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Contents

EXPERIMENTAL MEDICINE AND BIOLOGY

IMPACT OF VAGOTONIA ON HEMODYNAMIC PARAMETERS AND FUNCTIONS OF ENDOTHELIUM UNDER PROLONGED CB1 CANNABINOID RECEPTOR BLOCKADE IN EXPERIMENT

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Key words: cannabinoid receptors, endothelial dysfunction, abdominal aorta, hemodynamic parameters.

This article describes the issues on the adaptation mechanisms of cardiovascular system to vagotonia against the prolonged blockade of CB1 cannabinoid receptors. The study involved four groups of comparable 100-day old Wistar rats, which were examined by ultrasound scan for 10-day blockade of CB1 cannabinoid receptors under vagotonia. The results of the experiment have showed prolonged vagotonia in 100-day old male rats causes a narrowing of diameter in the abdominal aorta, endothelial dysfunction and increased rigidity of the vascular wall. The prolonged blockade of the CB1 cannabinoid receptors in comparable groups results in luminal narrowing of the abdominal aorta, the loss of endothelial response to acetylcholine and increased vessel wall stiffness. Prolonged blockade of the CB1 cannabinoid receptor under vagotonia preserves endothelial function, elasticity of the vascular walls and normal reaction to nitro-glycerine, but does not prevent the development of hemodynamic impairments and narrowing of the abdominal aorta diameter.

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ELABORATION OF PARAMETERS FOR ANTIBACTERIAL PHOTODYNAMIC THERAPY WITH USING LIGHT IN OPTICAL RANGE AND METHYLENE BLUE PHOTOSENSITIZER

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Key words: photodynamic therapy, methylene blue, photodiode radiation, Staphylococcus aureus, Pseudomonas aeruginosa.

This in vitro study focuses on the elaboration of effective scheme of antibacterial photodynamic therapy (PDT) to treat infected local radiation-induced skin injuries. The purpose of the work is to select optimal con-centration, exposure time of the photosensitizer (methylene blue) and exposure parametres of irradiation with light-emitting diode (LED) red light (λ – 630-650 nm) for antibacterial PDT. The studies were performed in vitro on Staphylococcus aureus and Pseudomonas aeruginosa germ cultures in the Petri dishes. Methylene blue aqueous solution in the form of 0, 1% and 0, 05% solution applications was used as a photosensitizer. A source of LED radiation was a photon devise “BARVA-LED/630”. It was found that separate components of PDT – methylene blue photosensitizer and LED radiation – did not produce a noticeable antimicrobial effect. The combination of selected optimal photosensitizer (methylene blue 0, 1% aqueous solution) and photodiode radiation (λ – 630-650 nm, 45 J/cm2) with photodynamic action, led to complete elimination of microorganisms (P. aeruginosa and S. aureus). The obtained results enables to recommend this antibacterial PDT scheme for further in vivo studies.

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CHRONIC BLOCKADE OF CENTRAL MUSCARINIC RECEPTORS IN RATS INDUCES PRIMARY PATHOGENETIC LINKS OF ALZHEIMER'S DISEASE

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Key words: Alzheimer's disease, pathogenesis, M-cholinoblockers, experiment

Introduction. Alzheimer's disease (AD) is one of the most common neurodegenerative diseases, which pathophysiological mechanisms are still unclear. The cholinergic hypothesis of AD postulates that the long-term blockade of the central muscarinic receptors results in development of the primary AD links (neurode-generation, β-amyloidal protein (β-AP) deposition and neurotransmitters imbalance). The aim of our study is to evaluate the influence of long-term muscarinic receptors blockade with scopolamine on the brain morpho-logical structure, energetic metabolism, main AD-related neurotransmitters level and enzymes activity, as well as β-AP deposition. Materials and methods. Scopolamine-induced AD was reproduced in rats by i. p. scopolamine administration (1 mg/kg, once a day for 27 days). After 10 days of the washout period the cognitive functions were determined using open-field test (OFT), extrapolation escape test (EET), and condi-tioned reflex of passive avoidance test (CRPAT). The two first tests were done once, on the 1st day, and CRPAT was done twice (on 1st and 10th days). Glucose level in the venous and arterial blood of the cerebral pool was measured 10 days after cognitive testing. The arterial-venous difference (AVD) of glucose content was calculated. The rats were killed, and the brains were removed immediately. The level of adenosine triphosphate (ATP), serotonin (5-HT), gamma-aminobutyric acid (GABA), glutamate, and aspartate were measured in the entire brain, while acetylcholine (ACh) and acetylcholinesterase (AChE) were measured in the synaptosomes of the cerebral muscarinic receptors. The number of normochromic and degenerative neurons in motor and sensory regions of cerebral cortex of frontal lobe as well as in CA1 and CA3 regions of hippocampus, β-amyloid protein infiltration of brain tissue were evaluated morphologically. Results. Firstly, it has been shown that the rats with scopolamine-induced AD were

characterized by the pronounced cognitive deficit and memory disorders. In particular, the latent time of the avoidance in CRPAT decreased in 2.4 and 2.6 times (on 1st and 10th days respectively) when compared with the intact animals ($p<0.05$), while the time of escape in EET was considerably longer than the value of animals without modelled AD. The changes found were followed with the energetic metabolism disturbance, namely the AVD was increased in 1.5 times, while ATP level was decreased in 1.5 times (statistically significant versus intact animals indices, $p<0.05$). Secondly, the significant changes in the brain neurotransmitters system were established by the biochemical studies. Pronounced AChE over expression resulted in the depletion of ACh level that reached 29.0% (statistically significant compared with the intact animals value, $p<0.05$). On the other hand, the levels of 5-HT, GABA, glutamate and aspartate were reactively increased, the increments ranged from 55% to 69% ($p<0.05$ vs intact animals indices). The neurotransmitters disturbance might be explained through the cholinergic neurons alterations and death. According to the results of the brain morphological analysis, it was revealed that the number of normochromic neurons was extremely reduced in all investigated brain regions. The number of degenerative neurons (hypochromic and hyperchromic, with focal chromatolysis) was notably increased. Expressive neurodegeneration was manifested in the reduction of the neurons somas square, especially in CA1 and CA3 regions of hippocampus. β-amyloidal protein deposition was established in the cerebral neuropil and arterial walls, with occasional perivascular plaques. Thus, it can be concluded that scopolamine-induced AD modulates the major hallmarks of AD such as cognitive and memory impairments, disturbance of brain neurotransmitters system and energetic metabolism, neurodegeneration in motor and sensory sensory regions of cerebral cortex of frontal lobe as well as in hippocampus and, finally, β-amyloid protein deposition. The data obtained confirm the key role of the brain cholinergic system in AD pathogenesis and allow using of scopolamine-induced AD model not only for cognitive enhancers search, but also for the complex investigation of neuroprotectors.

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PHARMACOLOGICAL CORRECTION OF COGNITIVE DISTURBANCES IN BRAIN INJURY

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Key words: traumatic brain injury, cognitive disturbances, Carbacetam

Numerous researches demonstrate the cognitive disturbances can develop not only in the in the acute period of traumatic brain injury (TBI), but in several years following the trauma. Damage of the highest func-tions of the brain is observed in a third of patients with mild TBI, while victims with moderate and severe injuries develop more expressed disturbances. Carbacetam is a new GABA-benzodiazepine modulator of a receptor complex, a β-Carboline derivative. The goal of this study was to investigate the efficiency of Car-bacetam in restoring cognitive functions in modeled TBI. Methods. The research was conducted on 112 white outbred male rats; TBI was modeled by V. N. Elsky and S. V. Ziablitsev technique (2005). The control group Included 16 pseudo traumatized rats, the test groups included 48 animals with TBI in each: the 1st group received Carbacetam (5 mg/kg), the 2nd group received 1 ml of saline solution intraperitoneally within 10 days after the trauma. Cognitive disorders were investigated by open field test, mink reflex test, eight-hose labyrinth test in 7 and 30 days after the trauma. TBI results in essential oppression of cognitive func-tions that was evident by findings of the tests in both groups in 7 and 30 days after the trauma. Renewal of indicators started developing only under the influence of Carbacetam, which effectively renewed parameters of approximate motor performance to reference level in 30 days after trauma. We observed the restoration of educational and research activity, emotionality, anxiety and memory by findings the mink reflex and eight-hose labyrinth tests. Carbacetam was assessed as effective means to restore cognitive functioning after modeled TBI within 30 days, especially in indicators of approximate motor performance, educational and research activity and memory.

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COMPARATIVE ANALYSIS OF GLIAL FORMULA AND GLIAL QUANTITATIVE INDICES AS A WAY OF INVESTIGATING GLIAL CELL SYSTEM OF THE BRAIN

Makarenko A., Kovtun A., Petrov F., Dzhuhlya I.

Key words: glial cells, glial formula, glial quantitative indices, brain.

Glial system of the brain is largely influenced by various factors of external and internal environment. Techniques of analysis glial formula and glial quantitative indices allows us to characterize the cytological parameters of various cellular structures of the brain in normal conditions, to evaluate the influence of pathological factors objectively, and to assess the effectiveness of the therapy of various CNS pathologies.

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ROLE OF PATHOLOGICAL BIOMINERALIZATION IN CASES OF ATHEROSCLEROTIC LESIONS OF AORTA

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Key words: aorta, hydroxyapatite, morphological changes, atherosclerosis, biomineralization.

This work aims at studying morphological characteristics of aortic mineralized tissue affected by atherosclerosis. We examined 60 samples of mineralized aortic tissues (group I) and 10 samples of aortic wall tissues without any signs of biomineralization (group II, control group). The study was based on histological, histochemical techniques and scanning electron microscopy with X-ray diffraction. The average age of the dead persons with atherosclerotic aorta was 68, 47 ± 1, 32 years, and in those having no signs of mineraliza-tion was 51, 8 ± 2, 56 years. The equal number of men and women (both 30 patients) were selected for the study. During the macroscopic study of wall tissue, biomineral deposits were found to be located in the inner layer of the aortic wall in the case of atherosclerosis. Histological study has shown the thickening of fibrous layer and elastic fibbers, focal lipid plaques, cholesterol fissures, oedema in the affected aortic components. The presence of calcium compounds in identified biominerals was confirmed by using histochemical staining by Alizarin Red and Von Kossa method. SEM with X-ray microanalysis has demonstrated mineralized elements in aortic tissue are detected as bright greyish-white objects in the form of blocks, clots, and fine powder particles, inlaid into histological structure of valves and closely related to connective tissue components of the organ. In some sites elastic and connective fibbers foliation was observed, in other locations biomineral component smoothly turns into the surrounding stroma. X-ray diffraction of aortic mineralized components in all sites has showed a similar chemical composition, close to the ratio between calcium and phosphorus, most of which corresponde to hydroxyapatite.

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INFLUENCE OF PHENOL DERIVATIVES ON CONNECTION BETWEEN PROCESSES OF MICROSOMAL OXIDATION AND BIOENERGY IN CHRONIC EXPERIMENT ON TEST ANIMALS

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Key words: microsomal oxidation, oxidative stress, biotransformation of xenobiotics, alkylphenols, isononilphenols.

This article describes the interconnection between the activity of monooxygenase system and the state of lipid peroxydation in liver microsomes of rats exposed to oxyethylated alkyl phenols and isononilphenols. We used differential ultracentrifugation, spectrophotometry and chemo luminescence analysis, as well as we assessed the activity of NADF cytochrome reductases, the content of B5 and P-450 cytochromes, diene conjugates, lipid hydroperoxides, malonic dialdehyde, the intensity of free radical processes and antiradical capability of liver microsomes of white Wistar male rats. The findings obtained have demonstrated that direction and intensity of damages as well as the terms when component changes of monooxygenasion system arise, the indices of separate stages of lipid peroxydation are determined by the structure, intensity and duration of xenobiotic action.

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OPTIMIZATION IN THERAPEUTIC APPROCH FOR MANAGING OF EXPERIMENTAL SENSORINEURAL HEARING LOSS OF VASCULAR GENESIS

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Key words: acute sensorineural hearing loss, otoacoustic emission, treatment of deafness.

The efficacy of the treatment of acute sensorineural hearing loss (SNHL) of vascular genesis by medications of the group of glucocorticoids and antioxidants under experimental conditions was studied. Mongolian gerbils with simulated SNHL after confirming the disorders were administered glucocorticoids and antioxidants. According to the data of otoacoustic emission of the products of distortion, the treatment of acute SNHL of vascular genesis by the combination of these two groups of drugs is more effective in comparison with the introduction of only glucocorticoidsv in the control group.

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CHARACTERISTICS OF LUNG MASS IN MATURE RATS IN PROLONGED INHALATION EXPOSURE TO TOLUENE

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Key words: lungs, mass, toluene, rats.

This research aimed at studying the dynamics of lung mass indices of mature rats under prolonged inhalation exposure to toluene. This study was carried out on 60 white mongrel male rats aged 12 weeks and weighing 130-150 g. The animals were divided into two groups. The first one was made up of intact animals. The second group included animals, which received 4-hour daily toluene inhalation exposure for 2 months. The toluene inhalation exposure lasted from 8 am to 1 pm (5 hours daily) for 60 days. There was a significant decrease in lung weight compared with the intact animals. The mass loss in the right lung was more pronounced than in the left one. The maximum mass loss was fixed in the first day, and by the 60th day it was less significant.

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ANTI-ARRHYTHMIC ACTIVITY OF 1, 8-DISUBSTITUTED COMPOUND OF THEOBROMINE

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Key words: methylxanthines, adrenaline, arrhythmia, catecholamines, procainamide, aimaline.

