressure (DBP) was higher by 9.35%. The highest increase in blood pressure was caused by risperidone therapy, SBP index was significantly higher by 21.6%, DBP was significantly higher by 12.28% compared to the Control Group ($p<0.05$). SBP increased by 18.4% and DBP by 9.35% ($p <0.05$) among patients treated with quetiron.

Analyzing blood lipids indices, TC index in all three groups of patients was proved to be significantly higher than the same index in the Control Group. This index was higher by 24.62% on an average among men and by 20.02% among women. Probable reduction of "useful" cholesterol was also observed in all three groups. C HDL was the lowest in the patients of Group II. This index was lower by 66.6% (1.6 times) in men and by 100% (twofold) in women in comparison with the Control Group ($p<0.05$). C HDL was lower by 50 % in men and by 30.76% ($p<0.05$) in women of Group III. C HDL was lower by 23.07 % in Group I compared to the Control Group ($p<0.05$).

"Harmful", "atherogenic" C LDL was proved to increase in all examined groups. Increase in C LDL on a statistically significant level was observed among 52.12% of men and 46.51% of women of Group II in comparison with the Control Group ($p<0.05$). Significant increase in this index by 49.07% on average was observed in the patients of Group III. Average C LDL index ranged within reasonable bounds in Group I but was significantly higher by 29.5% on average compared to the Control Group. TG index is also important. Analyzing laboratory data, significant increase in TG by 2.74±1.19 mmol/L on average was observed in patients of Group II being by 35.76% higher in comparison with the Control Group ($p<0.05$). Average TG

constituted 2.30±0.18 mmol/L in Group III being higher by 23.47% in comparison with the Control Group ($p<0.05$). This index had a slight tendency to increase among the patients of Group I.

AI was calculated with the required above mentioned indices and using a mathematical formula. Imbalance of lipoprotein fractions content led to an increase in atherogenic blood properties and increase in AI. Its considerable significant increase by 4.71±0.14 in men and 4.73±0.15 in women ($p <0.05$) was observed in Group II. Significant increase in AI was also observed in Group III, namely by 3.51±0.02 in men and 2.59±0.02 in women ($p<0.05$). This index was normal in the patients of Group I; however it was significantly higher only in men in comparison with the Control Group. AI calculating is important because it provides an opportunity to monitor reliably the risk of atherosclerosis and conduct timely preventive and therapeutic manipulations to prevent disease development.

Conclusions. Comprehensive assessment of blood lipids and measurement of WC, BMI and AI is informative for the prognosis of lipid metabolism disbalance risk in patients with paranoid schizophrenia treated with antipsychotics. Atypical antipsychotics intake during a long period of time promotes lipid metabolism, increase in atherogenic lipids and atherosclerosis risk.

Thus, psychiatrists' understanding of lipid metabolism disorders and other manifestations of metabolic syndrome in patients with paranoid schizophrenia treated with long-term antipsychotics treatment is the basis for the further preventive and corrective measures for these patients.

Key words: lipid metabolism, paranoid schizophrenia, atypical antipsychotics.

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CLINICAL FEATURES OF PSYCHOSOMATIC DISORDERS IN ADOLESCENTS

Introduction. Early diagnosis and adequate treatment of psychosomatic disorders is one of the major problems of modern medicine and becomes more important in medical practice. Release: hysteroconversional somatized syndrome, phobic anxiety-somatizered syndrome, somatizered depressive syndrome, motor and sensory equivalents of anxiety syndrome, asthenovegetative syndrome and senesthesia syndrome. *Purpose* – to identify anxiety and depressive disorders in adolescents with psychosomatic disorders.

Materials and methods. The study involved 72 students of Khmelnitsky secondary schools, who were divided into two groups of observation. The first (I) group consisted of 31 people – orphans and half orphans, the second (II) group included – 41 teenagers, brought up in complete families. We used clinical psychopathological and pathopsychological methods of diagnostics of school anxiety by Phillips and CDI scale level of depression (Children Depression's Inventory) by M. Kovacs, “D. Stott’s map observations”. Statistical analysis was performed using Statistica 6.1.

Results. Somatized conversional-dissociative syndrome was mostly found among older adolescents (7,41%) from complete family (10,0%) and young orphans (16,8%) with a significant difference for all cases ($p < 0,05$).

Somatized anxiety-phobic symptoms took place in 33,33 % of middle adolescence children, 31,48% of older adolescents and 31,48% of adolescents from incomplete families.

Somatized anxiety-depressive syndrome was diagnosed in 17,71% of middle adolescence, 22,22% of older adolescents, 37,04% of teenagers from incomplete families and 16.0% of orphans. Motor and sensory anxiety equivalents occurred in (17,71%) middle adolescence children, (20.37%) of older adolescents and (31,48%) of teenagers from incomplete families. The difference was significant compared to all groups ($p < 0,05$).

Astheno-neurotic syndrome was mostly found in children of middle adolescence (32,29%), older adolescents (29,63%) and teenagers from incomplete families (55,56%).

Conclusions. The factors that have the greatest influence on schoolchildren anxiety forming, include fear of knowledge test situation, problems and fears in relations with teachers, fear of self-expression and fear of falling short of expectations. According to the results of our study, emotional state indicators were worse among group of orphans (I) than among children from intact families (II), with the exception of physiological resistance. This exception result can be associated with increased requirements to adaptability and lower orphans protections. The most pronounced depression was showed among teenagers from complete families (17 points of total score of subdepression; 2,7 from 4 points on the severity of depressive symptoms). High activity level that masks manifestations, forming a hidden course of depression, was comorbid to anxiety in all groups. High anxiety level in all studied groups indicates on the need for additional psychological interventions to reduce maladjustment effects and decrease of somatoform disorders formation.

Key words: psychosomatic disorders, adolescents, anxiety, depressive disorders, alexithymia.

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PROGESTERONE BLOOD CONTENT ANALISIS IN PRIMARY STRESS-INDUCED INFERTILITY WOMEN

Introduction. The problem of stress, as a cause of frequent physical and mental pathologies in humans of developed technological society, is considered a

topical contemporary medical problem. In the context of a primary stress-induced infertility that occurs on a background of acute and chronic stress, the largest scientific research interest consists in a study of sex hormone balance.

The *purpose* of our study was to determine the content of progesterone in the blood of women suffering from primary stress-induced infertility.

Materials and methods. The study involved 120 women of childbearing age with no history of pregnancy, without any organic pathology diagnosed as a stress-induced infertility, confirmed by stress hormone cortisol assay and results of special psychological questionnaire survey in women. The blood plasma progesterone study in of women was performed by SYNEVO laboratory using ELISA technique on days 5-6 of menstrual cycle.

Results. The study of blood progesterone assay in women with primary stress-induced infertility demonstrated that they had progesterone figures significantly lower than normal (9.78 ± 8.08 ng/ml, ranging from 0.34 ng/ml to 36.03 ng/ml). Women with long-lasting (over 3 years) infertility had blood progesterone levels lower (5.77 ± 5.44 ng/ml, ranging from 0.49 ng/ml to 22.74 ng/ml) than women with a 3 year-long infertility (11.63 ± 8.44 ng/ml, ranging from 0.34 ng/ml to 36.03 ng/ml, median – 9.13 ng/ml).

Conclusion. Therefore, the study of progesterone circulation in women with primary stress-induced infertility demonstrated a significant shift in hormonal balance, which contributed to affected fertilization and aggravated infertility course. With increasing the infertility term, negative changes in hormonal imbalance grow, manifesting themselves in reduction of plasma progesterone - 1.5 times lower than normal assay. This suggests deep systemic changes in sexual sphere of women with primary stress-induced infertility.

Key words: progesterone, stress-induced infertility, childbearing age.

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SEARCH FOR PROGNOSTIC MARKERS OF HEART FAILURE IN PATIENTS WITH CLINICALLY SUSPECTED MYOCARDITIS

Introduction. Diagnosis of myocarditis for the present day remains one of the most challenging in the contemporary clinical practice. The disease does not have any specific clinical features and establishing of the right diagnosis frequently needs the use of expensive cardiac imaging and invasive techniques as also complex diagnostic approach and expert teems. Endomyocardial biopsy (EMB) with immunohistologic evaluation of infiltrative cells and polymerase chain reaction remains the “gold standard” but its use in real clinical practice is strictly limited. Currently we have lack of information about the early predictors that could explain further clinical course of myocarditis as also prognostic markers of long-term persistent congestive HF remain unstudied. *The purpose* of the study was to build the prognostic model of persistent heart failure and to detect its early predictors in patients with myocarditis.

Material and methods. We included 82 patients with clinically suspected myocarditis that were treated in the department of non-coronary diseases and rheumatology of State institution «National scientific centre M.D. Strazhesko Institute of cardiology» NAMS of Ukraine between the years 2014 – 2016. At inclusion all patients had LV systolic dysfunction according to the Classification, standards of diagnosis and treatment of heart diseases in Ukraine – LV ejection fraction (EF) $\leq$ 45% and HF functional class II or higher according to New York Heart Association classification. The average age was (39,7±2,9) years. All patients underwent for examinations twice: in the acute stage on the 1st month after the disease onset and after 12 months of follow-up.

Diagnosis of clinically suspected myocarditis was based on the presence of clinical features and diagnostic criteria according to the position statement of the ESC Working group on myocardial and pericardial diseases. The diagnosis was confirmed

by cardiac MRI. Included patients received only the standard treatment of congestive HF that consisted of ACE-inhibitors, β-blockers, antagonists of mineral-corticoid receptors and diuretics. Anticoagulants and anti-arrhythmic drugs were prescribed by the indications. No one among included patients received immunosuppressive or immune-modulate treatments. The functional class (FC) of HF according to NYHA was assessed on the base of appropriate recommendations and by the results of 6-minute walking test. We studied peripheral blood concentrations of immunoglobulines class G and M (IgM and IgG), $CD8^+$, $CD16^+$ and $CD19^+$ cells. Cardiospecific immunologic studies included measurement of average antimyocardial antibody (AMA) titers and assessment of blasttransformation lymphocyte activity against myocardium (BTLAm) in the specimens of peripheral serum.

By the use of 24-hour ECG Holter monitoring system Philips Digitrack TM-plus 3100A we studied frequency of ventricular extrasystoles (VE) and incidence of non-sustained ventricular tachycardia (NSVT). We performed transthoracic 2-dimensional echocardiography (EchoCG) and speckle-tracking by the ultrasound apparatus Aplio Artida SSH – 880 CV, Toshiba Medical System Corporation (Japan) with the measurement of LV end-diastolic volume index (LV EDVi) and LV EF in four chamber position, longitudinal global systolic strain (LGSS), circumferential global systolic strain (CGSS) and radial global systolic strain (RGSS). Cardiac MRI was performed by the use imaging system Toshiba Vantage Titan HSR 1,5 Tesla (Japan) with assessment of hyperemia on T1-weighted images, edema on T2-weighted images and fibrosis on T1 delayed enhancement. Tomovist was used as a contrast. MRI images were assessed according to Lake Louise Criteria – the sole for today imaging criteria of myocarditis.

For statistic processing we used program pack Statistica 6. By the use of Student criteria and having dynamic changes of studied parameters we established the most significant variables that could have influence on HF class after 12 months and evaluated their odds ratio (OR) and confidence interval (CI). The prognostic model was built using the most significant variables with help of discriminant analysis. Correlation analysis was performed by Pierson's pair correlation coefficient.

Results. We established reliable direct correlation between concentrations of cardiospecific immunologic markers – AMA titer and RBTLm activity on the 1st month after the onset of myocarditis and HF class after 12 months (table 1). Among the markers of cell immunity we found reliable correlation of the HF 1-year persistence only with concentration of $CD16^+$.

Correlation analysis of persistent HF with instrumental parameters obtained on the 1st month after myocarditis onset showed its strong correlations with LV EF and LV EDVi - r = -0,78; p <0,01 and r = 0,72; p <0,02 respectively. We also found direct correlation between the data obtained by novel imaging techniques (speckle tracking EchoCG, cardiac MRI) and persistent HF.

Thus, correlation analysis showed that high autoimmune activity and significant impairment of contractile function of LV during the 1st month after myocarditis onset could lead to development of persistent HF.

Table 2 demonstrates the role of investigated parameters taken on the 1st month after the disease onset in development of HF persistence. The most significant role was established for high values of $CD16^+$, AMA titer, BTLAm activity, presence of NSVT, impairment of LV EF and LGSS, increased LV EDVi, and presence of typical MRI changes. On the other hand, such immune markers of humoral autoimmune response as IgM and IgG, and cell autoimmune response – $CD8^+$ and $CD19^+$ concentrations as also parameters of speckle tracking – CGSS and RGSS did not show pronounced influence on HF persistence.

Examinations in dynamics with the help of discriminant analysis allowed us to build mathematic model that could be used for early prediction of HF persistence during 12 months after the onset of myocarditis. The model consists of parameters with the highest values of OR for HF persistence and Wilks' Lambda and lowest values of Student's criterion p. The base of the model comprises two equations that on the 1st month from the disease onset give an opportunity to evaluate the probability in percentage of HF persistence: Y_1 – for improvement of HF NYHA FC to I or its absence after 12 months, Y_0 – for persistence of HF ≥ II FC. Thus by the use of this

model even in the early stages of the disease we can assess likelihood of bad or good prognosis for patients with myocarditis.

