

iSIC  
2018

**Kharkiv  
Ukraine**

**ABSTRACT  
BOOK**





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# BIOMEDICAL SCIENCES







*Artsylenko K., Knyhin M.*

## **FORENSIC AND MEDICAL EVALUATION OF CAPABILITY TO PURPOSE ACTION AFTER DAMAGE OF DIFFERENT CHARACTER**

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**Introduction.** The question of the possibility of movement and the performance of targeted actions after causing damage before death, is often put before forensic experts by law enforcement agencies during forensic medical examinations. The solution of this issue is necessary in order for the investigation to determine whether the victim could have injured himself or herself after the injury, at the crime scene or elsewhere.

**Materials and methods.** A retrospective study was conducted and 20 archival reports of the forensic medical expert for 2013-2017 were analyzed. The selection criteria was the presence in the decision on the appointment of a forensic medical examination, the question of law enforcement agencies about the ability of the victim to commit active acts after injury. During the examinations, the experts established the following groups of injuries: craniocerebral trauma in 52.5% of observations, skeletal bone fractures in 10.4% of observations, traumatic shock in 17.9% of observations, other types of damage in 19.2% of cases. After the analysis, the circumstances of obtaining injuries to the injured, the mechanism, dynamics and sequence of infliction of injuries, forensic medical expert criteria are established.

**Results.** The probability of targeted actions by the victims was established by forensic experts in 65.3% of cases, excluded - in 20.5% of cases, clearly not established - in 14.2% of cases. The practical application of the criteria used by the forensic expert in formulating the conclusions is not scientifically justified. Difficulties in drawing conclusions from forensic experts are due to the inadequacy of medical data (violation of the integrity and function of the main organs and systems, a meager description of the algorithm and mechanism of injury and the nature of the bodily injuries).

**Conclusion.** Based on the materials of forensic experts, the following conclusions were drawn:

- 1) The question of the possibility of committing active actions after receiving injuries for law enforcement agencies is important for establishing the truth in the course of the pre-trial and judicial investigation.
- 2) When solving this issue, experts rely mainly on the nature of the damage and their severity. Based on these data, it is possible to commit various injuries to the injured himself or someone else.
- 3) It is necessary to continue research in this direction to improve the quality of forensic diagnostics for an objective resolution of the issue of the possibility of performing active operations after causing bodily harm.



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## **THE LEVEL OF PHYSICAL HEALTH OF STUDENTS**

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**Introduction.** Physical training is necessary in order to achieve a complete correction of the state of health for any diseases, as well as to create optimal conditions for active work and social life.

**Aim:** The study and assessment of the level of physical training of students 1-2 courses of the basic and preparatory medical groups, analyze the dynamics of indicators of physical training.

**Materials and methods.** To assess and analyze the level of physical training of students, the results of the standards passed on the basis of the University were studied, according to the following physical abilities: speed, speed-strength, power, general endurance, statics. In this study, 120 students from 1 to 2 courses from the Kharkov National Medical University participated, including 83 men, 37 girls. All students had previously passed a series of physical tests. The average age of students is 19-22 years.

**Results.** Evaluation and analysis of physical training was carried out on a 5-point scale, from the normative data of boys and girls, such physical abilities were revealed: speed-1 point, speed-power-1 point, power-2 points, total endurance-2 points, statics - 2 points .

**Conclusion.** Having made the conclusions of the results of the control studies, it can be stated that the level of development of motor qualities in comparison with the existing indices in the students of the medical university is medium or below the average. And in order to increase the level of physical training of students of the university, it is necessary to increase the number of independent exercises in physical activity, increase the weekly movement regime, significantly increase the number of hours of physical activity at the university, increase the requirements for passing the final standards, because through regular independent studies students of the university, will be strengthened, their health will be maintained, the level of physical abilities will increase, as well as improve the preparation of students for the final exams in physical culture



*Avilova O., Chris Mathew John*

## **MICROSCOPIC FEATURES OF THE SPLEEN UNDER THE IMPACT OF XENOBIOTICS**

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**Introduction.** Pollution of the environment and its influence on the body is a very urgent problem for medicine, as it is accompanied with an increase in the incidence among the population. Chronic exposure to some well-absorbed but slowly eliminated xenobiotics can lead to their bioaccumulation in living organisms. Exposure to environmental agents compromises numerous immunological functions with immunotoxicological focuses on the evaluation of the potential adverse effects of xenobiotics on immune mechanisms.

**Matherials and methods.** The experiment was conducted on 48 WAG male matured rats with the initial weight 180-220g. They were randomly divided into 4 groups 6 in each depending on the dose of induced polyether and length of administration: 7, 15, 30, 45 days. For the present research widely used polyether – tryglycidyl ether of polyoxypropylentriol (TEPPT) was chosen. All rats were treated via gastric gavage during 7,15, 30, 45 days by aqueous solutions of TEPPT in dose 1/10LD50 in conversion to 5.75g/kg. Rodents were deduced from the experiment by immediate cervical dislocation according to ethical rules. Obtained material was fixed in 10% neutral buffered formalin for 24 hours, were subjected to standard processing and embedded in paraffin. From the prepared blocks made serial sections thick 5x10-6m. Histological examination of removed spleens was performed according to accepted guidelines with microscope «OlympusBX41» followed by morphometric study using «Olympus DP-soft 3.12» program. Statistical comparison was performed using Mann-Whitney test for statistical analysis. The accepted level of significance was  $p \leq 0.05$ .

**Results.** The received and analyzed data demonstrate reliable changes of the white pulp area of the spleen from  $17.87 \pm 1.04\%$  to  $28.04 \pm 1.22\%$ , diameter of lymphatic follicles from  $426.59 \pm 11.18 \mu\text{m}$  to  $354.21 \pm 10.21 \mu\text{m}$ , width of the mantle zone from  $45.73 \pm 1.08 \mu\text{m}$  to  $37.01 \pm 2.18 \mu\text{m}$ , width of the marginal zone from  $81.32 \pm 1.79 \mu\text{m}$  to  $74.28 \pm 1.02 \mu\text{m}$ , width of the periarterial zone from  $88.73 \pm 2.69 \mu\text{m}$  to  $98.22 \pm 2.12 \mu\text{m}$ . The revealed structural changes in the spleen of animals indicate the hypoplasia of white pulp, which can be attributed to the increased incidence of apoptosis and a decrease in the level of cell proliferation in response to the effect of an unfavorable factor. The central arteries of lymphatic follicles have thicker walls due to the development of sclerotic changes. Trabecular connective tissue is well defined; its thickness is increased.

**Conclusion.** The spleen is very sensitive to the effects of xenobiotics, in our case TEPPT that is even reflected in histological features. Our obtained data can be sign of specific decreased cellularity of



the B cell-rich marginal zone, as it could be similar with treatment-related effect due to possible increasingly encountered with the development of novel immunomodulatory drugs.

*Bezega E., Kobylinska L., Zub K., Tretyakova K.*

## **HISTAMINE AND ACETYLCHOLINE IN THE CONDENSATE OF EXPIRED AIR AND BLOOD OF PEOPLE WITH COPD AND ACUTE BRONCHITIS**

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**Introduction.** Nowadays chronic obstructive pulmonary disease (COPD) is one of the most significant chronic pathological conditions. Such a disease as acute bronchitis (AB) is also widely spread. That is why various mechanisms of AB and COPD have recently been studied. Particularly, much attention is paid to the study of chemical compounds of exhaled air condensate (EAC), which contain biomarkers of lung diseases. Histamine and acetylcholine are known to be inherent components of EAC. However, there is a lack of information about the peculiarities of their metabolism during COPD and AB. The aim of our investigation: to determine the content of histamine and acetylcholine in expired air condensate and serum of patients with COPD and AB.

**Materials and methods.** It was examined 30 patients (35-45 y.o.) of the pulmonary department of Kharkiv municipal clinic №13. Blood serum and EAC of patients were collected for investigation. EAC was being taken in the morning for 15 min after 12-hour fasting; the volume of condensate was measured. Histamine content was determined via column chromatography. Acetylcholine content was measured via spectrophotometry.

**Results.** Our studies have shown that the lung inactivation of histamine is significantly reduced in people ill for COPD and AB. Its content in the EAC is greatly reduced. (in healthy people -  $0,3 \pm 0,02$  nm/l, in people with COPD -  $0.18 \pm 0.02$  nm/l,  $p < 0.02$ ; during AB -  $0,27 \pm 0.02$  nm/l,  $p < 0.05$ ). The decrease of concentration of histamine in the EAC was accompanied by significant increase of the substance level in blood in most cases.

**Conclusion.** 1. The inactivation of histamine and acetylcholine is significantly reduced in people with chronic obstructive pulmonary disease (to a greater extent, in case of exacerbation of the disease). This leads to their appearance in the condensate of exhaled air as well as to an increase of the content of these biologically active compounds in the serum. Such processes contribute to the progression of the disease. 2. The study of the chemical content of expired air condensate opens up new possibilities for a multilateral analysis of the peculiarities of lung metabolism during pulmonary diseases. These facts should be taken into account during therapy elaboration of the disease.





*Bezrodnaya A., Tamminidi H., Olipilli S.*

## **INFLUENCE OF OXIDE ETHYLENE AND PROPYL ON THE CONTENT OF CHOLESTEROL AND TRIGLYCERIDES IN RAT BLOOD IN THE TOXICOLOGICAL EXPERIMENT**

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**Introduction.** Today no one represents his life without the use of detergents and cosmetics, modern building materials, food without plastic packaging. Everywhere contains synthetic surfactants, which are products of polymerization of ethylene oxide and propylene. Numerous experimental data have shown that surfactants can influence the course of biochemical processes in the body, activate free radical reactions that disrupt the structural and functional state of cell membranes, the main components of which are lipids. Therefore, the study of key biochemical indices of lipid metabolism is a prerequisite for a primary before nosological assessment of membrane pathology. Aim - to determine the concentration of cholesterol and triglycerides in the blood of white rats under the influence of polyethylene glycol and polypropylene glycol.

**Materials and methods.** A subacute toxicological experiment was performed in three groups of animals: a control and two experimental animals in the number of 10 mature (6-8 months) white rats of both sexes of the WAG population in each. Aqueous solutions of polyethylene glycol (PEG) and polypropylene glycol (PPG) were injected daily intra-gastrically for 45 days at a dose of 1/10 DL50 with a metal probe. The control group of rats received the corresponding volumes of drinking water. Determination of cholesterol and triglycerides in the blood was performed after the subacute toxification of experimental animals was completed on day 45 of the experiment. The study was carried out on the biochemical analyzer "Lab Line-80" (Austria) with the help of reagent kits of the firm "Filisit-Diagnostika" (Ukraine).

**Results.** In groups of animals, PEG and PPG toxicity, blood cholesterol level was  $2.4 \pm 0.6$  mM / L and  $2.6 \pm 0.3$  mM / L and increased by 1.5 and 1.6 times, respectively, in comparison with a control group of animals whose blood cholesterol level was  $1.5 \pm 0.3$  mM / L. The level of triglycerides in the blood of animals, the toxicity of PEG and PPG, was  $1.78 \pm 0.38$  mmol / L and  $1.67 \pm 0.43$  mmol / L and increased by 5.9 and 5.3 times, respectively, compared with the control group animals, the content of triglycerides in the blood of which was  $0.31 \pm 0.09$  mM / L.

**Conclusion.** It has been established that during the subacute toxicological experiment in rats, polyethylene glycol and polypropylene glycol at a dose of 1/10 DL50 cause a change in lipid metabolism, namely an increase in the cholesterol content, which may be associated with an increase in the synthesis of cholesterol in the liver from acetyl-CoA, hormones of steroid nature (sex hormones, corticosteroids), the synthesis of bile acids. An increase in the content of triglycerides in



the blood of experimental animals may be associated with impaired functioning of the pancreas and thyroid glands.

Bezrodnaya A., Guzha P.

**INVESTIGATION OF BEHAVIORAL RESPONSES OF EXPERIMENTAL ANIMALS  
UNDER THE INFLUENCE OF POLYPROPYLENE GLYCOL**

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**Introduction.** In the various fields of bio-medical research, numerous behavioral tests are used to study the influence of environmental factors, pharmacological substances. Neuroethological test "Open field" is the most commonly used behavior test for studying the stress resistance of experimental animals. The "Open Field" facility is designed to study the behavior of warm-blooded animals (individual and typological features) and allows to assess: the motor research activity observed in animals in new places. Aim - to evaluate the individual-typological features of the behavior of white rats under the influence of polypropylene glycol in a subacute toxicological experiment.

**Materials and methods.** A subacute toxicological experiment was carried out on two groups of animals: control and experimental in the number of 10 white rats of the WAG population in each, at the age of 6-8 months of both sexes. Aqueous solutions of polypropylene glycol (PPG) were daily administered intragastrically 45 days at a dose of 1/10 DL50 with a metal probe. The control group of rats received the corresponding volumes of drinking water. Testing in the "open field" installation was carried out on the 1st, 14th and 45th days of the introduction of the xenobiotic. The influence of PPG on the coordination of movements was assessed, horizontal, vertical and research activity was recorded. The content and monitoring of animals was carried out in accordance with the provisions of the "General principles of animal experiments", agreed upon by the First National Congress on Bioethics (Kiev, 2001), "European Convention for the Protection of Vertebrates used for experimental and scientific purposes" (Strasbourg, 1986).

**Results.** The results of a study of "research" activity in animals in a subacute toxicological experiment showed its decrease. After the initial testing of the animals in the open field facility, horizontal motor activity (HMA), vertical motor activity (VMA), maximum number of intersections of squares and examination of holes in all animals were observed. In secondary testing of animals, there was a marked decrease in all types of research activity: HMA, VMA and intersections of squares decreased by 56%, 59% and 67%, respectively, compared with the control group of animals. Also, we observed long-term washing reactions (grooming) in 98% of animals and an increase in the indicators of



emotional status (diuresis and defecation) in 80% of animals. In the third testing of animals, there was a complete loss of "research activity", passivity and fading in 1 place in 98% of the experimental group.

**Conclusion.** In connection with the cumulation of the toxic effect of polypropylene glycol in animals in a subacute toxicological experiment, the research activity decreased from 14 days and its loss by the end of the experiment. The obtained results of studying the individual-typological features of the behavior of rats with the help of the test "Open field" testify to the stress-resistance of rats under the influence of the xenobiotic under study.

Bezrodnaya A., Nicholas B., Gabriel A.

## **MORPHOLOGICAL CHANGES IN THE INTERNAL ORGANS OF WARM-BLOODED ANIMALS AFTER INFLUENCE OF POLYETHYLENE GLYCOL AND POLYPROPYLENE GLYCOL**

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**Introduction.** In the modern world, polymers of toxic monomers of ethylene oxide and propylene oxide are widely used for the production of glycols, glycol ethers, nonionic surfactants, polyesters, which form the basis for the production of plastic materials, antifreezes, solvents, cosmetics and household chemicals. Aim - to evaluate the morphological changes in the internal organs of warm-blooded animals under the influence of ethylene oxide and propylene oxide in a subacute toxicological experiment.

**Materials and methods.** In a subacute experiment, polyethylene glycol of molecular weight 400 (PEG-400) and polypropylene glycol of molecular weight 470 (PPG-470), synthesized by BARVA-Farm (Ivano-Frankovsk) were used. According to the study program, a subacute experiment was performed on white rats of the WAG population of both sexes (6-8 months) weighing 190-280 g and lasting 45 days. An aqueous solution of PEG-400 and PPG-470 was introduced into the stomach with a metal probe at a dose of 1/10 DL50 in the morning on an empty stomach in each group, there were 10 animals, both experimental and control. After euthanasia, the brain, liver, kidney was taken and fixed with 10% neutral formalin solution, carried out through a battery of spirits of increasing strength and filled in paraffin blocks. Micro-Med MC-2M was prepared with half-thin cuts (5-7 microns), stained with hematoxylin-eosin, and studied by light microscopy on a microscope Axiostar-plus (Zeiss, Germany).

**Results.** Glycols of ethylene oxide and propylene oxide when ingested orally enter the body as a protoplasmic poison. Morphological examination in the liver shows fatty degeneration. The



pronounced perivascular lymphoid infiltration along the periphery of the organ indicates the activation of protective processes at the local level. Sinusoids are wide with a large number of Kupffer cells. There are hepatocytes with very large nuclei and binuclear, as a consequence of the manifestations of compensatory regeneration processes, as well as with a rather depressed chromatin. Some cores are incorrectly oval, which can be observed with initial karyopcnosis and before cell death. In the kidneys in the proximal convoluted tubules, the epithelium is flattened, in some places, the apical poles of the cells are deformed, the nuclei are lysed. Crimped tubules have a destroyed upper part. There are very large hypertrophied glomeruli. Many macrophages. The glomeruli are irregular in shape. In the brain, the number of neurons is reduced. They have a hyperchromic core. Glial cells, neurons with signs of fragmentation, dominate. There is neuronal death, pronounced edema of the neuroglia. Also, the process of thrombus formation in capillaries is visible.

**Conclusion.** An analysis of the morphological studies of organs of white rats suggests that in the state of internal organs, marked morphological changes are observed under the influence of ethylene oxide and propylene oxide at a dose of 1/10 DL50, which can affect the functioning of the head moss, liver, and kidneys.

Bezrodnaya A., Mbonu F., Aladetoyinbo A.

***INVESTIGATION OF ENZYME ACTIVITY UNDER THE CONDITIONS OF INFLUENCE OF SURFACE-ACTIVE SUBSTANCES IN RATS IN THE SUBACUTE TOXICOLOGICAL EXPERIMENT***

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**Introduction.** In connection with the wide use of surfactants in all spheres of vital activity of modern society, there is an undeniable threat of their negative influence on the metabolism, which is provided by enzymes. Alpha-amylase is one of the enzymes of the digestive system, which is synthesized mainly by pancreatic cells of the exocrine type and is responsible for the cleavage of complex carbohydrate components of food, starch and glycogen to simple carbohydrates (glucose). The key enzyme of anaerobic glycolysis is lactate dehydrogenase (LDH), which catalyzes the oxidation of lactic acid to pyruvate. Alkaline phosphatase is an enzyme-hydrolase that cleaves phosphate from many types of molecules, for example, nucleotides, proteins and alkaloids. Aim - determine the activity of alpha-amylase, lactate dehydrogenase and alkaline phosphatase in the blood of white rats under the influence of polypropylene glycol in a dose of 1/10 DL50.

**Materials and methods.** A subacute toxicological experiment was carried out in two groups of animals: control and experimental in the number of 10 white rats of the WAG population of both





sexes in each aged 6-8 months. Aqueous solutions of polypropylene glycol daily on an empty stomach were intravenously administered 45 days at a dose of 1/10 DL50 with a metal probe. The control group of rats received the corresponding volumes of drinking water. The activity of alpha-amylase, lactate dehydrogenase, alkaline phosphatase was carried out after the subacute toxification on the 45th day of the experiment on the biochemical analyzer "Lab Line-80" (Austria) with the help of reagent kits of the firm "Filisit-Diagnostika" (Ukraine).

**Results.** In the group of animals, PPG toxicity, analysis of enzyme activity in the blood showed that the activity of alpha-amylase in animals was  $423.5 \pm 36.9$  mg / (s Ч l). In comparison with the control group of animals, the activity of alpha-amylase increased by 1.2 times. The activity of LDH in the serum of experimental animals was  $225.4 \pm 18.9$  U / L and increased 1.6 times when exposed to PPG at a dose of 1/10 DL50, which indicates a violation of the integrity of cell membranes by organ-specific enzymes of organs, myocardium, and kidneys. The activity of alkaline phosphatase in the blood serum was  $40.5 \pm 3.1$  nmol / s \* l, increased by 1.4 times compared with the activity of this enzyme in the control group of rats exposed to PPH at a dose of 1/10 DL50.

**Conclusion.** It was found that during the subacute toxicological experiment in rats, polypropylene glycol at a dose of 1/10 DL50 increases the activity of alkaline phosphatase, alpha-amylase, lactate dehydrogenase in the blood of rats compared to the control group of animals, which shows structural and functional disorders of cell membranes of specific organs.

*Boiagina O.*

## **INFLUENCE OF CRANIOMETRIC INDICATORS OF THE NEUROCRANIUM ON THE CORPUS CALLOSUM SHAPE OF PEOPLE OF THE SECOND PERIOD OF THE MATURE AGE**

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**Introduction.** It is a common knowledge that the form and mass of the brain within the permissible limits can be judged by the shape and capacity of the cerebral cranium, since they are formed in the process of development in close unity with each other. However, in the literature there is no data on the form of the relationship between the corpus callosum and craniometric parameters.

**Aim.** To establish the influence of the craniometric parameters of the neurocranium on the shape of the corpus callosum of people.

**Materials and methods.** The material used was two samples from a series of head MR-tomograms of healthy men and women of the second period of mature age executed in the sagittal plane in the T1 and T2 modes of weighted images (5 mm thick).



**Results.** It is established that, according to the length-height index, it is possible to divide all variants of MRI images of the corpus callosum of men and women into three main shapes – low-convex, medium-convex and high-convex, which are directly dependent on the shape of the neurocranium. This dependence is determined on the basis of the proportional ratio of the corpus callosum length along the constricting chord to the longitudinal dimension of the neurocranium. The index of this ratio is 2.6, which allows to determine a person's rostrum-caudal size of a corpus callosum on the basis of the length of the neurocranium. This size does not correspond to the actual length of the corpus callosum, which can be calculated in approximate value by summing the lengths of the two thighs of its trunk convex. The metric ratio of this size does not directly depend on the length of the neurocranium, since it varies individually with a relative coefficient of 2.3.

**Conclusion.** Thus, if the ratio of the rostro-caudal size of the corpus callosum to the length of the neurocranium is a constant indicator among people of the second period of mature age, then taking into account its actual length this parameter is variable. This suggests that the rostro-caudal size of the corpus callosum (and its ratio to the length of the neurocranium) is the result of phenotypic development of the brain, whereas its actual length is determined by the subject's genotype and can serve as an indicator of its psychophysiological characteristics.

*Elakkumanan K., Polikarpova H.*

***THE DYNAMICS OF ORGANISM ALLERGY INDICATORS IN GUINEA PIG  
BLOOD AT SKIN BURNS WITH DIFFERENT ORIGIN***

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**Introduction.** Burn is an injury of the organic tissue primarily caused by heat, radiation, electricity, friction or in contact with chemicals. According to World Health Organization 1,80,000 deaths occur because of burns every year. In addition to those who dies, millions are left with lifelong disabilities and disfigurement. According to above the study of burn injury course and the development of a new method of diagnostic and treatment is an actual medical problem. However, despite the availability of data, the comparative study of biochemical parameters during burn with different origin course have not been carried out yet. Aim. The comparative study of organism allergy indicator dynamics in guinea pig blood under experimental thermal, chemical and radial burns of skin.

**Materials and methods.** The study was carried out on white four-month-male guinea pigs were kept in standard vivarium conditions. Working with animals was conducted according to the requirements controlling the animals using for experimental purposes. Thermal burn was caused by contact way, chemical – by 20% hydrochloric acid solution application. Radial burn was caused by



X-ray influence at the exposition dose 60 Gr. It should be noted that this model was developed especially for local radial injuries caused without radial disease occurrence. To assess the degree of allergization of the organism the eosinophile %, middle and large circulating immune complexes (CIC) were investigated within an hour, at 1, 3, 5, 7 and 10 days after the application of all burns, and in the case of radial burn - even at 21 and 35 days. Detection of eosinophils is performed in blood smears stained by Romanovsky. Detection of circulating immune complexes (CIC) in blood serum was performed by spectroturbidimetric method.

**Results.** The result of research showed the similar dynamics of the wound state in thermal and chemical burns. At 1 day, a defect is formed which begins to be closed up by granulation at 5th day and at the 21st day the wound is fully epithelized. A completely different picture is observed under radial skin burn: from 1 day till 7 there are no visible changes, indicating the presence of a latent period. From 10 days, the defect is covered with scab and an ulcer is formed for 21 days, which is ultimately formed at 35th day. The investigated parameters similar showed the similar dynamics under thermal and chemical burns. The maximal percentage of eosinophils, level of large and middle CIC are observed after 1 day after injury; at the 7th day these parameters were not significantly different from control. The radial burn showed other dynamics. The eosinophil percentage was not significantly differing from control per first ten days with following decrease and minimal value at 35th day after burn. In contrast, the middle and large CIC progressive accumulation was observed in blood during all period of radial burn course investigation.