The purpose of the study presented was to investigate anti-arrhythmic activity of some new 1, 8-disubstituted compounds of theobromine in modelled adrenaline-induced, strophanthin-induced, and calcium chloride-induced arrhythmias. The results obtained have shown that 1-benzyl-8-morpholinetheobromine (comp. 5) in a therapeutic dose of 10.5 mg/kg is the most effective compound in this series, it decreases the incidence of arrhythmias, prolongs mean latency period (i.e. the interval between injection of arrhythmia-inducing substances and the first extra systoles), reduces the duration of arrhythmia, lessens the percentage of mortality among the test animals. It has been found that the anti-arrhythmic activity of compound 5 exceeds that of the reference preparations procainamide and aimaline in modelled arrhythmias, confirming that the compound possesses properties of antiarrhythmics of class 1A and is characterized by a considerable therapeutic value. The mechanism of antiarrhythmic action of

compound 5 is determined not only by the blockade of Na+ channels of the myocrdial conduction system, but also by normalization of catecholamines and their precursors' content in myocardium. The compound 1-benzyl-8-morpholine theobromine as a non-toxic substance with anti-arrhythmic properties may be promising in elaborating novel highly effective anti-arrhythmic drugs.

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EFFECT OF 4-[2-HYDROXY-2- (2-OXO-1,2-DIHYDRO-INDOL-3-ILIDENE) - ACETAMINO]–BUTYRIC ACID ETHYL ETHER ON SYMPTOMS OF DEPRESSIVE STATE IN RATS

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Key words: 4- [2-hydroxy-2- (2-oxo-1,2-dihydroindol-3-ylidene) -acetamino] butyric acid ethyl ester, chronic moderate stress, sucrose consumption test, Porsolt test.

A wide range of antidepressants is available and used in clinical practice, nevertheless there is a continu-ing search for new drugs of this group. This is due to the low effectiveness of existing medicines, numerous adverse reactions they may produce, and the necessity of differentiated prescription of antidepressants. Objectives: To investigate the ability of 4- [2-hydroxy-2- (2-oxo-1,2-dihydroindol-3-ylidene) -acetamino] butyric acid ethyl ester to correct the behaviour of rats with chronic moderate stress. The experiments were performed on 32 white mature rats of the Wistar line weighing 180-230 g. To simulate depressive-like disorders, CPV was used for 8 weeks, along with typical stressors that alternated. The antidepressant activity of E-38 compound was investigated in the sucrose consumption test, sucrose preference test, and Porsolt test at the 4th, 6th, 8th weeks of the chronic moderate stress simulation. The prophylactic and therapeutic administration of E-38 compound in a dose of 12 mg / kg orally effectively corrected the indices of sucrose and depressive state in the "forced swimming" test and was more effective than imipramine, especially during the last observation period.

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CHARACTERISTICS OF MORPHOMETRIC PARAMETERS OF EPINEPHROCYTES AND NOREPINEPHROCYTES OF ADRENAL MEDULLA UNDER CORRECTION OF MODELLED ASEPTIC PERITONITIS WITH CRYOPRESERVED PLACENTA

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Key words: adrenal glands, aseptic peritonitis, cryopreserved placenta, epinephrocytes, norepinephrocytes.

The issues on the pathogenesis, the modern methods of topical diagnosis and the development of new approaches in treating diseases of adrenal glands are within the research mainstream on clinical endocrinol-ogy. The aim of this study was to investigate morphological and morphometric peculiarities of adrenal me-dulla under the administration of cryopreserved placenta, in aseptic peritonitis and its correction with the cryopreserved placenta. Administration of cryopreserved placenta against the background of aseptic peritonitis increases the functional activity of epinephrocytes from the 5th to 10th days, while during the aseptic peritonitis – from the 3d to the 14th days. Significant growth of norepinephrocytes in number on the 3rd day and from the 7th to the 10th day of the correction of modelled aseptic peritonitis with cryopreserved placenta demonstrates the high synthetic activity of adrenal medulla in response to the administration of cryopreserved placenta.

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MORPHOMETRIC CHARACTERISTICS OF SOME STRUCTURES OF LIMBIC SYSTEM IN HUMAN BRAIN

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Key words: parahippocmpal gyrus, human brain, skull.

This work is devoted to studying anatomical structure and spatial position of the individual structures of the limbic system of human brain, in particular, the hippocampus and hippocampal gyrus in different age groups influenced by such factors as sex, side of the brain and skull shape. We identified age characteristics and their impact on the nature of some factors. It has been found out that the shape of the skull influences the state of gyri located on the medial surface of the hippocampus hook. Analysis of the impact produced

by the shape of the skull on morphometric parameters of parahippocampal gyrus has shown that its width (at the border with the basic underlying tissues) in 7% of cases in dolichocephals is wider compared with the meso- and brachiocephalic individual. The study of the internal structure of the hippocampus has demonstrated that sex and side of the brain do not produce mathematically significant impact on the hippocampus by itself and its dentate plate. Age can produce significant impact on the volume of the hippocampus, while the dentate plate is not liable to such influence.

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IMMEDIATE RESULTS AND COMPLICATIONS OF INTERVENTIONAL RADIOLOGY AND ENDOVASCULAR OPERATIONS IN PATIENTS WITH CORONARY ARTERY DISEASE AND LEFT VENTRICULAR EJECTION FRACTION LESS THAN 40%

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Key words: complications of radiology and endovascular interventions, coronary artery disease, left ventricular ejection fraction.

The work is devoted to studying immediate outcomes and complications of radiology and endovascular interventions (REVI) in patients with coronary artery disease and left ventricle ejection fraction (LV EF) less than 40%. The study involved 105 patients aged from 62 to 73 years (mean value was 66,96±1,81 years). They were divided into two groups depending on value of LV EF (group I included 48 patients with LV EF <40% (mean 30,9±0,35%), group II involved 57 patients with LV EF > 40% (mean 57,4±0,23%)). Study results have shown that the patients with coronary artery disease and reduced LV EF are reported to have nearly twice the rate of complications in early period after endovascular stent grafting compared with the same complications registered in the patients with preserved contractile myocardial function. Duration of REVI and contrast usage were higher by 27,1±1,3% and 31,9±3,4% respectively, life-threatening arrhythmias occurred by 50% more, intraoperation signs of acute heart failure was estimated in 4,7 times higher than in the control group.

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PECULIARITIES OF METHOTREXATE THERAPY COMBINED WITH OTHER DISEASE-MODIFYING ANTI-RHEUMATIC DRUGS IN EARLY RHEUMATOID ARTHRITIS

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Key words: glucocorticosteroids, methotrexate, rheumatoid arthritis, disease-modifying anti-rheumatic drugs, C-reactive protein.

According to current recommendations, the treatment of patients at high risk of early rheumatoid arthritis should be intensive and targeted. The strategy, which consists in the prescription of combination of standard disease-modifying antirheumatic drugs and glucocorticosteroids for the treatment of early rheumatoid arthritis gave raise the theory of an "early window of opportunities". This means that if intensive treatment starts at an early stage of the disease, the course and intensity of the disease can be successfully controlled, therefore a large number of patients will be in a long-term remission with the best functional and radiologic further outcomes. The aim of our study was to compare the efficacy and safety of methotrexate in combination with various disease-modifying antirheumatic drugs in patients with newly diagnosed rheumatoid arthritis and at high risk for 16 weeks.

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CHARACTERISTICS OF ADIPOCYTOKINE IMBALANCE AND HORMONAL DISORDERS IN PATIENTS WITH CONCOMITANT HYPERTENSION AND TYPE 2 DIABETES MELLITUS DEPENDING ON BODY MASS

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Key words: arterial hypertension, diabetes mellitus type 2, metabolic disorders, adipocytokines, body mass index.

The article describes the characteristics of metabolic disturbances, imbalance of retinol-binding protein-4 (RBP-4) and omentin in blood serum of patients with hypertension and type 2 diabetes in relation to the pa-tients' body weight. The results obtained have demonstrated that there is close pathogenic relationship be-tween metabolic disorders and reduced omentin and increased RBP-4 in the serum, which should be con-sidered as an adverse factor in the course of comorbidity of hypertension and type 2 diabetes that contrib-utes to the progression of atherosclerosis and elevates cardiovascular risks. It has been found out that the overweight patients with hypertension and type 2 diabetes not only have more severe dyslipidemia and car-bohydrate disorders, but the imbalance of adipocytokines and indicators of systemic inflammation that must be considered when selecting therapeutic tactics for these patients.

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PRACTICAL ASPECTS OF NON-PHARMACOLOGICAL TREATMENT OF PERINEAL TRAUMAS AFTER VAGINAL DELIVERY

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Key words: non-pharmacological treatment, recovery care, post partum perineal traumas, childbirth, exercise therapy, special physical exercises.

The article presents the materials devoted to non-pharmacological treatment and recovery care of patients with post partum perineal traumas of various severities. The integrated approach of the treatment and rehabilitation described in this article includes special exercises, physiotherapy procedures. Particular atten-tion is paid to the benefits of light therapy, magneto therapy, ultrasound and laser therapy, aromatherapy, relaxation techniques. The article also describes the peculiarities associated with applying these techniques in targeted patients, aimed at restoring the integrity of perineal tissues depending on the severity of their damage. Practical recommendations on the introducing this integrated approach, which includes non-pharmacological treatment and rehabilitation in both out-patient and sanatorium-resort stages are summed up.

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VALUE OF RADIOLOGICAL INVESTIGATION FOR DIAGNOSIS OF LOCALLY ADVANCED RECTAL CANCER

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Key words: local rectal cancer, helical computed tomography

This article describes the options in using radiological imaging techniques such as helical computed tomography (CT) for the diagnosis and staging of locally advanced rectal cancer. 85 patients with locally advanced rectal cancer were comprehensively examined, including endoscopic and helical CT investigations, before and after neoadjuvant chemoradiotherapy. The changes obtained during the examination in the dy-

namics were subjected to qualitative and quantitative processing. It was found that the among all the components of comprehensive examination of the patients with locally advanced rectal cancer only helical CT regardless of the degree of stenosis of the intestinal lumen enabled to assess accurately the tumour spread along the circumference and length of the intestine, tumour invasion into adrectal tissue and adjacent organs, presence of enlarged lymph nodes. Conclusion: Helical CT is a highly effective and reliable method for diagnosis locally advanced colon at preoperative stage.

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DIFFERENCES OF COGNITIVE DEFICITS IN THERAPY OF ATYPICAL ANTIPSYCHOTICS IN PATIENTS WITH SCHIZOPHRENIA

Herasymenko L.O.

Key words: schizophrenia, cognitive deficits, atypical antipsychotics.

The aim of the study was to assess changes in cognitive function in stable outpatients with schizo-phrenia receiving a stable dose of an atypical antipsychotic. 144 patients passed through clinical, psychopathological, clinical catamnestic, and psychodiagnostic examination. Cognitive deficit and its impact on social functioning were measured by the scale for assessment of cognitive function in schizophrenia, SCoRS (2001). The results of the study have shown that the choice of pharmacotherapy should consider what effects might be produced by atypical antipsychotic medication on cognitive function of the patient

(speech rate, working memory, verbal and visual learning, memory, attention), and ensure minimum adverse action of the medicines by themselves and their possible interaction.

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CURRENT PATTERNS AND TERRITORIAL PECULIARITIES OF PATHOLOGY DEVELOPMENT IN ADULT AND CHILDREN POPULATION OF DONETSK REGION

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Key words: development patterns, environmental factors, pathology, adult and children population, morbidity.

Population of environmentally depressed regions can experience long-lasting strong negative impact of various anthropogenic and environmental factors that is often aggravated with a complicated socio-economic situation. The aim of this study was to find out current patterns of pathology development in the adult and children population of Donetsk region. The research was based on the analysis of the incidence of diseases of cardiovascular, endocrine, nervous, digestive, genitourinary, musculoskeletal and respiratory systems, the incidence rate of malignant neoplasms and congenital malformations in five cities and five

rural areas contrast by the level of anthropogenic pollution of environment for the period from 1990 to 2014. The results obtained demonstrated the tendency towards the contemporary significant territorial distribution of pathology patterns throughout the Donetsk region ($p < 0.05$) in the cities with the highest populations as Donetsk, Mariupol and Kostiantynivka. In the structure of morbidity within this environmentally depressed region the largest share belongs to respiratory diseases. The overall pattern of spatial distribution of cancers, birth defects and spontaneous abortions in this population environmentally depressed region shows the growing trend in the frequency of their incidence in the direction from more environmentally safe areas to the less environmentally favourable areas.

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CARDIOGEMODYNAMICS AND PARAMETERS OF ELASTIC PROPERTIES OF CAROTID ARTERIES IN PATIENTS WITH CORONARY ARTERY DISEASE AND COMORBID NON-ALCOHOL LIVER STEATOSIS

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Key words: coronary artery disease, liver steatosis, cardiohemodynamics, elastic properties.

The aim of the study was to evaluate cardihaemodynamics and parameters of elastic properties of carotid arteries in patients with coronary artery disease (CHD) and comorbid non-alcoholic liver steatosis. The study included 24 men with CAD and concomitant liver steatosis, who made up the main grpup. The comparison group consisted of 14 patients without steatosis. The main group was divided into 3 subgroups depending on the body weight (subgroup 1 – overweight individuals, subgroup 2 – individuals with obesity grade 1, subgroup 3 – individuals with obesity grade 2). The parameters of the lipid spectrum, cardiohemodynamics and parameters of elastic properties of carotid arteries were evaluated. The patients with CAD and liver steatosis had significantly high level of triglycerides, more pronounced changes in the main vessels of the head by the frequency of plaques, with more marked disturbances of the elastic properties in the carotid arteries. The analysis of the parameters of cardiohemodynamics in the main group revealed the correlation between the myocardial mass index and lipid spectrum indices, C-reactive protein level (r = 0.57), uric acid (r = 0.55) that requires further in-depth study of add-in factors of cardiovascular risk in the grpup of patients with CAD and comorbid liver steatosis. Patients with CAD and liver steatosis showed significant differences in the structural and functional properties of the myocardium with more pronounced disorders of elastic properties of the vascular wall and no correlation with obesity.