Y_1 = -44,9 + 12,3×$CD16^+$ + 7,26×NSVT + 0,78×AMA titer + 3,04×BTLAm + 0,18×LV EDVi - 0,43×LGSS - 0,24×LV EF

Y_0 = -58,1 + 11,5×$CD16^+$ + 5,06×NSVT + 0,66×AMA titer + 2,88×BTLAm + 0,16×LV EDVi - 0,45×LGSS - 0,26×LV EF

Probability in percentage of HF improvement to NYHA class I or absence of HF after 12 months could be estimated by the formula: $Y_1/(Y_1 + Y_0)\times100\%$

Probability in percentage of HF≥II FC persistence after 12 months could be estimated by the formula: $Y_0/(Y_1 + Y_0)\times100\%$

The sensitivity of the model is 84%, specificity - 78%, positive predictive value – 80%, negative predictive value – 86%.

Conclusions. We established predictors of HF 1-year persistence in patients with clinically suspected myocarditis: high values of $CD16^+$, AMA titer, RBTLm activity, presence of NSVT, impairment of LV EF and LGSS, increased LV EDVi and presence of typical MRI changes that include edema and hyperemia on the 1st month after the disease onset. With the help of discriminant analysis we built a prognostic model that is characterized by high sensitivity and specificity and could be used on the 1st month after myocarditis onset for the early prediction of HF persistence after 12 months of follow-up. It is obvious for today that non-invasive distinguishing of myocarditis and prediction of its further clinical course is a challenging problem of present cardiologic science. For better understanding of this problem we need more investigations in this field that includes management of multicenter randomized clinical trials with rigorous selection of patients. In our opinion more attention must be paid to studies that could search for early predictors of severe clinical course of myocarditis.

Key words: myocarditis, heart failure, predictors, prognostic model.

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CHANGES OF CEREBROVASCULAR AUTOREGULATION IN MIGRAINE

Introduction. Cerebrovascular autoregulation changes in patients with migraine Keywords: migraine, cerebrovascular autoregulation, cerebral vessels reactivity. Introduction:

Migraine is considered as a disease caused by genetically determined dysfunction of vasomotor regulation, manifested by paroxysmal headache attacks of pulsating nature, often one-sided, accompanied by nausea, photo- and phonophobia. The pathogenesis of migraine is complex and not fully investigated, but active interaction of vascular, neurogenic and neurochemical components is evident in it. Some research studies have found cerebrovascular autoregulation dysfunction in patients with migraine in the periods between attacks. However, many unclear points still remain.

The *aim* of our study was to determine the patterns of changes of cerebral autoregulation in patients with migraine in the periods between attacks.

Materials and methods. 22 patients with migraine were examined. The control group consisted of 15 healthy people, who correlated with our patients by age and gender. To assess cerebral autoregulation and cerebral vessels reactivity in the periods between attacks, we used the method of computer rheoencephalography. The software can automatically calculate a large number of parameters of cerebral circulation - rapid blood supply, slow blood supply, systolic wave amplitude, peripheral resistance, blood supply, large arteries tone, medium and small arteries tone, base impedance, incision. For the study we used an experimental paradigm - passive flexion of upper limb at elbow joint with 1 Hz frequency. For assessment of cerebral autoregulation and reactivity of cerebral vessels in patients with migraine REG record was held three times. Basic - after 5-minutes rest in tranquil environment

for 30 seconds, then we conducted experimental paradigm followed by REG within 8 seconds immediately after it, after - rest for 60 seconds and the third record, also for 8 seconds. Based on the data obtained, the dynamics of indicators changes in two groups was analyzed. Statistical analysis was performed with the help of software applications «Excel 2010», «STATISTICA 10".

Results. During the experimental paradigm in healthy people the following changes in blood circulation parameters were found: the time of slow blood supply, systolic wave amplitude, blood supply, large arteries tone increased, but the time of rapid blood supply, peripheral resistance coefficient and small arteries tone significantly decreased.

In one minute rest after experimental paradigm the time of slow blood supply, systolic wave amplitude, blood supply decreased and the time of rapid blood supply, peripheral resistance coefficient and small arteries tone accordingly increased.

Changes of blood circulation parameters in patients with migraine have unidirectional reliable differences on systolic wave amplitude and blood supply parameters. Other parameters were characterized by multidirectional changes both during the experiment and also after 1 minute rest as compared to the control group. The analysis of changes in patients with migraine showed two types of vessels reaction - vasospastic and vasodilating.

Conclusions. Autoregulation reactions of cerebral circulation in response to loading in healthy people have unidirectional nature and rapid recovery in transition to the state of rest. Cerebral autoregulation in patients with migraine is characterized by reactions heterogeneity and in a great extend - contrary type in respect to healthy people. We can suppose, that there are two types of reactions: "vasospastic hyporeactivity" and "vasodilating hyporeactivity."

Key words: migraine, cerebrovascular autoregulation, cerebrovascular reactivity.

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EFFECT OF CRANIOPLASTY ON THE INDICANTS OF ENDOGENOUS INTOXICATION

Introduction. In recent years, there is an increasing number of surgeries regarding the defects of the skull, which is related to an increase in the number of patients with such defects. One of modern implant materials at present time is bioceramics "Syntekist", the basis of which is a synthetic hydroxyapatite.

Available literature sources contain no information about the effects of different types of implants (particularly Bioceramic material "Syntekist") on the changes of endogenous intoxication in early and late post-surgery period in patients after cranioplasty. This fact prompted us to conduct studies presented.

Study purpose – to study the dynamics of changes in endogenous intoxication in early and late post-surgery period in patients after cranioplasty performed using various implant materials (bioceramics “Syntekist”, protacryl) and conduct their comparative analysis.

Materials and methods. This study involved 81 patients with defects of the skull bones, patients under examination were divided into two groups depending on the option of cranioplasty performed for them. Study group consisted of 39 patients for whom we performed cranioplasty using bioceramics “Syntekist” in order to eliminate the defect of the skull bones. Comparison group consisted of 42 patients for whom we performed cranioplasty using implants made of protacryl.

Before cranioplasty, as well as in early and late post-surgery period on 3, 7 and 10 days, we determined the number of leukocytes in all patients. Besides, to assess the degree of intoxication according to blood count test we determined the leukocyte index of intoxication (LII) according to V.K. Ostrovskyi and co-authors (1983) and hematological toxicity index (HPI) according to V. S. Vasilyev and co-authors

(1983). Statistical data processing of study results was carried out on a PC using the software package STATISTICA 6.1.

Results. Baseline of leukocytosis in the patients under examination in both groups was within normal limits. On the third day, this figure was significantly increased in all operated patients, but in patients of the comparison group this increase was more significant (12,1 ± 0,6 g/l) than in the study group (9,9 ± 0,5 g/l) ($p \leq 0,05$). On the 7th and 10th day the level of leukocytosis in both groups decreased, but that reduction was more significant in patients of the experimental group ($p \leq 0,05$), in whom this figure reached almost baseline on the 10^{th} day.

LLI as well as the level of leukocytosis, increased significantly in both groups on the third day and then gradually declined over the next seven days of observation. Relevant figures before surgical intervention in the study group were within normal limits and did not significantly differ ($p>0.05$), but on the third and seventh day the LII in the comparison group had significantly higher values (3,75 ± 0,27; 2,86 ± 0,24) with regard to the corresponding results in the study group of patients (2,91 ± 0,31; 2,12 ± 0,32) ($p\leq0,05$). On the 10th day the LII in both groups approached the baseline and did not significantly differ from both the last and each other.

HPI before surgical intervention in both groups was within normal limits. On the third day we observed its significant increase both in the study (2,81 ± 0,16) and in the comparison groups (3,42 ± 0,23). Its further decrease on the 7th and 10th postoperative day was more significant in the study group.

Conclusions. Implantation using bioceramics “Syntekist” or material protacryl to eliminate defects in the skull bones leads to increased parameters of endogenous intoxication in the post-surgery period. More positive dynamics of changes in the post-surgery period of leukocytosis level, leukocyte index of intoxication and hematological toxicity index in the study group certifies that the use of bioceramics “Syntekist” in cranioplasty causes less evident response in the area of surgical wound and in the tissues around the implant than in cranioplasty using protacryl.

Key words: cranioplasty, endogenous intoxication, indices of endogenous intoxication, “Syntekost”, Protakril.

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PECULIARITIES OF DAMAGE DIAGNOSTIC OF MULTIPLE TRAUMA IN OBESITY PEOPLE

Introduction. At the clinical material – 42 patients analyzed diagnostic validity of traditional survey methods in people with normal body weight and obesity after multiple trauma.

Materials and methods. All were victims of blunt trauma combined with damage to the chest and rib frame blunt abdominal trauma with damage to internal organs and intraperitoneal bleeding with preserved integrity of the pelvis and extremities. At the first stage the study all patients were determined BMI, and depending on the value of clinical formed. BMI (I) determined by the formula:

$I = \frac{m}{h^2}$, where m - weight in kilograms, h - height in meters.

In the second phase of the study determined the sensitivity and specificity of diagnostic tests for some method of J. H. Davis. Evaluation and treatment of obese patients with multiple trauma consistent with approved direction standards.

Results. Diagnostic value of certain methods determined by determining their sensitivity and specificity of diagnostic tests for some method of J.H. Davis. The value of some routine conventional objective methods of examination after polytrauma with normal weight (BMI ≥ 24.9 kg / m^2) is high and sufficient to determine the severity of damage with subsequent determination of treatment policy. However, in obese patients observed reduction of the diagnostic value of these methods more than 20 - 25% ($p > 0.05$), which can be associated with fat deposition

and decreased sensitivity of receptor and pain, with this relationship directly with waving of obesity degree.

Conclusions. The data on the diagnostic value of some traditional survey methods in patients after polytrauma forms the base for a differentiated approach to trauma with normal body weight and obesity varying degrees and develop «specific» diagnostic criteria in this category of people.

Key words: multiple injuries, obesity.

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CRITERIA FOR EVALUATING OF THE BLOCKED KIDNEY FUNCTIONAL RESERVE WITH OBSTRUCTIVE UROPATHY

Introduction. Obstruction of urinary tract diseases common among urologic pathology. It may be congenital and acquired. The success of treatment depends on early diagnosis, properly chosen tactics of morphological changes occurring in the kidney and UUT until the elimination of obstruction. For a long time obstructive uropathy (OC) may be asymptomatic or characterized by non-specific clinical signs and therefore cannot be recognized until the occurrence of serious complications. Often, even after removing the cause of obstruction uro- recovery, hemodynamic happens, remain subject to continuing damage to cells and gradually reduce kidney function. The study is to determine the criteria for assessing functional reserve blocked kidney that will predict and prevent postoperative complications, reduce nephrectomy.

Materials and methods. Examined and treated 157 patients with long-term obstruction VSSH. It was generally used complex clinical and instrumental methods. To determine the functional state of the kidneys and VSSH used radiographic,

ultrasonic, radionuclide methods, computed tomography. Violation of hemodynamics in Shelter promotes damage to the proximal tubules. In order to study its dysfunction determined activity of lysosomal enzymes urine. With diagnostic and therapeutic purposes performed through a skin puncture nephrotomy (SPN).

Results. The results of the study patients were split into 2 groups. Radioisotope Rheography (RRG) showed that in the affected kidney or obstructive isostenuria type curve. As a result of ultrasonic thickness parenchyma blocked kidney in 1group 6,6 ± 0,3 mm, the second – 8,1 ± 0,6 mm, Rear lateral respectively – 16,2 ± 0,6 mm and 19.7± 0,3 mm. Doppler in both groups showed a reduction in the cortical layer bleed, reducing the diameter of the arteries. As a result of pulsed-wave Doppler - increased systolic-diastolic ratio, RI and PI. The activity of the lysosomal enzyme urine (Nag and β-Gal) increased. Group 1 patients from a survey performed nephrectomy, and 2 - SPN. After 4 weeks of SPN and eliminate the causes obstruction of the urine - 1500-1800 ml, proportion – up to 1013. With ultrasound thickening parenchyma affected kidney to 10-11 mm. RRG showed that most patients had a normal type curve. Has improved renal perfusion, decreased RI. Normalized or significantly reduced activity of lysosomal enzymes.

Conclusions. To assess the recoverability uro- and hemodynamic impairment in long-term urinary tract obstruction optimal diagnostic system includes ultrasound Doppler, radionuclide techniques enzyme performance. Speed of atrophic changes in the renal parenchyma OC depends on the hemodynamic disturbances. The criterion of improvement is the latest positive changes internally resistance index of renal arteries after removing the cause of obstruction. Damage to kidney tubular device with internal vasoconstriction of renal vessels accompanied by increased activity of lysosomal enzymes to assess the depth of his experience. Normalization of activity after removing the cause of obstruction is informative criterion restore the functional capacity of the kidneys. An important criterion blocked kidney functional capacity is the thickness of the parenchyma. In the latest thickening of 7 mm increases the probability of recovery of organ function. SPN can objectively assess the spare capacity of the blocked kidney, helps prevent unnecessary open surgical intervention,

unreasonable nephrectomy. Evaluation of reserve capacity blocked kidney appropriate to no earlier than 4 weeks after the imposition SPN and eliminate the cause of obstruction

Key words: obstruction of the upper urinary tract through skin punctures on nephrotomy, criteria inverse blocked kidney changes.