**Conclusion.** The getting result showed the similar dynamics of researched parameters under chemical and thermal burns which shows the normal process of wound healing. The increase in the CIC level and decrease the eosinophil level under radial burn indicates the chronization of the inflammatory process and progressive damage to tissues.

*Guzha P.*

## **THE PREVALENCE OF ORTHOSTATIC HYPOTENSION AMONG YOUNG PEOPLE**

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**Introduction.** Currently, preventive medicine is the basis of the health care systems of the most developed countries of the world, and investments in this area are believed as a most effective among all investments in the health care industry (Гульчій О.П., 2013). The autonomic nervous system (ANS) is one of the most influential complex systems providing adaptation of the body to environmental changes. It helps to maintain homeostasis by coordinating activities of systems.



Disturbances of the autonomic regulation play a crucial role in the pathogenesis of many diseases. Many factors influence autonomic function such as body position, emotional state, ingested food and medicines and other substances. One method of ANS evaluation is also widely used, especially to estimate reactivity of ANS which is orthostatic test also helping in diagnosis of orthostatic hypotension which is a condition affecting people of different age and is linked to abnormal blood pressure regulatory mechanisms and autonomic insufficiency. The aim of our study was to analyze the reactivity of ANS and to define the prevalence of orthostatic hypotension among students of Kharkiv National Medical University.

**Materials and methods.** The research was conducted in 147 students of 2nd course of Kharkiv National Medical University, among them 36 males and 111 females. The orthostatic test was used to analyze the reactivity of ANS. The basis of the test requires the individual to lie down for 3 minutes and then stand up for 2 minutes while the heart rate and blood pressure are measured. The results have been interpreted using index provided by Burkhard and Kirchhoff.

**Results.** Analysis of obtained results has shown that in 27% of examined females orthostatic index was negative (less than 1), and was caused by reduction of systolic, diastolic pressure and heart rate. Listed above indexes of hemodynamics in 4% of females were not changed compared to initial vertical positions. Also, in 15% of females the increase in heart rate in more than 20% has been revealed. The analysis of results of males showed the reduction of orthostatic index in 13 % of males. Moreover, 20% of males reacted to orthostatic test by acceleration of heart rate more than 20%. Comparative analysis of the results among males and females has shown that 54% of females and 68% of males have normal reactivity of ANS thus providing adequate and effective adaptation of organism and maintenance of homeostatic parameters. Therefore, females have higher tendency to orthostatic hypotension because almost one third of females have shown paradoxical reaction to test informing about insufficient activation of sympathetic nervous system, because normal physiological response is quick activation of sympathetic division to compensate the change in blood pressure and redistribution of blood volume thus normalizing venous return and blood pressure preventing hypotension. Consequently, such category of females has low tolerance to orthostatic stress that is why the test was accompanied by dizziness.

**Conclusion.** Young females have lower tolerance to orthostatic stress than males thus detailed medical examination is recommended to identify the cause of misbalanced autonomic supply and to prevent development of complications.



Hloba N., Litvichenko A.

***INTERRELATION BETWEEN PERSONAL NERVOUS-PSYCHIC RESISTIVITY AND  
INTELLECTUAL CAPABILITY IN STUDENTS***

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**Introduction.** As the main form of activity in medical students is intellectual work, the analysis of its quality and determination of factors influencing it remain an important topic (Bryant S.E., Malone T.I., 2015). Among factors possibly affecting one's mental performance the variety of psychological, social, cultural, economical peculiarities are named (Kasimova D.K., 2017). Individual nervous-psychic resistivity as one of such factors plays an important role in determining the mental capabilities of a person, thus creating a necessity for its research. Therefore, current research was aimed at studying the influence of personal resistivity on indexes of intellectual capability among students.

**Materials and methods.** 78 students of 2nd course of Kharkiv National Medical University participated in current research, among them 35 young men and 43 young women, aged 18-21. Personal nervous-psychic resistivity (PR) was determined using multifactor personal questionnaire "Adaptivity" (Maklakov A.G., Chermianin S.V.). Efficiency of mental performance was studied by procedure "Count by Kraepelin".

**Results.** According to the level of PR all examined people were divided into 2 groups. The 1st group included 42 persons with low PR (mean value  $43,2 \pm 3,7$  points), among them 19 young men and 23 young women. The 2nd group consisted of 36 persons, 20 men and 16 women, with average level of PR (mean value  $19,1 \pm 2,6$  points). Evaluation of mental performance showed that in 1st group with low PR the mean efficiency coefficient was  $0,97 \pm 0,03$ , % of correct answers was  $96 \pm 2\%$ , average speed of answering was  $19,02 \pm 0,75$  tasks per time interval. People of 2nd group with average PR had mean efficiency coefficient  $1,0 \pm 0,02$ , % of correct answers was  $98 \pm 1\%$ , average speed of answering was  $19,14 \pm 1,2$  tasks per time interval. Therefore, even though the speed of mental work is approximately the same in all examined people, people of 1st group have lower quality of results, regarding both ability to relay from one task to another and constancy of attention level.

**Conclusion.** Research proved the direct connection between levels of PR and mental performance among students, showing that the higher is nervous-psychical resistivity, the higher is efficiency of intellectual work. Improper development of mentioned psychological quality leads to decrease of level of behavioral regulation in total that might cause disturbances of mental activity in stressful situations. Therefore, improve of nervous-psychic resistivity will increase both mental performance of students and their ability to deal with stresses, that are constant in their future professional activity.



*Khilchevsky B., Stabrovsky S.*

## **PHARMACOLOGICAL STUDY OF ANTIOXIDANT PROPERTIES OF A NEW COMBINATION OF UROLITOLITHIC ACTION**

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**Introduction.** The system of antioxidant protection plays a key role in the pathogenesis of acute kidney injury. Since at the toxic damage of kidney activation of lipid peroxidation occurs, which in turn causes dysfunction of cellular membrane as well as reinforces inflammation, the functioning balance of prooxidant and antioxidant systems disrupts. The aim of our study was to establish indicators of enzymatic unit of antioxidant protection for succinate dehydrogenase activity (SDA), catalase, and non-enzymatic unit: SH-groups and reduced glutathione in serum of the rats in the application of the studied combination with earlier proven urolitolithic action, on the model of ethylene glycol acute kidney injury( AKI).

**Materials and methods.** Studies were performed on 24 white nonlinear rats of both sexes weighing 170-200g, according to the requirements of the European Convention for the Protection of Vertebrate Animals used for Experimental and other Scientific Purposes (86/609 EEC ). The AKI were modeled by an intra-gastric introducing 8 ml / kg 1% ethylene glycol solution for 14 days. The studied combination was infused intragastrically in an amount of 2 ml/kg, as a reference preparation used chophytol (1.36 ml / kg) with confirmed nephroprotective action.

**Results.** The results of the study found that the level of antioxidant enzymes in the blood serum of rats of control group decreased relative to intact animals when the nephrotoxin was administered: SDH by 47% ( $p < 0.001$ ), catalase, 34% ( $p < 0.05$ ); non-enzyme components: the level of SH-groups decreased by 15% ( $p < 0.05$ ), glutathione was reduced by 24% ( $p < 0.05$ ). During applying the studied combination of urolitholytic action SDH increased by 33% ( $p < 0.05$ ) catalase - by 40%, glutathione was reduced by 21%, SH-group - 3% ( $p > 0.05$ ) compared with to control group, but not reached the values of intact animals. Chophytol as the preparation of comparison was superior by its activity to the studied combination of urolitholytic action, however, the results obtained with its application also did not reach the values of intact control.

**Conclusion.** The obtained results show that the modeled acute kidney damage is accompanied by a pronounced deflection of antioxidant protection. The using of a combination urolitholytic action in conditions of ethylene glycol AKI leads to adaptation of the antioxidant system, however, the level values of the enzymatic and non-enzymatic system units don't reaches intact values. This opinion indicates that the use of the studied combination consisting of succinate buffer complex and total plant extract for pharmacological correction of AKI is not rational.





*Konoval N.*

## **CRITERIA FOR FORENSIC MEDICAL DETERMINATION OF THE TIME SINCE DEATH AS PER ARCHIVE RECORDS OF KHARKIV REGIONAL BUREAU OF FORENSIC MEDICAL EXPERTISE**

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**Introduction.** Determination of the time since death (TSD) is one of the main aspects of forensic medical examination. Combination of external and internal factors affecting the body in postmortem period complicates the process of TSD determination, which stipulates the relevance of the issue.

**Materials and methods.** The archive records of the department of forensic medical examination of KRBFME for 2017 were the subject of investigation. There was a registration card for each case, which included passport data, general information on the TSD, studies of cadaveric changes during forensic medical examination and determination of the TSD with additional high-tech methods.

**Results.** The study involved the assessment of 56% of forensic examinations for 2017, 18% of which were violent deaths, 78% non-violent deaths and 4% cases with an unidentified cause of death. The analysis showed that the investigative bodies went to the scene in 100% of cases; however, only in 29% of cases investigators ordered to provide a protocol of the corpse inspection at the place of its detection. Cadaveric phenomena were recorded in 98% of the provided corpse inspection protocols drawn up at the site of corpse detection, of which 24% contained information on the air temperature surrounding the corpse. The issue of the TSD was set by the investigative bodies in 82% of decisions on the appointment of forensic medical examination, including 17% cases of violent death, 80% of non-violent deaths and 3% of cases with an unidentified cause of death. In 22% of the analyzed cases, forensic medical experts determined the TSD only by the data of corpse inspection protocol drawn up at the place of corpse detection. Besides, 17% of the expert's conclusions were based on the results of the study performed in the sectional room and only 1% of all the cases were based on the data of corpse examination at the site of its detection and in the sectional room. In 14% of cases the TSD was not determined and the experts provided explanation, motivating the impossibility to answer the question. In 45% of cases, the experts left the question of the TSD unanswered in the conclusions, motivating it by the absence of a copy of the corpse inspection protocol at the place of its detection. In 2% of cases the TSD was recorded by medical workers.

**Conclusion.** The study showed that the conclusions in which experts provided an answer concerning the TSD according to the results of the autopsy were based only on the data of the external examination of the corpse. All the analyzed cases did not imply any additional high-tech research methods that could improve the accuracy of the TSD determination. The analysis shows the necessity





to search for new criteria for TSD determination and to improve the methodology for its determination.

*Litvinova M.*

## **THE WAY OF ACTIVATION OF THE COMPLEMENT SYSTEM IN CASE FOR ASEPTIC INFLAMMATION IN RATS**

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**Introduction.** Well-known fact, that inflammation is universal, stereotyped, phase - developing pathological process, the basis of which is the reaction of cells of mesenchymal origin, local and circulating mediators. Inflammation is characterized by the cascade activation of various systems, participating in its development and, first of all, the complement system (SC), a humoral system of innate immunity. It is assumed, that in immune inflammation the SC is activated by immune complexes with the participation of immunoglobulins M and G, a special protein MBL, bacterial and plant polysaccharides, etc.

**Materials and methods.** Based on the foregoing, it is of interest to enucleate the main pathway of SC activation in rats with aseptic inflammation. The model of inflammation was acute aseptic peritonitis caused by intraperitoneal injection of 5 mg of  $\lambda$ -carrageenan dissolved in 1 ml of isotonic sodium chloride solution. Determination of SC activity was carried out according to a standard procedure.

**Results.** Before the beginning of the experiment, the activity of SC in the rats of the study group did not differ from that of the control group, while on the third and sixth days after the reproduction of peritonitis, the dynamics of SC activity in the rats of the study group was significantly increased by 2.2 times ( $p < 0,05$ ) (day 3) and - 1,14 times (6th day), respectively, which was higher than those controls. The peak of SC activation occurred on the 3rd day, and apparently is realized by an alternative pathway of activation, in which there is no need for the presence of immune complexes (the formation of which requires at least 6 days), as in the classical SC activation pathway.

**Conclusion.** Therefore complement performs template recognition, and the membrane structures of the microenvironment cells of the focus of inflammation change, to prevent the complement of mediated autoaggression, the cellular mechanisms inactivating SC are included, which in our study indicates reduction CK activity on the 6th day.



Nagornyi I., Bezkrivnyi B.

## ***EVALUATION OF HART WORK DURING PHYSICAL TRAINING IN STUDENTS OF 4 COURSES OF SECOND MEDICAL FACULTY KHNMU***

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**Introduction.** Reduction of physical activity in the modern life and insufficient development of mass forms of physical culture among the population lead to the deterioration of various functions and the emergence of negative conditions of the human body. Unfortunately, students spend most of their time studying and thus they don't have enough physical activity. Particular attention should be paid to the performance of the cardiovascular system during exercise, as the tendency to increase the number of cardiovascular pathology among the population of Ukraine leads to disruption of the heart during exercise and in some cases can lead to death.

**Materials and methods.** The study included 30 students of 4th year of the 2nd Medical Faculty of KhNMU. The age of students varied from 20 to 23 years. Ruthier's test was used to study the heart's ability to function under physical stress. This method is applied to assess the heart's ability to work under physical stress. Then the Ruthier's index was calculated, which was the basis for the study result's evaluation. Scale of evaluation:

- <3 - good working capacity of the heart;
- 3-6 - average cardiac performance;
- 7-9 - satisfactory performance of the heart;
- 10-14 - moderate heart failure
- > 15 - high-grade heart failure

**Results.** The average value of the Ruthier's index among the fourth year students of the 2nd Medical Faculty of KhNMU is  $6.4 \pm 0.23$  which corresponds to the average capacity of the myocardium during physical activity.

**Conclusion.** The performed evaluation of cardiac efficiency at physical exertion showed that despite the lack of physical activity in the life of medical students, the performance of the myocardium during physical exertion remains within the limits of average indices.



*Ngo Thi Tuyet Nga, Vlasenko O., Shylenko B.*

## **INFLUENCE OF MINERAL COMPOUND OF DRINKING WATER ON CALCIUM EXCHANGE OF RATS**

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**Introduction.** Arterial hypertension is a widespread disease. It is known that while having arterial hypertension, experimental animals and humans have an impaired absorption of calcium in the intestines. Calcium plays an important role in regulating the tension developed by the vessel wall. Epidemiological studies have shown that the incidence of people with arterial hypertension depends on the mineral compound of drinking water in the region. However, the question of the effect of the compound of the drinking water on the state of calcium exchange of humans and animals has not been sufficiently studied.

**Materials and methods.** The experiments were performed on 20 3-month-old male rats of the WAG population contained in standard vivarium conditions. Rats were on a standard diet, but received water with different mineral compounds. Rats of group N1 (10 individuals) received water purified by reverse osmosis (8 mg of calcium and 3 mg of magnesium per liter). Rats of group N2 drank spring water (calcium 95 mg / l magnesium 45 mg / l). After 6 weeks to assess the daily balance of calcium after 24 hours of food deprivation rats were placed in individual chambers, which allows to estimate the amount of calcium consumed and with drawn from the body. All animals received 10 grams of feed and distilled water within 24 hours. In the samples of urine and faeces collected during the day (after ashing), the calcium content was determined using reagent sets of the "Filisit-Diagnostika" firm. Calcium, albumin, urea and alkaline phosphatase activity were found in the serum by using reagent kits.

**Results.** It was determined that the rats from the group N1 had the greater amount of calcium excreted (almost 2 times) than the rats from the group N2, with the major part of calcium being excreted through the gastrointestinal tract. The kidneys of the rats from gr.N1 excreted no more than 0.5% from the total amount of calcium excreted (calciuresis  $1.44 \pm 0.08$  mg / day. for diuresis. The amount of food and water taken did not differ in both groups. The calcium assimilation of the animals from gr. N2 was  $36.5 \pm 1.22\%$  from the received amount, calciuresis –  $0.15 \pm 0.01$  mg / day. Analysis of biochemical parameters of blood serum showed that the composition of water affects the content of total calcium (significantly lower for rats N1) and has virtually no effect on albumen, urea and alkaline phosphatase activity.

**Conclusion.** Deficiency of minerals in drinking water, even with them being contained normally in food, contributes to the disruption of the daily balance of calcium by increasing its losses with excrement and urine.



*Perepelytsia D., Leshuk I.*

## **DEGREE OF PROBABILITY THE EXPERT'S CONCLUSIONS IN CASES OF FORENSIC-MEDICAL EXAMINATIONS OF CORPSES PERSONS WHICH DIED FROM OVERCOOLING ORGANISM**

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*Research advisor: ass. prof. Gubin N.V.*

**Introduction.** Diagnosis of the causes of death in hypothermia is one of the most pressing problems of forensic science and practice, as well as medicine and biology in general. Death from low temperatures in forensic medicine accounts for 2.6% of all cases of violent death, mainly among males of working age, which is sufficient reason for considering this type of death as an obvious social problem. The purpose of the study was to improve the diagnosis of the causes of death in case of the organism's overcooling by a mathematical justification of the reliability of the expert's conclusions about the cause of death. Tasks: Estimation of the frequency of detected external and internal signs of death from hypothermia; the establishment of the probability coefficient of each of the characteristics.

**Materials and methods.** In the period from 2016 to 2017, 155 corpses of male and female persons were examined. The statistical method was used for the study - all the information received was recorded in the registration cards and a mathematical method using the Bayesian postulate. The survey data of forensic experts on the death from hypothermia, which were encountered in the practice of the Kharkov forensic medical examination, showed the following: Analysis of the cases of lethal hypothermia among men and women showed some unevenness, since a significant majority of deaths occur in males aged 20-50 years (more than 80 % of observations).

**Results.** Estimation of the frequency of occurrence of diagnostic signs of death from hypothermia showed that the most common signs are the spots of Vishnevsky (100%), Fabrikantov stains (93%), edema of the brain and soft meninges (91%), carmine red and or light red (79%), red color of cadaveric spots in frozen (67%), sign of Puparev (38%), convolution of blood in the cavities of the heart and aorta (27%), lungs in the incision (90%), dilated pupils with alcohol intoxication (79%).

**Conclusion.** 1. Forensic diagnosis of the causes of death from hypothermia can be performed using the proposed diagnostic method, the essence of which lies in the mathematical calculation of the summation of diagnostic macro- and microscopic features.

2. To establish the conclusions about the reliability of the causes of death from hypothermia, the expert must, using the proposed table, summarize the reliability coefficients of the diagnostic features.



3. Using the proposed method to determine the reliability of the expert's conclusions will provide an opportunity to increase the objectivity and accuracy of forensic diagnostics of death from hypothermia.

*Rassokha I., Korotkikh A., Kolesnik M.*

## **THE SEVERITY OF FATIGUE SYNDROME IN CANCER PATIENTS AFTER COMBINED ANTITUMOR TREATMENT**

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**Introduction.** Oncological diseases constitute a significant medical, psychological and psychosocial problem. Progress, which occurred in the diagnosis and treatment of malignant neoplasms, increased the overall survival of cancer patients. However, a high level of psychological stress, a pessimistic perception of the prospects for treatment provoke the development of fatigue syndrome, which adversely affects the health status and treatment of patients. In this regard, the identification of the development of this syndrome and the timely conduct of therapeutic and preventive measures to prevent its development is an actual direction of modern medicine.

The aim of the work is to evaluate the severity of fatigue syndrome in patients with uterine body cancer (UBC) before and after combined antitumor therapy.

**Materials and methods.** Clinical and laboratory studies were conducted in 46 patients with the diagnosis of adenocarcinoma UBC before and after the combined treatment (panhystectomy, radiation therapy). A study of hematological parameters was performed using the hematological analyzer SF-3000 (SYSMEX, Japan). The study of the concentration of cortisol in the blood serum was performed by an enzyme immunoassay using the Steroid-IFA-Cortisol-01 reagent kit (Alkor Bio, Russia). Evaluation of the degree of psychosomatic abnormalities in UBC patients was carried out with the help of a questionnaire (EORTC QLQ-C30 test) (Fayers P.M., 2001).

**Results.** Results of the study of hematological parameters of patients before and after the treatment showed a decrease in the number of lymphocytes, erythrocytes and hemoglobin level, which indicates the development of anemia against the background of lymphopenia. In the study of the psychosomatic state of women before and after treatment, signs of increased fatigue and sleep disturbances were revealed. A significant increase in the level of cortisol in the blood serum before and after treatment was established, which can lead to weakness, sleep disorders and depression.

**Conclusion.** Thus, for a more complete and qualitative treatment of patients, it is necessary to take into account in the general therapy complex its influence on their psychosomatic state, which will



allow developing an adequate treatment tactic in order to improve the quality of life and improve the survival of cancer patients.

*Semeniuk N., Bratcykova E.*

## **DONOSOLOGICAL MARKERS OF ADAPTIVE MECHANISMS OF THE BODY IN ATHLETES**

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*Research advisor: prof. Zalyubovska O.I.*

**Introduction.** The prospects for progress development of cyclic kind of sports in Ukraine demand the increase of sportsmen capacities level for the highest achievements, as a result of intensive, longtime, physical and psychoemotional loads during the preparative, basic and pre contest periods of workout session. It puts the priority task of health preservation in conditions of extremely high risk of disruption of adaptive possibilities of the organism. Goal. Organization of methodical approach to complex scientific research of changes in laboratory indicators. Theoretical justification of physiological readiness of athletes with an assessment of adaptation and recovery capabilities on the accompanying significant physiological loads. Monitoring the course and intensity of the process of recovery of wasted body stokes hormonal activity, the nature of the dynamics of a regular biochemical process, protein synthesis, accumulation of metabolic products, oxidative processes, restoration of energy substances and water-electrolyte balance of organism. Access the prognostic significance of precursor markers of pathology.

**Materials and methods.** The idea of the cyclic development of the level of adaptive capacity at high physical loads is aimed at achieving a record result. Continuation of the impact of the load accumulation of toxic metabolites can lead to depletion of body resources. To prevent the development of the pathological syndrome, as a consequence of fatigue, before the competition period, an analysis of the dynamics of functional biochemical blood indices is needed, reflecting the essence of the studied process. Indicators of energy potential, regulation of metabolism in muscle activity hormonal status, osmotic pressure, electrolytes and trace elements, ratio of the processes of aerobic and anaerobic glycolysis.

**Results.** As a result of deep and integrated, health and biological researches provided for athletes, we appreciated training effect - it is objective information about the changes of body functional systems, as well as other adaptation for changes. Investigation of changes in blood biochemical parameters to the adequacy of exercises, adaptation of the athletes body, recommendations for training correction and their personalization.





**Conclusion.** Efficiency and rationality underlies the diagnosis of pre-pathological and pathological changes in the metabolism of athletes. Individual control of the physiological state and adjustment of the athletes load requires a special methodical and organizational approach using laboratory markers for a differentiated assessment of the physical performance of all body systems.

*Shaposhnyk V., Adetunji O., Zavada O.*

## **INVESTIGATION OF PERIPHERAL ANALGESIC ACTION OF MELOXICAM AND ITS COMPOSITION WITH CAFFEINE**

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**Introduction.** Non-steroidal anti-inflammatory drugs (NSAIDs) and non-narcotic analgesics (NNA) are widely used for the treatment of inflammation and pain syndromes. They have a number of disadvantages and side effects. The analysis of scientific literature has shown that pain treatment by polycapomponent compositions are more effective than monopreparations. Therefore, the development of new effective domestic multicomponent drugs with a minimum number of side effects is a very actual question. It is known that caffeine improves the analgesic effect of NNA. The mechanism of analgesic effects potentiation is associated with an improvement of the NNA bioavailability in the combination with caffeine, and with the effect of caffeine on adenosine receptors ("purine analgesia").