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MORPHOLOGICAL AND IMMUNOHISTOCHEMICAL DIAGNOSIS OF GASTROINTESTINAL STROMAL TUMOURS

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Key words: gastrointestinal stromal tumour, immunohistochemical markers, endoscopic submucosal dissection.

Gastrointestinal stromal tumors (GIST) are the most common mesenchymal tumours of the gastrointestinal tract arising from interstitial cells of Cajal, mainly in the stomach and small intestine. GIST has oncogenic mutations in KIT or PDGFRA gene in 85-90% of tumours. For diagnosis of GIST it is necessary to use immunohistochemistry with specific labelled antibodies that stain molecule CD117 (c-kit). Other possible diagnostic markers of GIST are CD34, DOG-1, desmin, vimentin, MSA, S100. Ki-67 is a marker for detecting the GIST malignancy potential. There is a possibility to diagnose GIST in stomach and intestinal tract at the early stage of progression with further endoscopic minimally invasive treatment. A retrospective evaluation of the diagnostic findings and outcomes of mini-invasive treatment of GIST (Medical Centre “Oberig” for 2008 — 2015) was carried out. Before the surgical operation all patients underwent esophagogastroduodenoscopy, videocolonoscopy and endoscopic enteral biplane ultrasound examination to exclude the possibility of the tumour invasion. 10 cases of non-epithelial tumours of gastrointestinal tract were diagnosed by endoscopy: 8 (80%) of them were classified as GIST and 2 (20%) were classified as leiomyomas. 4 GISTs (50%were lo-calized in the stomach, 2 (12, 5%) were detected in the small intestine, 1 (12, 5%) was found in ascending colon, 2 (25%) were in rectum. Leiomyomas were found in oesophageal region. All tumours were removed by endoscopic submucosal dissection within healthy tissue that was confirmed by morphological examina-tion. We used the immunohistochemical markers for diagnosis of gastrointestinal stromal tumours and leio-myomas and for detection the malignancy potential of GIST.

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FREQUENCY OF SIRS OCCURRENCE IN PATIENTS WHO HAVE UNDERGONE THORACOTOMY

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Development of systemic inflammatory response syndrome (SIRS) can considerably complicate patients' condition, leading to multiple organ failure or immunosuppression with high probability of purulent complications as a result of compensatory CARS arising in the most severe cases. Relatively traumatic operational access is one of the thoracic patients' treatment peculiarities. This fact along with main surgical intervention can result in the SIRS development. The aim of our study was to assess occurrence rate of SIRS and the severity of its separate components in patients who have undergone thoracotomy. The study involved case histories of 62 patients who got treatment at the Thoracic Department of the Regional Poltava Hospital during 2014 year. The case histories were retrospectively analyzed. Patients, included into the study, were divided into two groups: I group was made up of the patients with purulent pathology of lungs and pleura; II group involved the patients who had had surgical operation caused by aseptic pleuropulmonary diseases. SIRS occurrence in postoperative period was observed in the majority of the patients who have undergone thoracotomy that can be explained by operative access made without any correlation with the type of surgical operation. Considering higher values of WBC count, percentage of immature neutrophils and longer SIRS duration in postoperative period among the patients with aseptic pleuropulmonary diseases it may be recommended to include non-steroidal anti-inflammatory drugs into the treatment course of such patients.

Key words: thoracotomy, SIRS, occurrence.

НДР кафедри хірургії №2 ВДНЗУ «УМСА» «Лікування та профілактика гнійно-септичних ускладнень в умовах гіпердинамічного системного запалення при гострій хірургічній патології» (держреєстрація № 0111U006299)

Introduction

Noticeable postoperative complications are reported to develop in more than one fifth of patients who have undergone non-cardiac thoracic operations. It results in prolonged hospital staying and requires additional expenses [1]. One of the most severe postoperative complications is systemic inflammatory

response syndrome (SIRS), which can considerably aggravate patients' condition. If the SIRS response is quite pronounced, early onset of multiply organ failure (MOF) can develop that often leads to fatal outcomes, but in many cases timely intensive care helps to overcome critical conditions and to survive the initial insult. As time proceeds, certain aspects of SIRS are intentionally down-regulated to minimize autogenous tissue injury. As a consequence, critically ill patients can develop severe immunosuppression caused by malfunctioning of adaptive immune system [2].

According to Ward et al., "CARS, similar to SIRS, is a complex and incompletely defined pattern of immunologic responses to severe insult. The difference was that while SIRS was a pro-inflammatory syndrome that seemed tasked with killing infectious organisms through activation of the immune system, CARS was a systemic deactivation of the immune system tasked with restoring homeostasis from an inflammatory state. Additionally, it has a distinct set of cytokines and cellular responses and has a powerful influence on clinical outcomes in sepsis" [7]. Relatively traumatic operational access, which is connected with dissection of wide muscle volumes during thoracotomy, is typical for the operations of thoracic patients. This fact along with main surgical intervention can lead to SIRS development with all mentioned above negative consequences [3-6].

The aim of our study was to assess occurrence rate of SIRS and the severity of its separate components in patients who have undergone thoracotomy.

Objects and methods of study (Study design)

Case histories of patients who were treated at the Thoracic Department of the Regional Poltava Hospital during 2014 were retrospectively analyzed. The criteria of inclusion were the following: 1) the fact of prearranged operative treatment; 2) thoracotomy as an operative access. The excluding criteria included: 1) HIV infection; 2) cancerous disease; 3) SIRS diagnosed before the operation. Average age of patients was 47.3±6.35 years. 74.2 % of patients were men, 25.8 % were women. Patients, who were enrolled in the study, were divided in two groups: I group was made up of the patients with purulent pathology of lungs and pleura; II group included the patients who had had surgical operations due to aseptic pleuropulmonary dis-eases. There were no significant difference between the groups by age or gender ($p<0.05$).

These two groups of patients with SIRS developed in postoperative period were additionally divided into Ia and IIa subgroups respectively. Some vital parameters as body temperature, pulse rate, respiration rate, blood pressure, white blood cell count (WBC) and percentage of immature neutrophils were monitored for first 10 days of postoperative period.

Results and discussion

Twenty-six patients were included into I group and thirty-six patients made up II group. SIRS was diagnosed in 20 patients (76,9% — Ia group) of the I group. In the II group 24 patients (66,7% — IIa group) demonstrated signs of SIRS during postoperative period (Fig. 1). There was no statistically significant difference in occurrence rate of SIRS between I and II groups ($p=0,66$).

Figure 1. Occurrence rate of SIRS in patients of I and II groups, %

Figure 2. Vital parameters of patients with SIRS during early postoperative period, %

Parameter	Ia grpup			IIa grpup			p
	LQ	Med	UQ	LQ	Med	UQ	
Body temperature, 0C	38,80	39,45	39,90	38,06	39,33	39,62	0,37
Respiration rate,min-1	22,00	23,00	24,00	21,00	22,00	24,00	0,41
Pulse rate, min-1	95,34	103,94	110,26	98,65	102,47	111,31	0,77
WBC count,*109 cells/l	11,40	12,38	13,81	12,95	14,57	16,30	0,15
Immature neutrophils, %		13,00	13,00	13,00	13,00	14,00	16,00	0,17

Table. Comparison of distinct SIRS criteria between Ia and IIa groups.

Note: LQ – 25th percentile; Med – median; UQ – 75th percentile

In I group maximal number of patients with SIRS was observed on the 3rd and 4th days after the operation and then decreased rapidly during 5th-8th days (Fig. 2). Unlike that, in the II group the maximal number of the patients with SIRS was registered on the 4th-6th days after the operation. Moreover, since the 5th day, the proportion of patients with SIRS in the II group was constantly higher than in the I group (p=0,58).

Comparison of distinct SIRS criteria revealed that values of WBC and percentage of immature neutrophils were lower in the patients with purulent pathology (Ia group) than in the patients with aseptic pleuropulmonary diseases (IIa group). Differences between Ia and IIa groups caused by these factors ere shown by p-values that were close to statistical significance (p=0,5-0,17). Statistical testing of other parameters showed no significant differences between the groups (Table).

Conclusions

Development of SIRS in postoperative period is observed in the majority of patients who have un-dergone thoracotomy as operative access (71,0 % among the patients who were enrolled in the study) without any correlation with the type of operative method. Considering higher values of WBC count, percentage of immature neutrophils and long SIRS duration in postoperative period among the patients with aseptic pleuropulmonary diseases we can recommend toinclude nonsteroidal anti-inflammatory drugs into to the treatment plan for such patients.

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OPTIMAL TIMING FOR RADICAL BARIATRIC OPERATIONS AFTER REMOVAL OF INTRAGASTRIC BALLOON

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Key words: morbid obesity, intragastric balloon, laparoscopic gastric bypass.

In recent years, the number of patients with morbid obesity has a stable tendency to increase and has become an epidemic. Effective treatment of morbid obesity is possible only with performing surgical interventions. The first stage in management of the patients with morbid obesity requires intragastric balloon placement. We have operated on 59 patients with morbid obesity. Forty-nine of them were placed an intragastric balloon during the first stage, and during the second stage, laparoscopic gastric bypass surgery was performed by the Fobi-Capella technique at different time after removal of the balloon. The aim of the study was to identify the optimal timing for bariatric interventions on the stomach after removal of the intragastric balloon. The results of the study have showed that bariatric interventions on the stomach should be performed no earlier than 14 days after the removal of the intragastric balloon.

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CHANGES IN CARDIOHAEMODYNAMICS AND DIASTOLIC FUNCTION OF LEFT VENTRICLE MYOCARDIUM IN PATIENTS WITH ISCHEMIC HEART DISEASE AND OBESITY DEPENDING ON GENOTYPE OF POLYMORPHIC LOCI GENE C-174G OF INTERLEUKIN-6

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Key words: cardiohaemodynamic, ischemic heart disease, obesity, polymorphic locus genotypes of IL-6-174 G/C.

The aim of article was to evaluate structural and functional parameters of the heart and the type of diastolic function of the left ventricle myocardium in patients with ischemic heart disease (IHD) and concomitant obesity depending on the genotype of the gene interleukin-6 (C-174G). Materials and methods. 222 patients with ischemic heart disease (IHD) and obesity who took the course of treatment at the cardiologic department of Kharkiv regional hospital №27 (a clinical base setting of the Department of Internal Medicine №2 and the Department of Clinical Immunology and Allergology of Kharkiv National Medical University, Ministry of Health Care of Ukraine). The diagnosis was established according to the instructions elaborated by the Ministry of Health Care of Ukraine. The research of allelic polymorphism C-

174G of a gene OOZE-6 was conducted by PCR method with electrophoresis detection of results with use of "SNP-EXPRESS" reactant kit (“Sintol", Russia). Correctness of frequency distribution of genotypes was defined by correspondence to G. Hardy – V. Weinberg equilibrium (pi2 + 2 pipj + pj2 = 1). According to the Helsinki Declaration all patients were informed of the aims, methods of clinical examination and they agreed to be subjects of studying a gene polymorphism. Results and conclusions. Thus, no probable differences between structural and functional parameters of the heart and the type of diastolic function of the left ventricle myocardium were indentified in the patients with ischemic heart disease and concomitant obesity depending on the genotype of the gene interleukin-6 (C-174G).

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AUTOCOIDS AS TRIGGERS AND POTENTIATORS OF Circadian CHANGES OF HEART RHYTHM IN PATIENTS WITH ISCHEMIC HEART DISEASE and comorbid essential HYPERTENSION

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Key words: interleukins, inflammatory markers, heart rhythm.

The aim of the study was to evaluate circadian changes in the heart rhythm depending on the level of inflammatory markers in patients with ischemic heart disease and concomitant essential hypertension. The study involved 35 patients with above mentioned diseases. They were examined according to the standards accepted in Ukraine, in particular 24-hour monitoring of the electrocardiogram and identifying pro-inflammatory cytokines. The patients with ischemic heart disease and comorbid essential hypertension had

an increased level of interleukin-8, a decrease in chronotropic activity of the heart. An increase in the level of interleukin-6 was registered in the patients with an increased level of interleukin-8. Elevation of interleukin-1β and a decrease in C-reactive protein was characterized by a significant predominance of the sympathetic ac-tivity at night time. We also revealed the increase in the standard deviation of R-R-intervals in the patients with elevated IL-6 level.

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RELATIONSHIP BETWEEN ALDOSTERONE LEVEL, ION HOMEOSTASIS PARAMETERS, BRAIN NATRIURETIC PEPTIDE AND CARDIOHEMODYNAMICS PARAMETERS IN PATIENTS WITH CHRONIC HEART FAILURE AND PRESERVED EJECTION FRACTION OF LEFT VENTRICLE

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Key words: chronic heart failure, preserved ejection fraction, aldosterone, brain natriuretic peptide, sodium and potassium ions.

The purpose of the research was to study the relationship between aldosterone level and ion homeosta-sis, brain natriuretic peptide and cardiohemodynamics parameters in patients with chronic heart failure with preserved left ventricular ejection fraction. The study included 88 patients aged 39-89. We evaluated the lev-els of aldosterone, potassium ions, sodium, NTproBNP, measured heart rate, blood pressure, and performed 6-min walking test were measured. The quality of life was assessed by the Minnesota questionnaire. All patients had echocardiography. An increase in aldosterone in the serum of the patients was accompanied by an increase in the concentration of sodium ions and a decrease in the content of potassium ions as well as was associated with an increase in NTproBNP level. There was no significant correlation between the studied parameters of quality of life, a 6-minute walking test, and cardiohemodynamic parameters and the level of aldosterone in the serum. Parameters of heart rate, systolic and diastolic blood pressure in the compared groups did not differ. An increase the level of aldosterone was accompanied by a significant increase in the concentration of sodium ions and a decrease in the content of potassium ions in the serum. An increase of aldosterone level is associated with an increase in the content of the heart failure marker of NTproBNP in these patients. The parameters of systolic and diastolic functioning of the left ventricle, as well as parameters of quality of life, 6-min walking test of in the patients with different aldosterone levels did not differ significantly.