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FEATURES OF BLOOD PRESSURE DAILY MONITORING CHANGES IN PATIENTS WITH STAGE II ESSENTIAL HYPERTENSION DEPENDING ON THE PRESENCE OF CONCOMITANT NONALCOHOLIC FATTY LIVER DISEASE

Introduction. Today insufficient attention is still have been given to nonalcoholic fatty liver disease in patients with stage II essential hypertension. The aim of the study was to identify and evaluate the features of blood pressure daily monitoring changes in patients with stage II essential hypertension depending on the presence of concomitant nonalcoholic fatty liver disease.

Materials and methods. The study involved 170 patients with stage II hypertension, 98 (57.6%) women and 72 (42.4%) men, average age 49.3 ± 0.5 y. All patients underwent complete anthropometric, clinical-laboratory and instrumental examinations to confirm or cancel stage II hypertension; ultrasound of the liver and biochemical test «FibroMax» to confirm hepatic steatosis. The control group included 20 healthy persons with appropriate age and sex. Statistical analysis of the results was performed using StatSoft "Statistica" v.12.

Results. Additional nonalcoholic steatohepatosis was diagnosed in 109 (64.1%) patients. While signs of liver impression were no found in 61 (35.9%)

patients. 3th degree of hypertension was significantly more frequently observed in the group with concomitant steatosis ($p<0.05$). Average office systolic blood pressure was significantly higher in patients with steatosis than in patients without concomitant steatosis ($p=0.003$). Average office diastolic blood pressure was slightly higher in patients with concomitant steatosis than in the group without concomitant steatosis, but significant difference between these two groups was no found ($p>0.05$). Significant increased office pulse blood pressure was recorded in patients with stage II hypertension and concomitant steatosis ($p<0.0001$) compared with control group and patients with stage II hypertension but without concomitant liver impression.

Daily systolic blood pressure was 154 (135, 165) mm Hg. in patients with stage II hypertension and concomitant nonalcoholic fatty liver disease against 141 (133, 149) mm Hg. in hypertensive patients with no signs of liver impression ($p = 0.01$). Both daytime and nighttime systolic blood pressures were increased in hypertensive patients with fatty liver. There was no significant difference in average daily data of diastolic blood pressure in hypertensive patients with or without steatosis.

Systolic blood pressure variability index during the day was significantly different in patients with stage II hypertension and concomitant liver impression from that in the control group ($p=0.03$) and patients with stage II hypertension but without steatosis ($p=0.04$). Systolic blood pressure night variability was significantly increased in hypertensive patients with steatosis compared with control group and with hypertensive patients but without concomitant liver impression.

Normal blood pressure decreasing (type «dipper») was recorded in 50% of patients without concomitant liver impression. Dally profile «nondipper» was established in 37.5% of these patients. 8.3 % of hypertensive persons without fatty liver had profile «overdipper» and 4.3% of observed patients without fatty liver had profile «nightpicker».

In the group of patients with steatosis the frequency of dally profile «nondipper» increased by 19.4% ($p <0.05$) and was 56.9%. At the same time type «dipper» was recorded only in 30.8% of these patients.

During the day heart rate increasing was recorded in patients with stage II hypertension compared to the control. The presence of nonalcoholic fatty liver disease in patients with stage II hypertension was accompanied by rising of heart rate especially in the passive period of ambulatory blood pressure monitoring.

Conclusions. 3th degree of hypertension was significantly ($p<0.05$) more frequently observed in patients with stage II hypertension and concomitant nonalcoholic fatty liver disease compared with patients without nonalcoholic fatty liver disease: in 39.4% against 23.0%, respectively. The presence of nonalcoholic fatty liver disease in patients with stage II hypertension was accompanied by significant ($p <0.05$) growth of daily, day and night systolic blood pressures, pulse blood pressure, variability of systolic and diastolic blood pressures compared with patients without concomitant nonalcoholic fatty liver disease. In patients with stage II hypertension and concomitant nonalcoholic fatty liver disease pathological daily blood pressure profile «nondipper» was recorded significantly more often compared with a group of patients without concomitant steatosis: 56.9% versus 37.5%, respectively ($p <0.05$). Increased night heart rate was detected in patients with nonalcoholic fatty liver disease compared with patients with stage II hypertension but without concomitant nonalcoholic fatty liver disease.

Key words: hypertension, nonalcoholic fatty liver disease, ambulatory blood pressure monitoring.

© Guriev S.O., Tanasienko P.V., Matiash V.I., Vasylov V.V.

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UDC: 614.82/.87(477.63)(043.3)

ELECTROCHEMICAL TECHNOLOGY MEDICAL TREATMENT OF VICTIMS WITH LOCAL INFECTIOUS COMPLICATIONS OF TRAUMA

Introduction. In recent years, more and more reports about the use of electrochemical techniques in the treatment of purulent infection. Most often we are talking about drugs ozone and sodium hypochlorite. The aim of our study was to determine the clinical efficacy of the use of sodium hypochlorite in the treatment of local infectious complications among patients with multiple injuries.

Materials and methods. To fulfill the purposes of our study we analyzed the treatment of 55 victims were local infectious complications in the form of purulent wounds as a result of polytrauma. The first group we assigned 31 patients with purulent wounds and polytrauma, in which treatment was used wound irrigation solution sodium hypochlorite. The second group included 24 victims for whom treatment was used only decamethoxin antiseptic solution. The criterion for a satisfactory outcome was clean festering wounds start growth of granulation and transition into the second phase of wound healing.

Results. The study showed that the use of electro medical technology may have affected the local infectious complications of polytrauma. The use of sodium hypochlorite greatly improves the results of treatment of wound healing in victims with local infectious complications of polytrauma. It was revealed that by using sodium hypochlorite second phase of wound healing occurs on day 4-6, as compared with conventional antiseptics twice faster, and can be recommended in clinical use.

Conclusions. The use of electrochemical medical technology is possible in patients with local infectious complications of trauma. The use of sodium hypochlorite improves wound healing outcomes in patients with local infectious complications of trauma. When using sodium hypochlorite second phase of wound healing occurs in 4-6 days, compared with a normal antiseptic is twice as fast and can recommend it to clinical use.

Key words: polytrauma, local infectious complications, electrochemical medical technology, treatment.

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CLINICAL RESULTS OF TREATMENT OF TRANSVERSAL ANOMALIES USING THE MYOFUNCTIONAL EQUIPMENT

Introduction. Morphological changes in the structure of the upper jaw lead to marked changes in the coordinated work of the chewing muscles. Widespread implementation in the practice of orthodontics science and technology and modern types of orthodontic appliances can get stable and functional and aesthetic outcomes of treatment, but the question the effectiveness of treatment in terms of age. Nevertheless, during orthodontic treatment without regarding to age factors, there appear undesirable side effects caused by using too large orthodontic forces and unjustifiably widespread using of fixed orthodontic equipment. The goal – improving the efficiency of orthodontic treatment of patients with transversal malocclusions in different age periods by processing parameters for the application of different options of orthodontic equipment and medical actions depending on age of patients.

Materials and methods. In the course of the study it was conducted a comprehensive survey and orthodontic treatment of 148 patients with transversal malocclusions aged 8 to 20 years. Depending on the severity of transversal anomalies in upper or lower jaws patients divided into two groups:

- Group I – patients with prevalence of abnormalities in the maxilla - 82 people
- Group II – patients with prevalence of abnormalities in the mandible - 66 people.

The control group consisted of 22 patients of similar age with orthognathic bite. Patients of I and II groups, depending on the treatment, were divided into 2 groups:

-1 subgroup – those in which treatment was applied myofunctional equipment.

- II subgroup – those in which treatment was applied commonly used therapies. Clinical examination was conducted by general accepted method.

Anthropometric and photometric analyzes of patient's full face were performed before treatment, during and after active treatment period. Treatment was considered complete after receiving positive clinical and anthropometric occlusal correlation.

As additional methods of examination was used Doppler ultrasound for assess peripheral blood flow and supply of blood flow chewing and cheek muscles.

Results. The resulting study data show that during orthodontic treatment with using LM-activators and trainers for braces-systems LM is achieved facial harmony of composition and connected, at first, with the normalization of the functions of the muscles of the maxillofacial area, secondly, with the stimulation of growth of the patients" jaws by improving blood circulation of chewing and facial muscles, providing harmony of morphological and functional parameters during orthodontic treatment.

For the first time as additional survey methods were used Doppler ultrasound to assess peripheral blood flow and supply chewing and cheek muscles with blood flow. It was determined the increase of peripheral resistance and average speed in the superficial temporal and maxillary arteries twice, proving a violation of biodynamic balance regardless of the period of formation of bite.

Conclusions. Based on the foregoing, in the complex treatment of transversal malocclusions in patients with using myofunctional equipment (LM-activators and trainers for braces-systems LM) were achieved: normalization of the teeth and dental arch form, improvement of the aesthetic parameters of the face and restore physiological level of peripheral security blood flow of chewing and facial muscles.

Key words: Transversal abnormalities, teeth and jaws abnormalities, anthropometric indicators.

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EFFICACY OF CHONDROPROTECTORS ADMINISTRATION AFTER HIP ARTHROSCOPY

Introduction. Pathology of the hip joint are the most frequent cause of temporary disability, and the disability, according to various authors, amounts to 37.6 % of all persons with disabilities with lesions of the musculoskeletal system. According to who, the prevalence of remote sensing data tends to further growth, which will lead to even more negative health and social consequences.

Coxarthrosis (CA) refers to degenerative-dystrophic diseases of the joints. CA is a degenerative process that brings together local and progressive loss of hyaline articular cartilage with concomitant changes in subchondral bone, development of marginal growths (osteophytes) and thickening of the intermediate bone plates (subchondral sclerosis). Marvel at the structure the soft tissues in the joint and around it, including the synovium, where can be observed a moderate inflammatory infiltrates, as well as the muscles and ligaments that have become weak.

All this testifies to high medical and social significance of the CA, which not only significantly affects the quality of life of the patient, but also leads to great socio-economic costs.

The initial lesions of the articular cartilage which characterizes the I-II stage CA, hip arthroscopy is the "gold standard" the diagnosis and treatment that allows you to visually assess not only the structural and functional state of articular structures, but also to identify the relationship and their behavior during movement in the joint. However, despite the advances of modern orthopedics, development and implementation of arthroscopy in the system diagnostic-therapeutic interventions in

osteoarthritis of the hip joint, the number of complications and unsatisfactory results when conducting this surgery remains fairly high. Therefore, to increase the quality of treatment by the authors in the early postoperative period is used internally articular introduction of symptomatic slow action drugs or chondroprotectors. In the present work, in the early postoperative period patients after performing arthroscopy of the hip joint was injected intra-articular drug "Ostenil +", firms Chemedica AG (Germany), having in its composition 2% solution sodium hyaluronate in an amount of 2 ml (40 mg).

We consider interesting in the science and practice plan of the clinical trial to determine the effectiveness of the use of chondroprotectors in the early postoperative period in the treatment of early stages of KA when performing arthroscopy of hip joint patients.

Materials and methods. The research was the analysis of case histories and clinical examination 100 patients with osteoarthritis of the hip joints of I-II degree, which was conducted arthroscope surgery on the basis of the traumatological department of the Vinnytsia Regional M. I. Pirogov Hospital in the period 2006-2015, all patients were divided into two groups, first (control) group consisted of 50 patients with ca who underwent surgery arthroskopie without prescription in the postoperative period of chondroprotectors. The second (experimental) group consisted of 50 patients with ca i-ii. Who underwent hip arthroscopy at 1-3 weeks after surgery drug "ostenil + " intra-articular. The effectiveness of operative treatment was evaluated 6 months after surgery. To assess used vas analog scale classification and clinical assessment of the hip joint according to the modified harris scale.

Results. The appointment in the early postoperative period of chondroprotectors in patients of the experimental group improves the condition of the articular cartilage which certainly could not affect the general condition of the hip joint this group, which is estimated on the scale of vas and clinical classification by harris.

Analyzing it can be noted a significant decrease in comparison with the control group, pain syndrome patients in the early postoperative period were injected

intraarticular drug " ostenil +". A similar situation is observed in the evaluation of the function of the hip joint for harris. So the average scores of the study group made up 79.56 points in comparison with indicators of control group – 72,22 points.

Thus, a comprehensive clinical research proves the efficacy in the complex treatment in the early postoperative period of chondroprotectors in patients after performing hip arthroscopy.

Conclusions. Application in the early postoperative period drug " ostenil +" has increased the efficiency of the therapeutic effect of hip arthroscopy patients that is reflected in the reduction of pain and improvement of function of the hip joint according to the classification of harris. This study demonstrates the efficacy of the use of chondroprotectors after carrying out hip arthroscopy and the need for their inclusion in the complex medical treatment of early stages of coxarthrosis.

Key words: arthroscopy, chondroprotectors, treatment efficacy.

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PECULIARITIES OF CHANGES IN BLOOD BIOCHEMICAL PARAMETERS (ON THE EXAMPLE OF DEOXYRIBONUCLEIC AND RIBONUCLEIC ACIDS) DURING THE TREATMENT OF PATIENTS WITH SEVERE TRAUMATIC BRAIN INJURY

Introduction. Traumatic brain injury (TBI) ranks first among all traumas in working-age population and in the structure of all injuries its share is 30-40%. TBI is a leader in mortality and disability rates. Severe TBI causes significant changes of the nucleic acids homeostasis. These changes are directly dependent on the severity of the injury and can change over time and clinical consequences of brain injuries, which give an idea as to the mechanisms of posttraumatic pathological processes.