**Materials and methods.** The aim of our work was the experimental investigation of the peripheral analgesic activity of meloxicam, caffeine and their pharmacological composition. An experimental study of analgesic activity was conducted on laboratory animals – mature rats. The peripheral analgesic action was studied by the changes in nociceptive reactions of rats. The comparative characteristic of the analgesic action of meloxicam, caffeine and their pharmacological composition was studied with acetic acid-induced abdominal writhing test. The mechanism of pathology development by acetic acid activates the calicreatin kinin system, prostaglandins, biogenic amines, leukotrienes, which are endogenous inflammatory mediators and contribute to the development of the abdominal muscle spasm, accompanied by the retraction of the hind paws and the flexing of the back. Writhes were caused by a single intraperitoneal injection of 0.6 % acetic acid solution (1 ml per 100 g of animal). The investigated drugs, their composition, and 3 % starch solution were injected 1 hour before the algogen introduction. Animals were injected with acetic acid. Then, the number of writhes was counted for 20 minutes. Animals were divided into 5 groups of 6 animals in each. 3% starch mucus (2 ml per 200 g of rat) was injected via gastric tube to intact animals of the first group. Experimental drugs and their composition were administrated to animals of groups 2-5 once via





gastric tube: animals of the second group - meloxicam (0.6 mg per 1 kg of animal weight), third one - (0.6 mg/kg of animal weight), fourth one - the composition of meloxicam (0.6 mg/kg of animal weight) with caffeine (0.6 mg/kg of animal weight), fifth one - a reference drug diclofenac sodium (8 mg/kg of animal weight).

**Results.** Analgesic activity was estimated by the ability of meloxicam, caffeine, their pharmacological composition and sodium diclofenac to reduce the number of writhes in experimental animal groups as compared to the control group and expressed in percentage. Also, the analgesic activity of meloxicam, caffeine was compared with analgesic activity of their composition (meloxicam + caffeine) and reference drug. Experimental research has shown that reduction of writhes after meloxicam administration reaches  $8.30 \pm 0.21$  in comparison with control animals  $22.00 \pm 0.86$ , the analgesic potential was 63.6%. Administration of caffeine shows the decrease in the number of writhes to  $7.80 \pm 0.48$ , with an analgesic potential 64.5%. The pharmacological composition of meloxicam and caffeine showed a significant reduction of the writhes to  $5.20 \pm 0.17$ , while the analgesic potential 76.4%. Thus, the caffeine potentiates the analgesic activity of meloxicam. Obtained results after diclofenac sodium administration exceeded the analgesic potential value (67.3%).

**Conclusion.** Results of the conducted studies of the peripheral analgesic effect shows that the pharmacokinetic composition of meloxicam and caffeine demonstrated pain inhibition by 76.4%, which is significantly exceeded the analgesic activity of the peripheral genesis of the reference drug diclofenac sodium (67.3%). Hence, we can conclude that caffeine potentiates the analgesic activity of meloxicam.

*Shevchenko V. A, Yurkina I. S., Yuntsova K. O.*

## **REACTIONS OF THE BLOOD SYSTEM IN ACUTE CARAGINOUS INFLAMMATION AGAINST THE BACKGROUND OF THE INTRODUCTION OF QUERCETIN**

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**Introduction.** An important interest in the pathogenesis of inflammation is the question of the mechanisms of self-maintenance of leukocyte infiltration, the replacement of cellular phases in the source of the transition, from the deployment of the process to its resolution and subsidence. Emigration of leukocytes with leukocyte tissue infiltration is the main component of inflammation, as leukocytes serve as the main cells-effectors of this process and the blood system as a whole,



ensuring the emergence and maintenance of infiltration plays a crucial role in the realization of inflammation.

At the same time, mechanisms of self-maintenance of leukocyte infiltration of the focus of acute carrageenan inflammation have not been studied enough.

The purpose of our study was the study of lipoxygenase metabolites of arachidonic acid in the mechanisms of self-maintenance of leukocyte infiltration of the inflammatory focus.

**Materials and methods.** pathophysiological, hematological.

**Results.** When inflammation against the background of the introduction of quercetin, there was a delay in the accumulation of leukocytes in the source. Peaks of neutrophils in the exudate were observed after 12h and 2 days, while with the natural development of inflammation after 6 hours and 1 day. The accumulation of monocytes in the outbreak was significant by the 10th day of the other five. The reduced number of leukocytes in the exudate and blood by the 6th hour was combined with the excess of the usual for inflammation at that time the amount of immature granulocytes and monocytes in the bone marrow. The maximum of immature and mature neutrophilic granulocytes and the first peak of monocytes are observed on the 5th day (instead of the 2 at a natural course of inflammation).

Accordingly, on the 3.5th and 10th day there is more pronounced neutrocytosis and on the third - monocytoysis, despite the absence of a difference in the content of leukocytes in the exudate.

When inflammation against the background of oppression lipoxygenase, there was a delay in the accumulation of leukocytes in the source, initially associated with a decreased output from the bone marrow to the blood, and then delayed activation of hematopoiesis.

**Conclusion.** Thus, lipoxygenase derivatives of arachidonic acid increase the accumulation of leukocytes in the focus, stimulating the release of leukocytes from the bone marrow into the blood and granulocytopenesis.

*Singh R.*

## **MACROPHAGIC AND LYMPHOCYTIC INFILTRATIONS IN SKIN BIOPSY WITH ACNE**

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*Research advisor: prof. Gubina-Vakulik G.I.*

**Introduction.** Acne is a skin disease (long term), which primarily affects the areas of the skin with relatively high number of oil glands and is caused due to blockage of the skin's hair follicle. The people in the age group 13-25 are more prone to develop acne. 85% of the people have developed it at some point in their lives. Hot and humid climate promote acne formation. There is formation of a



microcomedone, due to excessive growth, reproduction, and accumulation of skin cells in the hair follicle. The sebaceous gland gets clogged. P.acnes binds and activates toll-like receptors, especially TLR2 and TLR4 which leads to release of the inflammatory signals which attract various immune cells to the hair follicle including neutrophils (causing purulent inflammation in the skin), macrophages, and T cells (the mechanism of non-purulent infiltration is unknown).

Aim: to analyse the presence of macrophages and T-lymphocytes in derma of skin with acne

**Materials and methods.** Skin biopsies from patients L. and O. were taken by Dr.A.A.Bronova (dermatologist) from a locus of the back with the presence of heavy elements of acne. Control - the skin of a healthy person who died in a traffic accident. Immunohistochemical reactions to macrophages (CD68), lymphocyte-helper (CD4) lymphocyte-suppressor/cytotoxic (CD8) were done (antibodies of TermoScientific, USA).

**Results.** In the microscopic examinations of the skin biopsy, increased infiltrations in the sub epithelial layer of skin by CD8 cells was seen. In the skin biopsy from the control patient, all CD8, CD4, CD68 cells were not increased as much. CD8 cells were 8 in a field (maximum being 20), CD4 cells: not more than 3, and CD68 cells: 4-5 in number. In the skin biopsy from patient L. the infiltrations were as high as 44 in a microscopic field 400x (minimum being 17 in one field). CD4 cells were few in number not exceeding 5 in one field. CD68 cells although not a lot were more than CD4. In skin biopsy from patient O., similar observations were seen, CD8 cells: as much as 29 (minimum - 14); CD4 - not more than 4, CD68 - more than CD4. These features of macrophage-lymphocytic infiltration of the dermis in patients with acne (but outside the elements of acne) formed against a background of hyper proliferation of the epidermis and almost no basal membrane. We assume that an autoimmune reaction to epithelial proteins is possible in the case of hyper proliferation of the epithelium, which results in the appearance of a large amount of a non-purulent infiltrate with dominance of CD8-cytotoxic lymphocytes.

**Conclusion.** In the patients having acne, in the skin derma outside the elements of acne, macrophage-lymphocyte infiltration is present, increased number of CD8 T-lymphocytes (cytotoxic) can be seen.



## RELEVANCE OF CONSIDERATION OF ANATOMO-PHYSIOLOGICAL PARAMETERS OF ANIMALS OF OBESITY REPRODUCTION IN THE EXPERIMENT

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**Introduction.** Obesity is one of the typical pathological processes that is the basis of the development of many diseases, and the creation of a viable and accessible pathophysiological model of obesity, which imitates the adequate development of this process in humans, is one of the important issues of experimental pathophysiology. Taking into account the characteristics of the described models in modern sources, we propose to investigate the relationship between the initial parameters of animals and the possibility of adequate reproduction of the most common non-genetic model of alimentary obesity for its further study. A mathematical analysis was carried out and regularities between age and sex of the animal and the degree of development of obesity in it were defined. The goal of the work. To trace correlation dependence of development of non-genetic alimentary obesity in animals depending on anatomical-physiological and morphometric parameters.

**Materials and methods.** The work was reproduced on 72 pure line rats, raised in vivarium of the KhNMU. All animals were divided into 3 large groups. Group 1 - control, 2 - group of high-calorie diet for 3 months, and group 3 - high-calorie diet for 6 months. The high-calorie diet was reproduced according to the patent obtained by the department. During the experiment, the control group and the experimental groups determined the body mass index (BMI), the mass addition, and the specific mass gain. The development of obesity in an animal was considered to be an increase in the body mass index (BMI) of 0.755, with the increase in the weight of the unit from the unit.

**Results.** It was established that after 3 and 6 months of rats maintenance on the high-calorie diet in 18%, no general changes were observed indicating the development of obesity. In other 82%, the increase in BMI in the control group was 0.48 and 0.53 ( $p \leq 0.05$ ) times in females, and in 0.12 and 0.32 ( $p \leq 0.05$ ) times in males respectively. In the study of the specific weight gain in both terms of the diet there is a significant shift in the indicators to increase, in females in both terms the diet increase is significantly higher than in males: 11.6% and 23.4% in young ones, and 12.5% and 13.2% respectively.

**Conclusion.** The obtained results suggest that the reproduction of experimental alimentary obesity is possible in the rats of both sexes, but the more pronounced signs of this pathology are manifested in female rats, and the morphometric and anatomical and physiological parameters of the animal can be used as a prediction of the adequacy of animal use in the modeling of obesity.



Sklyaruk D., Kharchenko E.

## **TROMBOEMBOLIC AND THROMBOTIC COMPLICATIONS ACCORDING TO ARCHIVE DATA OF "REGIONAL HOSPITAL EMS (emergency medical services) AND DISASTER MEDICINE"**

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**Introduction.** Topicality. Thrombosis and embolism are the cause of the development of vasogenic shock, which is accompanied by ischemia of tissues excluded from blood circulation. Over the past decades, clinical practice indicates a continuing increase in the number of thrombosis and embolism of major vessels, their severe complications and high mortality.

**Materials and methods.** Goal. Analysis of the frequency of thrombotic (TC) and thromboembolic (TEC) complications in the offices of " REGIONAL HOSPITAL EMS AND DISASTER MEDICINE" according to archival data of 2013-2017 years.

**Results.** During the indicated period, in " REGIONAL HOSPITAL EMS AND DISASTER MEDICINE" there were 123 patients with TC and TEC, of which 95 were observed in the surgical departments, and 28 patients in the departments of the therapeutic section. Among the patients, the surgical section of men was 33 (34.74%) and women - 62 (65.26%), meanwhile, in the departments of the therapeutic section, there were 16 (57.14%) of men, and 12 (42.86% ) of women. The analysis of the frequency of TC and TEC according to years showed that in 2013, the total number of patients with this pathology was 27 (of which 20 - patients with surgical and 7 - therapeutic section), in 2014 - 23 patients (17 of them - patients Surgical and 6 - therapeutic section), in 2015 - 22 patients (19 patients of surgical and 3 - therapeutic section), in 2016 - 20 patients (17 patients of surgical and 3 - therapeutic section), in 2017 - 31 patients (22 patients - surgical section and 9 - therapeutic section). In the surgical department, the average age of male patients was  $59.58 \pm 1.8$ , female -  $72.06 \pm 1.4$  years old, and in the therapeutic section, the average age of males and females was almost identical and was  $61.67 \pm 1.7$  and  $61.43 \pm 0.98$  years old. Most often, TC and TEC were represented by mesenterial thrombosis, thromboembolia of the pulmonary artery, vein thrombosis and thrombosis of arteries of the lower extremities, thrombosis and thromboembolism of coronary, precerebral and cerebral vessels, DIC syndrome, aortic thrombosis.

**Conclusion.** 1. During 2013-2016, the tendency to TC and TEC drastically decreased, but in 2017 there was a significant increase in the total number of TC and TEC among patients in the surgical and therapeutic section. At the same time, the number of patients in the surgical section in 3.4 exaggerated the number of relevant patients in the therapeutic section.



2. In the surgical department among the patients, the majority of patients (in 1.9) were women, at the same time in the departments of the therapeutic section of the sick were men to a lesser extent (in 1,3) the number of sick women exceeded.

3. TC and TEC were not only the most frequently accompanied surgical pathology, but even among these patients in men, compared with women, these complications occurred 13 years earlier. At the same time, among patients of the therapeutic section of age differences, depending on sex, was hardly in evidence.

*Tymbota M., Stytsenko M.*

## **STUDYING THE FUNCTIONAL STATE OF THE BODY OF STUDENTS DEPENDING ON THEIR SUCCESS**

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**Introduction.** The human brain consumes quite a lot of energy. This indicator is even greater in intense mental work, for example when solving difficult tasks, or during intensive training. At the same time, other systems of the body suffer from a lack of energy, which is reflected in the change in their functioning for the better and for the worse. It is in this situation that the students of the first year, who spent a lot of time in preparation for the external independent testing (EIT). But, unfortunately, at this time there is not enough research on the differences in the state of the organism in students with varying degrees of success. The purpose of this study is to study the functional state of students of the first year, depending on their success.

**Materials and methods.** The work was performed on the basis of Kharkiv National Medical University, all participants were students of the first year. According to medical cards, the students belonged to 1 and 2 groups of health. The realization of this goal is accomplished by studying the influence of Martine's test on the functional state of the participants in the conditions of a natural hygienic experiment. Then, measurements of blood pressure and heart rate were performed. Measurement of indicators was carried out before loading (1 time) and after it (5 times within 5 minutes). After that, the analysis of the obtained data and the relation to one of types of reactions of the cardiovascular system was carried out. The success of the students was determined by the results of the external independent testing from the basic disciplines (biology, chemistry).

**Results.** By the criterion of success, students were divided into two groups: group 1 - an EIT indicator of over 180 points - 37 students and group 2 - an EIT score of less than 170 points. Among the students of the first group, 32.4% of the subjects had a normotypic type of reaction, 45.9% were





hypotonic and 21.7% hypertonic. Among the students of the second group, the following results were found: 12.1% of the students had a normotypic type, 66.7% were hypotonic and 21.7% hypertonic.

**Conclusion.** The conducted study found that students with better success have better indicators of the functional state of the organism, which may be explained by a smaller impact of the risk factors on their health.

*Tymokhina D.*

## **THE INFLUENCE OF TOBACCO SMOKE ON THE BEHAVIOR OF RATS, THE NEONATAL DEVELOPMENT AND THE REPRODUCTIVE SYSTEM OF THEIR DESCENDANTS**

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**Introduction.** Smoking is the most widespread harmful habit that causes many diseases. Particularly relevant is the study of the mechanisms and consequences of toxication by parents' tobacco smoke on the formation of the reproductive system of descendants, which is important for preventing the probable pathology of their reproductive system and infertility. The purpose of our research is to study the long-term effects of passive smoking of parent-rats on neonatal development, the nature of the sexual cycle, and indicators of sexual behavior of descendants-females. During the research work the following tasks were set:

- to trace the behavior of rats under the condition of chronic tobacco inhalation;
- to study the neonatal development, the nature of the sexual cycle and indicators of sexual behavior of the descendants, whose parents were chronically affected by the tobacco smoke.

**Materials and methods.** We have taken 35 rats (19 female and 16 male Wistar line). Rats were subjected to passive smoking for 51 days for 5 minutes a day in a special cell, which cigarette smoke was supplied. The rats were divided into 4 groups: the female group (group M-mother), that only mother inhaled of tobacco smoke; the male group (group F-father); both parents' group (MF) and a control group. After the inhalation of the tobacco smoke, the pairing of rats was performed. Assessment of the development of the offspring of rats was based, in the main, on the indicators of their survival. After they reached adolescence, sexual behavior was assessed in females, which were placed in one cage with a sterile male.

**Results.** Dynamics of behavior of animals during the inhalation testified to chronic intoxication with tobacco smoke. The results demonstrated by the descendants showed a decrease in the number of rats in each offspring. In the groups M and F stillbirths were recorded (10.5% and 20% respectively). In the group where both parents (MF) inhaled the tobacco smoke, better survival rates were recorded,





compared to the controls. It's like the phenomenon of "accelerated development" as a compensatory response to an increase in inhalation of tobacco smoke. The analysis of the offspring's estrous cycle showed that the female offspring of group M were infertile. In the female offspring of the groups F and MF, with underlying increase in the duration of the estrous cycle, a low percentage of the coupling component in sexual behavior was registered, though, having a high level of sexual drive. For two female offspring of the group MF absence of all signs of sexual behavior was noted.

**Conclusion.** That is, the chronic inhalation of the tobacco smoke by rats leads to the violations of a neonatal development, an estrous cycle and a sexual behavior of their descendants.

*Yakovenko A., Rubka A.*

## **THE PREVALENCE OF CYSTITIS AMONG UKRAINIAN YOUNG WOMEN**

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**Introduction.** Diseases of the excretory system, including acute cystitis, are widespread among young people in Ukraine. And the majority of patients are young women of reproductive age. Because of the anatomical and physiological features of the structure of the urinary and reproductive systems, cystitis in women can contribute to the occurrence of severe disorders, and even infertility. So, cystitis for women is a dangerous disease. The purpose of our work was to study the prevalence of cystitis and the degree of risk of its development in young women.

**Materials and methods.** The research methods were questioning and statistical analysis of the questionnaires. We have worked out a questionnaire that contained questions about the health status and lifestyle of the respondents. Answers to the questions were evaluated in points from 0 to 10. The sum up to 5 points was interpreted as a low risk level, 6–12 — average, 13–25 — high. Also there were questions about the features of the phenotype of the respondents (hair color and iris of the eye, height, weight) in the questionnaire. The questioning was conducted among the first year students of Kharkov National Medical University. Two hundred girls aged 17–25 were interviewed.

**Results.** Research has shown that two thirds of the surveyed girls were healthy and didn't suffer from cystitis. The others were in a group with a high risk of acute cystitis developing. Half of them need a medical examination or should be on dispensary records. The obtained data indicate that the most prosperous in regards cystitis disease were the eastern region of Ukraine and several regions of the western and southern regions. Most girls from the central-northern region were at risk, but they can avoid the disease when they follow healthy lifestyle and hygiene. The greatest degree of risk was recorded for girls from Volyn and Ivano-Frankivsk regions.



**Conclusion.** Carrying out of the correlation analysis didn't allow revealing any statistical connection between the degree of cystitis development risk and the phenotype peculiarities of the respondents. There was only a slight tendency to increase the cystitis risk in women with an increase in height, weight, and age. The reasons for the prevalence of cystitis among Ukrainian citizens, including youth, are discussed. The possibility of finding a relationships between the risk of developing cystitis and various physiological and biochemical indicators that can hypothetically be used to identify people at increased risk of developing cystitis is considered. There are a number of recommendations for the disease prevention, which can reduce the risk of developing cystitis in healthy girls, or to prevent possible complications in patients with cystitis.

*Zhurba Y.*

## **THE STUDY OF MORPHOLOGICAL AND PHYSIOLOGICAL CHANGES IN THE MIDDLE PITUITARY GLAND OF RATS AFTER SHORT-TERM SYSTEMATIC ENERGETONICS INTAKE**

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**Introduction.** The middle lobe of hypophysis is presented with a thin layer of cells between adeno- and neuro- hypophysis. These cells called melanotropocytes start producing endopeptidases when stimulated with dopamine. The endopeptidases split up the proopiomelanocortin on melanocyte stimulating hormone, endorphin and lipotropic hormone. Adrenocorticotrophic hormone is also produced from proopiomelanocortin. This is why melanocyte stimulating hormone has in its structure heptapeptides close to frontal hypophysis heptapeptides. This is the reason for Melanocyte stimulating hormone to affect behavior and stress reactions in human as well as producing melanin. Because of high caffeine and caffeine potentiating substances content energetonics provide negative influence on central nervous system. The influence of regular energetonics intakes remains unstudied.

**Objective:** To study the influence of two weeks systematic energetonics intake on morphological and physiological function of middle pituitary gland.

**Materials and methods.** 20 Female rats from WAG population were observed. There were 10 Rats in control group and 10 rats in experimental group. The rats from experimental group were taking 6 ml/kg energetonics for two weeks, while control group had no changes in ration. In the end of the experiment hypophyses were extracted and prepared with hematoxylin and eosin stain and Mallory method. The amount of melanotropocytes was counted with cariometry in 500 mkm<sup>2</sup> of each gland.

**Results.** At the hypophysis sections of control group, prepared with hematoxylin and eosin stain we can see polygonal evenly situated basophilic cells (melanotropocytes). The interstitial capillaries are



moderately developed. At the experimental group sections we can see lesser number of chaotically situated melanotropocytes in 500 mkm<sup>2</sup> (C.G. 14,2±2,2, E.G.-10,3±2,1). There were a number of hollows in experimental group sections considered to be caused by apoptosis. It can be assumed that rats from experimental group need more melanocyte stimulating hormone when stressed. It can lead to acceleration of melanotropocytes apoptosis. Enlargement of melanotropocyte's nuclei was found while karyometry in experimental group (C.G.- 12,70 ±0,06 mkm<sup>2</sup>, E.G- 16,07±0,06 mkm<sup>2</sup>). Obviously, increased functional and morphological activity of melanotropocytes leads to chromatin margination inherent in apoptosis beginning.

**Conclusion.** Systematical short-term intake of energotonics leads to hypertrophy of cell nuclei, increased morphological and physiological melanotropocyte's activity and decrease in the number of cells in the middle hypophysis. The results can demonstrate that the melanocyte stimulating hormone takes part in energotonics intake reactions.

*Zinchenko M.A.*

## **FORENSIC-MEDICAL ESTIMATION TRAUMAS CAUSED BY ANIMALS**

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**Introduction.** Animals in various circumstances attack people and cause severe traumas. Mostly these are dogs that attack because they share the territory with people and most of dogs are domestic animals. In 2017 in Kharkiv region 4064 people, and 1869 of them are the citizens of Kharkiv, addressed to the medical institutions asking for help concerning the injuries of animal origin. Most often the injuries were inflicted by dogs, less often by cats. Having physical injuries caused by an animal attack, and also in case of death, a forensic medical examination is set during which an expert determines the pattern of injuries, their intravitality, the prescription of doing them, the mechanism and the range of severity. It is necessary to find out if the injuries were inflicted by animal or human body parts. In case of death the causal relationship between the injury and the fact of death is determined.

**Matherials and methods.** 21 expert conclusions from the archive of Kharkiv regional forensic medical examination institution, expert institutions from other regions of Ukraine, and medico-legal literature.

**Results.** While studying we have revealed that among the injuries caused by dogs the most frequent ones are wounds, grazes, bruises and scratches, less commonly animal teeth cause the fracture of the calvarium that infants of 1-3 years old have. We can explain it by the strength properties of the cranium and the size of a head at this age. The pattern of injuries is affected by the next factors: the



kind of the traumatic agent (teeth, claws, parts of body); the tactics of an animal's behaviour while attacking (after a bite a dog jumps aside without unfastening its jaws, it causes a wound with tissue defects); instincts: the dogs of fighting breeds often cause face and neck injuries because the neck is a vital organ; the anatomy features of the traumatized body parts. Quite often after a bite a victim falls down and gets injured due to contact with a ground, and its features (stones, grass) affect the amount of injuries.

**Conclusion.** Based on our study we can conclude that traumas caused by animals, particularly by dogs, and their pattern are quite various. Among the traumas caused by dogs there are wounds, grazes, bruises, scratches and even fractures. The pattern of injuries depends on many factors: the kind of the traumatic agent, the size, the instincts and the tactics of an attacking animal's behaviour, the anatomy features of the traumatized body part and the features of the ground where a victim falls after being attacked by a dog.

iSIC  
2018

DENTISTRY





*Akinjise P., Riyaz Z., Nakale E.*

## **DIAGNOSIS OF TMJ DISORDERS IN MEDICAL STUDENTS**

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**Introduction.** TMJ disorder is a group of diseases that affect the TMJ causing discomfort, pain and possibly irreversible damage. TMJ disorders is usually associated with the common symptoms of clicking when masticating, difficult chewing, and aching pain around the ear. According to some authors there are numerous causes for this group of disorders. The most common being malocclusion, stress and damage of the TMJ due to acute or chronic trauma. There are several groups at risk for developing TMJ disorder from mainly those between the age of 20 - 40 and those either genetic predisposed or those with high stress lives. The aim of the study was to identify the cause and frequency of TMJ disorders in students.