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IMPROVEMENT OF AESTHETIC RESULTS OF ABDOMINOPLASTICS IN PATIENTS WITH DOLYCHOMORPHIC CONSTITUTION

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Key words: abdominoplasty, aesthetic scar, dolichomorphic constitutions.

This paper describes a technique designed to improve one of the stages of abdominoplasty in patients with dolichomorphic constitution. This technique involves the suturing of the surgical wound for the applica-tion of provisional sutures with traction of the lateral edges of the upper transverse skin-fat flap at a rotational angle of 57-62o in men and 61-69o in women in order to provide uniform distribution of tissue tension. This technique compared with those available has the following advantages: it promotes the formation of a

normotrophic scar at the site of incision, reduces the number of wound complications, provides satisfactory aesthetic results of the operation, shortens duration of the rehabilitation period, and improves the quality of life of patients.

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PREVALENCE OF TLR4 Asp299Gly GENE AND TLR7 GLN11LEU GENE POLYMORPHISMS AMONG PATIENTS WITH HIV/HCV –CO-INFECTION IN POLTAVA REGION

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Key words: HIV/HCV-coinfection, polymorphism, gene, genotype, allele.

The aim of the study was to determine the prevalence of Asp299Gly polymorphism of the TLR4 gene and Gln11Leu polymorphism of TLR7 gene among HIV/HCV-coinfected persons in Poltava region. To achieve this goal, a survey of 175 HIV-infected people supervised in the Poltava HIV Prevention and Control Centre and 175 healthy residents of the Poltava Region was conducted. The results of the research showed that polymorphic genotype Asp299Gly of the TLR4 gene was detected in 19.3% of the patients with HIV/HCV-coinfection, the allele 299Gly was detected in 9.6% of the patients with HIV/HCV-coinfection that corresponds to the level detected in HIV-monoinfected persons (11, 5% and 5, 7%, respectively). This is 5.6-5.8 and 3.4-3.5 times higher than their frequencies in the control group (3.3% and 1.7%, respectively, $p < 0.01$). The risk of HIV/HCV-coinfection development in the case of present Asp299Gly polymorphism of the TLR4 gene in the genome increases in 6.9 times (OR = 6.94, $p = 0.01$), of the allele 299Gly in 6.3 (OR = 6.31, $p = 0.01$) times. Polymorphic genotypes Gln11Leu and Leu11Leu of TLR7 gene were registered in HIV/HCV-coinfected patients at the same level as among HIV-monoinfected patients (26.1% -27.6%) without any statistical difference compared the control (25.9%, $p > 0.05$).

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CRITERIA OF LIFE ACTIVITY LIMITATIONS IN COMBATANTS WITH POSTTRAUMATIC STRESS DISORDERS

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Key words: medical and social examination, criteria of life activity, ATO combatants.

Currently, the issues of medical and social examination, psychological and occupational rehabilitation in PTSD have not been sufficiently developed yet. There are psychological peculiarities, and, primarily, personal factors which determine the degree of life activity limitations in this disease, which require more detailed studies. There is a need to improve the criteria to assess the limitations of life activity of ATO combatants as well as the main criteria for evaluating the degree of their disability. This research was aimed at investigating and classifying scientific, medical and social approaches to identify criteria of life actvity in ATO combatants with post-traumatic disorders in order to provide accurate assessment of their disability. This research was based on to the analysis of the expert's reports of Medical and Social Expert Commission (form 088), and objective findings and additional research methods (case histories analysis). The study was conducted at the municipal institution "Regional Clinical Centre of Medical and Social Expert Commission", Dnepr (chief doctor, candidate of medicine Concur V. M.). Post traumatic stress disorder (PTSD) is uncomfortable delayed reaction to traumatic stress that can cause a number of mental and behavioural disorders. PTSD develops in persons who have experienced the acute or prolonged stress, which goes beyond ordinary human experience and can cause distress. The article describes the key criteria for evaluating the disability for patients with PTSD, and suggests the systematic approaches to their rehabilitation. According to the analysis of findings obtained PTSD patients, former ATO combatants experience difficulties to control their behaviour, to work effectively and to communicate. At present, increase in the number of ATO participants is turning into the problem of great medical and social importance and requires accurate diagnosis of PTSD and associated conditions. The patient-centred program of rehabilitation for patients with PTSD involves four equal in their importance areas: medical, social, psychological and vocational rehabilitation. Because of the situation in the East of Ukraine, PTSD has a tendency to increase in the structure of psychological disorders, injuries and wounds among the ATO participants. The adoption and implementation of general clinical protocols and other regulatory documents can contribute to adequate and timely medical care to patients with the PTSD manifestations.

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INFLUENCE PRODUCED BY COMBINED ACTION OF CONCOR AND VEROSPIRON ON MYOCARDIAL HYPERTROPHY IN THERAPY OF CARDIOVASCULAR DISEASES

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Key words: myocardial hypertrophy, concor, veroshpiron.

Objective: to study the effect of beta-blockers (Concor) used in monotherapy and in combination with potassium-preserving diuretics (Veroshpiron) on myocardial hypertrophy processes in order to improve the treatment of patients with different conditions and comorbidities, namely hypertension and ischemic heart failure. The study involved two groups of 20 patients in each, aged 50 – 60, who were diagnosed to have hypertension 2 stage, moderate risk of coronary heart disease and heart failure. The diagnosis and severity was established according to the approved criteria. All patients had general clinical laboratory tests and instrumental examination, including echocardioscopy, daily monitoring of blood pressure and ECG holter monitoring. The study excluded the patients with aggravation of major chronic diseases, acute infections and severe comorbidities that could affect the results of the study. The therapy included Concor, a beta1–blocker with bisoprolol fumarate as an acting substance, and Verposhpiron, a potassium-preserving diuretic with spironolactone as an acting substance. The first group took Concor for 6 months. We found out that 12 patients (65%) demonstrated left ventricular thickness decreased by 1-2 mm, 5 patients (25%) showed no changes, and three patients (15%) had increased thickness by 1-2 mm. 60% of the patients had maximum values of blood pressure about 140/90 mm Hg, 25% of the patients at the level of 150/100 mm Hg and 15% up to 160/110 mm Hg. Thus, monotherapy with Concor in a dose of 10 mg once a day led to the regression of hypertrophy. The therapy including Concor (10 mg once a day) and Veroshpiron (50 mg once a day) resulted in normalization of blood pressure (140/90 mm. Hg), the regression of hypertrophy in 75% of the patients, that was by 15% higher than in the monotherapy with Concor. The patients with positive dynamics reported decreased dyspnoea and reduced incidences of angina attacks over the past six months.

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ASSOCIATION OF C+70G ALLELIC VARIANTS OF EDNRA GENE WITH ISCHEMIC ATHEROTHROMBOTIC STROKE IN PERSONS WITH ARTERIAL HYPERTENSION AND NORMAL BLOOD PRESSURE

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Key words: endothelin receptor type A, gene polymorphism, ischemic stroke.

The results of the detection of +70G (rs5335) polymorphism of the endothelin type A receptor gene (EDNRA) in 170 patients with ischemic atherothrombotic stroke (IAS) and 124 persons of control group were presented in this article. It was found that the ratio of homozygotes by major allele (C/C), heterozygotes (C/G) and homozygotes by minor allele (G/G) in the patients with IAS was 24.1%, 57.6% and

18.2% and re-spectively 29.0%, 50.0% and 21.0% in the in control (P = 0.426 at χ2-criterion). When comparing the fre-quency of ischemic strokes in the persons with normal and high blood pressure having different variants of genotype by the polymorphism investigated, we revealed that there was a statistically significant difference (P = 0.002) between C/G genotype carriers with IAS and control group. Regarding both homozygotes by major and minor allele the significant differences were not found.

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ANALYSIS OF PREVALENCE AND MORBIDITY IN MAIN CLASSES OF DISEASES AMONG POPULATION OF POLTAVA REGION AND IN UKRAINE (2006-2015).

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Key words: prevalence, incidence, analysis, population, diseases, Poltava region, Ukraine.

The health status of the population is an indicator of the state social and economic development, an integral part of the quality of life of people. One of the most important tasks of the state is to preserve the health of the population, as the main potential of the country labour resources. The study of trends in the incidence and prevalence of disease among the population is an important component of planning strategies for the development of both the health system and the state as a whole. Men and women play different roles in the society that determines their predisposition to particular diseases. When studying the health care system, it is necessary to objectively assess the health status of men and women, to identify special needs depending on gender. The purpose of this study was to investigate the dynamic features regarding the prevalence and incidence rates of various diseases in men and women in the Poltava region and in Ukraine for 2006 - 2015 years. The study was based on applying epidemiological and statistical methods. The statistical data of sectoral statistics for 2006 – 2015, the data of the State Statistics Service of Ukraine, as well as the Main Department of Statistics in the Poltava region were analyzed. The findings obtained enabled us to outline the trends in primary morbidities and in prevalence rates for the main classes of diseases in men and women age 18 and over, the structure of the indicators, and the growth rate of these indicators among the population of the Poltava region and Ukraine for 2006 - 2015.

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DYNAMICS OF AQUEOUS LIPID MANTLE AND MICROBIOCENOSIS OF SKIN AND CALCIUM METABOLISM IN PATIENTS WITH ACNE COMPLICATED WITH CANDIDA INFECTION OF SKIN

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Key words: skin, malasseziosis, acne, aqueous lipid mantle, calcium, hormones, microbiocenosis, therapy.

Out of 120 patients with acne, 100 were diagnosed to have concomitant skin malasseziosis in its different forms: pityriasis, keratosis, comedons, folliculitis, seborrhoea, pityriasis vesicular, characterized by some certain features and candidosis as well. After the comparative analysis based on different levels of changes in clinical and laboratory analysis, we divided the study population into two clinical groups, which received different patient-centred therapy. Excessive skin greasiness and elevated pH, skin dehydration before the therapy, especially in the patients with III and IV stages of acne complicated with Candida infection became normal following the treatment compared with the patients treated according to the conventional standard schemes. After therapy, the intensity of microbial colonization of the skin, microbial associations decreased as well as the levels of Ca2+, parathormone, and calcitonin.

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OPTIMIZATION OF DIFFERENTIATED INTEGRATED TREATMENT FOR PATIENTS WITH HEART FAILURE AND POST-INFARCTION CARDIOSCLEROSIS BY SUPPLEMENTING EPLERENONE AND RIVAROXABAN TO BASIC THERAPY

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Key words: salts of potassium, magnesium gluconic acid, chronic heart failure, ejection fraction, left ventricle.

This article describes the effects produced by the salts of potassium and magnesium gluconic acid, eplerenone and rivaroxaban introduced into the basic therapy on the cardiac hemodynamics in patients with chronic heart failure (CHF) after myocardial infarction. The ejection fraction of left ventricle (EFLV) before the treatment described above was (57.54±2.87) %, and after 12 months of the therapy significantly increased reaching to (66.43±3.45) %. In the second group, the EFLV before the treatment started was 54.02±2.37% and after 12 months of the therapy with potassium and magnesium salts of gluconic acid significantly increased to (63.67 ± 1.91) %. Basic therapy in combination with eplerenone applied for the patients of group III also showed a significant improvement in left ventricle (LV) systolic functioning. The LVEF in these patients was (55.73±2.64) % before the therapy started and rose to (64.67±1.92) % after 12 month treatment ($p < 0.01$). The patients of group IV received rivaroxaban against the background of basic therapy for 12 months contributed to a significant increase in ejection fraction by 10.73%. These drugs in the treatment of the patients with CHF after myocardial infarction led to a decrease in end-systolic volume and end-dyastolic volume of LV after 6 and 12 months of the therapy. It should be noted that treatment of the patients and group II with the use of eplerenone against the background of basic therapy led to the most statistically significant change in end-systolic volume and end-diastolic volume. Thus, LV end-systolic volume was equal to (58.14±2.64) ml before the beginning of the examination and significantly decreased to (44.51±1.9) ml after 6 months of therapy in 40.54% of the patients. The mean level of end-diastolic volume in these patients was (129.74±4.53) ml before the treatment and significantly decreased to (104.8±4.75) ml after 6 months of the treatment. Thus, the inclusion of potassium and magnesium salts of gluconic acid, eplerenone or rivaroxaban into the basic therapy led to activation of LV remodelling processes. However, the results obtained showed that the highest intensity of LV remodelling was observed in the patients who received eplerenone in addition to basic therapy, as evidenced by a significant decrease in mean end-systolic volume of LV in the patients with CHF after myocardial infarction compared with the use of potassium salts and magnesium gGluconic acid or rivaroxaban against the basic therapy.

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PREVENTION AND ANALYSIS OF RISK FACTORS OF URETER INJURY DURING GYNAECOLOGICAL OPERATIONS

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Key words: ureteral trauma, gynaecological surgery, prevention, diagnosis.

Ureter injuries are known as the most common complications of gynaecological surgeries and make up 0.5-30% of cases according to the data available. Intraoperative detection of ureter injury in gynaecological practice, according to different reports, occurs in 7-39% of cases and usually manifests in the postoperative period. When timely detected during the surgical operations, ureter injuries can be effectively corrected. The probability of such injuries increases in patients at risk and preventive ureter catheterization in this group of patients significantly reduces the risk of iatrogenic traumas. The article presents a multivariate analysis of clinical findings of 161 patients who had had gynecological surgeries; outlines the most significant risk factors for ureter injury, and provides quantitative assessment of their significance. The

most significant risk factors are the size of uterine fibroids for more than 12 conditional weeks of gestation; intraligamentary growth of uterine fibroids; past medical history including chronic inflammatory diseases of the internal female reproductive organs, surgeries on the pelvic organs, appendectomy, and diabetes mellitus. We elaborated the classification of patients according to possible risks of injury: if the number of non-zero values of predictors from the citrial set is greater than one, the risk of injury is high. If this number is 0 or 1, the risk of injury is lower. The presented method of evaluating of groups at risk for ureter injury is applicable only to patients with non-cancer diseases. Prevention of ureter injuries should include the following components: careful preoperative assessment of the urinary tract (ultrasound scanning of kidneys, bladder, and, when necessary, excretory urography and computed tomography for patients at high risk of ureter injury); proper surgical techniques, including "targeted" haemostasis; the maximal intraoperative detection of the ureters without damaging their vascularity. The patients at low risks of ureter injury, in case of technical intraoperative difficulties can be given intravenous diuretics solutions for dilatation and better visualization of the ureters; the patients at high risks of ureterl injury are indicated catheterization of the ureters before the operation for better detection and, if technically possible, the placement of luminescent catheters or intravenous infusion of fluorescein sodium.