Therefore, the purpose of the work was to prove the link between changes in the level of DNA and RNA in patients with severe TBI; establish the peculiarities of the dynamics of these blood parameters during the observation period and at different treatment outcomes.

Materials and methods. The biochemical parameters of blood serum were determined in the dynamics of hospital treatment in severe TBI 81 patients and 22 healthy persons. The main group, depending on the effects of treatment was divided into five subgroups: "Death," "Vegetative state", "Significant disability", "Moderate disability", "Recovery". The content of nucleic acids in serum was determined by spectrophotometric method, which was first proposed by R.G. Tsanayev and G.G. Markov. Descriptive and analytical statistical methods were used in order to calculate probability of difference between the received parameters of groups under study ($p<0.05$).

Results. Significant changes in the direction of increasing of DNA and RNA in blood serum of patients with severe TBI were established with general tendency to decline during the treatment period. A direct strong correlation between DNA and RNA levels in blood serum was revealed with a high degree of reliability, which was mostly pronounced at the beginning and the end of the observation period.

Conclusion. The research proved the need for further study of other blood parameters – the indicators of timely and accurate diagnosis of TBI that will predict the state of TBI patient and allow to choose the proper treatment.

Key words: traumatic brain injury, deoxyribonucleic acid, ribonucleic acid, death, disability, vegetative state, recovery.

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ENDOMETRIAL PATHOLOGY OF WOMEN OF LATE REPRODUCTIVE AGE

Introduction. In recent decades, endometrial hyperplasia attracted the attention of researchers, as the most common cause of uterine bleeding. Continuing interest in this issue is determined predisposition to endometrial hyperplastic processes long, recurrent course, which without treatment can serve as background for the development of malignant lesions of the uterine lining. The aim - to establish medical history and structure factors of endometrial pathology in women of late reproductive age.

Materials and methods. The study involved 237 women aged 35-44 years who were sent to hysteroscopy to confirm the diagnosis and treatment.

Results. Studying the history of women of late reproductive age with endometrial pathology revealed a high prevalence of somatic pathology in this category of patients (68.4%): gastro-intestinal tract determined in 25.3%, liver pathology in 18.6%, heart disease in 17,8%. Obesity and allergies were observed in about 16% of patients. The structure of the most common gynecological diseases of surveyed women were pelvic inflammatory disease (adnexitis at 49.4%) and uterine fibroids (27.4%). Almost every second patient were recorded with the presence of ectopic columnar epithelium of the cervix (in 111 or 46.8%), which indicates the presence of hormonal imbalance. Fairly high percentage rate of chlamydial infection (37 or 15.6%) was observed in this category of women, confirming the theory of the role of inflammation in the development of hyperplastic processes of pelvic organs.

Conclusion. Women in late reproductive age in the case of infertility should be required for hysteroscopy due to the fact that endometrial pathology may remain undiagnosed and influence the outcome of infertility treatment and subsequent health.

Key words: intrauterine pathology, late reproductive age, diagnostics, treatment, hysteroscopy.

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INDICATORS OF NONSPECIFIC SYSTEMIC INFLAMMATION IN PATIENTS WITH CORONARY HEART DISEASE

Introduction. The *purpose* of research: assessment of the possibility of using a common blood test indicators, fibrinogen concentration in the blood and high-sensitive CRP in patients with CHD as an indicators of latent vascular inflammation and predictors of atherosclerotic process destabilization.

Materials and methods. The study involved 135 patients with verified CHD (94 men and 41 women) and 30 healthy persons in the control group. In addition to standard screening tests, we define blood lipid values, the plasma level of CRP by high sensitive method (hsCRP) and blood level of fibrinogen.

Results. In patients with stable coronary heart disease was showed a tendency to increased erythrocyte sedimentation rate and the number of lymphocytes, increase the ratio nongranulocytes to granulocytes that may indicate the presence of latent immune inflammation. In patients with unstable angina on the background of a slight increase in amount of white blood cells and a moderate increase in the ESR, value of the ratio nongranulocytes and granulocytes, on the contrary, decreased. There were increase of fibrinogen and CRP levels; the highest rates of non-specific inflammatory indicators were in patients with unstable angina and in patients with III function class of stable coronary heart disease. Correlation between the degree of increase in CRP and ESR was observed, particularly in patients with unstable angina ($r=0,48$, $p<0,01$).

Conclusion. Changes in markers characteristic of inflammation, including peripheral blood, in patients with CHD are associated with the phase course of atherosclerosis, its periods of exacerbations and remissions, the degree of blood vessels involvement in the inflammation and the severity of the disease. The increase

of fibrinogen and CRP levels may indicate on a destabilization of the atherosclerotic process and the possibility of acute coronary syndrome.

Key words: coronary heart disease, systemic inflammation, blood count, C-reactive protein, fibrinogen.

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THE POPULATION ANALYSIS OF DEVELOPMENT RISK CERVICAL INTRAEPITHELIAL NEOPLASIA

Introduction. Cancer cervix is a preventable disease but least prevented. Hence it has emerged as the third most common cancer in women and the seventh overall. It is the fourth leading cause of female cancer mortality worldwide. In women who do not undergo regular screening, cervical cancer can be a silent killer, taking several years to develop. By the time symptoms appear, the disease is often at an advanced stage. The unique accessibility of cervix to direct physical examination has permitted intensive investigation of the nature of pre-malignant and malignant lesions of cervix. Various modalities of treatment have been tried for regression of premalignant lesions, a forerunner to carcinoma cervix.

The *aim* of this study was population analysis of risk factors for relapse cervical intraepithelial neoplasia in women of reproductive age.

Materials and methods. The study involved 94 women with relapse cervical intraepithelial neoplasia. HPV testing was done using Paper smear and Liquid media method for presence or absence of HPV (irrespective of the type). Patients received therapy on clinical bases of the department of obstetrics and gynaecology №1.

In the first group included 58 women with CIN II, in the second group were included 36 patients with CIN III. We evaluated by medical history and clinical factors, which included: age, life history, gynecological and reproductive function, material and social status, working conditions, bad habits, extragenital pathology, and type of previous treatment.

Results. According to our results at high risk for recurrence of CIN includes women who report a history of early sexual activity, early birth of first child, a frequent change of sexual partners, inflammatory diseases of the genital tract, co-mutagens, disorder of the microbial landscape of the vagina, use of oral contraceptives and intrauterine devices, trauma of the cervical canal during abortion, smoking, extragenital pathology associated with immunodeficiency and dysbiosis, and treatment of which didn't contain the cancer radicality and preservation of functional organ in women of reproductive age.

Conclusions. The clinical group, which we have selected were uniform, hadn't any statistically significant differences were determined on the basis of which were investigated. The risk for recurrence of CIN were enrolled patients who noted a history of early sexual life (16 years) and the early birth of the first child (under 18 years), frequent change of sexual partners, inflammatory diseases of the genital tract, violation of the vaginal biocenosis (the use of funds for personal hygiene, bacterial vaginosis, cadidosis), use of oral contraception and intrauterine devices, trauma during abortion, extragenital pathology associated with immunodeficiency and dysbiosis (frequent acute respiratory viral infections and chronic diseases of the digestive system), the use of sub-optimal treatment and had a passion smoking. The choice of treatment should be based on respect for optimum therapy, with the result that would be prevented by the occurrence of relapses and the progression of the pathological process.

Key words: CIN, risk stratification, dysbiosis vagina, cervix cancer.

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ASSESSMENT OF CENTRAL HEMODYNAMICS WITH ARTERIOVENOUS FISTULAS FUNCTIONING IN DIALYSIS AND CANCER PATIENTS

Introduction. For the cytotoxic chemotherapy in clinical oncology continued to create a functioning vascular access often use temporary catheter into the peripheral vein of the forearm, as well as temporary catheter or "totally implantable vascular system" in one of the central venous system of the superior vena cava. An alternative vascular access for anticancer therapy is arterio-venous fistula formed on the forearm cancer patient (similar to the same vascular access for chronic hemodialysis patients with end-stage chronic renal failure). The possibility of adverse effects of arterio-venous fistula at the central hemodynamic status of patients with chronic uremia, which can be exhibited by uncontrolled hypertension and right heart overload with the progression of systolic and diastolic dysfunction infarction. A study examining the impact of arterio-venous fistula on the state of central hemodynamics cancer patient is not available in literature. *Objective:* to study the state of central hemodynamics cancer patients in terms of functioning arterio-venous fistula.

Materials and methods. Patients were divided into two groups. The first group included 14 cancer patients with different localization of cancer, which as vascular access for the purpose of long cytotoxic chemotherapy in the adjuvant and

palliative regimes formed arterio-venous fistula on the forearm. The second group - 50 patients with end-stage chronic renal failure receiving hemodialysis treatment.

Results. In groups №1 and №2 access to the vascular system of the patient was performed using the established subcutaneous arterio-venous fistula (total 64 patients, 41 male and 23 female). Depending on the formation distinguished distal (radio-carpal) arterio-venous fistula, including in the "anatomical snuffbox" - in 3 (4.7%) patients in the lower third of the forearm in 33 (51.7%) patients. In 28 (43.8%) patients proximal arterio-venous fistula was formed (in the middle third of the forearm or elbow fossa). All observations used a version of arteriovenous anastomosis end of vein in side of artery.

Conclusions. Thus, the experience of the formation of arterio-venous fistulae in 14 cancer patients and 50 dialysis patients with different output type circulation led to the following conclusions:

1. The less negative impact on central hemodynamics with arterio-venous fistula formed the "anatomical snuffbox" in the lower third of the forearm. Grass fistula and fistula, located in elbow fossa has a more pronounced effect on the right heart, but changes of central hemodynamics parameters were thus unreliable.

2. In patients with baseline eukinetic type of fistula circulation influence on central hemodynamics was negligible, in patients with hyperkinetic type of circulation observed nonsignificant decrease in stroke volume, cardiac output and systolic blood circulation index with a slight increase in total peripheral resistance.

3. Negative changes central hemodynamics using arterio-venous fistula in cancer patients not measured. This allows you to use this method of vascular access for prolonged cytotoxic chemotherapy.

Key words: arteriovenous fistula, central hemodynamics.

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STRUCTURAL AND FUNCTIONAL CHANGES IN THE MYOCARDIUM AND TYPES OF LEFT VENTRICULAR DIASTOLIC DYSFUNCTION IN PATIENTS WITH STABLE CORONARY HEART DISEASE COMPLICATED HEART FAILURE

Introduction. Congestive heart failure (CHF) is still the most topical medical-and-social problem all around the world. It is the most common and life-threatening disease of the cardiovascular system, resulting in permanent disability, continuous loss of labor capacity, and significant reduction in longevity and quality of life.

The study o*bjective is* to look into the structural and functional changes in the myocardium and different types of left ventricular diastolic dysfunction in patients with stable CHF, complicated by Grade I-III heart failure worldwide.

Materials and methods. In order to achieve the study objective, we have conducted a complete clinical examination of 53 patients with congestive heart failure (30 men and 23 women) administered to the Cardiology Department for treatment of patients with arrhythmias belonging to the Vinnitsa Cardiovascular Regional Center. *The criteria for inclusion of patients* were the history of Grade II-III stable coronary artery disease complicated with Grade I-III congestive heart failure (Grade I-IIA CHF) and the availability of signed informed consent form.

Results. Compared to healthy subjects, the examined patients with Grade I-III heart failure with underlying Grade II-III stable coronary artery disease presented statistically significant echocardiographic signs of increase in left atrial size, end-systolic size, end-diastolic size, end-systolic volume, end-diastolic volume index, stroke volume output, the thickness of posterior wall of the left ventricle, the interventricular septum thickness, the left ventricular mass index, relative left ventricle wall thickness ($p < 0.01$), and a statistically significant decrease in left

ventricle ejection fraction ($p < 0.01$), suggesting of the development of structural and functional changes in myocardium and cardiac remodeling. 13 (24.52%) examined patients presented a concentric type of LV hypertrophy, 32 (60.37%) patients presented an eccentric type of LV hypertrophy, while concentric remodeling was revealed in 2 (3.77%) patients. The echocardiography of patients with Grade II-III stable CHF, complicated with Grade I-III HF revealed that III (significant) and II (moderate) degree of LV hypertrophy were the most common ones, thus suggesting of LV remodeling in examined subjects. The analysis of echocardiographic data revealed that patients with Grade II-III stable coronary artery disease, regardless of heart failure manifestations, were diagnosed a diastolic left ventricular dysfunction. 21 (39.62%) patients were most commonly diagnosed an impaired relaxation, while 18 (33.96%) patients presented pseudonormal type of diastolic left ventricular dysfunction. The restrictive type of diastolic left ventricular dysfunction was diagnosed only in 5 (9.43%) patients.

Conclusions. The patients with Grade II-III stable coronary artery disease complicated with Grade I-III heart disease were most commonly diagnosed eccentric left ventricular hypertrophy. Most patients presented III (significant) and II (moderate) degree of LV hypertrophy, thus suggesting of structural and functional changes in the myocardium. The patients with Grade II-III stable coronary artery disease presented mostly the following types of LV diastolic dysfunction: an impaired relaxation and the pseudonormal type of diastolic dysfunction. The degrees and types of systole-diastolic dysfunction in examined patients which make it possible to diagnose the disease phase, should be considered in the prognosis and treatment regimen. A degree of left ventricle hypertrophy may be taken into account in the assessment of left ventricular hypertrophy regression as a response to optimal treatment, which should be covered in the next publication.