**Materials and methods.** We examined 30 students between the ages of 20 – 27, 60% (18) male and 40% (12) female. Anonymous survey was conducted among students studying in KNMU by means of a questionnaire. The questionnaire focused on the general health, dental health, and frequency of dental visits and whether or not the participant noticed any symptoms associated with TMJ disorder and when these symptom became prevalent. Emphasis was put on the activity and lifestyle during the period of disease.

**Results.** All 30 students considered themselves to be healthy and all visited the dentist a least once a year. All but 2 of the students reported comfortable sleeping and living conditions. None considered themselves to be chronic fatigued. Of the examined students 23% (7) reported signs of TMJ disorder. The main symptom that was complained about was clicking in the TMJ on one or both sides of the jaw. S-shaped deviation when opening their mouth was also noted. Periodical pain and headaches were observed by 10% (3). Of the 7 with TMJ symptoms 4 of them reported that their symptoms increased or appeared during the exam period.

**Conclusion.** In student's especially medical students the main cause of TMJ disorder is stress caused by exams and studying. Living conditions and dental health have no negative impact as medical students have frequent checkups.





*Alayande M., Adjimani J., Ndipwashimwe R.*

## **INVESTIGATING THE PRESENCE OF DENTAL FEAR IN ADULTS AND FACTORS, INFLUENCING ITS FORMATION**

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**Introduction.** Adults personal experience acquired during childhood, information received from friends who wished to arouse the sympathy of others, information amplified by one's own imagination may become the basis for the formation of dental fear. Sanitary education, modernization of equipment and anesthetics, principles of minimally invasive intervention and methods of psychological support can be recommendation for patients with this problem. Thereby, positively affecting society's opinion. However, in practice the physician is faced with management of patient's anxiety or fear.

**Materials and methods.** Anonymous survey conducted amongst students studying in various Universities in Kharkov by means of questionnaire was carried out. It focused on determination of dental fear presence and its nature (negative experience at first dental visit in childhood, personality of doctor and staffs of dental office, painful or uncomfortable procedure of treatment. Specifically patient's emotions, relationship between presence or absence of negative experience of dental fear in childhood and present.

**Results.** A total of 172 persons aged 20 - 35 years old were involved in this study. One hundred and thirty-six respondents reported the presence of fear. In 91 cases (66,9%), fear developed on the background of negative experience acquired in childhood or later. A negative experience was absent in 25 (18,3 %) respondents and their fear was based on information about the pain of dental procedures obtained from different sources. Pain and lack of appropriate behavior management are the main provocative factors that stimulate the formation of fear in everyone who visits the dentist. Some patients (53,6 %) do not have a permanent doctor and seek help only in case of emergency. Nineteen people (13,9 %) reported that their experience with the dentist was not terrible, they had a positive experience during childhood and later remember their visits to the doctor and did not change the doctor. They also noted the relaxing effect of the doctor's calm voice, detailed explanation of manipulations and trusting the doctor which eradicated the feeling of fear.

**Conclusion.** Adults, like children, are afraid of dental treatment. Often, the nature of their fear is due to the negative experience during childhood. The dental teams usage of skillful methods of dental management in practice, can neutralize the negative manifestations of dental fear in patients of different ages.





*Demydova P., Kalinichenko M., Zaverukha Y.*

## **THE EFFICIENCY OF DESENSITIZING TOOTHPASTE WITH 8% ARGININE IN REDUCING DENTIN HYPERSENSITIVITY**

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**Introduction.** Dentin hypersensitivity (DH) is a frequently reported dental condition that is typically characterized by brief, sharp pain, which arises from exposed dentin in response to thermal, tactile, osmotic or chemical stimuli. The reported prevalence of DH ranges from 30% to 57% worldwide. Despite a huge amount of published data, the “golden standard” in the management of dentin hypersensitivity still lacks. The aim of present study was to evaluate the desensitizing effects of an 8 % arginine and calcium carbonate in treatment of DH.

**Materials and methods.** This study was performed on 31 patients with DH aged 25-62. Patients were divided into 4 groups according to the reason of DH. I group - 3 patients with the enamel erosion, II group – 8 patients with abfraction, III group – 6 patients with abrasion, IV group – 14 patients with generalized chronic periodontitis in remission. The patients used toothpaste Colgate™ «Sensitive Pro Relief» twice a day for a week. All patients used toothpaste without any anti-hypersensitivity agent next 3 weeks. Colgate™ «Sensitive Pro-Relief» contains active ingredients 8.0% arginine, calcium carbonate and 1450 ppm fluoride as sodium monofluorophosphate. Mechanism of action of this paste is the occlusion of exposed and opened tubules to block the hydrodynamic mechanism of pain stimulation. Response to air jet and tactile stimuli were measured using visual analogue scale initially on 1st, 7th and final assessment was done on the 28th day. Patients were asked to record their overall sensitivity by marking a point on a 10 cm visual analog scale (VAS), which was marked “No pain” on the left end and “Unbearable pain” on the right end.

**Results.** Treatments resulted in a significant reduction in the VAS scores immediately after treatment in 1 week and 1 month. VAS scores were significantly low in all 4 groups at 1 month follow-up.

**Conclusion.** Our result suggests that the toothpaste with 8% arginine may be widely used in dental practice as treatment of the dentin hypersensitivity.



*German S., Yarina I., Ben Hassan S.*

## **DETERMINATION OF THE DIMENSIONAL ACCURACY OF A-SILICONE IMPRESSION MATERIALS UNDER THE INFLUENCE OF CHEMICAL DISINFECTION**

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**Introduction.** The risk of infection transmitted by saliva and blood which are considered a potential occupational hazard in dentistry. Contaminated imprints can transmit the infection not only straight-through, but also to gypsum models. To prevent the transmission of cross-infection before being transported to the laboratory, the prints are subject to decontamination.

Silicone imprints are the most commonly used impression material in modern clinical practice. The exact imprint of the tissues of the prosthetic bed is the main requirement for imprint materials.

Many studies have been done on the accuracy of the imprints whose results vary greatly.

**Materials and methods.** In order to determine the volume changes of the prints due to chemical disinfection, 50 prints were performed using the metal master of models A-silicone materials present in the Ukrainian dental market. The prints were performed according to the clinical recommendations in accordance with the manufacturer's instructions. In group I - the prints were irrigated with a solution of "Aerodizine" for 30 seconds; In group II, the prints were immersed in a concentrated solution of "MD-520" for 5 minutes; Group III - in 10% solution of "Lizofarmin-3000" for 10 minutes; in group IV - 0,25% solution "Surfanus Premium" with an exposure of 15 minutes; in the V group - the control, the prints were not disinfected. Gypsum model casts were created from the prints 2 hours later.

**Results.** It was established that the time of exposure of the imprint in disinfecting solutions had directly proportional influence on the dimensional accuracy of the future plaster model. When comparing A-silicone materials, it was found that the domestic material "Stomavid" («Stoma», Ukraine), with an index of 0.0295 - 0.032%, before decontamination of the prints does not infer from the property of the relative difference of dimensional precision with materials «Silagum» (DMG, Germany) - 0.031-0.033%, and "Prestige" (Vannini Dental) Italy - 0.03 - 0.032%.

**Conclusion.** The study showed that disinfection does not significantly affect the size of A-silicone imprint materials and gypsum models obtained on them.



*Kliuchka Ye.*

## **DETERMINATION OF PREDICTORS OF SEVERITY OF INFLAMMATORY PARODONTAL DISEASES COURSE IN ADOLESCENT GIRLS WITH MENSTRUAL DYSFUNCTION**

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**Introduction.** Inflammatory parodontal diseases (IPD) in adolescence occupy an important place in modern dentistry. One of the most topical areas of this branch is the development and differentiation of methods for the prevention of IPD, which is impossible without determining the predictors of severity of IPD course for the purpose of individualizing preventive measures and increasing their effectiveness. Aim. To determine the predictors of severity of IPD course in adolescent girls with menstrual dysfunction.

**Materials and methods.** Two groups of patients were examined: a) patients with chronic catarrhal gingivitis of mild severity (n = 24), b) patients with chronic catarrhal gingivitis of moderate severity, hypertrophic gingivitis and chronic parodontitis (n = 26). Predictors of severity of IPD were determined using a non-uniform successive Wald-Genkin procedure. In total, 110 clinical-paraclinical indices were analyzed, the values.

**Results.** The conducted researches showed that all types of examination of patients showed prognostic value. As a result, a generalized prognostic algorithm was compiled, into which indicators with high and moderate prognostic informativeness were included. The highest prognostic information about the prognosis of severity of IPD in adolescent girls with menstrual dysfunction revealed data on the degree of comorbidity in adolescents, foremothers and forefathers, the presence of combined anomalies in the development of the dento-jaw system, the density of bone parts of parodontium, the degree of oral dysbiosis and intensity of caries.

**Conclusion.** The obtained results will allow to optimize, differentiate and individualize the system of prophylaxis of parodontal inflammatory diseases in adolescent girls with menstrual dysfunction, depending on the revealed predictors of the IPD severity.

*Komarov D., Komarov O.*

## **ORTHODONTIC TECHNIQUE FOR FRACTURES OF THE TOOTH ROOT**

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**Introduction.** At a fracture of the tooth at the level 'crown-root' restoration is reduced to removal of the mobile fragment of the crown, gingivectomy, osteoectomy followed by restoration by the



insert and crown in cases when the fracture line is located under the gum and ends palatally. If, after the removal of the mobile fragment and information from the additional examination, the tooth is not recoverable (vertical fracture, no possibility of exposing the apical edge of the fracture line for subsequent prosthetic treatment), then the tooth should be removed, followed by the implant or bridge.

**Materials and methods.** Patient A., 20 years old, complained about the absence of a tooth crown in the frontal part of the upper jaw to the left because of a trauma two days ago. In the CT scan of the frontal part of the maxilla, the periodontal cleft was detected within the physiological norm; displacement, transverse and longitudinal fractures, root cracks are not revealed. The length of the root fragment is 22.6 mm. The fracture line of the tooth relative to the vestibular wall of the alveolus is 0.5 mm below the margin, and 1.5 mm relative to the palatine wall. The length of the clinical crown of the 1.1 tooth is 10.9 mm. Diagnosis: a complete traumatic fracture of the crown 2.1 at the level 'crown-root' with the exposure of the pulp. Based on the clinical and radiological examination, it was proposed to extrude the root 2.1 with orthodontic technique followed by the manufacturing and fixation of the root insert and artificial crown. A constant endodontic treatment of the tooth was performed, fixation of the bracket system on 1.3, 1.2, 1.1, 2.2, 2.3, a button was fixed to the root 2.1, an elastic pull to the arc was established (CuNiTi 018). After 3 weeks the bracket system was installed, a repeated CT scan of frontal part of the upper jaw. On the CT scan, the fracture line of the tooth on the vestibular wall of the alveolus protrudes by 1.8 mm, with the palatine side 1.2 mm. Debonding of the bracket system was carried out. The cult insert is made and fixed. Restoration of the 2.1 tooth with an artificial crown.

**Results.** As a result of the conducted orthodontic treatment— extruded movement of the root of 2.1 tooth was obtained on average 2.3 mm, confirmed clinically and radiologically, which allowed prosthetic treatment.

**Conclusion.** This method can be used as an alternative to the surgical method of lengthening the tooth crown.



Kuzin A.

## INVESTIGATING THE TASTE PREFERENCES OF PRESCHOOL CHILDREN AND JUNIOR SCHOOL CHILDREN IN SELECTING MEANS OF HYGIENE WITH THE PURPOSE OF CORRECTING INDIVIDUAL PREVENTIVE MEASURES

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**Introduction.** Children don't strongly believe oral hygiene care is a necessity up to a certain age. Due to various reasons, toothbrushing is carried out regularly only thanks to the parent's control. The child's positive attitude to this process is formed gradually and the result depends on many factors. A significant role belongs to the properties of hygiene products. Unpleasant taste sensations may greatly affect the duration of toothbrushing, stimulate vomiting, and generally contribute to the abandonment of the procedure. Aim. Investigating the taste preferences of preschool children and junior school children in selecting means of hygiene with the purpose of correcting individual preventive measures.

**Materials and methods.** Parents and their children who visited the supermarket in order to purchase toothpaste as well as patients of the dental clinic were interviewed. Information about most preferable taste of hygiene products for children was collected. Also, the available range of hygiene products allowed to take into account the preferences of children and follow the recommendations of the dentist at the same time.

**Results.** The two hundred and eighty parents of preschool children and junior school children were interviewed, as well as 219 children of the same age. It is established that all parents try to follow the children's desire when choosing toothpaste. Thanks to the variety of hygiene products, it is possible to simultaneously follow the dentist's recommendations and the child's taste preferences when buying. Some of the younger school children 28 (12,7%) do not refuse the mint paste, usually used by adults in the family, although they love strawberry chewing gum and toothpaste. Another 81 children (36,9%) in this group indicated they preferred berry pastes only and ask parents not to buy pasta with mint. Strawberry and banana taste of toothpastes is preferred by 64 (29,2%) of preschoolers, vanilla taste - 17 (7,76%) of children and spoke against mint paste. Indifferent attitude or difficulties with the final choice of taste were identified in 10 (2,19%) of junior school children and 19 (8,67%) preschool children.

**Conclusion.** When planning preventive measures, it should be taken into account, that preschool and junior school children prefer toothpastes with strawberry taste. Mint taste of hygiene means is perceived as "bitter" because children's taste is more intense than adults.



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**USING TEFLON TAPE IN DENTISTRY**

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**Introduction.** Accessories make the work of the dentist more comfortable. Teflon have been used in dental practice three or four years ago, but during this time ingenious dentists found a lot of ways to use it. Teflon tape is strong to stretch, very elastic, chemically inert, insoluble in water organic solvents, stable to high temperatures (about 120 C), has a very low coefficient of friction, the surface does not promote adherence, dielectric.

**Materials and methods.** Teflon tape has a width of 1-1.2 mm, a thickness of 0.075mm-0.1mm-0.2mm, phantom models. Experimental methods of clinical modeling and modeling on phantoms.

**Results.** Using of teflon as a protective covering for teeth near the broken tooth, that can during the treatment be exposed to aggressive liquids: pickling gel, hypochlorite etc. (restorations and veneers). Additional insulation when we use cofferdam by filling with teflon space between hard tooth tissues and rubber dam. Teflon with wedge and ring help us qualitatively press the matrix when converting Class II cavity by Black into Class I. Teflon is cheaper than liquid cofferdam. It's comfortable during reproduction of native microanatomy on occlusal surface when using occlusive stamp while we realize treatment Class I cavities. Teflon is excellent "insulator" between composite material and stamp, when we remove it, material doesn't move following the tape. In carrying endodontic treatment Teflon can be used for temporary obturation of the perforation or root canal below the perforation. Closing the orifices of the root canal while extracting fragment of endodontic tool with ultrasound machine. Also, it can be used like an insulating material under the temporary dental fillings. Isolation of the implant shaft. Teflon is inert, on its surface biofilm doesn't develop. If necessary, after removing finishing layer of composite that covering shaft, we get fast and easy access to it. Herewith, Teflon overlaps gray color of metallic abutment. In orthopedic dentistry for getting impression Teflon can be used as isolating material from impression materials for alveolar socket and applied seams immediately after tooth extraction. That manipulation significantly

reduces length of the prosthetics. This is important because it make rehabilitation and socialization faster after tooth extraction in the frontal region, to optimize prosthetics with fixed denture or implants. Additionally, in orthopedic dentistry Teflon can be useful for fixing dental bridge as insulation of the intermediate part and undercuts, for prevention of material implementation to the gingival sulcus.

**Conclusion.** Teflon tape is inert, we did not observe an allergic reaction, and has been widely used in dentistry,. Teflon is universal polymer and its using is limited only by the imagination of dentist.





*Mamedov A., Lysenko A.*

## **RESEARCH OF THE FUNCTIONAL STATE OF MASTICATORY MUSCLES IN MEN AGED 21-24 WITH NORMAL ELECTROMYOGRAPHY**

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**Introduction.** Modern requirements for treatment in the clinic of orthopedic dentistry are not limited to prosthetics. According to the World Health Organization, about 40% of the population aged 20 to 50 suffer from muscular and articular dysfunction of the temporomandibular joints (TMJ). Patients with muscular and articular dysfunction of the TMJ are from 78.3 to 95.3%.

**Materials and methods.** Previously, before conducting electromyography, 25 patients were examined at the Department of Prosthetic Dentistry of the KhNMU. Of these, 5 male patients with intact dentition and TMJ aged 21-24 were selected. EMG recording was performed with the help of a computer complex 2-channel electroneuromyograph M-TEST produced by the DX system association (Kharkiv). In our study, we conducted a superficial electromyography of the masseter muscle, by applying a surface electrode on both sides at the beginning and attachment points of m.masseter. To determine the place of initiation and attachment, m.masseter asked patients to compress the jaws in the position of central occlusion. We researched the functional state of the masticatory muscles with the help of EMG, which includes the following quantitative indicators such as: bioelectric activity (BEA) - reflects the processes of excitation of the neuron the muscular system, which correspond to the phase of muscle contraction, is measured in ms; bioelectric calm (BEC) - reflects the processes of inhibition of the neuromuscular system, which correspond to the phase of relaxation of the muscles, measured in ms; the average time of a dynamic cycle is the sum of BEA + BEC, this indicator reflects the time of one chewing cycle, measured in ms; coefficient K is the ratio of the excitation processes (BEA) and inhibition (BEC).

**Results.** Electromyogram analysis by quantitative indicators, namely BEA, BEC, coef. K. EMG research of the functional state of masticatory muscles revealed that they can quickly become active and also move to rest. At random chewing, volley excitements are replaced by periods of relative bioelectric rest, chewing muscles of the right and left sides are equally involved in arbitrary chewing, there is no pronounced functional asymmetry. The processes of excitation still prevail over their duration over the brakes.

**Conclusion.** As a result of a study of male 21-24 years of age with intact dentition and without pathology TMJ the following data were obtained: Coefficient K  $0,78 \pm 0,1$ ; F.sp., Hz  $267,4 \pm 8,6$ ; A.sp.,  $\mu V$   $831,6 \pm 0,06$ ; A max.,  $\mu V$   $2385,5 \pm 33,4$ ; BEA, ms  $323 \pm 13,2$ ; BEC, ms  $308 \pm 10,4$ .



*Mikulina O., Miroshnichenko M., Maslova Y.*

## **CLINICAL ASPECTS OF ENAMEL HYPERPLASIA**

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**Introduction.** Hyperplasia of the enamel is a defect of tooth development, also called enamelomas, enamel drops, enamel pearls, globules, nodules or enamel exostoses. The origin of hyperplasia is associated with a violation of the differentiation of circumradicular vagina cells into enameloblasts. Enamel drops tend to be located in the neck area, and less often in the area of root bifurcation of teeth. Their diameter can be from 1 to 3 mm. According to some authors, enamel pearls cause localized periodontitis and any progression of this pathology is strictly depend on the size of the "pearl" and its location. The results of the other' research works have proved that in the area of

**Materials and methods.** For two years, a clinical examination of students of patients , the III-V courses of the Dental Faculty has teen carried out. A total of 87 people of both sexes have been examined, 46 being Ukrainian students and 41 - foreign students. The localization of the enamel pearls was fixed visually during clinical check-ups with a standard set of dental instruments. .The size of pearls was determined using a graduated grid with a 1 mm dividing point. Evaluating the condition of the periodontium, periodontal attachment was determined by periodontal probes and formalin tests (in doubtful cases); bleeding was evaluated by Myulemman and Saône index. Besides, the hygienic condition of the oral cavity was determined by Green-Vermillion hygiene index of, and detected inflammation in the gum -by PMA gingival index. The condition of dental hard tissues was evaluated by probing, air-drying and vital staining.

**Results.** Enamel pearls were found in 12 people (13.9%), 5 in Ukrainian students and 7 in foreign students. They were mainly located on the palatal surfaces in the cervical area of the lateral incisors and canines (66.7%), on the lingual surfaces of the lower chewing teeth (33.3%). The dimensions of these formations were 2-3 mm. The integrity of the dentogingival junction was not violated. In 5 patients there were signs of localized catarrhal gingivitis, presence of gingival hemorrhage, the PMA index of individuals with enamel pearls = from 7% to 12%, and HI = from 0.7 to 1.6 indicated that. Teeth mobility was not found. Enamel hyperplasia in the form of additional tubercles was detected in every fourth examined student (22 people-25.3%). They were located mainly on the palatal surfaces of the upper molars, sometimes on the medial-buccal surfaces of the upper first premolars, less often on the buccal surfaces of the lower molars.

**Conclusion.** According to our results, the occurrence of enamel pearls is 13.9%, and additional tubercles are detected in 25% of the people examined. The presence of the aforesaid defects of dental structure causes localized gingivitis , and in the future it can lead to the formation of a periodontal



pocket due to the pressure on surrounding tissues. Increased retention of plaque, violation of hygiene in enamel globules and additional tubercles contribute to the development of focal demineralization of enamel and destructive forms of caries in problem teeth. Thus, early diagnostics of enamel formations enables choosing an adequate method of prevention and treatment of inflammatory periodontal and caries diseases in order to prevent the progression of the pathological process.

*Movchan O., Andriyenko K., Yanishena Y.*

## **CLINICAL EVALUATION OF USING THE FIXATION CREAM FOR REMOVABLE DENTURES**

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**Introduction.** One of the actual problems in orthopedic dentistry is to increase the functional efficiency of removable dentures and to prevent atrophic changes in the supporting tissues of the prosthetic area by improving the methods of prosthetic production. In clinical practice, removable dentures are made with rigid or double-layered basis. Therefore, there was a need to use adhesive materials to enhance the fixation of complete removable dentures from the first days of treatment, which would solve the problem of fixation and correlation of the basis with the tissues of prosthetic area in the process of adaptation and long-term use. The purpose of the study was to determine the degree of atrophy of alveolar processes and the mucous membrane, to identify an adverse factor for fixation and stabilization of dentures using the fixing adhesive cream "Stomafix 1".

**Materials and methods.** We examined 66 patients aged 45 to 75. Patients had complaints of chewing and speech disturbances, cosmetic defects, and the inability to use previously manufactured dentures. These patients did not use adhesive materials to improve the fixation of complete removable dentures.

**Results.** A total of 66 patients (43 women and 23 men) with complete adentia were studied. On the upper and lower jaws, the 2nd class Supply,  $(53.6 \pm 9.4)\%$  and  $(58.3 \pm 9.1)\%$ , was predominated. Class 4 was in the lower jaw  $(29.2 \pm 9.3)\%$ . The indices of atrophy of the alveolar process of the toothless upper jaws: height of the Schroeder, the vast majority  $(46.4 \pm 9.4)\%$  were of type III, less the II type  $(14.3 \pm 6.6)\%$ . Adentia lower jaws were classified with Keller's classification, the majority of type III  $(45.8 \pm 9.2)\%$  and II  $(25.0 \pm 7.8)\%$ . The I and IV was respectively  $(16.7 \pm 6.7)\%$  and  $(12.5 \pm 5.8)\%$ . In cases of alveolar process atrophy in treated patients, the decision to use fixating cream "Stomafix 1" was substantiated by taking into account the degree of expressiveness of bone formations as maxillo-sublingual line, bone protuberances, exostoses, thoracic and tuberculus of the upper jaw.

**Conclusion.** Based on mentioned studies, it can be said that:

- this distribution makes it possible to reliably relate clinical situations to relative types;



- distribution of the types of alveolar jaws according to the classifications resulted the need to compensate for significant atrophy of the bone of the alveolar process due to the use of the cream for fixation;
- according to the research, it is possible to increase chewing efficiency and prevention of further atrophy in the clinic of orthopedic dentistry.