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PHARMACOGENETIC TESTING IN OVERCOMING EPILEPSY PHARMACORESISTANCE

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Key words: epilepsy, pharmacoresistance, genetic testing, cytochrome P-450.

Epilepsy is an extremely common chronic disease of the nervous system, occurring in 1-1.3% of the general population. Despite significant progress in the diagnosis of epilepsy, the synthesis of new, more effective and safe antiepileptic drugs (AEDs), the introduction of evidence-based therapeutic programs into clinical practice, approximately 30% of patients with epilepsy never reach remission. Pharmacogenetic aspects of the development of pharmacoresistant epilepsy are the least studied and require further careful investigations that can be considered as one of the ways to overcome resistance. According to the results of preliminary studies we conducted, 50% of patients with true pharmacoresistant epilepsies demonstrated a decrease in the activity of CYP2C9 * 2, CYP2C9 * 3, CYP2C9 * 2, CYP2C19 * 2 isotopes of the cytochrome P-450 system that may be considered as the main factor in the ineffectiveness of antiepileptic therapy. The changes revealed enable us to predict the pharmacological response to various AEDs and, as a consequence, to increasing the efficacy and safety of the treatment. In cases where epilepsy is refractory, it is advisable to involve clinical pharmacists to adequately select antiepileptic drugs and optimize the treatment. We plan to continue further studying the polymorphism of the genes of the cytochrome P-450 system in patients with pharmacovirus-resistant epilepsies.

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USE OF METFORMIN HYDROCHLORIDE AS AN INHIBITOR OF THE NUCLEAR FACTOR KB ACTIVATION IN ITNEGRATED THERAPY OF PATIENTS WITH COMORBID KIDNEY DISEASES AND METABOLIC SYNDROME

Talash V.V.

Key words: metabolic syndrome, carbohydrate and lipid metabolism, hemocoagulation.

The work is devoted to studying the effectiveness of differentiated use of metformin hydrochloride as an inhibitor of NF-κB activation in the integrated therapy of patients with concomitant kidney disease without functioning impairment and underlying metabolic syndrome. The data analyzed suggest the administration of metformin hydrochloride as a part of integrated therapy of the patients in the test group lead to significant improvement of clinical course. This suggestion is supported by subjective and objective findings, positive effect produced by the treatment on carbohydrate and lipid metabolism, processes of hemocoagulation. The treatment by metformin promotes reduction of waist circumference and normalizes arterial pressure, limits hyperglycemia, lowers manifestations of dyslipoproteinemia due to the increase in high density lipoproteins concentration and decrease in low density lipoprotein and triglycerides concentration. This therapy also reduces the coagulation process by external and internal pathway. Thus, the administration of metformin hydrochloride as a part of complex therapy can be regarded as a promising ways to prevent and correct metabolic and hemocoagulation disorders in patients with kidney pathology and metabolic syndrome.

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PECULIARITIES OF FIBROBLAST GROWTH FACTOR-23 PRODUCTION IN PATIENTS AT DIFFERENT STAGES OF DIABETIC NEPHROPATHY

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Key words: diabetic nephropathy, fibroblast growth factor 23, mineral metabolism.

Diabetic nephropathy has become the leading cause of end-stage kidney disease in recent years. Fibro-blast growth factor 23 (FGF-23) is a central regulator of calcium-phosphate metabolism. Fibroblast growth factor 23 (FGF23), primarily secreted by osteocytes, is a phosphaturic hormone to increase urinary phos-phate excretion and to suppress renal vitamin D synthesis. The aim of the present study was to examine level of FGF23, calcium and phosphorus in type 2 diabetic patients with nephropathy. Methods. The study involved 77 patients with diabetes type 2. The first group included 18 patients with microalbuminuria <30 mg/g, second group included 18 patients with microalbuminuria 30 to <300 mg/g and 28 patients with macroalbuminuria (>300 mg/g). Concentrations of plasma FGF23 were determined by enzyme-linked immu-nosorbent assay. We also tested the relationships between FGF23 concentrations, urinary albumin, and se-rum creatinine, serum calcium and phosphorus. The studies showed that patients had a progressive increase in the levels of FGF-23 depending on the stage of the disease. The levels of FGF-23 were significantly higher in the patients of first group than in the control group ($p < 0.05$). The highest levels of FGF-23 were found in the late stages of the disease. There has been found out the correlation between the FGF23 content and the functional state of the kidneys. A statistically significant strong positive correlation was found between FGF23 and urinary albumin, serum creatinine, HbA1c. We also found negative correlation between FGF23 and eGFR.

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СТОМАТОЛОГІЯ

LOWER RHYTIDECTOMY TECHNIQUE IN VIEW OF SKIN BIOMECHANICAL PROPERTIES

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Key words: lower part rhytidectomy, skin-fat flap, involutional ptosis, biomechanical properties.

The process of aging changes in the lower third of the face is complex and diverse, and covers a wide range of different tissue transformations and new growths, therefore all these factors should be taken into account when planning effective surgical correction. The study of clinical and functional characteristics of

skin aging is of great importance in terms of expert evaluation of medical diagnostic process for health care practitioner and researchers. The purpose of the study was to improve technique and routine of lower rhytidectomy considering the parameters of stretching and relaxation of skin-fat grafts. The study involved 30 patients with involutionary ptosis of lower third of the face. 15 individuals were performed on lower rhytidectomy based on careful analysis of biomechanical and morphological findings, 15 individuals were operated ob by conventional standard techniques.

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EVALUATION OF FILLING MATERIALS USED FOR RESTORATION OF HARD TISSUES OF PERMANENT TEETH IN CHILDREN

Bezvushko E. V., Shpotyuk O. O.

Key words: questionnaire, glass ionomers, practical experience, dental restoration, composite materials.

The analysis of questionnaire results has shown that to restore hard tissues of permanent teeth paediatric dentists use glass ionomers, composits, and compomers. On the average, glass ionomer cements are more common used compared with composits. The dentists significantly more likely use traditional glassionomer cements Fuji VIII (GC), Ketac-Cem (3M ESPE), Riva (SDI) and Tsemion (Vladmiva). The questionnaire results have also demonstrated the dentists with practice experience of 1-5 years prefer to use GC Fuji VIII materials (60%), while the dentists whose practical experience is over 5-10 years prefer to use Riva SDI materials (63%). The dentists with practical experience of more than 10 years prefer Cemion (80-83%) and

Ketac-cem 3M ESPE materials (from 50 to 68%). The questionnaire results have shown that more and more pediatric dental composite materials are used for restoration of deciduous teeth. At present, compomers are widely used in pediatric dentistry because modern compomers are designed specifically for the restoration of primary teeth, they have different colours (blue, pink, yellow), attracting the child's interest and encourage the healing process. Materials produced by Dyract XP and Twinky star are the most popular and the most often used by the paediatric dentists. All doctors use compomers. The groups of dentists with practical experience of 1–5 years, and 5–10 use materials Twinky star (Voco) in 94% and 80% respectively, and Dyract XP (Dentsply) (83%) and (73%). 15 year practical experience shows reduced use of compomers in paediatric dentistry. There is no better group of restoration materials like composites. Every year manufacturers improve their physical and chemical properties to increase their durability, to provide better fit edge, to reduce polymerization shrinkage, and to get increased mechanical strength. According to questionnaire results the dentists of communal dental clinics for children receive the most commonly used materials Charisma «Heraus-Kuzer» and Filtek Z 250 «3M ESPE». It should be noted that a high percentage of dentists with practical experience of 1-5 years use this group of materials. With increasing practical experience, the percentage of composites decreases, and the percentage of dentists using Filtek Z 250 «3M ESPE» goes down to 17% and Charisma «Heraus-Kuzer» to 7% respectively. Paediatric dentists with practical experience over 15 years do not apply these materials.

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RESTORATION OF PERMANENT TEETH WITH WEDGE-SHAPED DEFECTS

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Key words: wedge-shaped defects of teeth, preparation techniques, bonding system.

Increase in the number of patients with wedge-shaped defects among young population determines the growing wants and desired for aesthetic restorations of hard dental tissues. The longevity of the restoration depends on the strength of adhesion between the bonding system and dental hard tissue that is the most difficult to achieve in the cervical areas where the enamel has the smallest thickness and a tooth can withstand heavy chewing pressure. This study was aimed at increasing the efficiency of restoration of cervical hard dental tissues by elaborating the patient-centred approach to the choice of preparation techniques and bonding systems. Aesthetics was reported to be a key demand for our young adult patients. Therefore, for tooth restoration we chose the latest bonding systems of V and VI generations in combination with photopolymer composite material "Charisma F" (Heraeus Kulzer), which releases fluoride. Patients were divided into two groups in accordance with the restoration routine (with using and without using preparation technique). Each group fell into two subgroups which were applied bonding systems of V and VI generations, respectively. All the patients had professional cleaning of the defect surfaces with polishing paste without fluoride prior the filling procedure. Final polishing was performed by using polishing heads system “Enhance” (Dentsply) and polishing paste without fluoride “Depural Neo”.

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ALTERED BIOCHEMICAL PARAMETERS IN SALIVA OF PATIENTS WEARING BRACES FOR ORTHODONTIC CORRECTION

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Key words: crowded teeth, dental braces, biochemical parameters of oral fluid.

There are a number of reports pointed out the relationship between periodontal diseases and wearing fixed orthodontic appliances, therefore the condition of the periodontium and its response to orthodontic correction requires special attention. The aim of the study was to identify the changes in biochemical indices of oral fluid in patients aged 18-24 years during the active orthodontic correction by braces. The study involved 30 individuals who passed through clinical and biochemical examination. 15 of them aged 18-24 were diagnosed to have crowding of the upper and lower frontal teeth. These patients underwent the orthodontic correction with braces (main grpup). 15 individuals with physiological occlusion and intact periodontium made up the control group. Results of research. Biochemical studies of oral fluid confirmed the data of clinical findings reported by other scientists about the presence of inflammatory process in the periodontium due to crowding. Thus, these patients demonstrated the activity of elastase increased to 0.43 ± 0.04, mk-kat/l (in 1,6 times, $p < 0.05$), had significantly high content of malonic dialdehyde (in 1,8 times), lowered activity of catalase (33.3%) and lowered antioxidant-prooxidant index (in 2.8 times), and significantly increased urease activity, in 2.7 times. The patients who received the orthodontic correction showed significant increase in the level of inflammation markers in 2 weeks following braces placement. After 2 months, these values reduced, but were still poor in comparison with those in the control group and with the findings of biochemical studies of oral fluid obtained before the braces placement. Thus, the patients who receive the correction with braces are at risk to develop or to worsen the inflammatory process in periodontal tissues, accompanied by reducing antioxidant activity, nonspecific resistance and causing substantial oral dysbiosis.

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DYNAMICS OF BIOCHEMICAL MARKERS CHANGES OF ORAL FLUID DURING PREVENTIVE TREATMENT OF ORAL HOMEOSTASIS DISORDERS IN WOMEN WITH POLYCYSTIC OVARIAN SYNDROME

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Key words: periodontium, women, polycystic ovarian syndrome, oral fluid, biochemical markers, prevention.

This article describes the issues on the dynamics of biochemical markers of oral fluid in patients with polycystic ovarian syndrome without clinical symptoms of periodontal pathology who took the course of prophylactic treatment. The changes in biochemical markers of oral fluid during the study showed gradual improvement of the protective function of the oral mucosa and a decrease in the intensity of free radical oxidation. The level of diene conjugates, malonic dialdehyde, superoxide dismutase activity, glutathione peroxidase in the oral liquid gradually decreased and lysozyme level increased that can be explained by slowing down of lipid peroxidation in the oral cavity and by improving oral mucosa immune defence properties due to effectiveness of the preventive treatment during the whole period of observation. The group of patients with polycystic ovarian syndrome who had no prophylaxis of the oral cavity disorders, we observed stable changes in activity of marker enzymes involved in antioxidant protection of the oral mucosa and the lipid peroxidation system during the observation period that necessitated the preventive treatment.

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ORTHODONTIC TREATMENT IN OPINION OF INTERN DENTISTS

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Key words: orthodontic treatment, adults, questioning, smile aesthetics.

Orthodontic treatment is known as a very complicated and long process. Sometimes even latest treat-ment fails to achieve the desired results because of patient's noncompliance with the treatment prescribed, his / her lack of willingness and faith in the successful outcomes. The aim of our study was to evaluate the views of dental interns on the peculiarities of orthodontic treatment among those who were orthodontic pa-tients, and among those who did not practice orthodontic treatment. According to the questionnaire results, only a third of medical youth has personal experience of orthodontic treatment. Half of the respondents have had no orthodontic corrections before, but are ready to do anything for the sake of a good smile. Questioning confirmed that a fairly significant role of willingness before starting orthodontic treatment. In adult patients motivation is key factor in achieving successful orthodontic results.

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RESULTS OF PSYCHOLOGICAL METHODS IN ORTHODONTIC TREATMENT OF CHILDREN WITH MIXED DENTITION

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Key words: orthodontic treatment, children, mixed dentition, malocclusion, motivation, reduction of time of treatment.