Key words: stable coronary artery disease, congestive heart failure, left ventricular diastolic dysfunction.

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PSYCHOLOGICAL FEATURES DISABLED WITH CONGENITAL HEART DISEASE

Introduction. Psychological diagnostics and rehabilitation of patients with congenital heart defects (CHD) is very actuality, because their success depends largely on the possibility of improving social adaptation of patients. In the present study, *our purpose* was to study the psychological characteristics, internal picture of the disease, types of occupational preferences and quality of life of disabled patients with CHD.

Materials and methods. 43 disabled with CHD (23 men and 20 women, mean age was 30,5±1,7 years) were examined (study group). For comparison 21 peoples without somatic and psychiatric disorders (6 men and 15 women, mean age – 33,8±1,5 years) were examined (control group). The studies were conducted using Personal Questionnaire of the Bekhterev Institute (PQBI), G. Holland Codes, Minnesota Living with Heart Failure Questionnaire (MLHFQ).

Results. It was founded that was only 9.3% peoples without accentuation in response to the disease among disabled with CHD. Together with the examined with a harmonious and ergopathic type they formed a group with adequate social adaptation (16.3% of subjects), which was 5.3 times lower than in healthy (85.7%). Violations of social adaptation were founded in 83.7% of patients with CHD. These resulted mainly from the type of response intrapsychical (anxious, neurasthenic, obsessive-phobic, hypochondriac, apathetic and melancholic) and interpsychical (paranoic, sensitive, euphoric and egocentric) directionality, that greatly complicated the process of rehabilitation. Dominated by mixed types of attitude to the disease (65.1% of patients), non-mixed («clear») types of response occurred in 23.3%.

Non-mixed («clear») types of occupational preferences in patients with CHD were established in 72.7% of cases (and in a third of cases – social type), mixed – in 27.3% of cases.

Quality of life in disabled with CHD was much worse than in control group, moreover a negative correlation was established between sex and state of health (women worse than men).

Conclusion. Adaptive opportunities in society for disabled with congenital heart defects lower than in healthy individuals, lower in women than in men. It requires psychological treatment and include psychological measures in individual rehabilitation program.

Key words: congenital heart defects; disabled; psychological peculiarities; internal picture of disease; occupational preferences; quality of life.

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STRUCTURAL FUNCTIONAL STATE OF HEART FOR PATIENTS WITH CHRONIC KIDNEY INSUFFICIENCY V THE STAGES THAT GET TREATMENT AND HISINTERCOMMUNICATION PROGRAM GEMODIALISIS WITH LEVEL OF IL - 1, IL - 17, IL - 18 AND REMAININGFUNCTION OF BUDS

Introduction. Hemodynamic instability and chronic inflammation nephrotoxic activation of proinflammatory cytokines in the treatment of hemodialysis may increase the rate of loss of residual renal function.

In patients with CKD stage V, which are on hemodialysis program, the development of systemic inflammation, immune deficiency, the progression of

cardiovascular disease, anemia and other complications associated with abnormal production and overexpression of proinflammatory cytokines.

Materials and methods. We examined 83 patients with stage V CKD who are on dialysis program. We used general clinical, biochemical methods of enzyme immunoassay for the determination of IL-1, IL-17, IL-18 in blood plasma, electrocardiography heart, statistical analysis of the results (the program «Microsoft Excel 2007», «Statistica v. 5.5 A»).

The studies point to a significant increase in proinflammatory cytokines examined groups of patients. However, if the level of IL-1 and IL-18 in patients who are on program hemodialysis to 3 years is the highest, in patients who oligo-anuria more than 3 years, their concentration was significantly ($p < 0,05$-$0,01$) decreases, while the level of IL-17 on the contrary significantly ($p < 0.001$) increases. The relative reduction in the concentration of IL-1 and IL-18 in the last group of patients in our opinion, due to the reduction in reserve capacity cells (monocytes, macrophages) and a decrease in the immune response. Significant also enhance IL-17 in the second of these patients, probably due to endotoxemia, and the increasing number of patients complaining of itchy skin, in which IL-17 may act as a mediator of inflammation. Correlation analysis of key structural and functional and hemodynamic parameters and levels of proinflammatory cytokines show that increasing the cavities of the heart and the loss of inotropic function is associated with high levels of IL-1 and IL-18.

Notes: EDS end-diastolic size, FSS - final systolic size, EF - ejection fraction, iLVM - the index of left ventricular mass, dA - aortic diameter, d LA - left atrium diameter, LVH - left ventricular hypertrophy.

Results. Moderate revealed a direct link between the level of IL-1, IL-18 and iLVM (r = from 0.44 to 0.49) and d LA(r = from 0.38 to 0.32), indicating their participation remodeling in left ventricular and left atrium. Attention is drawn to the fact that with increasing degree of left ventricular remodeling, correlated to IL-1 ranges from direct strong ($r = 0,71$) with concentric remodeling to moderate in the concentric and eccentric left ventricular hypertrophy ($r = 0, 39$ to 0.37) and calcinosis

mitraln6oho or aortic valves (r = from 0.31 to 0.32). The latter, again confirms that with increasing duration of oligo-anuria and renal replacement treatment levels of IL-1 and IL-18 are reduced (exhaustion of reserve capacity of the immune response), and structural and functional performance of the heart deteriorate. In evaluating the correlation of IL-17, and structural and functional parameters of the heart, determined moderate direct correlation IL-17 with the size of the left ventricle (r = 0,28 - 0,39), iLVM (r = 0, 46), dA (r = 0 43), dLA (r = 0,49) and moderate inverse relationship with ejection fraction (r = -0,40). Any damage to the heart valves (calcinosis) correlated with IL-17 was straight strong (r = 0,74). This is explained by the fact that changes in IL-17 in the direction of its significant growth occurring in these groups of patients with remodeling of the heart, blood vessels and damage valves most important.

Conclusions. The data indicate that levels of inflammatory cytokines (IL-1, IL-17, IL-18) must be assessed in the dynamics of each patient and in the context of residual renal function and dialysis duration program. Thus, the dynamic relative reduction in levels of IL-1 and IL-18 and IL-17 increase in patients with CKD stage V of the term oligo-anuria more than 3 years is a negative factor associated with more severe cardiovascular disorders.

Key words: chronic kidney disease, proinflammatory cytokines, cardio-vascular disorders.

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DIAGNOSTIC SIGNIFICANCE OF NECK AND CHEST RADIOGRAPHS IN PATIENTS WITH DEEP NECK PHLEGMONS

Introduction. Nowadays retrovisceral neck phlegmons (rNF) complicated by mediastinitis has high mortality rate up to 67%. RNF are difficult to diagnose because of the deep location and unexpressed external signs of intracervical purulent suppuration. The aim of research was to evaluate diagnostic significance of neck and chest radiographs in patients with rNF.

Materials and methods. There was carried out clinical study of neck and chest radiographs in 92 patients with rNF, including ones (60 persons), complicated by mediastinitis. All patients were admitted to surgical clinic from 2005 to 2015 years. Diagnostic significance was identified using Karmazanovsky's formulas.

Results. Data of neck radiographs showed high indexes of sensitivity (100%), peculiarity (95,3%) and accuracy (98,5%). These results allow to consider this method as one of the main in instrumental diagnostics of deep NF. Investigation of chest radiographs showed low rates of sensitivity (60%) and accuracy (64,7%) in searching of descending mediastinitis.

Conclusions. Lateral neck radiograph of patients with rNF is high sensitive and available diagnostic method therefore it must be performed on all patients suspicious on deep neck phlegmons as screening test.

Diagnostic significance of chest radiograph to find signs of mediastinitis is not always enough but it must be done immediately for all ones.

That's why it is necessary intraoperatively to check intramediastinal spreading during opening and drainage of rNF with followed surgical correction of mediastinitis.

Key words: neck phlegmon, mediastinitis, neck radiograph.

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THE PROBLEM OF DIAGNOSIS AND DIFFERENTIAL DIAGNOSIS OF PNEUMONIA IN NEWBORN INFANTS

Introduction. Diseases of respiratory system is the most common reason of neonatal mortality in Ukraine. Pneumonia is the significant problem of the first days of full-term newborn infants' lives. Congenital pneumonia is the manifestation of congenital infection (CGI), the importance of this problem is caused by the factor that children who had a severe form of congenital infection often have serious stable health problems. Newborn infants with severe perinatal pathology are the main reservoir for hospital bacterium strains. The introduction of infection caused by nosocomial microbial strains often happens in conditions of intensive care unit.

The early diagnosis and effective complex therapy determine the results of intensive treatment and care of ill newborn infants having severe perinatal pathology. The routine methods of laboratory diagnosis such as determining the white blood count and Arneth's formula, erythrocyte sedimentation rate, quantitative analysis for determining of C-reactive protein and procalcitonin content are not the specific criteria for neonatal period. O*bjective* – to evaluate the effectiveness of clinical and paraclinical diagnosis of congenital and acquired pneumonia in full-term newborn infants.

Materials and methods. Clinical and paraclinical examination of 69 full-term newborn infants suffering from pneumonia has been made. The reference group consisted of 25 full-term newborn infants who had no infectious and inflammatory diseases. Examined newborns were at Neonatal Centre, Vinnytsia Region Clinical Hospital (Department of anesthesiology and intensive care of newborn infants (DAICNI), Department of Pathology of Newborn Infants (DPNI)). According to development time of clinical signs, the newborn infants of the reference group were divided into the group I, consisted of 39 newborns whose respiratory failures were detected during the first 48 hours of their lives; the group II consisted of 30 newborns, whose clinical signs appeared after 48 hours. Clinical methods of examination included the evaluation of general state of the newborns at birth and over

the early neonatal period, results of laboratory and instrumental examination (clinical blood analysis, X-ray of thoracic organs, C-reactive protein (CRP), TORCH-infection test (polymerase chain reaction, IgM, IgG mother-child via method of paired sera), results of bacteriologic examination)).

Results. While studying the peculiarities of maternal pregnancy, delivery, somatic and obstetric and gynecologic pathology, it was established that to a considerable extent the occurrence of the disease in full-term newborn infants was connected with complications during the maternal pregnancy and delivery. The mothers of the I group of newborn infants definitely had infectious diseases more often during their pregnancy than the mothers of II group. A well, more often they had changes indicating the fetal hypoxia.

The results of clinical examination of newborn infants at birth showed that the newborn infants of the I group had more violations of severe adaptation than the newborn infants of the II group. The severity of illness, that the children of the reference group had, was caused by the development of respiratory failure of III degree and II degree. The ventilative support in the form of traditional artificial pulmonary ventilation (APV) was performed to 19 children (48,72 %) of I group and 8 children (26,67 %) of II group, high-frequency jet pulmonary ventilation (HFJPV) – correspondingly to 2 (5,13 %) and 1 (3,33 %) children.

The analysis of laboratory methods of examination showed that the indices of clinical blood analysis of the children with pathology significantly did not differ from those the reference group had. The high index of CRP, the children of the I group had, could be seen more often than the children of the II group had.

During the X-ray examination it could be seen that the acquired pneumonia more often (93,3 %) realized as a focal and segmental disease whereas the involvement of a lung lobe or the whole lung could be observed double as often in the course of congenital infection.

The children of I group were examined as for TORCH-infection. In analysing the obtained results it was found out that the newborn infants of the I group had toxoplasm infection, i.e. 10 children (45,45 %) and herpes simplex virus, i.e. 10

children (45,45 %), 4 children (18,18 %) had cytomegalovirus. 1 child had the combination of all three etiological agents of TORCH-infection, and 6 – mixed infection by two etiological agents.

The results of bacteriologic examination of newborn infants (out of endotracheal tube) showed that pathogenic and opportunistic etiological agents were found in 13 % children of I group. More often it was gram-positive microorganisms, and among opportunistic etiological agents the gram-negative microflora dominated. The children of II group were contaminated in 27 %, more often the opportunistic gram-negative microflora prevailed.

Conclusions. The results of the study have shown the lack of effective traditional criteria of diagnosis and differential diagnosis of congenital and acquired pneumonia in full-term newborn infants.

The early beginning of the disease is associated with infectious disease of a mother during her pregnancy in 56,4 %, high rate of C-reactive protein in 1/3 patients, more severe course of pneumonia that required the ventilatory support by APV of one in two patient. Instead the following factors did not have diagnostic value: long-term waterless break during the delivery, the severity of the state at birth, leucocytosis and change of Arneth's formula.

The role of hospital contamination with pathogenic and opportunistic etiological agents have been determined, that could be seen double more often than in patients with required pneumonia.

Key words: newborn, pneumonia, diagnosis, differential diagnosis

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CLINICAL EXPERIENCE IN THE TREATMENT OF ACUTE DEEP CARIES USING BIOCERAMICS

Introduction. The development of odontotropic toothpastes for the treatment of deep caries and assessment of their efficiency is lately of great current interest. Nowadays, dentists from different countries proposed methods of treatment of deep caries using biologically active ceramics. We have proposed our own version of biologically active ceramics (BAC), which differs in its composition from foreign analogues.

The *purpose* of this study is to assess the therapeutic effect of treatment of acute deep caries using biologically active ceramics.

Materials and methods. As part of the study treatment was provided for 33 patients-volunteers, aged 25-35 years, divided into three groups. Clinical research methods included: visual assessment of demineralized dentin area at the bottom of cavities, X-ray imaging, determination of dental pulp electroexcitability and assessment of pain intensity.