*Nabotov M., Grechko N.*

## **APPLICATION OF PHOTON-MAGNETIC MATRIX IN COMPLEX TREATMENT OF AN ACUTE ODONTOGENIC PURULENT PERIOSTITIS**

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**Introduction.** The using of laser and magnetotherapy in the complex treatment of inflammatory diseases of the maxillofacial region takes an important place, along with surgical and medicamentous treatment. In the Scientific and Production Medical and Biological Corporation "Laser and Health" of the Kharkiv National University of V.N. Karazin developed a therapeutic and prophylactic apparatus in which the treatment of two physical phenomenon is combined - light and a magnetic field - the photon-magnetic matrix (PMM) "Barva-flex". The aim of our investigation is the evaluation the effect of PMM in the complex treatment of acute purulent periostitis of the jaws.

**Materials and methods.** We observed 26 children aged 5-10 years with a diagnosis of acute odontogenic purulent periostitis of the lower or upper jaw, which were divided into 2 groups of 13 people. The period from the start of the disease is 1-1.5 days. After a clinical examination, the patients were assessed the salivary lysozyme level by the method of V.G. Dorofeychuk at 1, 3, 7 days of treatment. The activity of lysozyme was determined on a PV spectrophotometer 1251 C (Belarus). Patients of the 1st control group were treated according to the protocol- removal of the temporary tooth, periostotomy and drainage of the wound, the appointment of non-steroidal anti-inflammatory drugs (NSAIDs), sulfonamide preparations or antibiotics, rinsing of the oral cavity with stomatidine. Patients of the 2nd group after removal of the causative tooth from the first day of treatment were assigned to PMM irradiation by a contact method for 7 days for 20 minutes along with removal of the causative temporary tooth, administration of NSAIDs, rinsing of the oral cavity with stomatidine. Periodontomy was not performed.

**Results.** Clinically in children of the 2nd group, a pronounced positive dynamics was already observed on the second day: signs of inflammation and discomfort in the area of the socket of the removed tooth and periosteum, pain, intoxication, body temperature were normalized. Objective indicators of the improvement of the clinical state were the lysozyme activity indices: in patients of



the 2nd group, its significant increase by 1.9 times (from  $7.95 \pm 0.70$  mkg / ml to  $15.40 \pm 0.70$  mkg / ml,  $p < 0.01$ ). While in the 1st group, a significant increase in lysozyme level was noted only on the 6th day from the start of the course of treatment (from  $7.15 \pm 0.70$  mkg / ml to  $13.40 \pm 0.70$  mkg / ml,  $p < 0.05$ ).

**Conclusion.** The results of our investigations show that the inclusion of the PMM procedures in the complex therapy with the proposed method has a stimulating effect on the immune status of the oral cavity and is manifested in the activation of non-specific factors that promote pronounced anti-inflammatory action, prevention of possible complications without additional surgical intervention and giving of unwanted for children of antibacterial preparations.

*Petiunina V., German S.*

## **ANALYSIS OF THE QUALITY OF DENTURES CONSTRUCTIONS AND AN OVERVIEW OF THE POSSIBILITIES OF CHOOSING MATERIALS AND DESIGN OF PROSTHETICS TO PREVENT POSSIBLE COMPLICATIONS**

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**Introduction.** The prevalence of defects of dentition among the population of Ukraine is more than 70%. The population's need for this type of specialized care is defined in the range from 46 to 98% of the adult population surveyed, and the level of its satisfaction in different regions of Ukraine is 22-38%. The choice of materials and design of the future prosthesis significantly affects the quality of provided treatment.

**Materials and methods.** The research was conducted on the base of the university center of KhNMU at the department of orthopedic dentistry. 150 patients with different designs of prosthetics were examined. We determined the level of quality of dentures in the oral cavity of patients in the early (up to 24 months) and distant periods (over 24 months). The evaluation criteria were: color change, the presence of cracks, decement, breakdown of dentures, violation of shape due to abrasion, cracking the base, violation of the fixation of removable dentures. The number of detected complications and their causes was analyzed.

**Results.** Determined the most frequent signs of lowering the quality of bridge-like dentures at the stages of their clinical exploitation: color change (from 2% in the early period to 18% in the distant period), decement (from 2 to 15%), crack formation (from 3 to 13%), change of anatomical form (from 1, 5 to 11%), breakdown of dentures (from 2.5 to 5%). During the examination of plastic and combined crowns, the following defects were observed: color change (from 1.5 to 19%), decement (from 1.5 to 15%), change in anatomical form (from 1 to 11%), formation of cracks (from 1, 5 to 10%), breakdown of dentures (from 0.5 to 5%). For removable prostheses, the following defects are



found: Fixation distortion (from 1 to 27%), basal cracks (from 1 to 20%), breakdown of dentures (from 1 to 8%), color change (from 0.2 to 1%). The causes of complications were analyzed and the 4 most significant levels of quality of orthopedic construction were revealed.

- I. Medical organizational level: Qualification of a doctor and dental technician, level of provision of the institution with dental equipment;
- II. Clinic - information level: Selection list of dental materials and scientific methods of technology of orthopedic dentures;
- III. Clinical and technological level: Properties of dental materials and conditions of clinical and laboratory stages;
- IV. Individual level: Type of construction, analysis of indications and contraindications to the use of specific dental materials.

**Conclusion.** The analysis showed the most frequent problems of orthopedic constructions that arise in patients during the clinical operation and found their causes. Clinical exploitation of orthopedic constructions over time is marked by a decrease in their quality, which can not be explained by the qualification of the personnel and requires a more detailed study from the standpoint of dental materials and dental prosthesis technology, which today can satisfy the patient both aesthetically and functionally.

*Rezunenko O., Rushubiza L.*

## **THE INFLUENCE OF THERAPEUTICAL PHYSICAL TRAINING ON THE RESPIRATION AND CHEWING FUNCTION OF PATIENTS WITH THE FRACTURES OF THE LOWER JAW**

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**Introduction.** Data from the literature indicates that therapeutic gymnastics is becoming more widespread in clinics of various types, including those with maxillofacial injuries. The purpose of the study: to study the effect of the direct effect of the procedure of therapeutic gymnastics on the patient's body with fractures of the lower jaw.

**Materials and methods.** Materials and methods of investigation: we conducted observations of the direct reaction of the body to a standard set of physical exercises in 32 patients. With this, attention was paid to the general condition of the patients under examination, pulse and respiration were counted, blood pressure, vital capacity of lungs, strength and expiratory power were measured, and the degree of mobility of the lower jaw was determined. All these data were taken into account by us both before the procedure of therapeutic gymnastics, and immediately after physical exercises.





**Results.** On the third day after treatment (operative or orthopedic), as well as during discharge of patients from the clinic, the studies allowed us to identify a number of features of the direct action of physical exercises on the body of patients with fractures of the mandible. The majority of patients well tolerated physical activity.

**Conclusion.** Therapeutic gymnastics, included in the complex treatment of patients with fractures of the lower jaw, increases and improves the adaptive capacity of the body to physical loads, due to which there are positive changes in their subjective and functional indices.

*Steblianko A.A.*

**INFLUENCE OF LOW-INTENSITY LASER RADIATION AND  
PHYTOTHERAPY ON THE LEVEL OF ENDOGENOUS INTOXICATION  
AMONG PATIENTS WITH ACUTE PURULENT ODONTOGENIC  
PERIOSTITIS OF JAWS**

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*Research advisor: prof. Grigorov S.M.*

**Introduction.** The level of endogenous intoxication (LEI) is one of the criteria for the severity of condition among patients. Definition of LEI and its dynamics are important when treating the purulent-inflammatory diseases of the maxillofacial region.

**Materials and methods.** The aim of the study is to determine the level of medium-mass molecules (MMM) and to study the dynamics of LEI in patients with acute purulent odontogenic periostitis of the jaw (APOPJ) at the stages of surgical treatment. The MMM study was conducted among 35 patients aged 18-45 years and APOPJ without comorbid diseases, who underwent treatment in the maxillofacial department of the Kharkov regional clinical hospital. The content of MMM was determined in the oral liquid (OL) by screening using a Stat Fax 1904+ spectrophotometer in UV light.

**Results.** The examination and treatment of patients after hospitalization was carried out using the common clinical plan, according to the protocol of dental care. Depending on the chosen method of treatment, all patients with APOPJ were divided into three groups. Group I included 10 people who had standard hospital treatment. Group II - 11 people, who, in addition to standard treatment after periosteotomy, were followed by phytopreparation (PP) "Phytodent" (Krasnaia zvezda, Ukraine). In the III (main) group 14 people were included, who at the postoperative stage used PP with low-intensity laser radiation (LILR) according to the method developed by us. In addition we conducted irradiation of the surgical wound with the use of the apparatus "Lika-therapist M" (CGPP "Photonica Plus", Ukraine) with remote application of laser radiation of the red spectral range ( $\lambda = 658\text{nm}$ ). There was used labile exposure method with a radiation power flux density of 40-50 mW / cm<sup>2</sup>, the exposure



time – 2-3 min, the number of sessions – 4, daily. All patients in the study groups were evaluated by the results of MMM at admission prior to treatment, on the following day and on the 4th day after the operation. At admission all patients had the level of MMM in OL above the norm and amounted to 0.26-0.31 c. u. One day after the surgical intervention, there was an increase in MMM in comparison with baseline to 0.33-0.43 c. u. Subsequently, on the background of complex therapy, there was a tendency for a faster decrease in MMM among patients of group III than patients from I and II groups. On the 4th day after the operation in group III, the value of MMM approached the norm and amounted to 0.07-0.10 c. u.

**Conclusion.** Thus, the determination of MMM level in OL when treating purulent conditions in surgical dental practice will allow individual planning of the scope of interventions depending on the patient's condition. Furthermore, it will be possible to evaluate the effectiveness of the therapy and, if necessary, adjust it.

*Tishchenko O., Gaipnazarov M.*

## **TREATMENT OF TEMPORARY TEETH FIBROUS PULPITIS USING MEDICAMENTS BASED ON SILICATE TRICALCIUM**

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**Introduction.** Nowadays treatment of children's temporary teeth pulpitis is one of the major problems of children dentistry. Many parents think that temporary teeth should not really be treated but rather removed once they are damaged. Because of this it is necessary to explain the parents the importance of keeping temporary teeth until the physiologic replacing, as it has a direct impact on the future formation of whole dentognathic system. Aim: To study the efficiency of treating chronic fibrous pulpitis of temporary teeth using a material based on silicate tricalcium.

**Materials and methods.** Having obtained parents' agreement a treatment of chronic fibrous pulpitis of 20 first temporary molars was conducted using vital pulpotomy for 10 children of age of 4 to 7 years. Medicament Biodentine™ (Septodont, France) containing silicate tricalcium and aqueous solution of calcium chloride was used as material for pulp covering. Medical efficiency of the given material has been evaluated by performing control check-ups after 14 days, 1 month and 3 months terms using clinical and x-rays methods of patients examination.

**Results.** After interviewing the parents it was noted that within 14 days after the treatment children didn't have any painful sensations and the color of their teeth remained unchanged. When examining the patients the filling remained and percussion of cured teeth was painless. Observations made after 1 month: no complaints, clinically – the shape and edges of fillings remained the same, percussion of



cured teeth was painless, mucous membrane in area of first temporary molars roots projectionis without signs of pathology. Radiological results corresponds to the age physiological norms. Examinations made after 3 months showed absence of clinical complications. X-rays analysis showed formation of the dentine bridge with various depth average  $0,28 \pm 0,02$ .

**Conclusion.** Efficiency of the vital pulpotomy with silicate tricalcium allows recommending this material as preferred medicament.

*Tomilina A., Petrini D.*

## **CRITERIA ANALYSIS OF ARTIFICIAL TEETH SELECTION IN ORTHOPEDIC TREATMENT OF PATIENTS BY DIFFERENT TYPES OF REMOVABLE DENTURES**

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**Introduction.** Prophylactic segment of dentistry allows protecting natural teeth from premature loss. It is generally known that in all countries the population is aging. This leads to a change in the proportion of people who need removable types of prosthesis. The general trend of increasing the need for patients' removable dentures with high functional efficiency is retained. The aim of the study was to analyze the satisfaction of patients with partial and complete removable dentures due to the clinical system of differentiated approach to the selection of artificial sets of teeth.

**Materials and methods.** The material of the study was patients from regular visit to a University Dental Center of KhNMU for Prosthetic Dentistry Department receiving orthopedic dental care in the form of manufacturing removable dentures. The patients have been examined and surveyed. The criteria of selection were that patients had worn conventional removable dentures for at least 2 years with artificial sets of teeth «YAMAHACHI DENTAL» or «ESTEDENT-02». 12 patients (mean age:  $64.92 \pm 10.5$  years; 41.67% male, 58.33% female) who had met these criteria were examined and interviewed for determine the degree of satisfaction with the quality of artificial teeth in removable dentures by the following criteria: position of artificial teeth, denture stabilization, the severity of the anatomical form, color reproduction, degree of erasure, the smoothness of the surface in hygiene care. Evaluation criteria have been recorded in points: 0 - "not satisfactory", 1 - "I cannot decide", 2 - "satisfactory".

**Results.** No differences were noted in the following criteria: position of artificial teeth, denture stabilization, the severity of the anatomical form, color reproduction, the degree of erasure of various types of prostheses and artificial sets of teeth both in men and in women. Significant difference was found in the criterion for the smoothness of the surface in terms of hygiene: with artificial sets of teeth "YAMAHACHI DENTAL" - 8 points for women and 2 points for men (amounted by 33% and



17%, respectively, from the total number of patients), while with artificial teeth «ESTEDENT-02» did not differ: 3 points for women and 3 points for men (amounted by the same number - 25% from the total number of patients).

**Conclusion.** Within the limitation of this study, based on the analysis of criteria (the number of patients confirming satisfaction with manufactured dentures) the following conclusions we can draw: choice of artificial teeth affects the aesthetic assessment of patient satisfaction as surely as the convenience of prostheses and the improvement of chewing abilities. Criteria such as the degree of erasure and the smoothness of the surface, the patients pay less attention. It was seen that regardless of the type of prosthesis, sex of the patient and selected artificial teeth, the vast majority of patients have been noted satisfaction by manufactured removable dentures.

*Yakovleva D.U.*

## **THE FEATURES OF ALVEOLITIS' DISTRIBUTION IN MAXILLO-FACIAL REGION**

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*Research advisor: prof. Sokolova I.I.*

**Introduction.** Alveolitis is the most common postoperative complication in ambulatory surgical practice. Its frequency is about 5-35% according to different authors (G. G. Mingazov, 2006, B. R. Bakhmurov, 2007, N. O. Noneva, 2009). The term "alveolitis" was first proposed by national scientists A. I. Verlotsky and A. M. Pimenova. The etiology and pathogenesis of disease was described in detail by H. Birn in 1973. Among the many local and general factors contributed to the development of socket inflammation, the leading role belongs to trauma and the duration of surgery, as well as the presence of periapical infection, determining the risk of postoperative complications. It's known, alveolitis can occur in two clinical forms: acute (60%) and chronic (40%). This fact is important in the selection and preparation of treatment plan (G. N. Belanov, 2009). The aim: to conduct a retrospective analysis of alveolitis' causes.

**Materials and methods.** The analysis of 69 dental patients' ambulatory cards aged 18-76 years with the diagnosis of «alveolitis», applied to the Department of Dentistry of USC KhNMU was performed. Age, gender, indications for tooth extraction, the presence of concomitant diseases, harmful habits, and the level of oral hygiene, place of residence and the nature of professional activity was considered. During the research we used clinical and morphological classification of alveolitis proposed by N. G. Korotkikh, M. B. Shalaeva, O. U. Shalaev (1999).

**Results.** As a result of work it was found out that the main cause of alveolitis development was prolonged traumatic removal of impacted teeth, removal of roots or teeth concerning to acute and



aggravation of chronic apical periodontitis or the complicated periodontal disease. Women aged 20-48 years were predominated (66%) in the general structure of patients. And more often alveolitis developed after removal of teeth of the lower jaw (80,2%), in particular 3-d molars (53%). The age aspect of secondary adentia as a result of teeth extraction was noticed. So molars removing prevailed at the age of 18-35 (30,5% of women and 63,5% of men); premolars extracted more often at the age range 35-55 years old (36,2% women and 35,5% men); patients aged 55-75 years lost the incisors and canines more often (5,5% women and 4,7% men). Acute alveolitis developed in 44 patients (63,7%) by 2-4 days, chronic was in 25 patients (36,3%) by 3-4 weeks. Poor oral hygiene was the cause of alveolitis in 12,6% of cases, and the compliance of hygiene standards was in 4,6% (3 times less). This indicates the importance of following the doctor's recommendations for oral care and the socket of the removed tooth. Besides, the presence of concomitant somatic diseases increases the risk of alveolitis (M. P. Mitchenok, 2015). The role especially should be noted of harmful habits. So, the researchers have shown that smoking on the eve of surgery increases the risk of alveolitis 2 times, and smoking the day of surgery causes this complication 4 times more often, due to microvascular thrombosis of the alveolus bone wall under the action of nicotine (S. Preetha, 2014, James T. Murph Jr., 2015). We also revealed a significant dependence of the development of inflammatory complications depending on the profession and residence place of the patient. Thus, alveolitis was more common among rural residents and mainly physical labor workers (builder, loader, locksmith), whose professional activity is associated with overcooling, excessive load, harmful chemicals (54 patients).

**Conclusion.** Thus, the cause and frequency of alveolitis depends on gender, age, profession, diagnosis, technical features of the operation, oral hygiene status, harmful habits, somatic pathology. All these factors determine the degree of favorability of the surgical intervention. They have influence on the speed of socket healing and the risk of complications.

*Yasser H.*

## **DISASTERS CAUSED BY APICAL EXTRUSION OF SODIUM HYPOCHLORITE. DISCUSSION OF RESENT CLINICAL CASE**

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**Introduction.** Effective irrigation of the root canals while instrumental processing plays an important role for the future success of endodontic treatment. NaOCl irrigation allows to remove the biofilm and eliminates the majority of pathogenic microorganisms. However, high concentrations of NaOCl can lead to serious tissue damage. In the case of apical extrusion of the irrigant, the patient, as a rule, feels an attack of sudden and severe pain, after which swelling and bruising may occur. Extrusion into



the maxillary sinus cavity can be suspected when the patient complains of the liquid flow from the nasal passage, the taste of chlorine, and also the irritation of the throat. Necrosis of the maxillary sinus mucosa and long-term inflammatory reactions, paresthesias are also possible complications. Prevention of complications: an accurate determination of the working length is crucial to prevent undesirable consequences. For this, advantage of the radiography both at the work stages and at the diagnostic stages should be taken. The use of apex locators contributes to the accuracy of determining the working length.

**Materials and methods.** Recent clinical case.

**Results.** Successful conservative treatment.

**Conclusion.** Cautious use of sodium hypochlorite.

*Zaverukha Y., Yelisieieva O.*

## **RUBBER DAM USAGE AMONG DENTAL PRACTITIONERS AND POSTGRADUATE STUDENTS IN KHARKIV NATIONAL MEDICAL UNIVERSITY**

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Department of Dentistry  
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*Research advisor: prof. Sokolova I.I.*

**Introduction.** Rubber dam was invented two centuries ago. Despite the advantages of this isolation system, wide popularity in the dental community it acquired only about 20 years ago. At the moment, none courses and master classes couldn't be without mention of the mandatory use of the rubber dam in most therapeutic (and not only) manipulation. However, the statistics do not correspond to the recommendations of dental associations: according to recent studies (2015-2018), the percentage of doctors using rubber dam varies from 70-80% (England, Germany, Sweden) to 10-30% (Czech Republic, Romania, Pakistan). The need for objective information of the number of dentists using the rubber dam, as well as the identification of the main reasons for the doctors' refusal of this isolation system, makes the study relevant. The purpose of this study was to determine the prevalence of the use of rubber dam among dentists of the therapeutic profile and interns of the dentistry faculty of the Kharkiv National Medical University.

**Materials and methods.** We developed an anonymous survey questionnaire, which was given for the study of 40 dentists and 60 interns (1-st and 2-nd years of study). The questionnaire included 5 sections: 1). general questions; 2) questions about the use of rubber dam; 3) questions about the difficulties that the doctor faced when using the rubber dam; 4) questions about the reasons for not using the rubber dam; 5) questions about the need for additional knowledge about the rubber dam.

**Results.** The results of the research showed that 15% of interns do not know what rubber dam is, 68% of respondents learned about rubber dam at extra-university courses. 20% of doctors use the rubber





dam in restorative and endodontic treatment, 15% in endodontic treatment, 7.5% in teeth whitening. Under the control of a medical specialist on the basis of internship, 21.7% interns used the rubber dam system for restorative and endodontic treatment, 8.3% for endodontic treatment. The main problems encountered by respondents using cofferdams were: the difficulty of fixing the clamps with a strong tooth decay / not fully erupted tooth; simultaneous isolation of a large number of teeth; dullness of the teeth, the presence of the bracket system, the sensitivity of the teeth after fixing the clamps on them. The main reasons for refusing to use rubber dam by the majority of respondents (68%) were the following: considerable time spent on installing the rubber dam; the complexity of installing the rubber dam; high price; lack of comfort for the patient. Of the total number of respondents, 89% of respondents would like to receive additional information on the use of rubber dam.

**Conclusion.** The results of the research indicate the need to increase the level of knowledge of physicians and users about the system of rubber dam, the creation of educational practical programs aimed at popularizing and teaching the proper use of rubber dam in the clinical practice of a dentist.

iSIC  
2018

# INFECTIOUS DISEASES





Askerov R.

***ANALYSING MULTIDRUG-RESISTANT AND EXTENSIVELY DRUG-RESISTANT  
TUBERCULOSIS MORBIDITY PARAMETERS OF UKRAINE AND KHARKIV REGION  
DURING 2012-2016 YEARS***

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**Introduction.** The problem of the drug-resistant tuberculosis is one of the current interest nowadays in Ukraine. It is said that the frequency of the drug-resistance in case of the *Mycobacterium tuberculosis* has increased since 1990s. It is need in using more expensive drugs for treatment with more side effects so that it can lead to increasing mortality and decreasing efficiency. The main aim was to analyze multidrug (MDR-TB) and extensively drug-resistant (XDR-TB) tuberculosis morbidity parameters of Ukraine and Kharkiv region during 2012-2016 years.

**Materials and methods.** The information was used from analytical and statistical reference book “Tuberculosis in Ukraine” (2017).

**Results.** The MDR and XDR-TB morbidity parameter - ill persons per 100 000 - were 18,5 (2012); 21,3 (2013); 19,7 (2014); 19,7 (2015); 18,3 (2016) in Ukraine. In this way, we have focused increasing of morbidity (+15,1%) during 2012-2013; decreasing of morbidity (-7,5%) during 2013-2014 and also decreasing (-7,1%) during 2014-2016. Generally, the morbidity has decreased (-1,1%) during 2012-2016 years in Ukraine. Analysing situation in Kharkiv region we suggested that the MDR and XDR-TB morbidity parameter - ill persons per 100 000 – were 16,8 (2012); 17,4 (2013); 13,3 (2014); 12,5 (2015); 13,8 (2016). In this way, we have noticed increasing of morbidity (+3,6%) during 2012-2013, decreasing (-23,6%) during 2013-2014, (-6%) during 2014-2015 and increasing (+10,4%) during 2015-2016. Generally, the morbidity has decreased (-17,9%) during 2012-2016. It has shown that the MDR and XDR-TB morbidity parameters of Kharkiv region are lower than the average ones of Ukraine. Despite the fact that the amount of patients with MDR and XDR-TB has been decreasing, unfortunately, the proportion “XDR-TB/MDR-TB” has been increasing. XDR-TB had been 14,0% of all MDR-TB cases in 2015 and the next year (2016) XDR-TB was 14,7% of all MDR-TB ones (Ukraine). XDR-TB was 20,5% of all drug-resistant forms of tuberculosis (category 4) in Kharkiv region.