Doctor-patient co-operation and medication compliance are one of factors contributing to successful outcomes of orthodontic treatment, but sometimes patients start searching for orthodontist's care when it is quite difficult to correct pathological changes or malfunctions they have. Active growth of the body in 6-12 year old children is not only physiological, but also psychological features of their development. Due to their psychological peculiarities, the children with mixed dentition have no motivation for orthodontic treatment, because of their exaggerated personal and dental self-esteem. Children usually consider their dental appliances as permanent and long-acting irritants. Only taking into account somato-psychological status and emotional state of patients during orthodontic treatment enables paediatric orthodontists to choose the best treatment option and to predict its effectiveness. The aim of our study was to analyze the results obtained by applying psychological techniques during orthodontic treatment of children with mixed dentition. The study involved 30 patients aged 6-12 years. The treatment of patients in the test group (15 patients in each) differed from that in the control. The patients of the test group passed through psychological training programs we elaborated to improve the efficiency of orthodontic treatment of malocclusions by enhancing motivation for treatment in children and their parents. The application of this program resulted in significant lowering in the rate of stopping orthodontic treatment by 13.4% in our study. Active treatment period decreased in 1.6 times, and the indiscipline of the patients lowered in 4 times in comparison with the control group. Unruly patients in the test group were registered as little as twice compared with the control. The obtained results have demonstrated the importance of psychological techniques in building up compliance during orthodontic treatment of children with mixed dentition.

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INDICES OF MICROBIAL CONTAMINATION AND ANTIMICROBIAL PROTECTION OF ORAL CAVITY IN CHILDREN AGED 3 - 5 WITH ADENOIDAL HYPERTROPHY DURING DENTAL TREATMENT AND PREVENTION PROCEDURES

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Key words: caries, temporary teeth, adenoid hypertrophy, prophylaxis, urease, lysozyme, dysbiosis, oral fluid.

Opportunistic oral microflora and its by-products play a leading role among the etiological factors in the development of dental caries. The success of the preventive measures aimed at enhancing dental resistance to dental caries depends on their direct effects on the normalization of oral dysbiosis processes. The purpose of this study was to investigate the level of lysozyme and urease activity in oral liquid, indices of oral dysbiosis in preschool children with adenoidal hypertrophy who took the course of dental treatment and preventive measures. The results of the study evidenced the effectiveness of our complex of temporary tooth decay prophylaxis to improve the indices of oral dysbiosis in children with adenoids hypertrophy. We registered a decrease in the urease activity of the oral liquid in this group that allowed us to predict the recovery of microbial homeostasis in the children. The obtained values of lysozyme activity of mixed saliva from this group of children showed a significant increase in nonspecific oral immunity that can provide protection from additional caries-causing factors in preschool children. The results in the other groups did not have a significant effect on the activity of urease and lysozyme, oral dysbiosis deteriorated to the level of the clinical decompensated stage.

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EVALUATION OF EFFECTIVENESS OF EDUCATIONAL DENTAL PROGRAM "HEALTHY SMILE OF TRANSCARPATHIA CHILDREN» AMONG PRIMARY SCHOOL CHILDREN

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Key words: educational dental program, sanology culture, healthy lifestyle, level of social motivation.

A leading conceptual idea of the program «Healthy smile of Transcarpathia children» is a well-grounded pattern of children's dental health changes influenced by purposeful sanology socialization. The article provides an assessment of program effectiveness in children aged 7 - 11. The term of the program implementa-tion was from 2013 to 2015. The program consisted of two parts: theoretical and practical ones. The theo-retical part included "health lessons" that provided encouragement of motivational and volitional processes, which directly influenced the effective and conscious behaviour of primary school-aged children to keep their mouth healthy and look after their health in general. The practical part of the program included dental examination of 100 pupils of primary school, before and after prevention programs. Implementation of preventive programs on hygiene education of children provided a significant improvement in the oral hygienic indices as evidenced by the figures and objective assessment of the oral cavity. This allows us to conclude that dental educational preventive and hygienic measures are an effective way to reduce the incidence of dental caries and periodontal diseases in children of primary school age.

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CHEWING EFFICIENCY RESTORING IN PATIENTS WITH FULL REMOVABLE PROSTHESIS MADE UP OF VARIOUS GROUPS OF BASIC MATERIALS

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Key words: thermoplastic materials, adontia, Vertex Thermosense, Deflex Acrylate, Ftorax.

Restoration of edentulous arches with complete removable dentures is still of the most complicated types of prosthetic procedures. The reports available have paid much attention to the anatomical and topographic features of the structure of edentulous jaws and to the clinical and laboratory stages of manufacturing complete removable dentures. However, the physiological grounds for using these dental appliances have been little studied. The effectiveness of manufacturing high-quality removable prosthesis is

largely determined by the properties of the prosthetic base materials. The main group of materials used for their manufacturing is acrylic plastics of hot polymerization. Nowadays, orthodontists and prosthodontists are increasingly using non-acrylic thermoplastic plastics that allow dentists to improve the functional quality of complete removable dentures, as well as to avoid the disadvantages of acrylic base plastics. One of the most important criteria for assessing the quality of dental prostheses manufactured and the functional state of the maxillodental system is the restoration of the masticatory efficiency, which can be determined both by standard techniques and by the latest state-of-art technologies.

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PECULIARITIES OF MICROCRYSTALLIZATION OF ORAL FLUID IN CHILDREN FROM BOARDING SCHOOLS

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Keywords: microcrystallization, oral liquid, children from boarding schools.

The studying of oral fluid microcristallization in 93 children from orphanages and boarding-schools and in 85 children from secondary schools (control group) has shown the low mineralization potential of oral fluid in children from orphanages, and crystals of III type have been mostly detected. These findings indicate reduced oral fluid properties in this group of children. This reduction of mineralizing properties of oral fluid contributes to cariogenic situation in the oral cavity, thus leading to the development of dental caries in children from orphanages and boarding-schools.

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RESULTS OF BIOPHYSICAL STUDIES OF ORAL FLUID IN DIFFERENT STAGES OF PATIENTS' ADAPTATION TO REMOVABLE DENTURES AND THEIR EFFECT ON GUSTATION

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Key words: oral fluid, rate of salivation, saliva viscosity, acid-base balance, full removable laminar dentures, adaptation to dentures, gustation.

Biophysical and biochemical composition of oral fluid displays a total secretory activity of large and small salivary glands and can vary under the influence of both endogenous and exogenous factors. It is suggested that the chemical components of materials used for manufacturing removable laminar dentures, and a residual monomer is an example, due to the diffusion into oral fluid, may lead to changes in patients' gustation. Therefore, this research is quite relevant. The investigation was aimed at studying the effect of the oral fluid biophysical parameters on the sense of taste in the period of patients' adaptation to acrylic full removable laminar dentures. Studies on the analysis of the amount of oral fluid in the process of patients' adaptation to full removable dentures showed the dynamics of secretory alterations in different periods of adaptation as compared to the indices before the prosthetics placement. The rate of saliva flow changed after the full removable dentures placement as well. We fixed changes in the acid-base balance of the oral fluid and its viscosity that may be caused by the quantitative changes in saliva secretion and saliva flow rate. The most considerable changes were detected in the quantitative parameters of the oral fluid and the rate of its secretion at the early stages of adaptation, i.e., in 1, 3 and 7 days after the placement of full removable dentures. On the 28th day of denture wearing the quantitative indices of the salivation and its rate significantly lowered and approximated to the initial levels, and in some cases they were even lower than initial level that could point out the exhaustion of the salivary glands functioning. During this period, the viscosity of oral fluid significantly increased with gradual pH normalizing, reaching to the parameters before prosthetics placement. The findings showed the significant changes in the oral acid-base balance in the period of adaptation to the acrylic full removable laminar dentures that can cause changes in taste perceiving during this period.

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MICRO-AESTHETIC PARAMETERS OF SMILE IN CHILDREN WITH DISTAL BITE

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Key words: distal bite, microaesthetics, aesthetic parameters, "divine proportion", skeletal form, dento-alveolar shape.

This article presents the analysis of facial aesthetic parameters of 30 patients with distal bite of class II by E. Angle, including skeletal and dento-alveolar shape and biometrical parameters measurement. We calculated the indices of frontal teeth proportionality Lu/Ll, lower jaw length harmony Sm/Sc, central incisor proportionality DI/Di, index of correlation between upper incisor length and eye length lu/ex-en. The index of frontal teeth proportionality Lu/Ll was 2,0±0,06 in the general group, 1,97±0,09 was in 1 group, 2,04±0,1 in 2 group, the normal value is 1,618. The index of lower jaw length harmony Sm/Sc was 1,64±0,03 for the gen-eral group, 1,64±0,05 was in 1 group, 1,64±0,0 was in 2 group, the normal value is 1,618. The index of cen-tral incisor proportionality DI/Di is 1,66±0,05 in general group, 1,66±0,07 was calculated for the 1 group, 1,65±0,08 was in 2 group, the normal value is 1,618. The index of collateration between upper incisor length and eye length lu/ex-en was 1,09±0,04 in general group, 1,07±0,06 was in 1 group, 1,12±0,07 was in 2 group, the normal value is 1,0. Thus, the distal bite is correlated with face microaesthetic disorders due to increase of the mesio-distal length of upper frontal teeth and reduction of

the length of lower frontal teeth. The dento-alveolar shape of the distal bite can contribute to smile microaesthetics disorders more than the skeletal shape.

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COMPARATIVE EVALUATION OF VARIOUS SPLINTING TECHNIQUES OF LOOSE TEETH IN PATIENTS WITH CHRONIC GENERALIZED PERIODONTITIS

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Key words: splinting of teeth, fiberglass strip, general periodontitis, loose teeth, stabilization of the teeth.

Generalized periodontitis ranks a leading place among all diseases of periodontium. The main symptoms of this disease include symptomatic gingivitis, formation of periodontal pockets, supra- and subgingival dental deposits and progressive resorption of bone tissue resulting in pathological teeth loosening even at the initial stages of the disease progression. Elimination of all the above symptoms is a very important stage for achieving long-term remission of generalized periodontitis. An obligatory stage of treatment of generalized

periodontitis is splinting of loose teeth. The purpose of our work was to carry out an objective assessment of the condition of periodontal tissues in patients with chronic generalized periodontitis of II degree of severity who underwent integrated differentiated treatment with obligatory splinting of loose teeth by fiberglass appliance in the immediate and long-term follow-up periods. This approach provides rational and effective treatment of periodontal patients and favourable clinical and functional prognosis for patients in the immediate and long-term follow-up periods.

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PHYSICAL AND MECHANICAL PROPERTIES OF PLASTICS WITH MODIFIED SURFACES

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Key words: basic plastic, nano-coating, physical and mechanical parameters.

To improve the strength parameters of plastic, we proposed a new technique to improve a removable laminar denture manufactured by conventional technology with a nanoscale material, fullerene C60 molecules. The aim of the work was to improve the physical and mechanical parameters of the bases of removable laminar dentures by modifying their surface and to evaluate the quality of removable laminar prostheses. The data obtained have shown that nanocoated plastic has higher physical and mechanical characteristics than conventional plastics. The microhardness index is 2.28 times higher for the modified plastic that in-dicates a better surface ability to withstand mechanical loads without changing the surface structure. Sam-ples with a nanocoating are more resistant to fractures, and the index of relative residual deformation to the facture of the sample is 2.82% higher than that of conventional plastics. Therefore, it can be argued that this material can be introduced in dental practice to reduce the number of breakdowns of removable dentures and to increase their service life.

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RESULTS OF COMPREHENSIVE DENTAL CHECK-UP OF CHILDREN WITH IMPAIRED HEARING

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Key words: children with impaired hearing, dentofacial anomalies, caries, hygiene level, intensity

The study included 61 individuals aged 6-20 with impaired hearing who were given care in a specialized boarding school. They were distributed into groups. Before starting check-up, children were asked to pass through the questionnaire specially designed to assess their dental and orthodontic awareness. Some of the questions in the questionnaire dealt with the oral hygiene. The analysis the questionnaire answers demon-strated high awareness of oral hygiene. The findings of the dental check-up showed a high prevalence of dentofacial abnormalities, moderate intensity of dental caries that grows with age, low filled teeth index and poor oral indices.

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ГУМАНІТАРНІ ПРОБЛЕМИ МЕДИЦИНИ ТА ПИТАННЯ ВИКЛАДАННЯ У ВИЩІЙ МЕДИЧНІЙ ШКОЛІ

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MEDICAL NEOLOGISMS IN THE BRITISH MASS MEDIA DISCOURSE

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The article focuses on the mechanisms of neologisation in the British mass media discourse as exemplified by The Guardian and The Daily Telegraph. Affixation by means of Latin and Greek term elements as one of the most productive models for the formation of medical neologisms has been examined. The authors’ pragmatic intentions and communicative strategies in using certain medical suffixes for neologisation have been described and analyzed.

Key words: mass media, discourse, medical terminology, neologisms, affixation, communicative strategy.

Introduction

Modern languages constantly develop neologisms to name new objects, phenomena and processes, and therefore there is a need for their study and description. Neologism is a lexical unit which is deliberately introduced into a language as a means of expressing critical attitude or enhancing the literary style. Neologisms can fall into two categories: stable (which have gained common usage and are included into slang dictionaries) and unstable (which are proposed by individuals or are used in a limited subculture) [1]. Moreover, protologisms (from Greek protos, "first" + logos, "word"), i.e., "newly created words which have not yet gained any wide acceptance <…> before they may become current in writing or speech" [1] are defined as a separate subgroup within this classification. However, as soon as a protologism appears in published press or online, it is automatically transformed into a neologism. In other words, mass media is an important means for reflecting the up-to-the minute neological processes in a language.