Treatment was provided in two visits. In the first visit, traditional calcium-containing material was used as a therapeutic substrate for the patients of control group, paste based on biologically active ceramics "Biovetri" was used for the patients of group II, and paste, based on our own synthesized BAC was used for the patient of group III. Repeated clinical studies were conducted in the second visit 4 weeks later and in the long term 6 months after the provided treatment.

Results. Visual determination showed that the area of regions painted with caries-highlighter with softened dentin in studied teeth of patients from II and III groups after application of bioceramics decreased by more than 50%, and in the patients of I group this studied criteria has not been changed.

Data analysis of spot-film digital radiography showed that the use of therapeutic substrate based on bioceramics stimulates the formation of irregular dentin in studied teeth of patients of II and III groups compared with before and after treatment, and patients of I group found no positive change.

Electroexcitability of dental pulp after using BAC significantly increases in patients of II (25%) and III (23%) groups ($p < 0.05$). In the patients of control group, we observed an increase in electroexcitability of treated dental pulp only by 7%.

Assessment of pain intensity during cold and heat thermo-tests showed that all therapeutic substrates have odontotropic properties, but in the therapeutic compositions based on bioactive ceramics they are more evident. Thus, the dynamics of hyposensitization of teeth treated in the patient from II and III groups in comparison with I group made accordingly 59% and 60% for cold stimulus and 55% and 61% for thermal stimulus.

Long-term period of observation. The therapeutic efficiency as a result of using therapeutic substrates in the treatment of deep caries was evaluated based on the data of clinical observations within 6 months after the restoration of anatomic integrity of dental crowns. Thus, in the patients of control group we diagnosed two cases of chronic fibrotic pulpit, and three cases of chronic fibrotic periodontitis, while in II group we diagnosed a fibrous form of chronic periodontitis in one patient, and in III group we registered one case of chronic fibrous pulpitis. In all other patients indicators of dental pulp electroexcitability were within the physiological norm (4-7 mU), we also observed dentin bridge formation and found no pathological changes in the periapical tissues

Conclusions. Clinical researches in the long term after treatment showed that the efficiency of using BAC is high, besides, taking into account quality characteristics of our own synthesized bioactive glass is almost not inferior to foreign analogues, which opens perspectives for further study of BAC properties in therapeutic dentistry.

METHODS

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UDC: 616.5+616.97]-057.87

EXPERIENCE OF IMPROVEMENT OF INDEPENDENT WORK OF STUDENTS AT THE DEPARTMENT OF DERMATOVENEREOLOGY

The modern development of dermatovenereology requires the professional training of highly qualified specialists in the departments according to the needs of practical health care system of Ukraine.

The Department must carefully choose the materials on dermatovenerelogy for independent work of all students under the guidance of a teacher. In order to improve independent work of students guidelines need to be managed. Guidelines should include information about the procedure for the preparation of the teacher for the class, plan of theoretical and practical questions with the standard answers.

Practical training should include interpretation of laboratory and instrumental investigations in patients with various dermatovenerological pathology.

The next step is the formation of the diagnosis, the differential diagnosis of dermatolovenereological pathology, finding out the possible etiological factors, pathogenetical factors, development of scheme of examination, working out the treatment plan and filling in the list of prescriptions.

Considerable attention must be given to the solution of heuristic tasks and practical games which concern the diagnosis and treatment of patients with specific dermatological disorders.

Introduction of information and communication technologies in educational process is important. Thanks to them students have the opportunity to study the literature on dermatovenereology, listen the audiomaterial and watch videomaterial, study presentations of the main topics, test tasks, exercises for independent control of knowledge and skills on specific topics on dermatovenereology, manuals and videos.

Conclusions. At present stage independent work of students at the department of dermatology and venereology should be focused on training of highly qualified specialists, as well as cover all students group. A well-developed methodological recommendations for classes in each dermatological nosology contribute to the systematization of educational process, of material and forms of control. An important place in the educational process should be given to direct work with patients with dermatovenerological pathology, to the study and interpretation of laboratory and instrumental examinations, formation of diagnosis, development of plan of examination and treatment. Introduction of information and communication technologies in educational process promotes the intensification of the learning process at the department of dermatovenereology and increases its efficiency.

Key words: independent work, educational process, dermatovenereology.

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CONTACT METHOD TREATMENT OF SUPERFICIAL TUMORS OF THE SKIN AND SOFT TISSUES IN CHILDREN

Introduction. To improve the efficiency of diagnosis and treatment of superficial superficial tumors of the skin and soft tissues in children of different age groups which were treating with using the Solkoderm drug. The timely and correct application in the treatment of Solkoderm drug leads to shortening of time treatment with good clinical and cosmetic results without secondary infection and development to scarring deformations.

Materials and methods. Were treated 174 children aged from 2 months to 18 years with different kinds of superficial tumors of the skin and soft tissue (plantar and simple warts, papillomas, condylomas, benign nevi, simple hemangiomas) . There were 129 (74.3 %) boys and 45 (25.7%) girls, respectively.

Control group consisted of 43 children with identical tumors, who were treated by conservative therapy with using of other known techniques - cryolysis by liquid nitrogen, electrocautery, sclerotherapy, laser therapy.

Effectiveness of solution Solkoderm conservative treatment was assessed by the method of determination of regenerative time updates of the affected soft tissue cells, healing place of destruction and of determination of the positive nearest and long-term clinical and cosmetic results.

Results. Of 174 treated children who underwent conservative treatment of superficial tumors of the skin and soft tissues, satisfactory clinical and cosmetic result was obtained in 37 (21.4 %) children , good result in 49 (27.9%) and an excellent cosmetic effect in 72 (41.6 %) children, respectively.

Repeated treatment had to be repeated in 16 (9.2%) children due to the presence of residual effects of neoplasmas.

Comparing the results of conservative treatment in children conducted by other methods, we concluded that the timely and correct application in the treatment of Solkoderm drug leads to shortening of time treatment with good clinical and cosmetic results without secondary infection and development of scarring deformations.

Conclusion. Monotherapy of superficial tumors of skin and soft tissues in children by an aqueous solution of Solkoderm drug has got an important relevance in the process of solving clinical cases on the line of primary care - physicians of family medicine.

Conservative treatment of superficial tumors by Solkoderm can be performed not only in stationary conditions, but also in outpatient conditions in policlinics of central district hospitals, urban and regional hospitals.

Key words: children, superficial tumors, conservative treatment.

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INTERACTIVE TECHNOLOGIES OF TRAINING AND CLINICAL MENTALITY OF STUDENTS OF MEDICAL UNIVERSITY

Introduction. Forming of clinical thinking is the main task for training of students of Department of Medicine, Medical University. *Objectives* – To demonstrate the benefits of the method "Modelling of Clinical Situation" at the practical seminar for the 5-year-students, Department of Medicine No. 2, a subject "Occupational Diseases" using the results of a modular set of tests as knowledge control.

Materials and methods. At the practical classes the technology of collaborative group training "Modelling of Clinical Situation" for training students has been used for the cycle "Occupational Diseases". The specific feature of the method is increased interest to education, development of productive thinking and creating a businesslike atmosphere during the class that teaches how to have a dialogue, discussion and encourages to obtain knowledge on their own.

Results. During the 2013-2014 academic year on the basis of State Institution "Scientific and Research Institute of Rehabilitation of Disabled Persons", Vinnytsia National Pyrogov Memorial Medical University 39 5-year-students, Department of Medicine No. 2 were trained using the method "Modelling of Clinical Situation" in a course "Occupational Diseases". The control group was composed of 33 5-year-students,Department of Medicine No. 2 who learnt the course of occupational diseases during the 2011-2013 academic year in accordance with usual teaching technology.

The use of the method "Modelling of Situation" unlike the routine methods of class work led to achievement of average pass rate and prevented the occurance as well as ensured the removal of current academic gaps in time by the 5-year-students, Department of Midicine. The average point of academic achievement in "Occupational Diseases" rose from 3,61 points in the control group to 3,77 points in the examined group.

Conclusions. The use of modern interactive technologies of education promotes taking into account individual and typical peculiarities and abilities of a student, develops creative skills that promotes professional skills, provides personal fulfilment of future clinicists. Connection of interactive mothods of teaching and routine academic methodologies improves the quality of education and level of training of competitive young staff. I believe, the prospects of further developments are in providing and their adapting practical seminars in "Occupational Diseases" with modern high-tech educational complexes that would include visual overview of further development of the situation, namely: "patient - healthy person", "patient - disabled", "patient - chronically ill patient", "patient - corpse". Indeed, to treat means to foresee.

Key words: pedagogical process, interactive teaching methods, higher medical education, clinical thinking, occupational diseases.

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FEATURES FORMATION OF PROFESSIONAL MORALITY AND ETHICS IN STUDENTS OF MEDICAL UNIVERSITIES

Over the years of teaching in the medical college student has been formed not only as the future professional, but also a complete person, a person with high morals.

The doctor - is not just a profession, it’s a way of life. From the first steps in medicine the inner and the outer world of the future specialist is formed to be a doctor in the broadest sense of the word the perfect knowledge of their profession is not enough.

Doctor`s activity is revealed through the moral values that serve humanity factor, special meaning is inherent in the professional morality and ethics. The feature provision of the doctor is that he communicates every day with colleagues, patients and relatives. The disease adversely affects the mood of the patient, his psychological state, changing its attitude to the environment, and the family is under stress.

Students who acquire the specialty of doctor and begin to study special subjects should know the basics of the science. After all, it will be difficult to establish the best relations with patients and colleagues, and be able to perceive the psychology of the patient and his family and be able to maintain its overall psychosomatic condition.

Nowadays, the concept of ethics and morality are perceived ambiguously. We realize that without them life is impossible. But it is difficult to give a clear definition of these rules, because each of these concepts have different limits and values. And the more acute problems we face, the fragile prospects for the future, the more the desire of modern man find the meaning of life, something worth living for. Therefore, it poses a question of choice of moral virtues. It is always, in any case, feels the need for higher values, which directs it to the correct channel.

Morality (from the Latin. Moralis – moral, toris – custom) – a set of historically conditioned rules, regulations, customs and principles of coexistence and behavior; their relationship to the production of material and spiritual values, which define their responsibilities in relation to each other, social groups, strata, classes, society and the implementation of which is based on public opinion.

The term comes from the Greek ethics etos that the days of Homer meant accommodation, sharing accommodation. Subsequently, begins to dominate another meaning: custom, character, character. Ancient philosophers used to refer to the concept of sustainable contents of a phenomenon. Ethics as a science according to

Aristotle (384-322 BC) is a branch of knowledge which examines the ethical virtues fact, studies that human nature is the most advanced. This definition is relevant for the present time.

We face everywhere with the ethical issues, wherever there is a holistic spiritual particular philosophical understanding of a human – like prearystotel Greek philosophers and sages, and in other centers of ancient culture – China, India, etc.

Between morality as a real phenomenon and ethics as a science, in fact, there is no clear boundary, since choosing a course of conduct, able to act so, we are guided, even unconsciously, certain broad guidelines and concepts, trying to justify somehow their choices and their action. This is already the realm of ethics. However, it largely preserves the value of science and morality – a real phenomenon, the subject of study of this science.

The real purpose of education in terms of environmental, economic and spiritual crisis of our society must become vitally active humanistic education of aimed citizen of a democratic society, who would be in his life guided cultural-national and universal values, such as:

1. Life activity is understood as the realization of their own individuality inherent natural abilities, aptitudes and talents, as own creativity of life.

2. Humanistic direction as the substructure of personality that provides the qualities of individuality that provide the right conditions and others on the physical, mental, social and spiritual development.

3. Cultural-national values - hard work, kidness, freedom, sovereignty, human values - Man, Family, Work, Knowledge, Motherland, the Earth, World.

Humanitarian education aims to provide training and education of democratically oriented professionals - a new generation of intellectuals capable of ensuring human culture in all spheres of life, communication and culture.

In the form of an integrated learning process should encourage self-educational activity of man, and the process of self-education – self-educated activity. As a result of the interaction of these two processes act as public self-identity, its cleativity of life.

Features of professional relationships are the essence of professional ethics. Since the latter reflects social being in general, the question of content of display and professional distribution of morality. Professionalization is socio-economic phenomenon which is inherent natural and objective character development. Therefore, it is always appropriate reflection in public opinion in general and the individual in particular.

Learning to live means to select their position in life, to form their outlook, attitude to ourselves, to the surrounding world, understand themselves, other social processes set ourselves clear targets and act in accordance with them.

All students emphasize the importance of first contact with the patient, rules of conduct, appearance, manner of interviewing and gathering history, the foundations of ethics.

Interpersonal relationship of doctor and patient are based on the principle of mutual practical, because confidence as moral and psychological category defines attitude as to the actions of another person, and to himself. Achieving this goal in relations between doctor and patient is the key to success in the treatment process.

Moral consciousness is characterized by a corresponding position of the society, class, professional tasks, activities and more. All this is dialectically interconnected. General moral views are formed depending on the specific situations in different areas. Features professional relationship lay in the mind of the individual corresponding moral views, habits and beliefs.

It must be remembered that the doctor has a special position in public life, is a significant part of the intelligentsia of the country. That's why working with medical students compulsory educational element is the formation of national identity and pride in their home country. This is a formation of crisp, solid targets of national dedication of students, which promotes socially useful orientation of students, attracting young people to study and increase the rich traditions of national intelligence, Ukrainian science and culture.