**Conclusion.** Analysing MDR and XDR-TB epidemiological parameters of Ukraine and Kharkiv region has shown increasing of morbidity during 2012-2013. We think that it could be caused by establishing new molecular-genetic methods in diagnosis the drug-resistant tuberculosis infection (by *M. tuberculosis*). Also analysis has shown the decrease of morbidity during next years which could be caused by improving the therapy of MDR and XDR-TB and establishing better compliance with treatment (especially in Kharkiv region). However rate of the XDR-TB remains high so that it is need to pay more attention to MDR and XDR-TB by Tuberculosis service.



Chepeliuk O.

***DIRECT ANTIVIRAL AGENTS TRATMENT OF CHRONIC HEPATITIS C***

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**Introduction.** Standard interferon-containing treatment regimens are often ineffective for the treatment of hepatitis C (genotype 1b), on another hand we have opportunity to use direct antiviral agents (DAA-based therapy), the effectiveness of which, according to some researches, reaches 99%.

**Materials and methods.** The patient's clinical history was studied, as well as the accompanying medical documentation (additional research methods). A retrospective analysis of two types of treatment applied to patient was made. EASL Recommendations on Treatment of Hepatitis C 2017 was studied according to this case.

**Results.** As a result of the study, it was found that the patient (31 years old) was diagnosed with HCV (genotype 1b) at the age of 26 years, test for HCV was made as routine check before cholecystectomy operation. The only one remarkable factor of possible infection transmission was blood transfusion at the age of 16 years.

In 2009, interferon-based therapy was introduced to patient: pegylated interferon and ribavirin, a decrease in viral load was noted, but remarkably was not negative. Patient mentioned adverse side effects of treatment such as increased body temperature, excessive fatigue and weakness. In 2011, FibroTest (A1-2, F1-2), Elastography (F2-3) were performed, that indicated the 2-3 stage of liver fibrosis. Quantitative viral load according to PCR was 40227 IU/ml.

In 2015, FibroTest (A3, F3), a biochemical blood tests, viral load test were remade. Further, because of progression of disease and bad answer to previous treatment, patient was administrated with DAA-based therapy: Sofosbuvir 400 mg, Ledipasvir 90 mg, Ribavirin 1200 mg daily for 12 weeks.

After the therapy, based on interferon-free scheme according to latest EASL Recommendations on Treatment of Hepatitis C (2017), already at fourth week of the treatment, the viral load was negative. There were mentioned no side effects. Obtained data (clinical tests) suggests stabilization of the liver function, elimination of the pathogen (the viral load was not determined by the available test systems). Newly made liver ultrasonography, elastography and FibroTest (F2, A2) demonstrated a decrease in the stage of fibrosis.

**Conclusion.** Based on the obtained data, we emphasize that the interferon-free therapy with direct antiviral drugs was more effective (for reducing the viral load, side effects, liver fibrosis) for this patient than the previously used interferon-containing baseline scheme.



This case confirms the results of other studies, authors of which concluded that the initial and subsequent therapy of HCV with DAA-based regimens definitely should be more effective for patients with the genotype 1b of viral hepatitis C.

Dontsova O.

***DYNAMICS OF THE INCIDENCE OF FIRSTLY DIAGNOSED TUBERCULOSIS IN  
UKRAINE IN 2012-2016***

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**Introduction.** To date, Ukraine is a country with high rates of prevalence and incidence of tuberculosis. To predict the disease situation, it is necessary to clearly understand the increment of firstly diagnosed tuberculosis (FDTB), which is one of the main indicators of the success of the fight against tuberculosis. The aim of the work was to assess the dynamics of the incidence of FDTB in Ukraine from 2012 to 2016.

**Materials and methods.** To analyze the incidence of FDTB, we used the data of analytical and statistical reference books "Tuberculosis in Ukraine" for 2012-2016.

**Results.** The incidence of FDTB in 2012 was 68.1 per 100 thousand of population. By 2013, parameters were stable the incidence was 67.9 per 100 thousand of population. In 2014, the incidence decreased by 12.4% and was 59.5 per 100 thousand of population. In subsequent years, there was also a gradual decrease in the incidence of FDTB to 55.9 per 100,000 population in 2015 and 54.7 in 2016.

We also compared the incidence of FDTB among urban and rural residents and found prevalence among villagers - 62.6 cases per 100 thousand of population against 46.8 cases among urban residents. Comparing the dynamics of morbidity, we see that among rural residents this indicator decreased by 4.9%, and among urban residents - by 21.8% during 2012-2016.

**Conclusion.** Analyzing the statistical data, we noted a gradual decrease in the incidence of firstly diagnosed tuberculosis in Ukraine from 2012 to 2016. A comparison of this indicator in urban and rural areas made it possible to identify a significantly better epidemiological situation in the cities, both in terms of incidence and rates of decline, which may be due to greater availability of medical care in the city, as well as greater sanitary literacy of the population. In general, the epidemic situation of tuberculosis in the country remains tense and requires increased attention from the TB services, the general medical network and the government.





Drozd Y.

## ***PRACTICAL ASPECTS OF SCABIES DIAGNOSTICS***

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**Introduction.** One of the most important methods for diagnosis of melanoma and differential diagnosis of other skin diseases is dermatoscopy. This method is increasingly used in the diagnosis and differential diagnosis of the most wide spread dermatoses such as red lichen planus, psoriasis, Kaposi's sarcoma, some precancerous conditions, seborrheic dermatitis, vasculitis, and others.

**Materials and methods.** Analysis of modern domestic and foreign scientific data.

**Results.** At the present stage of scabies diagnostics development there is a large percentage of errors in microscopic identification of scabies mites. Accordingly, this method can increase the reliability of the diagnosis and reduce the number of errors. In Ukraine, over the past few years, there has been an increase in the number of cases of scabies. This is largely due to inadequate diagnosis and inappropriate treatment, sometimes even without seeking a doctor.

Consequently, when using this method for the diseases diagnosis, the following parameters should be evaluated: color, location of vascular structures, follicular changes, and so on.

Dermatoscopy as a complete method for scabies diagnosis was covered by Argenziano et al. At present, the following dermatological signs of scabies are known: ovoid and delta structures similar to those of a jet plane. With the help of dermatoscopy, you can visualize the eggs, mite excrements and scabies walks in the skin. Also, this method allows to find out that some of the females are in scabies walks, filled with liquid ("wet"), and part - in the "dry". The difference between them is that the "dry" walks are superficial, and the "wet" ones are deeper. The motionless females, which have lost the ability to lay eggs, are mostly located in the "dry" walks. There are also no eggs or holes for the larvae exit. "Wet" walks filled with eggs, laid by females, have holes with exits.

Dermatoscopy makes it possible to improve diagnostics. This method has some advantages: the non-invasive nature of the procedure and the convenience for the patient.

**Conclusion.** Thus, the effectiveness of dermatoscopy in the diagnosis of scabies is confirmed by many studies. One of them is the comparison of this method with the traditional laboratory method, with the help of which it was found out that dermatoscopy has a higher diagnostic sensitivity (91% vs. 90%).





Havrylenko N., Babaeva N., Tsygulova V.

**ACTIVE DIAGNOSTICS OF TUBERCULOSIS IN KHARKIV REGION: DYNAMICS FOR 2014-2016**

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**Introduction.** In the conditions of tuberculosis epidemic an important question is early active detection of a disease by means of preventive fluorography checkup. Main aim was to estimate dynamics of coverage of the population of Kharkov region on fluorography checkup in 2014-2016 and its correlation with detection of severe forms of tuberculosis and mortality from tuberculosis.

**Materials and methods.** We used the results given in the "Basic indices of the activity of the TB services of the Kharkov region, 2016".

**Results.** By assessing the coverage of fluorography surveys, we see stable parameters in Kharkiv region (635, 634 and 637 per 1,000 population, respectively, in 2014, 2015, 2016) and positive dynamics in the city of Kharkiv for 2014-2015 (673 and 705 per 1,000 of the population in 2014 and 2015, respectively) and strongly negative dynamics by 2016 (651 per 1,000 population). In total, the following dynamics were obtained in the Kharkiv region: 2014 - 656, 2015 - 670, and 2016 - 651 per 1,000 people.

Because of the high rates of early active detection of tuberculosis in 2015, there was a decrease in the number of latent forms of tuberculosis in the city of Kharkiv (2014 - 3.1, 2015 - 4.2, 2016 - 2.1 per 100,000 people), and in the regions (2014 - 5.4, 2015 - 4.4, 2016 - 3.7 per 100,000 people), which allowed us to get in Kharkiv region: 2014 - 4.4, 2015 - 4.3, 2016 - 3.0 per 100,000 people.

Besides there was also a positive trend towards reducing tuberculosis mortality in the Kharkiv region (2014 - 13.0, 2015 - 13.2, 2016 - 11.7 per 100,000 people), and in Kharkiv (2014 - 7.0, 2015 - 7.5, 2016 - 6.5 per 100,000 people), which together amounted to 9.8 in the 2014 area, in 2015 - 10.2, 2016 - 8.9 per 100,000 people.

**Conclusion.** During assessment of dynamics of coverage of the population of Kharkiv region with fluorographic examination for 2014-2016, we revealed positive dynamics between 2014 and 2015 that correlated with lowering of a rate of severe forms of tuberculosis and a mortality from TB. In 2016, the coverage by active fluorographic diagnosis was reduced, which allows predicting future deterioration of the epidemiological situation with tuberculosis. In addition, attention was drawn to the differences in coverage of fluorographic survey between the city and districts. This indicator was higher in the city which correlated with a lower proportion of severe forms of TB and mortality from TB. Perhaps this phenomenon was due to lower availability of fluorography in the regions and lower health education of the population. The obtained data emphasize once again the importance of early active diagnosis of tuberculosis.



Iliukha S.

***HIV/HCV CO-INFECTION IN HIGH RISK GROUPS AND WAYS TO CONTROL ITS SPREADING***

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**Introduction.** "Nowadays, diseases which are caused by Human Immunodeficiency Virus (HIV) and Hepatitis C Virus (HCV) are the most important issues for the healthcare services worldwide. Because of common transmission routes and groups of high risk of HIV/HCV co-infection has a high importance. And according to World Health Organization (WHO) data it makes the risk of transmission higher. So that, programs of preventing spreading HIV and HCV among high risk groups and treating of infected people are accepted at the international level. Due to new effective medications it is becoming possible to take under control replication of HIV and it is possible to decrease likelihood of its transmission. New anti-HCV drugs allow us to treat patient with 95% of efficiency (WHO, 2017). Our aim was to determine the prevalence of HIV/HCV co-infection worldwide in high risk groups and to find out the key groups for preventative programs implementation."

**Materials and methods.** Ministry of Health of Ukraine, Centers for Disease Control and Prevention (CDC), The Joint United Nations Programme on HIV and AIDS (UNAIDS), WHO, United Nations Office on Drugs and Crime (UNODC) and PubMed data were used.

**Results.** "According to UNAIDS data it estimates around 36.7 mln (30.8 mln - 42.9 mln) people with HIV in 2016. The prevalence of HIV cases among adult (15-49 y.o.) population was 0.8% according to WHO. Around 71 mln people infected with HCV were estimated by WHO and prevalence of HCV was 1%. Likelihood of defining HCV in patients with positive HIV status is 6 times higher than in HIV negative ones. Average prevalence of HIV/HCV co-infection in HIV positive patients (WHO) is 6.2%, in absolute units it is 2278400 people, and 59% of them are people who inject drugs (PWID), in absolute units it is 1362700 people. Proportion of HIV/HCV co-infection in high risk groups in all HIV infected people is: pregnant or heterosexually exposed samples – 4.0%, men who have sex with men (MSM) – 6.4%, PWID – 82.4%, in general population – 2.4%. In Ukraine the prevalence of HCV/HIV co-infection in newly HIV-infected individuals was estimated about 28.8% in 2016. In 2012 WHO, UNAIDS and UNODC offered a Comprehensive Package of interventions for the prevention, treatment and care of HIV among PWID. The first four – needle and syringe programmes (NSPs), opioid substitution therapy (OST), HIV testing and counseling (HTC) and antiretroviral therapy (ART) are the most important to the national healthcare programs to prevent spreading HIV



infection. Effectiveness of implementation of OST and reduced risk of HIV transmission among PWID has been shown."

**Conclusion.** Prevalence of HIV/HCV co-infection in people with HIV remains high especially in groups of high risk. The highest rate of HIV/HCV co-infection was registered in PWID. Effectiveness of preventative programs of screening and treatment of patients in target groups has already been shown. Therefore, these programs should be implemented in all countries.

Ippolitov D.

***IRON METABOLISM INDICES IN CHRONIC HEPATITIS C PATIENTS***

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**Introduction.** It is well known that excessive accumulation of iron is a common problem among patients with chronic liver diseases and accompanying iron metabolism disorders. So, the reason of the following research is to evaluate the state of iron metabolism in patients with chronic hepatitis (HCV).

**Materials and methods.** 22 chronic HCV patients were examined with subsequent measurement of following indices: 1. Viral load and genotype of the virus 2. Alanine transaminase (ALT) level 3. Serum iron level 4. Total iron-binding capacity (TIBC) 5. Transferrin saturation (TFS) index. Statistical analysis of obtained data performed using standard MS Office Excel tools, data reliability checked using Student's t-test.

**Results.** Serum iron level was elevated in 14 patients which makes up 64% of total, TIBC level was elevated in 15 patients - 68% of total and TFS index was raised in 3 patients – 14% of total. Listed values are  $35,5 \pm 3,89 \mu\text{mol/L}$ ,  $p < 0,01$ ;  $103,6 \pm 7,74 \mu\text{mol/L}$ ,  $p < 0,01$ ;  $36,07 \pm 5,27\%$ ,  $p < 0,05$  respectively. TFS index was lowered in 3 patients – 14 % and within normals in 16 patients – 72%. Correlation analysis between levels of serum iron and ALT showed the presence of a strong direct connection between these indices ( $r = 0,5$ ,  $p < 0,01$ ). Any dependency between the serum iron level and age, sex, viral load and viral genotype of patients was not established.

**Conclusion.** In most patients elevation of the serum iron level (64%) and TIBS level (68%) were established, which proves the existence of iron metabolic disorders in chronic HCV patients. In its turn, revealed direct connection between levels of serum iron and ALT let us to assume the presence of pathogenetic link between process activity and severity of metabolic disorder as an additional liver-damaging factor.



Kaliuzhnyi Y., Muchak A.

## ASSESSMENT OF KNOWLEDGE REGARDING HAND HYGIENE AMONG MEDICAL WORKERS

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**Introduction.** Each year in the European Union, over 4 million patients acquire a healthcare-associated infection (HAI). These infections are estimated to contribute to roughly 110 000 deaths across Europe, along with substantial morbidity and cost for health systems. (ECDC, 2016). It is known that the hands of healthcare workers (HCW) play a key role in the transmission and dissemination of harmful germs in the hospital.

**Materials and methods.** Cross-sectional study was conducted in March 2018. 50 HCW were questioned, 15 (30%) of whom were doctors, 25 (50%) were nurses, and 10 (20%) were ward attendant. 19 (38%) HCW of the therapeutic wards, 12 (24%) HCW of the surgical wards and 19 (38%) HCW of intensive care unit were included in the study. The questionnaires were filled out anonymously and included "yes" or "no" questions and questions with multiple choice. Results were analyzed using Excel SW 2013.

**Results.** Most of the respondents were instructed on the rules of hand hygiene, all (100%) of respondents use alcohol-based antiseptics in their practice. 21 (42%) of respondents don't consider that not clean HCW's hands are the main factor of cross-transmission of harmful germs between patients. 27 (54%) agreed that germs present on or within the patient are the most frequent source of HAIs infection. Only 16 (32%) of the HCW know the minimum time for rubbing the antiseptic (20 s) correctly. HCW gave different answers to questions that concerned the consistency of hand hygiene when dealing with patients, indicating that there is no clear understanding of this issue. To all this, the HCW hardly understand in what situations it is necessary to use the method of rubbing the antiseptic into the skin and when washing with soap and water. HCW are well-informed, which should be avoided to reduce colonization of hands with harmful germs: wearing jewelry – 46 (92%), damaged skin – 47 (94%), artificial nails – 44 (88%). However, 24 (48%) respondents consider the use of the cream in hospitals is not appropriate because of HAIs, which is not correct.

**Conclusion.** Based on the conducted survey, we can conclude that in this multiprofile hospital, instruction is given on hand hygiene, antiseptics based on alcohol are used. On average, respondents understand what the route of HAIs in the hospital is, and what the main factor of cross-transmission of harmful germs between patients are. But they have an average level of knowledge about the procedure for hand hygiene and the need in hand care, which require the need in regular training on hand hygiene, updating knowledge in the field of HAIs prevention and infection control rules.



Makhmudov Y.

***THE PROBLEMS OF THE EARLY MALARIA DIAGNOSTICS IN KHARKIV REGION***

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**Introduction.** Malaria is considered to be one of the most up-to-date and widespread burdens of the mankind. According to the WHO, about 3,2 billion people in 106 countries are under the threat of catching malaria. According to the Ministry of Health of Ukraine (MOH), as of August 28, 2017, 29 cases of malaria were registered, and 3 of them was lethal. One of the main problem in non-endemic countries is hypodiagnosis of this disease.

**Materials and methods.** Aim of the work is to improve the diagnosis of malaria in the early stages of the disease in non-endemic countries on the basis of the study of clinical, anamnestic and epidemiological data. 34 archival case histories of patients with malaria who were treated in Kharkiv Regional Clinical Hospital of Infectious Diseases from February 2011 till August 2017 were analyzed. Among the patients there were 31 (91,17%) men and 3 (8,82%) women. 9 (26,47%) of them were Ukrainians and 25 (73,53%) – foreigners. The age of the patients varied from 18 to 72 years and was  $29,34 \pm 2,36$  years. The diagnosis was established on the basis of clinical and epidemiological data, confirmed by parasitoscropy (thick and thin smear, stained by Romanovsky-Gimza).

**Results.** In all cases there was imported malaria. In 2011 among hospitalized patients foreigners considerably dominated – 8 versus 1 Ukrainian ( $p < 0,05$ ), while in 2017 the number of sick foreigners and Ukrainian citizens was equal. The vast majority of cases (85,29 %) was associated with being in Africa. The most common agent was *P. falciparum* (76,47 %).

In the pre-hospital stage malaria was diagnosed only in 49 % of patients. 10 patients were diagnosed with acute respiratory infection (ARI), 4 – with fever of unknown origin (FUO), 1 – with gastroenteritis, 1 – with meningitis. In hospital percentage of misdiagnosis decreased to 29 %. Malaria was suspected in 24 patients (70,59 %); 7 (20,59 %) were misdiagnosed with ARI, 2 (5,88 %) – with FUO, 1 (2,94%) – with meningitis.

The most common causes of diagnosis mistakes were poorly collected epidemiological anamnesis (50 %), language barrier (23,53 %), nonspecific clinical course of the disease in early period, prolonged incubation period (17,65 %).

**Conclusion.** 1. Misdiagnosis of malaria in pre-hospital stage reached 51 %. The most common wrong diagnosis was ARI. 2. The main reasons of misdiagnosis were lack of epidemiological data and nonspecific clinic of the disease. 3. Due to a tendency for the significant increase in the percentage of Ukrainians having malaria in recent years all feverish patients independently of nationality should



be asked about being in malaria-endemic countries. 4. In case of revealing this fact test for malaria should be done.

Malakhova D.

***THE CLINICAL AND EPIDEMIOLOGICAL DIAGNOSTICS AND PROPHYLAXIS OF  
TOXOCAROSIS***

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**Introduction.** Everybody contacts with dogs or cats every day – definitive hosts of toxocara. It is difficult to diagnose after the invasion of toxocarosis on the initial stages, people do not pay attention to initial symptoms. Our aim was to investigate the clinical displays of toxocarosis based on analysis of histories of illnesses accent attention on epidemiological anamnesis, to define the most widespread ways of infection for Ukraine and basic prophylactic directions.

**Materials and methods.** Research materials were 12 histories of illnesses on the base of the Regional clinical infectious hospital of Kharkiv. Were used descriptive and method of statistical analysis.

**Results.** We analysed 12 histories of patients with toxocarosis, that were on stationary treatment in a 6 separation of the RCIH. There were 7 women (58,3%) and 5 men (41,7%). Patients were distributed by age: there were 4 patients younger 30 years old, older than 30 – 8 persons. Distribution by the place of residence: there were a half (6) from Kharkiv or Kharkov region, from Sumy (3), Lviv, Mykolaiv and Kriviy Rig – one person from each other. It was found out from anamnesis illnesses that patients had acted late, after 1,5-2 and more from the moment of appearance of the first symptoms of illness. Was turned the special attention on collection of epidemiological anamnesis. Persons, that lives in a private sector (7 persons) had court dogs that was never inspected on an intestinal worm invasion. City-dwellers (5 persons) also contained in the apartment of pets (also tableware, bed belonging, towels) had the common household items of everyday life. Only one from 12 patients lived in in India about 2 years, other did not drive out abroad. At entering permanent establishment produced complaints about a headache, fatigue ability, weakness, decline of appetite, decline of sleep, loss in weight, rash on a skin, itch of the cutaneous covering, discomfort in area of stomach-ache right hypochondrium. And only patient, that lived in India grumbled about nausea, frequent vomiting, dizziness, pains in muscles and stomach, loss of consciousness appealed for help in the first days of illness and was hospitalized. At objective examination at 10 patients a hepatolienal syndrome and signs of cholecystitis was marked. It was found by CBC, that 6 patients (50%) had an eosinophilia. The diagnosis of toxocarosis was confirmed by method of IFA at 100% occurrents. At questioning of patients found out that over 80% patients don't know such disease as toxocarosis for a human. It testifies about sanitary informing on given disease is at low level.





**Conclusion.** 1.Toxocarosis is widespread on Ukraine, not dependency upon the regions of residence and age groups of population. 2.In detail collected complaints and carefully studied epidemiological anamnesis will help a doctor on the initial stages to suspect toxocarosis. 3.Informed not enough population on this disease and prophylaxis assists the late appeal of population for medical care, in investigation results in late diagnostics, to ill-timed treatment and can entail the defeat of heart, cerebrum, eyes.

Malvika C.

***CANNABIS VS CIGARETTE SMOKER***

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**Introduction.** Is smoking cannabis just as bad as smoking cigarettes? What about passive cannabis smoke? Aren't these a few questions, that gallop in our mind quite often. Here's the scoop on cannabis smoke vs. cigarette smoke. Smoke is harmful to lung health, be it from a burning log of wood, marijuana or tobacco from cigarettes, due to combustion of these materials, toxins & carcinogens are released. An analysis suggested, Marijuana smoke contained most of the toxins, carcinogens, & irritants similar to tobacco smoke. Beyond, the content in smoke alone, marijuana smoking is quiet divergent than tobacco. Deeper inhalations and longer holding of breath is observed in Marijuana smokers in comparison to cigarette smokers, which eventually lead to a higher exposure to tar per breath. Passive marijuana smoke contains most of the similar toxins and carcinogens present in actively inhaled marijuana smoke, even though inhaled is a lesser ratio. There is concern of it causing health hazards, especially among innocent & vulnerable children, around these smokers.

**Materials and methods.** In 2016, a rodent study by the American Lung Association, suggested that for every one minute of exposure to passive cannabis smoke, there was harm caused to blood vessels. These vessels, in rodents took almost three times longer to return to normal function after smoke exposure. The arteries carried blood less efficiently for at least 90 minutes on exposure to marijuana smoke, but began recovering from tobacco smoke within 30 minutes. It also suggested to increase the possibilities in developing hardened and clogged arteries. Smoke from both sources impaired the blood vessels' ability to expand and improve blood flow by more than half, an effect that increases short- and long-term risk of a stroke or heart attack, It's crucial to mention that, since both, humans and rodents have similar blood vessels, this research had been performed on animals only. But humans appear to have the ability to metabolize toxins from smoke more effectively in comparison to other animals.

**Results.** Research demonstrated that it caused damage to large airways, after inhaling hot, burning plant matter. Regular cannabis smoke inhalation, also caused bronchitis symptoms. Research proved



that smoking marijuana not only affected the lungs and respiratory system – but it also weakened the immune system, especially for immune compromised individuals due to, intake of immunosuppressive drugs or certain diseases, which include HIV. Marijuana smoke effected the lungs' first line defense mechanism against infection by killing cells that help remove dust and germs as well as causing more mucus to be formed. Smoking marijuana also increases the risk of opportunistic infections among the HIV individuals, it does not affect the development of AIDS or lower white cell counts. A potential threat to the immune compromised was Aspergillus, a mold that could cause lung disorders. It grows on marijuana, which if then inhaled via smoked exposed the lungs to this fungus. However, it rarely caused problems in people with healthy immune systems.