Analysis of recent researches and publications

Medical neologisation in this research is considered as an integral part of medicalisation process, i.e., the spreading impact of medical terms upon the other, "non-medical" spheres of life [2; 12; 16]. The term "medicalisation" first appeared in Michel Foucault's The Birth of the Clinic (Naissance de la clinique, 1963), where the philosopher described "the dogmatic "medicalisation" of society, by way of a quasi-religious conversion, and the establishment of a therapeutic clergy" [6]. Irving Zola interprets medicalisation as the "process whereby more and more of everyday life has come under medical dominion, influence and supervision" [3]. According to Peter Conrad, medicalisation consists in defining behaviour or a problem in medical terms, "using medical language" and "adopting a medical framework" to describe and understand this problem, or to "treat" it [4]. Among the reasons for spread of "medicalised definitions" [7], researchers mention the improved quality of life, overall expansion of technical capabilities and dissemination of information in the communication space, increased interest in physicality, active study of medicine as a social institution [5]. The linguistic factors of medicalisation embrace the basic principles of modern languages development: expansionism, anthropocentrism, functionalism and explanatory nature [13].

Medicalisation in the British mass media discourse is observed at four linguistic levels: (1) at the level of morphemes: "And it's not just workaholism that marks contemporary life, it's hobby-aholism, activity-aholism and fun-aholism"; (2) at the level of lexical units: "Xenophobia can metastasize like cancer unless society is on guard against the pernicious tendency to view others as less than humans"; (3) at the level of phrases: "It is hardly surprising that we have begun to suffer from mass attention deficit disorder"; (4) at the level of sen-tences: "The economy is severely ill and needs an immediate dose of budget and tax proposals" [15].

As one can easily observe from the examples given above, medical neologisation in the British mass media discourse is most commonly observed at the level of morphemes combination. In particular, affixation, i.e., adding prefixes or suffixes to word stems, is one of the most productive ways for creating medical neologisms. Affixed medical neologisms are formed by using morphemes according to the word-building models which are well-established in the language system. For instance, andrologist (the doctor who deals

with men's health, especially their reproductive system); rawism (raw food diet); on-call-ogist (the doctor who often works on calls); overprescription (prescription of excessive amounts of drugs) [14].

The aim of the research is to analyze the features and functions of medical neologisms in the British mass media discourse as exemplified by The Guardian and The Daily Telegraph. The research is relevant due to rapid development of the vocabulary of the English language and significant spread of medical neologisms which are used to denote the most crucial societal issues.

Results and their discussion. The analysis of The Guardian and The Daily Telegraph issues revealed the following productive word components of medical neologisms: "-itis" ("inflammation"); "-osis" ("a state of disease"; "destructive process"); "-ectomy" ("excision", "cutting out") [11].

The affix "-itis" is used to criticize an overwhelming tendency or an annoying practice which becomes recurrent. Hence, the communicative strategy of skepticism expression is effectively implemented: "The world of the singer is much more afflicted by cancel-itis than any other area of classical music" (The Guardian, 2008); "Former press secretary reveals his warning to Tony Blair about "world-leader-itis" and his views on Cherie Blair's pendant" (The Guardian, 2011); "Referendum-itis: beware the soft options" (The Guardian, 2011); "It can take a few weeks for the muscle to repair itself and the pain and stiffness to subside, though for some the symptoms can persist for many years, resulting in chronic disability. There is no obvious explanation for this, as X-rays and MRI scans are normal, prompting the suggestion that this might be a form of accident neurosis or "compensation-itis", for which the only cure is an injection of a large cheque into the victim's bank account" (The Daily Telegraph, 2013); "...the 2016 sample test for key stage 2 English grammar, punctuation and spelling <...> suffers from a severe case of terminology-itis" (The Guardian, 2015); "The only thing she's suffering with is a severe case of Bone-idle-itis!" (The Daily Telegraph, 2015).

Occasionally, the "-itis" component is also used to describe an unusual condition of behaviour: "Friday-after-Thanksgiving-itis is a disease second only to the bubonic plague in its effects" (The Daily Telegraph, 2016); "Speaking at the New York Public Library as part of a series celebrating William Shakespeare, Mirren said she gets "Queen-itis" whenever she comes face to face with the monarch she famously portrayed in The Queen, the 2006 film. "It's a bit like when you meet a big movie star, and I also get a bit of movie star-itis," she explained. "And I get Queen-itis, what I call Queen-itis, when I meet the queen. You're suddenly quite self conscious about where your hands are and weird words come out of your mouth that you say, 'I don't talk like that'" (The Daily Telegraph, 2016).

As the condition exacerbates, the affix "-osis" becomes relevant: "Children's fiction goes down with a plague of cliffhanger-osis. Young readers are being seriously short-changed by the fashion for breaking plots into separate volumes" (The Guardian, 2009); "With a fleet of thousands cars, a hundred permutations and scenarios quickly unfold, and it becomes a cesspool of administrosis" (The Daily Telegraph, 2009). The authors aspire to alert the readers, to focus their attention on the burning societal problems by means of "diagnosing" them.

Another widespread way to criticise the pernicious tendencies of the modern society is the use of affix "-ectomy". Quite often, these medical neologisms denote the loss of something essential for mankind: "Facade-ectomy" — there's a new word. And even if it's actually the opposite of what it means, it's a word that's been gaining some sort of currency recently. It describes the practice of retaining a building's historic

facade, but building something new behind it (technically a “building-ectomy”) and it’s the becoming the standard technique for replacing damp, crumbling old apartments or offices with glossy, lucrative new ones” (The Guardian, 2007); “Our greatest fear is the gradual emasculation known as a man-ectomy, where we lose all say on how we dress, what we eat, and who we see. It’s most clearly seen when a man holds a woman’s purse for her, leaving him manstrapped” (The Daily Telegraph, 2012); No “Compassion-ectomy” required <...> I think that pure journalistic neutrality is more suited to the college classroom than in the real world, although it does cause listeners, viewers and readers to wonder if we are forced to have a “compassion-ectomy” in order to do our jobs” (The Guardian, 2015). Furthermore, the following medical neologisms serve for manifestation of national interests and self-preservation of the nation: “America needs to safeguard its tradition of effective economic and cultural integration. But as my own immigration to the United States proceeds, I tend to worry much more about Europe. For Mexicans are not Moroccans. And the US has not yet suffered a Blunkett-style History-ectomy” (The Daily Telegraph, 2005); “Satirical wagsters Andy Zaltzman and John Oliver have never been more on the ball, pretending that they’ve farmed out the writing of their jokes to a 10-year-old Indonesian boy - and pithily encapsulating Britain’s collective amnesia regarding past foreign policy blunders with the coinage “history-ectomy” (The Daily Telegraph, 2005). By using these medical neologisms, journalists aspire to emphasize the unnatural, pathologic and traumatic character of the above-mentioned tendencies in the modern society.

Yet another widespread affix is “-aholic (-oholic), -aholism (-oholism)” (“addicted to something” or “addic-tion”, “overengaging”). This affix is relatively new: it was first abstracted from the word “alcoholic” in 1965 (“sugarholic”), followed by “foodoholic” (sic., 1965); “workaholic” (1968), “golfaholic” (1971), “chocoholic” (1971), “shopaholic” (1984) [8] and so on. The contemporary society is in a compulsive need for certain phe-nomena or processes. Hence, medical neologisms are used to reveal and denounce these addictive agents: “No one but a dedicated pork-aholic would go to Cuba for the cuisine” (The Guardian, 2003); “No, I’m not a shopping person at all. But I am a shoe-aholic and a bag-aholic” (The Guardian, 2007); “When I lost my mother, father and brother in quick succession, I tipped over from normal spending to spendaholism” (The Guardian, 2010); “I’m a shoe-aholic, so I’d pick the Giuseppi Zanotti shoes for Christopher Kane’s show, £765 (were £1,530), or the Laurence Dacade biker boots, £465” (The Daily Telegraph, 2010); “It always depresses me when people moan about how commercial Christmas is. I love everything about it. But then you’re dealing with a complete Christmas-aholic” (The Daily Telegraph, 2010); “Confessions of an earring-oholic: With a pair of sufficiently ornate earrings a girl can do just about anything in life” (The Daily Telegraph, 2012); “Somewhere between the flourless chocolate gateau and the probiotic after-dinner tea, the divorce-aholics always kick off” (The Daily Telegraph, 2013); “no business is immune from the lure of workaholism” (The Guardian, 2015); “A self-confessed “art-oholic”, he and his wife have forsaken holidays and a car to indulge their passion” (The Daily Telegraph, 2016).

Conclusions

The affixation way of neologisation is a productive source for enrichment of British mass media discourse. It involves the combination of root and affixal morphemes by using the standard word-formation models, rules and trends that exist in a language at present stage of its development. Medical neologisms are constantly being created and used to describe new phenomena of reality, new objects or concepts. These lexical units constitute an integral part of the medicalisation tendency which prevails in the modern English language. The most productive medical affixes in the British media discourse as exemplified by The Guardian and The Daily Telegraph are “-itis”, “-osis”, “-ectomy” and “-aholic (-oholic), -aholism (-oholism).

This list is by no means exhaustive – it stipulates further development and elaboration. The abovementioned cases of neologisation effectively implement the following communicative strategies and pragmatic in-tentions: skepticism expression; alerting and attracting the readers' attention; revealing and denouncing the addictive phenomena and processes of the present-day world; manifestation of national interests and self-preservation of the nation. Moreover, the affixation way of neologisms formation provides the newly created words with a vivid stylistic shade. This allows the journalists to transfer their messages to readers immediately and effectively, thus serving as an important means of time and space saving.

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DEVELOPMENT OF MAIN GROUPS OF COMPETENCES IN MEDICAL STUDENTS

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Key words: competence, competence approach, professionalism, professional communication, medical student.

This article describes the necessity to develop professional competence of medical students as effective means to upgrade and to improve higher medical education. The authors substantiate the importance of developing basic groups of the professional communication competences of students as a part of the professional training. The main stages in the formation of the competencies have been determined and thoroughly described. The decisive factor in achieving the main goals of up-to-date professional education in the formation of key competencies required for successful professional activity.

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MEDICAL AND LEGAL ASPECT OF OPHTHALMIC CARE FOR PATIENTS WITH CATARACT

Kovtun M.I.

Key words: patients' rights, regulatory documents, cataract, contract for the provision of medical services.

State, municipal and private medical institutions build up the medical space of Ukraine however, at present there are no regulatory documents that would regulate their interaction to ensure the rights of patients. The aim of the work is to assess the legal provision of cataract patients with ophthalmic care. The results of questioning of health care workers on patients' rights have shown that a significant majority ($p < 0.05$) of them were informed of documents, especially those in Ukraine that regulate the rights of patients, more than half of the respondents (57-60%) have a notion about international documents, about 65% are familiar with the status of the Declaration of Human Rights, 100% of respondents know the rights of patients regarding medical information, informed consent to medical intervention and the relevant provisions of the Civil Code.

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ANALYSIS OF CAUSES AND EFFECTS OF LONG-LIFE LEARNING

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Key words: long-life learning, competencies, education, testing, training facts.

The aim of the article is to determine the reasons of the life-long learning program introduction into the system of higher education in Ukraine. The author has determined the main tasks of the life-long learning more precisely, its purposes along with prognosis, as well as outcomes and reasons to pay for it. The author supposes that such form of education will remain incomplete even after the graduation due to its directivity to obtain knowledge on the life-long basis that in turn leads to the conflict between the needs of students, their expectations and foreseen outcomes of the graduation. The result of the graduation based on life-long learning system is the ability to learn. The purposes of the existence of 'life-long learning' phenomenon are not clear enough. We have studied the evolution of the academia role in the build-up of higher education in the context of long-term process of obtaining knowledge, who becomes schooling manager. We also gave the characteristics of the directivity of academia practice and indicated the main pedagogical tasks. New profession in the education field has developed due to the rivalry between educational settings to have the rights to train students and the knowledge flow in the modern world of information power.

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LATEST TECHNIQUES TO TRAIN UNIVERSITY INSTRUCTORS FOR PREPARING AND DELIVERING EFFECTIVE PRESENTATIONS

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Key words: public speaking, presentation, software.

The university instructors have often to make speeches and deal with public speaking, for example, at a lesson, a lecture, a conference. Usually teachers develop their own speech preparing techniques. Some of them take lessons in oratorical skills; others adopt scenarios and pieces of advice from well-known speakers or analyze and correct their own mistakes. But all these approaches have some things in common. There are some steps in making a good speech. First, speakers should realize for whom and why they will speak. Then it may be helpful to prepare concise presentation, which would illustrate the key messages of the speech. 3. You can make To-Do List for audience. 4. It is recommended to practice making speech the day before. 5. When making a speech, try to interact with the audience. The success of the speech depends not only on the idea that the speaker represents, but also on his / her presentation manner. In particular, a huge role is played by the design, visual contact with the audience. Lately, many new applications for creating presentations have appeared and the existing applications have been substantially updated. The article covers the most popular software that can help in preparing for public speaking.

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SOCIO-EDUCATIONAL AND CHARITABLE ACTIVITIES OF MARIINSKY WOMEN'S GYMNASIUM GRADUATES OF POLTAVA PROVINCE (XIX – EARLY XX CENTURY)

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Key words: Mariinsky gymnasium for girls, charity, revolutionary, educational society, T.A. Staritskaya, S.A. Ustimovich, S.V. chare Korolenko, A.A. Zabarinskaya, N. Chepa, M. L. Krivanska.

The article describes the peculiarities of public education, charitable and educational activities of outstanding graduates of Mariinska gymnasium for girls promoting to the development of female education in Poltava province in XIX – early XX century that made an invaluable contribution to educational and cultural development of modern Ukraine. The gymnasium as an educational institution of new type involved students of different estates and was based on principles of the public education. The functioning of the gymnasium was performed under the supervision of the Department of institutions in the charge of the Empress Maria. It has been proven that the founding of the Mariinsky female gymnasia for students of different estates met the challenges of a society that required new approaches in organizing women's education and provided the legislative basis for the promotion of women social activity.