Morality always turned to the mind and will of man, and it means the ability to “transcend its limits”, “rule of itself”. Thus some supposed freedom of the individual

in the moral choice. But it requires abstraction from the historical cultural traditions, which have a decisive influence on the formation of a specific person.

The main problem which is solved in education at this stage – is sensually theoretical and effective software implementation needs and capabilities of the student in the system: I - society - nation - humanity.

Experts who support certain ethical theory will not only act differently in a particular situation, but differently interpret the same situation of moral choice. It is believed the student will be guided by the views of professional and civic values, which he took from his teachers. This will require self-prudence, courage, justice and compassion to patients.

However, the moral choice of specialist professional determines the boundaries of medical activity, in other words, the competence of social pedagogy and professional distance between the specialist and the patient. They (professional boundaries) models depend on models of the adoption of the first decisions that meet certain ethical concepts.

Together with the concepts of ethics and morality, tolerance occupies an important place. That is why experts in the education of future teachers should form the students' tolerance limits, its overall content and purpose. Because of medical professionals are tolerant to different emotional expressions patients and their relatives should have the proper training, under any circumstances, to maintain balance and tolerance, perceive problems and circumstances of patients, regardless of their lifestyle, behavior, social and national origin, sex and skin color, religious or political views and so on.

Thus, the concept set out the categories of social consciousness involved in moral issues and help identify the leading factor in the practical ramifications of professional ethics. It means, both emotional and intellectual imperatives of conscious of being in the professional space. In fact, medical activity requires extremely deep focus on the field of infinite moral and intellectual work, a combination of call of the heart to help people with boundless patience, stamina and thirst for knowledge.

The very integrity is not enough. However responded professionals who are fluent theoretical knowledge, but helpless in professional activities. Therefore, the about success and recognition on the difficult path of health can't be named as a fortune because it takes the opposite definition. A good professional move should be accompanied by fundamentally different measurements – the talent of self, the inner core philosophical. In fact, the individual gradually created a unique fusion of the cognitive system of clear ideas and own classified and valued standard of motivations and actions that are moral activity.

Persevering training and dedication, love for their people and respect for traditions are the basis for the formation of a citizen of Ukraine.

Conclusions. The formation of a specialist at this stage of training of young people should aim to use all methods and measures of harmonious development of young people. Education is aimed at forming not only highly skilled health worker, but also a man of high morals, ethics and spirituality that form the stratum of intellectuals with high national consciousness and national spirit.

Key words: pedagogics, training, education.

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COMPUTER SIMULATION OF STRESSES ON THE VARIOUS METAL FIXTURES WHEN PERFORMING OSTEOSYNTHESIS ABOUT CERESVILLE FRACTURES OF TYPE A2

Introduction. Fractures of the proximal femur (ppsc) and their consequences every year cause enormous damage to the economy of any state. Thus, according to

the world health organization, in 1990 about 1.3 million cases pwsc registered throughout the world. According to experts, this figure will increase and in 2025 may grow in two times, and in 2050 – three times.

The choice of treatment of fractures of the proximal femur is one of the most important, because it affects not only the time of fracture union, and restoration of limb function and rehabilitation of the victim. Today, in the developed world in the treatment of fractures of the proximal femur have been widely introduced invasive, less traumatic application technology of the proximal femoral rod (trochanteric gamma nail 3 g – stryker, pfn a – synthes, chfn - chm). This technique of operative treatment of fractures of long bones is used in 60-70% of patients. A well-known classification of ceresville fractures of the femur is the classification of oa, where the authors identify verticalinstabile but stable in the horizontal plane fracture of type a1, unstable in the vertical and horizontal planes, the fracture of type a2 and unstable in the horizontal plane and the vertical plane stable fracture of type a3. However, we did not found literature data on stresses on the locked intramedullary rod depending on the type of fracture in the oa and options for distal locking. Such attempts to justify the suitability of mechanical osteomeatal on the basis of information on the biomechanics of human systems. In this case, often the calculation of the approximate patterns that reflect some aspects of the behavior of the system "bone - implant" by using computer implementations of numerical methods, e.g. Finite element method (fem). The advantages of this approach are obvious: on the basis of the calculation results to draw conclusions about the work osteoimplants and its effect on bone and, thereby, to refuse further consideration of the apparently futile constructions; there is a possibility to adjust or change the shape of the components of the implant to improve its functionality; there is no need to conduct numerical experiments on animals; significantly reduced cost and development time of the design of the implant; based on the distribution of the deforming stress possible accurate prediction of remote results.

Interesting in scientific terms, is to conduct computer simulations of stresses on the various metal fixtures when performing osteosynthesis about ceresville fractures of type a2

Materials and methods. Computer simulation was carried out in the laboratory of biomechanics of the si "institute of traumatology and orthopedics of nams of ukraine". We applied computer simulation and fem methods for solving problems of continuum mechanics in application to biological objects with the use of software and computer systems. For comparative analysis of reliability of fixation of bone fragments in ceresville the femur fractures of type a2 used the layout of the femur, in which is implanted the clamping elements. For fixation of fragments used 2 options fixers - dhs plate (1) and the proximal femoral rod (2), which provides optimal biomechanical and biological conditions for healing fractures. Based on axial scans computed tomography models of the femur with different versions of fixation obtained for ct scanner toshiba asteion super 4 (japan) using the software package mimics in automatic and semi-automatic modes reproduced the spatial geometry of the proximal femur. Models in polla imported in solid works environment, where with the help of appropriate simulation tools created 3-d models of the proximal femur with ceresville fractures of type a2 and their fixation with a dhs plate and terminal pfn. The vat calculation method fem was performed for the intact model with both clips, and then clips under ceresville fractures of type a2 and distal locking (without lock, 1 screw, 2 screws).

Results. Determined that the minimum voltage on metal fixtures in their proximal was determined by use of plate dhs and pfn web in option with 2 screws for distal locking. These data are statistically significantly ($p \leq 0.05$) differed from data in the application of pfn stem without distal locking. On the distal metal clips the voltage was minimum when the web application pfn with the use of 1 and 2 screws for distal locking (16,03 and of 17, 77 mpa), in contrast, stresses in the use of dhs plates is dramatically increased to maximum performance and made 54,22 mpa.

Determined that minimally but adequate for this type of vertical and rotational unstable fracture chronoclast was observed when using model terminal pfn in using 2

screws for distal locking. These micro movements will contribute to the improvement of reparative osteogenesis of ceratostigma fractures of type a2 patients. Too much chronoclast when using plate models without and with application 1 locking screw for the distal locking of pfn rod (and of 2.21 to 2.28 mm) can lead to the violation of reparative osteogenesis in the application of this method metalofixation.

Conclusions. To determine the optimal type of osteosynthesis in the surgical treatment of ceresville fractures of type a2 computer simulations of the stresses on the metal fixtures (plate dhs and pfn rod). Biomechanically justified under ceresville fractures of type a2 is the use of models pfn web in option with 2 screws for distal locking as evidenced by the minimum voltage on the metal clip and the existence of optimal micromotion between the bone atomtime. The study will determine a differentiated approach in the treatment of patients with ceresville femoral neck fractures, will improve the efficiency of medical care for this severe category of patients.

Key words: computer simulation, ceresville fractures of type a2, voltage, metal clips.

SOCIAL MEDICINE, HEALTH CARE ORGANIZATION

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SCIENTIFIC BASIS PSYCHOGRAMS OF MAJOR DENTAL SPECIALTIES UNDER OF THE PSYCHOHYGIENIC ASSESSMENT OF THE LEADING PERSONAL FEATURES

Introduction. The structure professiograms are structured list of specific requirements that certain profession makes to the human body, allowing through

analysis, comparison and abstraction to determine the degree of professional competence and level of future professional success, the leading place belongs to the complex personality features that are at the base their formation, development and possible correction. Therefore, as an essential component of modern professiograms is psychograms release that are important for professional and individual features for a particular profession or a single profession.

The *aim* of the study is scientific justification psychograms of major dental specialties under psychohygienic assessment of subjective control, asthenic and depressive states, aggression, level of social and psychological adaptation, emotional burnout, professional adaptation of personality and biorhythmic characteristics of the organism.

Materials and Methods. The basis of expert assessment of professional activity, in the center of which there were questions about making psychograms such dental specialties as dentistry, surgical dentistry, prosthetic dentistry, orthodontics, children's therapeutic and surgical dentistry, was careful implementation of a number of stages that lie in the development questionnaire special scoring professionally relevant personal features. To determine the characteristics of subjective control, asthenic and depressive states, aggression, level of social and psychological adaptation, emotional burnout, professional adaptation and biorhythmic characteristics of the organism used modern personality questionnaires. Statistical analysis of the results was performed using the application package applications of multivariate statistical analysis “Statistica 6.1 for Windows” (owned Vinnitsya National Medical University named Pirogov, license № AXX910A374605FA).

Results. Considering the values of review stage of development of personal features that are necessary for successful mastery of basic dental specialties and reflect the peculiarities of subjective control, in any case, the first 2 positions in the structure of the studied parameters (except prosthetic dentistry) took the data on the level of subjective control in the field of health and illness and general subjective control. That such should recognize their location in case of psychographic analysis of such specialties like dentistry, children's therapeutic and surgical dentistry. In the

opposite in content these indicators typical for surgical dentistry and orthodontics – first data on the overall level of subjective control, eventually indicators of subjective control in health and disease.

Analyzing the features of representation of certain aggressive in content personal displays the structure psychograms main specialties of the dental profession, we should note the fact that the first position in the structure of performance inherent to professions that are subject to study, take performance irritability, verbal and indirect aggression and negativism. Only in the case of psychographic characteristics evaluation work in the specialty prosthetic dentistry must delete from the list of data relatively low expression of negativity, as in the case of psychographic characteristics evaluation work on specialty pediatric surgical dentistry – need to add data on physical aggression.

Summarizing the results obtained should be noted that regardless of the features of the dental profession in the structure of personality characteristics that reflect major correlates of emotional burnout necessary for successful mastery of basic dental specialties and, therefore, should be the basis for the creation of adequate existing requirements psychograms, the most important should be considered its characteristics such as low feelings “driven into the cage”, emotionally colored manifestations of anxiety and depression, emotional and moral disorientation, reduction of professional capacity, and low expression of psychosomatic and psycho-vegetative disorders.

Conclusions. The results determined that the most significant in the structure psychograms of dental specialties are indicators that mark a high level of subjective control in health and disease, achievements and failures, a low prevalence of depressive and asthenic displays, a low level of expression indexes irritability, verbal and indirect aggression and negativism, a high level of formation of correlative social and psychological adaptation, as the levels of social and psychological adaptability, emotional comfort and internal control in the course of professional activity, a low extent of emotional burnout indicators such as the level of feeling “driven into the cage”, emotionally colored manifestations of anxiety and depression, emotional and

moral disorientation, reduction of professional capacity and expression of psychosomatic and psycho-vegetative disorders, arrhythmic and, in a somewhat lesser extent, morning type of daily efficiency.

Key words: dental specialty, psychograms, personality features, psychohygienic assessment

SCIENTIFIC REVIEWS

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PATHOMORPHOLOGICAL CHARACTERISTICS OF DEVELOPMENT OF THE FETOPLACENTAL INSUFFICIENCY (FI) IN PRESENCE OF AN IRON DEFICIENCY

One of the basic reasons perinatal morbidity and mortality is placental insufficiency, which leads to prenatal hypoxia and small-for-date fetus. During longstanding progression of anemia the function of placenta is disturbed, the change of its nutritional, metabolic, prescretion producting and gaseous exchange functions are involved, as a result the placental insufficiency develops. According to nowadays data anemies are found among 20-30% of all women, 0-50% women of fertile age, 45-99% of pregnant women. The role of the incidence of an iron deficiency anemia in formation fetoplacental insufficiency of pregnant women is anslysed.

The fetoplacental insufficiency (FI) attached to an iron deficiency caused by sharp decrease of iron status in placenta, change of activity of respiratory ferments and proteinase. The iron deficiency among pregnant women negatively effects passage through pregnancy, fetation and act of delivery, erythropoiesis inhibition and

hypochromic anemia are present in the children's first year of life. Anemia induces placental changes, which are characterized by imbalance between adaptive and disadaptive processes in reaction to hypoxia in the system pregnant-placenta-fetus. Often (in 40-50%) gestosis is annexed; premature birth arrives in 11-42%; poor uterine contraction strength in 10-15% of maternity patients, hypotonic hemorrhage during maternity - 10%; postnatal period is complicated by suppurative-septic maladies in 12%.

So, intra-uterine hypoxia caused by the iron-deficiency, being one of the basic evidence of the fetoplacental insufficiency, leads to developmental disability or central nervous system damage in 60-80%, increasing the frequency of somatic or infectious morbidities, reducing postnatal adaptation in neonatal period, initiating the defect of psychomotor and intellectual development of children.

Pathomorphological study proves the presence of compensatory mechanism in the system mother-placenta-fetus. Accelerate cure of acroteric villus and more intensive exchange within maternal and fetus' blood circulation, that is accompanied by increasing of volume and dimensions of placenta.

The fetoplacental insufficiency in the presence of an iron deficiency anemia is characterized by availability of pseudo-infarct, afunctional zones, focal villus necrosis, stromal villus sclerosis and its thrombosis, which takes part in placenta pathology formation.