**Conclusion.** Smoking marijuana clearly damages the human lung, and regular use leads to chronic bronchitis and can cause an immune-compromised person to be more susceptible to lung infections. Passive smoking is hazardous, as well. Due to the risks it poses to lung health, the American Lung Association strongly cautions the public against smoking marijuana as well as tobacco products. SMOKE, in any form is a killer, therefore quit smoking. Never give up, giving up!

Martynenko A.

***VACCINATION - AS PREVENTION OF CONTROL WITH PERTUSSIS IN  
CHILDREN OF KHARKIV CITY***

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**Introduction.** Pertussis (whooping cough) - an acute infectious disease, which is the most dangerous children diseases, is caused by gram-negative bacteria (stick Borde-Zhang), transmitted by airborne droplets, characterized by moderate intoxication, catarrhal inflammation of the respiratory tract, attacks of spasmodic cough with reprises and respiratory inspiratory delay. The causative agent of the pertussis - Bordetella pertussis, which exotoxin is tropic to the nervous system and vessels and leads to negative course of the disease. The disease tolerate both children and adults, received the infection in the lesion. The aim of the work: Estimate the incidence of whooping cough in children of Kharkiv sity in 2016-2017 for the development and implementation of effective preventive measures.

**Materials and methods.** According to official data, we've explored a retrospective epidemiological analysis of the incidence of whooping cough in children in the Kharkiv region for 2016-2017 years.

**Results.** The incidence of pertussis in Kharkiv sity amounted to 119 cases – in 2016 and 64 - in 2017 (8.3 per 100 thousand of the population in 2016 and 4.5 per 100 thousand of the population in 2017). Proportion of children under 17 year in overall morbidity prevailed and amounted to 92.4% (110 cases) in 2016, at 95.3% (61) in 2017, mainly sick children of preschool age. Proportion of diseased



children under one year amounted to 32.7% (36 children) in 2016 and 26.2% (16 children) in 2017, the proportion of affected children up to 4 years was 90% (99 children) in 2016 and 70.5% (43 children) in 2017, the number of cases among children aged 10 to 17 years was 11 (10% children) in 2016 and 18 (29.5% children) in 2017 year. The proportion of unvaccinated children among the sick decreased from 78.8% in 2016 to 68.8% in 2017, which indicates the necessitate for vaccinations for children to prevent whooping cough. In Kharkiv region immunization coverage with 3 doses of diphtheria-tetanus-pertussis vaccine (DTP-3) was 19 % in 2016 and 37,5 % in 2017, but didn't reach 90% coverage of children under the age one year.

**Conclusion.** The conducted analysis of the epidemic situation in the Kharkiv sity showed significant decrease in the incidence of whooping cough in children and adolescents compared to 2016 and increased vaccination coverage, which however did not reach 90%. For further reduce the incidence and improve the epidemic situation, it is necessary to improve pertussis vaccine prophylaxis and reach 90% coverage of DTP-3 children up to a year.

Mohamed E.  
***ACUTE WATERY DIARRHEA IN SUDAN***  
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**Introduction.** Acute watery diarrhea is one of the leading cause of death in children due to dehydration. It is one of the three types of diarrhea classified by World Health Organization. The other two are: acute bloody diarrhea (dysentery) and persistent diarrhea which lasts 14 days or longer unlike the acute types which usually last several hours and days. Malnourished children or those with impaired immunity are more prone to gastrointestinal infections of them is Cholera caused by the bacterium *Vibrio cholerae* which produces an enterotoxin that causes painless watery diarrhea (the major symptom of cholera). It is transmitted through ingesting contaminated food and water.

Adults who are exposed to infected children are more susceptible to get the infection specially in circumstances of poor hygiene. If untreated, cholera can kill within hours.

**Materials and methods.** Acute watery diarrhea outbreak in Sudan 2016-2017, more than 36 000 case and more than 800 deaths, according to UNOCHA.

18 states were involved with females constituting 54% and children below five 8.1% of all cases.

According to the government the infection spread through contaminated food and water and person-to-person transmission as a result of poor hygiene.

The UN agency said: “the source of infection is believed to be contaminated open water sources combined with poor sanitation and hygiene practices.”



The government denies cholera although laboratory tests by Sudanese doctors have confirmed that the disease is cholera but WHO has conducted no tests on the fecal specimens of victims.

**Results.** Cholera outbreak in Sudan is not the first in the last decade. Between 21 April and 18 June 2006, the federal ministry of health FMOH has reported a total of 2007 cases including 77 deaths of acute watery diarrhea in 9 states. The national public health laboratory of the FMOH has confirmed the isolation of *Vibrio cholerae* in the half of stool samples.

Social associations played major role in raising awareness of the simplest methods of treatment representing in taking an oral re-hydration solution and antibiotics, and prevention through drinking disinfected water, eating well cooked foods ( Boil it, cook it, peel it or Forget it! ) and washing hands frequently with soap and water.

**Conclusion.** WHO announced in 1991 that cholera vaccination certificates are no longer required for entry by any country or territory. But vaccination is recommended for long-term travelers and healthcare and humanitarian workers.

Nhuien Kh., Polikarova D., Lystopad Y., Bursak A.

***STATE OF INDICATORS OF NONSPECIFIC RESISTANCE OF THE BODY IN PATIENTS WITH CHRONIC HEPATITIS C***

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**Introduction.** Many studies have been investigated about immunological processes in patients with chronic hepatitis C, but most of them relate specifically to specific cellular immune responses, while not noting the state of the indicators of the primary linkages of the immune response, that is the mononuclear phagocytic system (MPS).

The purpose of the research is to estimate the state of MPS in patients with chronic hepatitis C, depending on the activity of Alanine transaminase (ALT) in the blood serum.

**Materials and methods.** We examined 42 patients with chronic hepatitis C who were divided into 3 groups, depending on the activity of ALT in blood serum: 1st group (n = 14) consists of patients with normal activity of enzyme, 2nd group (n = 15) consists of patients with moderate hypertransferraseemia (up to 5 normal levels), 3rd group (n = 13) consists of patients with middle and high degree of ALT in blood serum (5 normal levels and more). The state of cells of MPS was evaluated using the method by M. Alexandrov (1988), which is based on indication of functional activity of leukocytes in peripheral blood.

**Results.** It is reported a decrease of the functional activity and capacity of the innate immune response in patients with chronic hepatitis C, in all three groups, such as neutrophils phagocytic index, phagocytic number, bactericidal index of neutrophils, absolute index of phagocytic activity of



neutrophils, absolute index of bactericidal activity, absolute index of processing, absolute absorption index ( $p < 0.001$ ). Moreover, the degree of the violations of these parameters was associated with ALT activity ( $p < 0.01$ ), and the most significant shifts in the results occurred in patients of the 3rd group.

**Conclusion.** Significant inhibition of phagocytic activity of MPS in patients with chronic hepatitis C and its association with the activity of ALT in blood serum, obviously, have a pathogenetic, as well as may have a diagnostic and prognostic value.

Nikolaidi L.

***THE USE OF BIOCHEMICAL INDICATORS IN THE DIAGNOSIS OF LIVER FIBROSIS IN PATIENTS WITH CHRONIC HEPATITIS C***

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**Introduction.** Chronic hepatitis C (CHC) is a common disease with a high risk of transition to cirrhosis and hepatocellular carcinoma. According to recent data, the virus of hepatitis C (HCV) infected more than 200 million people in the world, that is, about 3% of the world's population.

Now it is recognized that fibrosis is the main pathway of progression and a negative prognostic factor in the course of chronic diffuse liver diseases, including HCV. The severity of fibrosis is determining the prognosis and survival time of patients. Therefore, an adequate assessment of the state of the hepatobiliary system, including the stage of fibrosis, allows not only to predict the course of HCV, but also to prescribe ethiotropical and pathogenetical therapy timely, and to evaluate its effectiveness. A reliable method for assessing morphological changes in the liver is a puncture biopsy with subsequent histological examination of the tissues. This method is considered the "gold standard" of diagnosis. However, despite numerous advantages, it has a number of significant disadvantages: invasiveness of the procedure, physical and psychological discomfort, the risk of complications, including lethal ones, the existence of limitations and contraindications to this manipulation, the inability to always obtain adequate tissue volume, the subjective nature of the evaluation of histological data, high cost, difficulties of dynamic observation, etc.

At the same time, there are non-invasive methods for diagnosing liver fibrosis based on an evaluation of its echogenicity by ultrasound, determining the elasticity of the liver by the method of short-term elastography, determining the hyaluronic acid content in serum, serum level of type IV collagen. However, each of these methods has certain significant drawbacks. Thus, the search and establishing a connection between laboratory parameters and morphological changes in the liver with HCV, determining possible markers that reflect the state of these changes is necessary. In connection with this, the purpose of our study was to evaluate the content of alpha2-macroglobulin, haptoglobin,



apolipoprotein A1, total bilirubin, and the activity of gamma-glutamyltranspeptidase (GGT) and alanine aminotransferase (ALT) in the serum of patients with CHC, depending on the stage of liver fibrosis (F).

**Materials and methods.** The METAVIR scale, which is used in the FibroTest system, involves the isolation of four stages of liver fibrosis: absence of fibrosis (F0), portal fibrosis without septic formation, or minimal fibrosis (F1), portal fibrosis with single septa, or mild fibrosis (F2), multiple portocentral septa without cirrhosis, or severe fibrosis (F3), liver cirrhosis (F4).

The control group was consisted of 30 healthy donors. Statistical processing of the data was carried out using Student's "t" test, including for the small samples, correlation coefficient "r", least squares method, Receiver Operating Characteristic (ROC) analysis, and calculation of the AUC (Area Under Curve) coefficient.

**Results.** In the clinical picture of the examined patients, the manifestations of asthenovegetative (60%), dyspepsia (28%), abdominal pain (28%) syndrome, hepatomegaly (80%), splenomegaly (28%) dominated. Less common were arthralgic (12%), febrile (8%) and icteric (4%) syndromes.

The fibrosis stage F0 was diagnosed in 37 (46.8%), F1 in 9 (11.39%), F2 in 13 (16.45%), F3 in 7 (8.86%), F4 in 13 (16.45%) patients. Genotypes of HCV 1b occurred in 67 (84,8 %), 3a – in 11 (13,9 %), 2 – in 1 (1,3 %) of the examined patients. The homozygous genotype of the IL-28 b C / C receptor was detected in 21(26,5%), T / T in 16 (20,3 %), heterozygous C / T in 42 (53,2 %) patients.

The correlation analysis showed the presence of a connection between the stage of hepatic fibrosis and the content of alpha2-macroglobulin in patients with CHC in the serum (direct strong,  $r = 0.74$ ,  $p < 0.001$ ), haptoglobin (reverse mean  $r = -0.43$ ;  $p < 0,01$ ), apolipoprotein A1 (reverse mean,  $r = -0.41$ ,  $p < 0.01$ ), total bilirubin (direct weak,  $r = 0.29$ ,  $p < 0.02$ ), fibrosis stage and GGT activity Mean,  $r = 0.53$ ,  $p < 0.001$ ), ALT (direct average,  $r = 0.49$ ,  $p < 0.001$ ). The relationship between the age of patients, the HCV genotype, polymorphism of the IL-28b receptor gene and the stage of liver fibrosis was not revealed ( $p > 0.05$ ).

**Conclusion.** The content of alpha-2-macroglobulin in serum can be used to evaluate the stage of liver fibrosis in patients with CHC. The range of values of this index from 0 to 3 g / l indicates the initial stage of fibrosis (F0-F1), from 3 to 5 g / l - about moderate, severe or severe fibrosis (F2-F4).

Petakh P.

### ***THE INFLUENCE OF ESSENTIAL OILS ON THE GROWTH OF S.AUREUS***

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**Introduction.** Antibiotic resistance today goes beyond the purely medical issue, has a huge socio-economic significance and is considered in developed countries as a threat to national security.





Therefore, the world is increasingly faced with finding new, more effective antimicrobials. One of the alternative antibacterial medicine can become essential oils.

**Materials and methods.** The influence of essential oils of peppermint, chamomile, tea tree, alpine pine, lavender, cinnamon in relation to *S. aureus* (collection strain ATCC 25923) is investigated. Disc diffusion method was used to determine the sensitivity. For the screening, cooked Mueller-Hinton agar cups. A standard inoculum corresponding to the standard of 0.5 for McFarland was applied by pipette to the surface of a Petri dish with a nutrient medium in volume 1, evenly distributed along the surface with a spatula Drigalski. On the surface of the nutrient medium, using sterile tweezers, paper disks impregnated with essential oils. Subsequently, Petri dishes were placed in a thermostat and incubated at 37 ° C. for 24 hours, after which the results were recorded by measuring the zones of growth retardation of microorganisms around the discs.

**Results.** Results of our studies have shown the sensitivity of *S. aureus* to essential peppermint oil (19 mm), tea tree (22 mm), cinnamon (35 mm); Essential oils of chamomile, alpine pine, lavender were ineffective (there are no growth retardation zones).

**Conclusion.** As a result of the study, the anti-staphylococcal properties of essential oils have been established. Commercial essential oils and their essential ingredients can become potential candidates for use as new antimicrobial agents. The possibility of using essential oils in the treatment of pustular skin diseases (pyoderma) is explored.

Pogorelova O., Shvets O., Hvorostinko R.

***ANALYSIS OF THE STRUCTURE OF THE INCIDENCE OF TUBERCULOSIS IN  
KHARKIV REGION***

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**Introduction.** Control of the incidence of tuberculosis is one of the primary goals of the health care system in Ukraine. Aim of this work was to estimate the incidence of tuberculosis in Kharkiv region in 2016 in comparison to 2015 and to study its structure.

**Materials and methods.** In this study, we used the information of the information guide "Basic indicators of the activity of the phthisiological service of Kharkov region for 2016". Statistical processing of information was carried out using Microsoft Excel 2007.

**Results.** "The incidence of all forms of tuberculosis in 2016 was 38.4 per 100 thousand people, which is 1.9% more than in 2015. Among the detected patients, 68.9% had bacterial excretion (in 2015 - 68.3%), 43.7% of patients showed destruction of lung tissue (in 2015 - 50.5%).

During assessment of the social structure of patients, we revealed the prevalence of unemployed people of working age (51.2%). The percentage of workers (9.5%) and pensioners (8.9%) was



significantly lower. Other categories were: employees - 5.1%, persons without fixed residence - 4.5%, students and pupils - 3.4%, military personnel - 2.4%, medical workers - 2.1%, persons who had deprivation of liberty - 0.3%, private entrepreneurs - 0.3%, agricultural workers - 0.2%, others - 12.1%."

**Conclusion.** Assessment of the epidemiological situation of tuberculosis in Kharkiv region has shown an increase in the incidence and an increase in number of patient with bacterioexcretion, which is an epidemiologically unfavorable factor. The social structure showed prevalence of unemployed people of working age, which once more indicates the role of social factors as risk factors for the development of tuberculosis.

Shcherbakov O., Zaikina A.

### ***ASSESSMENT OF THE DEGREE AWARENESS OF PATIENTS ABOUT SYMPTOMS AND DETECTION OF TUBERCULOSIS***

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**Introduction.** The epidemiological situation of tuberculosis in Ukraine remains unfavorable. In spite of decrease in the number of registered patients and deaths in the last 10 years, the incidence of tuberculosis among new cases is one of the highest in the world, accounting for 26%.

**Materials and methods.** From February 10, 2018 to March 30, 2018, a structured survey of 124 patients in the supporting phase of tuberculosis treatment was conducted.

Testing of the questionnaire was carried out at the Kharkov Anti-TB Dispensary № 1 in order to assess the clarity of the presentation of each issue and to evaluate the research data in practice.

The questionnaire included two sections: demographic data; the level of awareness about the symptoms and the detection of tuberculosis.

**Results.** Most of the respondents were male (65%), young (74% to 50 years old). 38% of patients with tuberculosis identified "complications of colds or flu" as the cause of their disease, while 14% identified public places as the main source of infection. 14% of the respondents chose the answer "other" and, at a subsequent survey, pointed to sick relatives or acquaintances as a possible source of infection. 33% said they could not determine the possible cause of TB infection.

78% of patients with tuberculosis stated that they did not know about the typical symptoms of tuberculosis before they were diagnosed with it; a large majority (92%) of TB patients stated that they were informed about the symptoms of tuberculosis by health care providers after they had been diagnosed.

Among those who pointed to awareness of the symptoms of tuberculosis before diagnosis. Nearly half of them noted that they learned about the symptoms of tuberculosis through communication with



relatives who had tuberculosis in their family. Most of these patients remained with the idea that tuberculosis is a chronic, incurable disease.

All respondents said they were informed by health professionals about the need to follow the treatment regimen, and 91% were trained in ways to transmit the infection. Only 11% of the patients responded that they did not need additional information on tuberculosis; other respondents said they would like to know more about TB treatment, the consequences of treatment interruption and how to prevent the transmission of tuberculosis to others. The participants of the study were asked about the first application for medical assistance, when they had the first symptoms of the disease, on the basis of which tuberculosis was diagnosed and in the establishment of which type was diagnosed with "tuberculosis". More than half of respondents first turned to primary health care institutions, but only 38% of them had tuberculosis diagnosis at the primary level of health care.

**Conclusion.** The low level of awareness of tuberculosis symptoms among patients before diagnosis and perception of tuberculosis as a chronic, incurable disease indicates the need for informational companies at the level of public health care so that people with tuberculosis symptoms seek timely and fearlessly medical assistance; in fact, 40% were waiting more than 2 weeks, and almost every fifth respondent waited more than one month before asking for help. It is obvious that healthcare professionals teach on important aspects of tuberculosis, such as the transmission of infection and the importance of adherence to treatment; However, 85% of patients responded to the need for improved quality of education, and as patients mentioned, they needed more information on how to prevent transmission of the infection and the consequences of interrupting treatment.

Skorohod V.

### ***VACCINATION - AS PREVENTION OF CONTROL WITH PERTUSSIS IN CHILDREN OF KHARKIV CITY***

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**Introduction.** According to the results of early diagnosis by fluorography from 2012 to 2016 years. The rate of detection tuberculosis (TB) of the lungs during professional medical examinations averaged 50.74% of the total number of TB of the lungs. Since 2018 Uliana Suprun proposes replacing the fluorography study with systematic screening among high-risk groups.

**Materials and methods.** The indicators of the TB of lungs by the method of fluorography in the Kharkov region were taken from the analytical and statistical reference book "Tuberculosis in Ukraine" Kyiv 2017.

**Results.** According to the analysis in 2012. The detection of the TB index of lungs by the method of fluorography was 57.2% of the total number of TB of the lungs. For 2013 this figure was 52.8%, for



2014 - 54.7%, for the year 2015 - 46.8% and for the year 2016 - 42.2%. Social structure of persons with TB of the lungs for 2016: unemployed working age - 57.2%; pensioners - 12.6%; employees - 13%; persons without permanent residence - 1.9%; medical workers - 1.6%; pupils - 1.6%; students - 1.5%; persons who returned from places of deprivation of liberty - 0.9%; others - 9.7%. As shown above, a large percentage of people with TB are people who are not at risk.

**Conclusion.** Large-scale fluorography examinations are of great effectiveness for the prevention of tuberculosis in the adult population. The annual survey helps to identify people with tuberculosis in a timely manner. Fluorography in the tuberculosis prevention system allows to start treatment in the early stages of the disease, which is an important condition for its success.

Sokhanevych K.

***COMPARATIVE ASSESSMENT OF THE INCIDENCE OF TB AMONG EMPLOYEES OF HEALTH INSTITUTIONS AND TB DISPENSARIES IN THE KHARKIV REGION***

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**Introduction.** The tuberculosis epidemic among the population in Ukraine is spreading with each passing year. The main risk group remains the health workers who are directly in contact with tuberculosis patients, and in the case of illness represent a high epidemiological risk for their colleagues, patients and partners. It is therefore very important event, aimed at reducing the prevalence of infection with MBT is the observation of the dynamics of morbidity among the medical workers of the TB dispensaries and public health facilities.

**Materials and methods.** There were used statistical data from the form No. 33 "Report on tuberculosis patients," published in the analytical and statistical Handbook "Tuberculosis in Ukraine".

**Results.** Incidence rates (IR) among the MP of the TBD as of 2012 and 2013 equaled 126,0 and 68,7 per 100 thousand workers, which is 1,5 times greater than the incidence among the MP of the HCF in the Kharkiv region. In 2014, the epidemiological situation has deteriorated significantly, among health care workers in the TBD made 249,4 per 100 thousand of MP, while the incidence among medical workers of the General therapeutic network is comprised 39,3 per 100 thousand workers, which is almost 6,5 times less than the staff of TBD, which may indicate the growth of drug-resistant tuberculosis. That the prevalence rate among workers in the TBD for the period 2015-2016 (187,0 and 124,3 per 100 thousand staff respectively) decreased in 2 times in comparison with the incidence in 2014.

This is due to the introduction of stricter standards of infection control in the TBD: administrative (a clear distinction between "clean" and "dirty" zones), engineering (use of UV lamps with protective shields which provide continuous operation), and individual (providing all health care workers



respirators with HEPA-filters and patients – surgical mask). Contradictory data observed in medical personnel of healthcare institutions. As of 2014-2015, there is an increase in the incidence of almost 2 times (39,3 and 63,4 per 100 thousand health workers respectively). During the period 2012-2016, the incidence among health care workers of health care institutions decreased by 19,0 and TBD – 1,7 per 100 thousand staff. The growth of morbidity over the period 2012-2016 following – for health professionals of TBD (-1,34%), and of HCF (-23,86%).

**Conclusion.** After analyzing the statistical data of morbidity of medical staff of TB over the period 2012-2016 in the Kharkiv region, it can be argued that the incidence among health care workers TB dispensaries is higher than in health care. There is a significant reduction in the incidence of the medical staff of healthcare institutions, it is associated with timely diagnosis of TB physicians and pulmonologists, as well as with implementation and compliance with the terms of infection control. But it is worth noting that among the medical personnel of the TB institutions, particularly the dynamics of the reduction of morbidity is not observed, which confirms the fact that the main risk groups.

Sultan M.

***THE RISK FACTORS OF BARTONELLOSIS: CROSS-SECTIONAL STUDY IN HIV-INFECTED PERSONS***

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**Introduction.** An epidemiological cross-sectional study of prevalence of bartonellosis among HIV-infected persons aged 20-60 years was conducted. 176 HIV-positive patients were recruited randomly from those who were registered at the HIV-center. Data collection was conducted at visiting time to the subjects who gave written consent form.

**Materials and methods.** 1) an analysis of anamnestic information and medical records; 2) testing for specific anti-Bartonella antibodies; 3) ELISA and PCR testing for HBV, HCV, T.gondii and M.tuberculosis (chest X-ray, tuberculin test). The study didn't anticipate appointment of drugs or follow up on participants. Exclusion criteria: the subject didn't sign the form before data collection; didn't respond when asked; performed the diagnostic procedures partially. The statistical analysis and verification of the statistical significance were performed using Statsoft Statistica v10.0 and Pearson 2×2 criterion respectively. Statistical significance level is less than 0.05.

**Results.** 34.7% of subjects were Bartonella seropositive (significant spread among this population group). TB was diagnosed in 25.6%, Toxoplasmosis – 25.0%, HBV-infection – 16.5%, HCV-infection – 41.5%. The expected relationships between bartonellosis and toxoplasmosis ( $\chi^2=4.42$ ,  $p=0.04$ ) and between bartonellosis and HCV-infection ( $\chi^2=4.64$ ,  $p=0.03$ ) were determined, but no



reliable association with HBV-infection ( $\chi^2=2.84$ ,  $p=0.09$ ). There's higher percentage of IV-drug users in patients with bartonellosis (44.3 % and 25.2 %, respectively), and the link between bartonellosis and drug addiction ( $\chi^2= 6.66$ ,  $p= 0,01$ ).