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ОГЛЯДИ ЛІТЕРАТУРИ

EXOGENOUS NITRATES: CORRECTION OF PHYSICAL PERFORMANCE AND POSSIBLE RISKS FOR MALE REPRODUCTIVE SYSTEM

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Key words: nitrates, nitrogen oxide, physical activity, male reproductive system.

Recently there has been much information on possibility to apply biologically active supplements supplying nitric oxide (NO) in order to improve physical activity and sports results. These supplements include arginine, citrulline and, for example, sugar beet juice, an indirect NO donor, independent on NO-synthase. Taking into account the age and gender of potential consumers of such metabolic correctors, there are a lot of questions about their impact on the male reproductive system. It is known that endogenous NO plays a significant role in the regulation of male reproductive function. Relevant literature has shown that exogenous nitrates produce dose-dependent influence on the body. Permissible concentration of nitrates in drinking water improves the hemodynamic parameters (blood pressure, vascular resistance, balance between oxygen demand and supply of the myocardium) and physical activity (endurance and tolerance to the intensive loads) and does not cause the heavy damages of the male reproductive system. At the same time the prolonged influence of high doses of nitrates negatively affects the spermatogenic function of gonads: we can see the reduction in the number of sperm cells and their impacted mobility against the background of increased number of abnormal sperm, disturbed testicular activity, as well as we can see the decrease in the concentration of testosterone and dehydroepiandrosterone. Under these conditions a lipid spectrum in testicular tissues is in impaired, we can observe the development of oxidative stress accompanied by weakening of antioxidant defence, the decline of the content of renewed glutathione, lowered activity of superoxide dismutase and gamma-glutamyl, the accumulation of lipid peroxidation by-products and protein carbonyl. The male reproductive system is more vulnerable to the toxic effects of nitrates in the postnatal period, while in the prenatal period nitrates do not induce anti-androgenic effects in male foetuses. Thus, there are grounds to consider that the use of biologically active supplement, NO donors, particularly in sports medicine, should be based on the balance between their benefits and possible harmful effects and must be controlled by choosing the mode of dosage and duration of the course.

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REVIEW OF GENERAL PATHOGENETIC MECHANISMS OF SYSTEMIC INFLAMMATION IN NON-ALCOHOLIC FATTY LIVER DISEASE AND CORONARY HEART DISEASE

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Key words: liver, coronary heart disease, non-alcoholic fatty liver disease

This review article presents the general links of pathogenetic mechanisms in the development of coronary heart disease and non-alcoholic fatty liver disease. Atherosclerotic processes, which are ac-companied with dyslipoproteinemia, greatly contribute to the occurrence of above mentioned conditions. As a result, this triggers the mechanisms of systemic inflammation of low intensity, endothelial dysfunction and oxidative stress that, in turn, leads to the disorders of metabolic processes and to the progression of comorbid pathology, complications and increased mortality.

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MODERN APPROACHES TO INTEGRATED TREATMENT OF VENOUS TROPHIC ULCERS OF LOWER EXTREMITIES (REVIEW ARTICLE)

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Key words: trophic ulcers, lower limbs, treatment, varicose veins.

Progression of the disease from simple vein varicosity to chronic venous insufficiency (CVI) and the development of venous trophic ulcers (VTV) are reported to be quite common condition. However, some aspects of trophic venous ulcers are still unclear, and therefore, management of this condition requires in-depth study. The successful outcomes of the disease of vein varicosity of the lower limbs considerably depend on the effectiveness of diagnostic methods. The article presents the analysis of the relevant literature on the state of the problem, modern approaches in integrated treatment of venous trophic ulcers of the lower extremities. The data reported demonstrate the unity of views on the strategy of surgical treatment of varicose trophic ulcers that stipulates the removal of vertical and horizontal reflux, but there is no unity of views on tactical approaches of these issues. Modern surgery uses the experience of surgical treatment of trophic venous ulcers to develop new more effective treatment approaches.

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ПОГЛЯД НА ПРОБЛЕМУ

ASSESMENT OF THANATOLOGICAL PROFILE IN COMBAT ZONE

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Key words: thanatogenesis, thanatological profile, forensic expert judgement, combat zone, causes of death on the battlefield.

The modern Ukrainian state survives extremely hard times determined by complex processes of eco-nomic reintegration, social and political cataclysms, final informal rejection of totalitarianism. Different political preferences, vectors of coordination links, sometimes unjustifiable attempts in decentralization provoked a dramatic scenario of socioevolutionary reconstructions and sentiments observed during the last years in the East of Ukraine. A state of hybrid war, active and fully justified antiterrorist measures and resultant human losses have led to the development or renewal of phenomena and ideas (thanatological profile of the battlefield, specific thanatogenesis in a state of military operations, aetiology of combat traumas and their courses in extreme conditions of military operations), which were forgotten long ago after the Second World War. The authors of the article present updated data on the problem of military thanatology, specific thanatogenesis of the people who died from gunshot wounds and combat traumas, aspects of classification and typology of battle casualties. The investigation material is presented in the historical aspect, based on both personal observations and archival data in retrospective review, and engages different types of

military battles, disorders, operations. The analysis of the causes and character of military casualties and resultant thanatological profile of the combat zone is a strong contribution of this investigation.

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BILIARY FISTULAS: CAUSES AND EXISTING CLASSIFICATIONS

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Key words: bile fistula, bile duct, cholecystectomy, classification, biliary tract damage

The article describes the current state of the issues on the origin and classification of lesions of the biliary tract and biliary fistulas. Current existing classifications, their disadvantages and advantages are discussed. We have also reported out own experience of treating 296 patients with biliary fistula, analysis of the causes, tactical approaches and the outcomes of the correction done. A classification of biliary fistulas based on the analysis of modern literature and our own observations has been proposed.

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LOCALLY–ADVANCED PROSTATE CANCER: SCREENING AND ASSESSMENT OF MODERN TREATMENT METHODS

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Key words: locally-advanced prostate cancer, hormone therapy, radical prostatectomy, radiation therapy.

The purpose of this work is to provide a general analysis of the literature, concerning problems and methods of the treatment of local-advanced prostate cancer. The article describes main approaches in treat-ing this cancer and their combinations. Analysis of the reports available has shown that at present prostate cancer is a significant social problem due to the continued increase in the number of reported cases of this pathology each year. And if the latest approaches enable doctors to achieve a long-term remission and to increase survival period in patients with localized forms, that treatment of advanced forms of prostate cancer is exceptionally complicated and not completely solved the problem. Currently different options of combined treatment of locally-advanced prostate cancer are being studied in order to increase overall and recurrence-free survival time of patients and improve their quality of life by slowing down the development of metastases and hormone resistance. But despite the variety of clinical studies and the large number of proposed options of therapy, to date, the question about the most effective combination regimens of treatment of locally-advanced prostate cancer is still open.

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CARDIO-ANKLE VASCULAR INDEX AS A NEW FACTOR FOR CARDIOVASCULAR DISEASE RISK PREDICTION

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Key words: cardio-ankle vascular index, arterial stiffness, risk factors, atherosclerosis, prognosis.

Arterial stiffness, especially in aorta, can be considered as an attribute of vascular aging and as an inte-gral indicator of the damaging effect of traditional cardiovascular risk factors on them. The stiffness of the arteries reflects the real damage of vascular wall, in contrast to the blood pressure, glycaemia and lipid pa-rameters that can vary in the patient over a long period of life. Thus, changes in cardio-ankle vascular index can also be a predictive factor for the development of cardiovascular adverse events and correlate with

well-known risk factors, such as age, presence of arteriosclerosis of the carotid arteries, cerebral atherosclerosis, chronic kidney disease, left ventricular hypertrophy, metabolic syndrome, obesity, smoking, obstructive sleep apnoea syndrome, hyperuricemia and stress. Assessment of arterial stiffness allows health care professionals to stratify patients who have been by mistake identified into the group of low or medium cardiovascular risk, but who have increased arterial stiffness, into the group of high cardiovascular risk. In this regard, cardio-ankle vascular index can be recommended as an accurate predictive measurement to be widely introduced in clinical practice.

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POSSIBILITIES OF MEDICAMENTAL CORRECTION OF CHRONIC SYSTEMIC INFLAMMATION IN ISCHEMIC HEART DISEASE

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Key words: ischemic heart disease, atherosclerosis, chronic systemic inflammation, medicines with anti-inflammatory properties.

The review presents modern approaches to the therapy of coronary heart disease by affecting the inflammatory component of the pathogenesis of atherosclerosis. The mechanisms of anti-inflammatory action of drugs at epigenetic, molecular, cellular levels are described. The results of multicenter clinical trials and meta-analyzes confirming the anti-inflammatory activity of the given preparations, as well as the results of individual researchers, are widely covered. The main links of the pathogenesis of atherosclerosis — the mor-phological basis of coronary heart disease — from the point of view of systemic inflammation and the possibility of drug exposure to them are indicated. The decisive role of immunocompetent cells and endothelium in the formation of atherosclerotic vascular lesion by implementing chronic systemic inflammation, the key factor of which is the nuclear factor kappa B, and the medicines that can suppress its transcription activity are indicated. The newest directions in the development of anti-atherosclerotic drugs with anti-inflammatory mechanism of action, intermediate experimental and clinical results, and prospects of their application are presented.

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PREDICTION OF STAGED SURGICAL INTERVENTIONS IN SEPTIC COMPLICATIONS OF DESTRUCTIVE PANCREATITIS

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Key words: destructive pancreatitis, low T3 syndrome, septic complications, staged necrosequestrectomy.

Recently, there have been some reports on the role of thyroid hormones in predicting bacterial infection. At the present stage, the assessment of serologic inflammatory markers (procalcitonin, C-reactive protein) is commonly used for the diagnosis of septic complications. However, this approach has shortcomings because these markers do not allow us to reliably identify the timing for staged surgical intervention for septic complications of destructive pancreatitis. Low triiodothyronine syndrome (lowT3) is a predictor of multiple organ dysfunction syndrome and enables surgeons to foresee the unfavourable course of somatic pathology. The prognostic value of the syndrome in pancreatitis has not been studied well. It is expected that low T3 syndrome increases prognostic value of procalcitonin, and will provide an opportunity to clearly define a time for staged surgical treatment of septic complications of destructive pancreatitis.

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ОБМІН ДОСВІДОМ

CASE OF CONGENITAL TOXOPLASMOSIS IN PRACTICE OF PAEDIATRIC PATHOLOGIST

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Key words: toxoplasmosis, foetus, HIV, meningoencephalitis, hydrocephaly.

Despite on significant global health achievements in fighting infectious diseases in last decades, infec-tions are still ranking the second position in the overall morbidity. A particularly urgent problem is infant mortality rate that often caused by viral and bacterial diseases. Prenatal toxoplasmosis makes up about 1% of all cases of toxoplasmosis infection. Toxoplasmosis is protozoonosis, with predominantly chronic latent course; it causes impairment of the central nervous system, vision, reticuloendothelial organs (lymph nodes, spleen) and the heart. Toxoplasmosis is an urgent concern requiring further in-depth investigation. The article presents a case of autopsy of congenital toxoplasmosis registered in Kharkiv. HIV-infected mother, gravida 2, gave a birth to female baby. The baby was born at 37 weeks, she lived for 11 days. At postmortem examination we found typical for congenital toxoplasmosis changes: lots of sites of destruction in the brain; in the cerebral ventricles there were greyish-yellowish cheesy deposits. Histological examination showed broncho-pulmonary dysplasia, focal interstitial myocarditis, productive necrotizing meningoencephalitis, and extensive necrosis with calcification strip along the periphery, focal productive granulomatous hepatitis. Thus, despite low percentage of incidence, congenital toxoplasmosis is a serious life-threatening condition of foetuses and newborns. Most children with marked clinical symptoms of infection die in the first year of life, and the survivors become disabled. Therefore, it is of great importance for pregnant women to follow preventive measures to exclude infection.

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CLINICAL AND MORPHOLOGICAL PECULIARITIES OF CONGENITAL TOXOPLASMOSIS

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Klyuchovi words: conenital toxoplasmosis, toxoplasmosis, angiopathy of the collection.

The article presents the latest conceptions available in relevant literature on toxoplasmosis and describes a case of late congenital toxoplasmosis, which was not diagnosed during the child's life and was established by post-mortem autopsy. In the case described, late congenital toxoplasmosis manifested with multiple pathological lesions (micro cysts) of the brain, necrotic lesions, calcified ganglia, dust-like foci of calcification and the presence of calcified cysts. In the liver there were morphological changes typical for interstitial hepatitis. We also found retina angiopathy in eyes, keratopathy, corneal dystrophy, cataract and vitreous body clouding. Based on morphological picture we can conclude about correspondence of the clinical case presented with late congenital toxoplasmosis.

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LATEST METHODS THE INTRAVITALITY DAMAGED FORENSIC PRACTICE

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Keywords: stress, intravitality, injury,1 trauma, technique.

The article is devoted to the impact of stressors on the human body, causing intravitality signs of damage in injured tissues. Recent advances in science are related to increasing research on intravitality injury that makes forensic experts to implement the latest techniques of assessing injury intravitality into their practice as well as to unify research results and to avoid diagnostic errors.

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ESTABLISHMENT OF INTRAVITALITY SIGNS DUE TO THE ACTION OF TRAUMATIC FACTORS

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Key words: intravitality, mechanical asphyxia, hanging, corpse.

The article is devoted to the establishment of intravital signs due to the action of traumatic factors. The urgency of the problem is determined by the increase in deaths as a result of the action of traumatic factors and the latest studies of signs of the trauma's intravitality. Among a wide variety of methods for determining signs of intravitality due to the action of traumatic factors there are some promising studies by national and foreign scientists devoted to developing differential diagnostic criteria developed, which also need to be known by forensic experts and must be taken into account when diagnosing the intravitality of trauma.

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