Detection of early prognostic features of the iron deficiency anemia allows to abate a degree of development of amplification from the mother's and fetus' side.

Key words: placenta, fetoplacental insufficiency, iron deficiency anemia, preeclampsia.

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MARKET OF MEDICAL SERVICES IN TERMS OF THE MOST COMMON DIAGNOSTIC RADIOLOGY METHODS

Our *purpose:* to study peculiarities of functioning of the current market of medical services (including also diagnostics) in Ukraine and other countries in the world.

We overviewed the data of national and international scholars on the market of medical services within the health care system. The market of medical services is a complex system that includes state-funded, municipal, and private components, and requires state regulation to increase access and quality of rendering medical services. Market studies in medical services as a social economic system show that preservation and recovery of citizens' health largely depends on the system of economic relations between suppliers and consumers of medical services, and on the social lifestyles. An important precondition for the development of medical services market in Ukraine is the consolidation of innovative potential of the health care system, such as the set of R&D, technological, infrastructure, financial, legal, sociocultural, and other opportunities that provide for the acceptance and implementation of innovations. The outdated medical equipment does not always provide for due medical examination. In the process of searching for alternative sources of revenue and the ways to reduce costs while keeping high quality of services, conditions are settling for the development of commercial medical services, on a fee-paying basis.

The study of peculiarities of the market of medical services in diagnostics in Ukraine helped us provide the following definition for the notion of 'diagnostic medical service' – it is the result of operating activities of qualified medical staff of a medical establishment that provides for a set of diagnostic activities to identify certain clinical vital signs of the body in order to detect, prevent, and treat diseases, which has autonomous complete significance and monetary evaluation.

We defined main problems in the field and the possible solutions to them. Main medical fields to use the most common diagnostic radiology methods were identified, as well as their advantages and disadvantages analyzed.

An important part of a diagnostic field on the market of medical services belongs to medical radiology, a science that uses different physical rays and fields in order to diagnose (radiodiagnosis) and treat (radiotherapy). Presently, about 80% of all diagnosed diseases are determined on the grounds of radiological and endoscopic examination methods, while until 1970s the only method of medical imaging had been X-ray radiography. Later, they started using more modern methods of radiodiagnosis such as computer tomography (CT), ultrasound method (USD), radionuclide method, magnetic resonance imaging (MRI), intervention radiology, radionuclide imaging methods, etc.

X-ray radiography is most often used in orthopaedics and traumatology (signs for different bone fractures, dislocations in joints, flat-footedness, benign or malignant growths, inflammatory processes), in pulmonology (developmental abnormalities and defects in lungs and bronchi, traumatic injuries, neoplasms, TB), in neurology (traumatic lesions, diseases, neoplasms, developmental abnormalities and defects), in otolaryngology (inflammatory conditions, traumatic lesions, congenital defects), in cardiology (congenital and acquired defects or malformations, cardiac and aortic aneurysms, pericarditis, neoplasms), in urology (structure and function of kidneys and bladder, developmental abnormalities and defects of kidneys, urinary tracts), in gastroenterology (pathological conditions of alimentary canal, of stomach, of small and large intestine, of biliary passages, and of pancreatic passages), in gynecology (assessment of uterine tubes patency in infertility treatments), in surgery (diagnostics of intestinal obstruction, ulcer disease of stomach and duodenum).

CT is most significant for traumatology and neurosurgery when they need to detect the presence of a lesion and its nature. CT helps detect many pathological conditions such as traumas and their consequences, tumors, lesions of lymph nodes, expansion of vessels (aneurysms), inflammatory and also purulent processes (pneumonia, abscess), developmental disorders, dystrophic processes, a.o.

Magnetic resonance tomography does not have an X-ray radiation in its basis but a nuclear magnetic resonance, a physical phenomenon of interaction of external magnetic fields with the passages of nuclei of the organ under examination. The device is safe and very informative (in particular, for the study of the brain and the spinal cord, of joints, cerebral vessels and muscles). In 2003, Peter Mansfield and Paul Lauterbur were awarded a Nobel prize in medicine for inventing the MRI.

The diagnostics capacity of cardiac conditions largely improved with the help of ultrasound examinations (echocardiography). The list of other techniques: ultrasound tests for thyroid gland, for eyeballs, for mammary_glands, for regional lymph nods around different sections in the body, for liver, for gallbladder, pancreatic gland, for determining the function of the gallbladder, spleen, kidneys, adrenals, abdominal aorta, small vena cava, abdominal lymph nods, peritoneal cavity, abdominal USD of the bladder, of prostatic gland, transvaginal USD of the bladder, of internal female genital organs, USD of salivary glands, USD of pleural sinuses to detect free fluid.

Conclusion. The improvement of national mechanisms to provide for and monitor quality assessment procedures in diagnostics, as well as fostering standardization of the services in Ukraine, would help raise quality of medical services and bring national legislation in compliance with international and European medical law standards.

Key words: market of medical services, diagnostic radiology, ultrasound diagnostics, computer tomography, magnetic resonance imaging.

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PHOTODYNAMIC THERAPY IN THE TREATMENT OF GLIOMA

The review presents the data on the use of photodynamic therapy (PDT) for the treatment of patients with malignant brain tumors. One and two-year survival rate and an increase in overall median survival of PDT-treated patients compared with standard treatment indicate a promising prospects for PDT in neurooncology.

Experience considerable of PDT applications in cancers, particularly for malignant tumors of the skin, lungs and gastrointestinal tract, suggests that there is a reason to believe that PDT is a most effective method to prevent local spread of tumor cells. It is well known that neuroectodermal tumors have the ability to local expansion in the brain tissue and infiltrative growth, whereas metastases of these tumors outside the central nervous system are rare. The spread of tumor cells occurs infiltrative, mainly through membranes of the brain, cerebrospinal fluid conductor paths, as well as perivascular and perineural spaces at a distance of 3–4cm from the primary tumor. The blood-brain barrier not only contributes to the selective local spread of tumors, but also prevents the full effects of chemotherapy.

Conclusion. Thus, the duration of disease-free period and the survival of patients with glioma depend on the local propagation speed of the pathological process. PDT as a treatment method has a local impact, aims to increase a zone of tumor destruction during operation, which allows to improve survival outcome and life quality of patients with glioma.

Key words: glioblastoma, photodynamic therapy, photosensitizer, photolon, photoditazine.

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SOCIO-ECONOMIC PROBLEMS OF SMOKING IN UKRAINE AND MODERN APPROACHES FOR ITS SOLUTION

The *purpose* of the paper is an analysis of smoking in Ukraine, its impact on human health and identify the social and economic damage from smoking and measures to reduce and curb tobacco consumption.

In Russia, tobacco was introduced by British merchants by Ivan Grozniy in the second half of the XVI and XVII century it began to cultivate and Ukraine. In Tsarist Russia to smoking were negative. During the reign of Mikhail Romanov tobacco subjected to official ban, contraband goods burned, its consumers and traders fined and physically punished. At the XVII - XVIII century measures directed against smoking, began to soften. Peter I addicted to tobacco in the Netherlands, has canceled all inhibitions and allow legal importation of tobacco. Since smoking has become a very popular and harmful habit. Ukraine also had loyalty to tobacco.

Research scientists have shown in what appears harmfulness of smoking. Professor VG Zhdanov said that in the tobacco smoke consists of 196 poisonous components that exceed the maximum permissible concentration for humans. This nicotine, ammonia, hydrogen sulfide, carbon monoxide, carcinogens, essential oils, resins, tar. Fourteen of these substances - a drug. And the man who sucks poisonous tobacco smoke, is an ordinary tobacco addict. In medical journals emphasized that tobacco smoke contains over 3,000 chemicals, about 60 of which are carcinogenic, that is capable of damaging the genetic material of cells and cause the growth of cancer. 10% of smokers subsequently die from cancer. While smoking in the air is released more than 4,000 substances. Most of them remain on the furniture, not weathered the room. These substances are not only toxic but also have carcinogenic effects. Every year from tobacco kills 1.2 million europeans. According to forecasts, by 2020 this figure could reach 2 mln., which constitute 20% of all deaths in the

region. The prevalence of smoking in Europe is 30% of all residents, including 38% of men and 24% among women. The prevalence of smoking Ukraine is one of the leading countries. Ukraine is the second country in the world (after Chile), where at the age of 13-15 years smoke 30% of boys and girls. According to official statistics, in Ukraine every year from diseases related to smoking kills 120 thousand. People of which 10% - passive smokers. Socio-economic damage from smoking worldwide is estimated at 200 billion US dollars each year. Countries with high incomes allocate 6-15% of the financial resources of health care for the treatment of diseases caused by smoking. According to estimates of the World Bank, the economic losses from tobacco Ukraine is about $ 2 billion annually. In Ukraine, tobacco is grown only in some southern and western regions. The area of land under tobacco, is 0.001% of agricultural cropping countries (26.7 mln. hectare), ie 26700 hectare. To prevent the globalization of the tobacco epidemic, WHO has developed and adopted in the 2003 Framework Convention on tobacco control, which came into force in 2005. A March 15, 2006 Ukraine ratified this Convention. Since ratifying the Framework Convention on tobacco control in Ukraine adopted changes to legislation. Tax Code of Ukraine provides for increasing the size of the excise tax on tobacco products in 2016 compared to 2015 by 1.4 times. However, in addressing the tobacco threat to Ukraine is not yet done, the prevalence of smoking is high.

Conclusion. In order to reduce and cease tobacco use in the country should:

– develop and implement the National Programme to reduce the harmful effects of tobacco on health and to help smokers quit;

– ban on all forms of advertising of tobacco promotion, which is still present in the places of their implementation;

– conduct a gradual increase in taxes on tobacco products until the end of their use;

– develop and implement measures to curb the illicit trade in tobacco products;

– educational and training institutions, enterprises and organizations– are constantly spending, with the assistance of experts, explanatory and educational work

through lectures, talks about the dangers of smoking to health and the need for its termination;

– expected costs from the state budget for tobacco control programs;

– strengthen the control of public authorities for the implementation of anti-tobacco legislation and to limit the influence of tobacco companies on power.

Key words: smoking, health, life expectancy, socio-economic losses, anti-tobacco actions.

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CONGENITAL OF LONG QT SYNDROME: STATE OF THE ART

Until recently, sudden cardiac death in a young person often remained an unsolved problem. However, in the last decade there have been dramatic advances in medical knowledge regarding inheritable arrhythmias that increase the risk of sudden cardiac death in healthy young individuals. The primary mechanism in this group of arrhythmias appears to be an alteration of cardiac repolarization. In some diseases, the specific genes affected and even precise cellular mechanisms have been identified. The information about these diseases is often complex and rapidly evolving, challenging both healthcare providers and the families who must make important decisions based on emerging and incomplete information. Congenital syndrome of the interval QT prolongation belongs to the primary electrical heart disease and is characterized by QT prolongation on the electrocardiogram of rest, paroxysmal tachycardia of the "pirouette" (torsade de pointes), which is transformed into ventricular fibrillation to the development of syncope and sudden cardiac death.

Torsade de pointes is usually self-terminating, thus causing a syncopal event, the most common symptom in individuals with long QT syndrome. Syncope typically occurs during exercise and high emotions, less frequently at rest or during sleep, and usually without warning. In some instances, Torsade de pointes degenerates to ventricular fibrillation and causes aborted cardiac arrest (if the individual is defibrillated) or sudden death. Approximately 50% of individuals with a pathogenic variant in one of the genes associated with long QT syndrome have symptoms, usually one to a few syncopal spells. While cardiac events may occur from infancy through middle age, they are most common from the pre-teen years through the 20s. Some types of long QT syndrome are associated with a phenotype extending beyond cardiac arrhythmia. In addition, to the prolonged QT interval, associations include muscle weakness and facial dysmorphism with Andersen-Tawil syndrome (long QT syndrome type 7), hand/foot, facial, and neurodevelopmental features with Timothy syndrome (long QT syndrome type 8) and profound sensorineural hearing loss with Jervell and Lange-Nielson syndrome. The prevalence of the syndrome in the population is 1: 2500-1: 7000 newborns with 90% of penetrance. 12 distinguished molecular genetic variants of the interval QT prolongation syndrome identified genes which mutations lead to dysfunction of ion-specific channels of cardiomyocytes and increased action of potential duration. The main options syndrome is LQT1, LQT2 and LQT3, which account for almost 90% of all genetically confirmed cases. The diagnosis of the syndrome is based on medical history and genealogical data, clinical symptoms, standard electrocardiogram findings, daily monitoring of electrocardiogram, stress test, and in most cases, even before the results of genetic screening to decide the choice of pathogenetic therapy. A survey of family members makes it possible to identify patients belonging to risk SCD group. The treatment is indicated to remove syndrome prolongation of the interval QT triggers arrhythmias, life–threatening patient characteristics for a particular variant of the syndrome and specific for each patient, excluding drugs that can prolong the interval QT, and the systematic administration of β -blockers, which play a key role in antiarrhythmic therapy. As the secondary prevention of sudden cardiac death, and in case of in

effectiveness of antiarrhythmic therapy implanted cardioverter–defibrillator is indicated.

Conclusions. Long QT syndrome can be a worrisome condition because of serious potential outcomes sudden cardiac death, paroxysmal ventricular tachycardia of "pirouette". Prevention of complications. Effect of combination treatment on the prognosis of the long QT syndrome.

Key words: elongated interval QT syndrome, sudden cardiac death, paroxysmal ventricular tachycardia of "pirouette".