We have established a connection between drug addiction and HCV- and HBV- infections ( $\chi^2= 38.02$ ,  $p<0.01$ ,  $\chi^2=11.5$ ,  $p<0.01$ , respectively). In addition, the use of IV-drugs increases the prevalence of some pathogens that aren't hematogenously spread, like M.tuberculosis ( $\chi^2= 18.78$ ,  $p< 0.01$ ). However, in our subjects, there are no reliable links between mycobacteriosis and bartonellosis infections ( $\chi^2= 2.56$ ,  $p= 0.11$ ), drugs addiction and toxoplasmosis ( $\chi^2= 0.14$ ,  $p= 0.71$ ). The calculation of chance ratios found that IDU increases the probability of bartonellosis (OR = 2.36, 95%, CI 1.22-4.55).

**Conclusion.** Bartonella spp. are ubiquitous and infection in HIV-positive individuals is of an ordinary nature. IDUs are the main subpopulation involved in the epidemic process and the risk category for bartonellosis.

Syrchina V., Perina A., Lysenko A.

***STRUCTURE OF MORBIDITY OF TUBERCULOSIS IN KHARKIV REGION AMONG  
HEALTH CARE WORKERS IN 2016***

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**Introduction.** Counteraction of tuberculosis epidemic in Ukraine requires the coordinated work of all medical personnel on all levels of medical care, both in phthisiological service, and in the general medical network. However, medical professionals often become vulnerable themselves.

The aim of the study: To estimate the structure of the morbidity of tuberculosis among medical professionals in the Kharkiv region in 2016 year.

**Materials and methods.** We used the materials of the reference book "The main indicators of the phthisiological service of the Kharkiv Region for 2016".

**Results.** 27 cases of tuberculosis among medical professionals were found in Kharkiv region during 2016, among them - 2 cases (7,4% - among of the phthisiological service' workers). Research by type of case showed that firstly diagnosed tuberculosis was detected in 25 workers, among them were: 4 doctors (16%), 10 patients from middle medical personnel (40%), 6 from junior (24%) and 5 others (20%). Among them, 1 middle (4%) and 1 junior (4%) medical professional worked in the phthisiological service. Relapse of tuberculosis (RTB) was observed only in 2 workers of a wide medical network: 1 - among professionals of the middle medical personnel and 1 - among other medical professionals.





**Conclusion.** At the evaluation of the morbidity of tuberculosis among medical professionals in Kharkiv region in 2016, we have identified predominance of the morbidity among middle and junior medical personnel than among doctors, which probably indicates a lower level of sanitary education in this contingent. We also found low percent of relapse of tuberculosis among medical personnel, which is probably associated with a more responsible attitude of medical workers to the treatment of tuberculosis and the prevention of its relapse.

Turuta D., Sushetskaia D.

***FAULTS OF HIV INFECTION IN THE PRE-HOSPITAL STAGE***

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**Introduction.** Despite the widespread availability of rapid methods for diagnostic, well- studied a multi-year picture of the disease, well enlightened epidemiological history and oftenly met contingent infected, diagnosis of human immunodeficiency virus anyway remains untimely, as a result it leads to high mortality. Aim : to study faults of HIV infection in the prehospital stage

**Materials and methods.** We have analyzed 14 HIV infection case histories, who were treated at the Regional Clinical Infectious Hospital in the year of 2017 – 2018. Depending on gender: men 10 (71,4%) , women - 4 (28,6%). Depending on the age the patients were distributed in the following way : from 20 – 30 years old – 5 patients, from 30 – 40 years old– 8 patients , more than 40 years old – 1 patient.

**Results.** We have found out from anamnesis that 60% of men and 40% of women were using injection drugs for more than 10 years.

During the admission of the patients at the Regional Clinical Infectious Hospital, we observed the main complaints : fever for more than a month, a significant loss of weight ,> 10 kg ,weakness, loss of appetite , headache.

We also found out that , before their admission to the hospital – at the pre-hospital stage - 2 patients had been treated psoriasis by a dermatologist for 10 years ,5 patients had been treated pneumonia and bronchitis from 2 to 3 years by therapist, the parasitologist had observed 2 patients with a diagnosis of toxoplasmosis, neurosurgeon ,rheumatologist and oncologist were surveyed in 3 patients ,2 patients were treated by a gynecologist the vaginal candidiasis .

The diagnoses of the institutions that were sent to the Regional Clinical Infectious Hospital were as follows : fever of an unknown origin – 4 patients, 5 patients with pneumonia and bronchitis, vaginal candidiasis – 2 patients, toxoplasmosis – 2 patients , psoriasis – 1.

In the result of examine the patients were exposed to the final diagnosis of HIV – infection, IV clinical stage. As an illustration we can show the following observation: In practical classes of infectious



diseases we were in charge of patient O., 39 years old ,who had been on treatment for a long time in a dermatological clinic with a diagnosis of common psoriasis, arthropathic form.

She was admitted in a serious condition of the ITU RCH , with the diagnose of Meningoencephalitis, brain swelling. After the consultation of infectious disease she was transferred to Regional Clinical Infectious Hospital, where the was the final diagnosis of HIV – infection, IV clinical stage was installed. Meningoencephalitis, brain swelling. The illness ended in death on the 6th day of hospital stay.

**Conclusion.** - almost none of the patients were not suspected HIV infection in the pre-hospital stage;  
- clinical and epidemiological data give reason to examine patients in hospital and ambulatory AIDS;  
- late diagnosis , untimely hospitalization of patients contributes to the progression of the disease and leads to death.

iSIC  
2018

# INTERNAL MEDICINE





Ali Aishath Suha, Edmondson Jamielle, Majd Haj Omar, Rushubiza Lilian Katunda  
***ANTIBIOTICS IN ITS EFFECTIVE IN MANAGING INFECTIVE ENDOCARDITIS  
DURING DENTAL PROCEDURES***

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**Introduction.** According to the American Heart Association (AHA), infective endocarditis (IE) remains associated with high mortality and severe complications. IE is a rare occurring but highly destructive disease. Studies found that people with poor dental health or who bleed during tooth brushing had a higher risk of developing bacteremia. Aim: To study the effectiveness of antibiotics in prophylaxis of infective endocarditis during invasive dental procedures.

**Materials and methods.** We have analyzed the most significant guidelines for prevention of infective endocarditis, using the PubMed database.

**Results.** With the publication of the AHA guidelines in 1955, antibiotics have been used for prophylaxis administration before dental procedures to prevent IE, caused by bacteremia. Related to the oral cavity, bacteraemia comprises primarily of viridans group streptococci (VGS). The principle of antibiotic prophylaxis for IE is aimed at preventing the attachment of bacteria to the endocardium after transient bacteremia after invasive procedures. In the past 10 years, the AHA, European Society of Cardiology (ESC), the UK's National Institute for Health and Care Excellence (NICE) and a consortium of French organisations have published their revised recommendation, that led to the restriction of antibiotic prophylaxis to the highest-risk patients, i.e those who have prosthetic valves, patients with a previous episode of infective endocarditis and patients with congenital heart disease (Taubert K.A, Wilson W., 2017). Thus, in recent years, there have been significant changes in the use of antibiotic prophylaxis for the prevention of IE in people with heart disease before the invasive dental procedure. Existing recommendations from Europe and the US recommend only antibiotic prophylaxis for people with the highest risk of endocarditis and/or the greatest risk of adverse outcomes from endocarditis.

**Conclusion.** Based on our research the weight of evidence and opinion is in favour of the efficiency and usefulness of antibiotic prophylaxis in preventing IE in patients of “high-risk”. In addition, antibiotics should be administered before invasive dental procedures to all patients at high-risk of IE.



*Amadhila PMN, Uutoni KM, Zlatkina V.*

## **RELATIONSHIP BETWEEN HORMONAL STATUS AND CARBOHYDRATE METABOLISM IN PATIENTS WITH OBESITY**

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**Introduction.** The main role in the development and progression of insulin resistance (IR) and its various manifestations in patients with obesity plays the adipose tissue that synthesizes adipokines, which has different local, peripheral and central effects.

**Materials and methods.** 79 patients were selected, 2 groups were created, the 1-st included patients with obesity (34 patients), the second consisted of patients with obesity and signs of IR (31 patients). The control group consisted of 14 healthy individuals of a representative age and gender as the main group. All patients were screened according to the protocol, which included the definition of insulin and glucose level, calculation of the HOMA index and vaspin.

**Results.** The study of carbohydrate metabolism in patients of groups 1 and 2 showed the following results: significantly different levels of glucose demonstrated differences in the comparison of patients in the first and second groups, in patients with the presence of IR, these levels were significantly higher ( $p < 0.05$ ). Insulin levels in serum onset were statistically different between patients in the second and first groups ( $p < 0.05$ ). Also, the presence of IR in the background of obesity has led to a significant increase in the HOMA-IR index in patients with the second group of patients in this study. Investigation of the adipose tissue hormone vaspin in serum showed a significant ( $p < 0.05$ ) difference between the patients in both groups, The highest levels were in patients with IR. Correlation between adipocytokine levels in the 2nd group with BMI ( $r = 0.40$ ;  $p < 0.05$ ), WC ( $r = 0.58$   $p < 0.05$ ), HOMA-IR- ( $r = 0.42$ ;  $p = 0.0001$ ). In patients with obesity, the level of vaspin correlated with the level of insulin ( $r = 0.70$ ,  $p < 0.05$ ). With combined pathology in patients, correlation were detected between the levels of vaspin and BMI values ( $r = 0.49$ ;  $p < 0.05$ ) and HOMA indices ( $r = 0.50$ ;  $p < 0.05$ ). Changes in the correlation of vaspin levels with IR can be due to the mass of visceral fat, the accumulation of which is a major risk factor for IR.

**Conclusion.** The research showed that in patients with the presence of obesity and IR to a greater extent ( $p < 0.05$ ), increased levels of vaspin and investigated carbohydrate metabolism parameters (glucose, insulin, HOMA index). The revealed differences in vaspin levels were correlated with signs of IR in the second study group ( $p < 0.05$ ), which may indicate a more rapid development of cardiovascular events in this category of patients.





*Borovyk K, Sultan N.*

## **THE RELATION BETWEEN GALECTIN-3 CONCENTRATION AND CORONARY ARTERY ATHEROSCLEROTIC LESIONS SEVERITY IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION AND ABDOMINAL OBESITY**

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L.T. Malaya

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*Research advisor: prof. Ryndina N.G.*

**Introduction.** Despite the improvement and progressive development of diagnostic and therapeutic approaches, ischemic heart disease (IHD) is one of the leading causes of morbidity and mortality worldwide. A number of traditional scales, such as the GRACE, TIMI scale, are currently used as objective non-invasive means for assessing the severity of coronary artery disease. Nowadays, engaging in routine practice of new parameters is considered as a promising direction of modern medicine. One of such parameters is galectin-3, which is involved in cell differentiation, fibrosis and immune-inflammation. The aim is to study the state of the coronary arteries in patients with acute myocardial infarction and concomitant obesity by angiography and an assessment of the presence and character of the relationship between atherosclerotic lesions of coronary arteries, calculated by Gensini score, and the concentration of galectin-3.

**Materials and methods.** The study involved 31 patients with acute myocardial infarction (AMI) and concomitant obesity at the age of  $58.42 \pm 3.27$  years who were treated in the infarction department of the Kharkiv City Clinical Hospital №27. This cohort of patients was performed angiography of the coronary arteries with the subsequent stenting of the infarction-dependent coronary artery within 12 hours from the onset of pain syndrome. The degree of severity of coronary atherosclerosis by angiography of the coronary arteries was determined using the Gensini scale. Galectin-3 was determined using the Human Galectin-3 ELISA Kit (China).

**Results.** The number of affected vessels ranged from 1 to 4. In 19 (61.3%) patients with AMI with concomitant obesity, according to angiographic examination, a combined arterial artery scarring was found. The most frequent combination of lesions in the right coronary artery (RCA), left anterior descending coronary artery (LAD) and circumflex artery (LCX) was observed in 8 cases (25.8%). The analysis of the frequency of major coronary artery lesions has shown that the most commonly occurring was atherosclerotic lesion of LAD - 89% of cases, RCA - 59,3%, about half of patients with AMI and obesity (48,1%) had a defeat of circumflex artery. The left main coronary artery was the least frequently affected in patients with AMI with concomitant obesity - 11%. Galectin-3 concentrations rising to 23.48 - 41.42 ng/ml in patients with AMI and obesity was associated with an increasing in the number of affected vessels with high Gensini scores. In patients with AMI and





obesity, a strong direct correlation was found between the concentration of galectin-3 and the Gensini scale ( $r=0.72$ ;  $p<0.05$ ), the number of affected vessels ( $r=0.69$ ;  $p<0.05$ ), the number of affected segments ( $r=0.71$ ;  $p<0.05$ ).

**Conclusion.** Thus, in patients with acute myocardial infarction and obesity, the increasing of serum levels of galectin-3 is accompanied by an increasing in the severity of atherosclerotic damage of coronary artery.

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**THE INFLUENCE OF ZOFENOPRIL IN COMBINATION WITH SPIRONOLACTONE ON THE MORPHO-FUNCTIONAL STATE OF THE MYOCARDIUM IN PATIENTS AFTER A MYOCARDIAL INFARCTION IN THE PRESENCE OF OBESITY**

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**Introduction.** Acute myocardial infarction (AMI) remains the leading cause of death from cardiovascular disease in the world. One of the risk factors for developing coronary heart disease (CHD) associated with the risk of AMI is obesity.

Aim – to study the effectiveness of treatment with ACE-inhibitors (zofenopril *vis* versa enalapril) in combination with spironolacton after a myocardial infarction in patients with low ejection fraction and obesity of the abdominal type on the parameters of the morphofunctional state of the myocardium.

**Materials and methods.** 51 patients with AMI and obesity of abdominal type were screened, which were divided into groups, depending on the therapeutic approaches. Patients who participated in the research signed an informed consent to participate in it. The exclusion criteria are patients with diabetes mellitus, cancer, patients with acute cerebrovascular disease, connective tissue diseases.

Patients who participated in the study performed an echocardiographic examination performed on Ultima PRO 30 (RADMIR, Ukraine). By the standard methods, in the B-mode, the end-systolic volume (ESV) of the LV, end-diastolic volume (EDV) of the LV and the FV were determined. Left atrium diameter (LA), End-diastolic diameter (EDD), end-systolic volume (EDV) diameter, thickness of posterior wall of LV (PWT) was measured in M-mode.

Statistical processing of the received data was carried out using the package of statistical programs "Microsoft Excel". The data is presented in the form of averages and average errors. The statistical significance of different averages was determined by the F-Fisher criterion. The analysis of interconnections was carried out using the Spirman correlation ( $r$ ).



To assess the therapeutic effect of standard therapy, patients with AMI and obesity were divided into 2 groups. 1st group received zofinopril (n=26), 2nd group - enalapril (n=25) in accordance with the ESC guidelines for STEMI (2017). All patients involved in the study were hospitalized with AMI, followed by ST segment elevation (STEMI). All patients received thrombolytic therapy as a reperfusion option using streptokinase 1.5 million IU. Patients with primary percutaneous intervention were not involved (exclusion criteria). The following up period lasts 6 months after AMI. Standard therapy includes a mineralocorticoid receptor antagonist, spironolactone (dose 25-50 mg/day), taking into account the fact that 100% of patients had systolic dysfunction (EF<40%).

**Results.** Patients with AMI and obesity who were included in group 1 showed a significant decrease in the volume of LA by 7.6% ( $p<0.05$ ), the levels of EDV were 19.3 ( $p<0.05$ ), ESV by 16.3% ( $p<0.05$ ). According to the EF parameter, which is reflecting contractile ability, significant differences were identified on the background of standard treatment with the use of zofenopril in the form of increasing of this parameter by 12.65% ( $p<0.05$ ). Indicators of the EDD, ESD did not reveal any peculiar differences ( $p<0.05$ ). Similar results were obtained by PWT parameters, which did not significantly differ in the dynamics of treatment of patients with AMI and obesity from baseline values ( $p<0.05$ ).

**Conclusion.** The use of the combination of zofinopril and compared with the combination of enalapril and spironolactone contributes to a more pronounced correction of changes in the morphofunctional parameters of the left ventricle with a decreasing left atrium and left ventricle volumes with a increasing the contractile capacity of the left ventricle myocardium by 12.65 % during 6 months after acute myocardial infarction despite the presence of abdominal type of obesity.

*Chirva A.*

## **DIFFICULTY OF OPTIMAL THERAPY SELECTION IN THE CASE OF POLYMORBID PATIENT**

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**Introduction.** In our time, when the pharmaceutical market is rich in a large number of drugs, the issue of adequate therapy for patients with a polymorbid condition is especially acute. The impossibility of stabilizing patients' condition makes doctors resort to polypharmacy, so our task is to understand the correct choice of medicines for patients with comorbid pathology on the example of a clinical case.

**Materials and methods.** The supervision was conducted and the history of the patient's illness, which is located on the in-patient treatment in the rheumatology department of the Kharkov Regional Clinical Hospital (RCH), was analyzed.



**Results.** A patient N. 59 y.o. was admitted on 12.02.18 at the RCH with complaints of constant pain, swelling and limitation of the volume of movements in the knee, ankle, hip joint, which aggravates when walking, on periodic headache associated with an increase in blood pressure. She considers herself ill since 2006, when she began to note the presence of pain in the ankle and knee joints, did not seek medical help, without doctor's prescription used ointment with nonsteroidal anti-inflammatory drugs (NSAID) with a positive effect. The deterioration is noted over the past three months using NSAID wasn't effective and patient was directed to the rheumatology department of the RCH. By objective examination: BMI 39.1. Limited active, moves lame. Geberden nodes are noted in the area of distal interphalangeal joints, significant deformations of the knee joints, palpation was painful, volume of movements was significantly limited. Visually, the ankle joints are not altered, their palpation was moderately painful, the volume of movements was moderately reduced. The following studies were carried out: X-ray of the hip joints (arthritis of the I stage), knee joints (stage II by Kellgren), ECG (left ventricular myocardial hypertrophy), ultrasound examination of the heart (tricuspid regurgitation, aortocardiosclerosis), biochemical blood tests (total cholesterol 6.75 mmol/l, blood glucose 8.2 mmol/l, HbA1c – 7.2%). The following diagnosis was made: Osteoarthritis of the knee joints (disturbance of joint function (DJF) II stage), ankle joints, hip joints, small joints of the wrist. DJF I stage. Arterial hypertension II deg., "Hypertensive" heart. IHD: diffuse cardiosclerosis, heart failure I deg. with preserved systolic function of the left ventricle. Dyslipidemia. Type 2 diabetes mellitus. Obesity 2nd-3rd stage, mixed genesis. The following treatment was prescribed: NSAIDs, structure-modifying medications, ACE inhibitors, Ca-channel blockers, statins, biguanides, PPI.

**Conclusion.** This clinical case showed that doctors have to consider the comorbidity exclusively as a whole, in order to select an adequate therapy, taking into account the interaction of drugs for the prevention and reduce the risk of disease complications.

*Feldman D.*

## **THERAPY FOR PATIENTS WITH TYPE 2 DIABETES AND DYSLIPIDEMIA**

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**Introduction.** According to the 3rd National Health and Nutrition Survey, 69% of patients with diabetes mellitus have violations of lipid metabolism (V.Stender 2016). The aim of the study. To study the efficacy of combination therapy of type 2 diabetes and dyslipidemia, which consists of exenatide, fibrates and statins.



**Materials and methods.** 120 patients with type 2 diabetes and dyslipidemia were examined. Patients were divided into 4 groups. Patients in the first group used metformin (1500 mg / day), diabetes MB (30-90 mg / day); patients of the second group - metformin (1500 mg / day), esenatide (10 mg / day); patients of the third group - metformin (1500 mg / day), exenatide (20 mg / day), tricolor (145 mg / day); Patients of the fourth group - metformin (1500 mg / day), esenatide (20 mg / day), tricolor (145 mg / day), simvastatin (20 mg / day). The average age of patients is  $63 \pm 1,2$  years. Clinical-instrumental and laboratory tests were performed for patients.

**Results.** After 3 months, the blood glucose level in the fasted state in the 1st group decreased by 9% from the initial one; in the 2nd group - by 12.7%; in the 3rd group - by 16.4%; in the 4th group - 14.3%. Glycosylated hemoglobin in group 1 decreased by 9.5% from the initial one; in the 2nd - by 9.7%; in the 3rd - by 16%; in the 4th - 15.1%. After 3 months of treatment in patients of all groups, the level of triglycerides (TG) was significantly lowered. Initially, in patients of the 1st group, TG was  $2.63 \pm 0.12$  mmol / L; 2nd group -  $2.74 \pm 0.21$  mmol / liter; 3rd group -  $2.42 \pm 0.31$  mmol / liter; 4th group -  $2.54 \pm 0.11$  mmol / liter. After 3 months, patients in the 1st group became  $2,12 \pm 0,2$  mmol / l; 2nd group -  $2.21 \pm 0.19$  mmol / liter; 3rd group -  $1.63 \pm 0.35$  mmol / l; 4th group -  $1.38 \pm 0.11$  mmol / liter;  $p = 0.04$ . Total cholesterol (CH) decreased effectively only in the 3rd and 4th groups (in the 3rd group, the initial level of cholesterol was  $5.92 \pm 0.23$  mmol / L, in the 4th -  $6.21 \pm 0.32$  mmol / l after 3 months in the 3rd group, the level of cholesterol was  $5.21 \pm 0.19$  mmol / l, in the 4th group -  $4.45 \pm 0.24$  mmol / l,  $p = 0.04$ ). More pronounced changes in the lipid profile of the blood were noted in the 4th group. Cholesterol decreased by 28.3%; Low density lipoproteins - by 48.3%; TG - by 45.7%; coefficient of atherogeny - by 57,2%; the high density lipoprotein increased by 26.8%;  $p < 0.001$ . The number of patients who achieved the target lipid metabolism indices was as follows: in the 1st group - 3.2%; in the 2nd group - 6.3% in the 3rd group - 37.5%; in the 4th group - 93.1%.

**Conclusion.** Thus, the most pronounced lipid metabolism changes in patients with type 2 diabetes and dyslipidemia were observed with the use of tricolor and sitvastatin in combination with exenatide and metformin.



Henry E.K. Davis, Yermak O., Borovyk K.

## THE FREQUENCY OF THE CORONARY ARTERIES DAMAGE IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION AND CONCOMITANT OBESITY

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**Research advisor: prof. Ryndina N.G.**

**Introduction.** Ischemic heart disease is one of the leading causes of morbidity and mortality worldwide. Obesity is a traditional risk factor of ischemic heart disease.

The aim is to study the frequency of the coronary arteries damage in patients with acute myocardial infarction (AMI) and concomitant obesity by angiography.

**Materials and methods.** The study involved 31 patients with AMI and concomitant obesity at the age of  $58.42 \pm 3.27$  years who were treated in the infarction department of the Kharkiv City Clinical Hospital №27. This cohort of patients was performed angiography of the coronary arteries with the subsequent stenting of the infarction-dependent coronary artery within 12 hours from the onset of pain syndrome. The diagnosis of AMI was established on the basis of clinical laboratory, instrumental studies using the criteria recommended by the European Society of Cardiologists in 2017 for STEMI. The presence of obesity was established according to the WHO classification, 1997 under the body mass index  $> 30 \text{ kg/m}^2$ , which was determined by the formula: body weight/high (m<sup>2</sup>). All patients had obesity of the abdominal type.

**Results.** Obtained data on infarction-dependent coronary arteries in patients with AMI and concomitant obesity showed that the development of the majority of AMI, namely 57.1%, was due to the occlusion of left anterior descending coronary artery. Among the major arteries, right coronary artery and circumflex coronary artery with fewer cases of left main coronary artery were less often infarction-dependent.

In the analysis of the localization of the defeat of the infarction-dependent coronary arteries, it was found that the most frequent occlusion is located in the proximal and middle parts of the arteries (60.7 and 25% respectively), the less involved in the pathological process were distal parts - 14.3% of cases.

**Conclusion.** In most cases, the vascular accident occurred in left anterior descending coronary artery and right coronary artery (57.1 and 28.6% respectively). In patients with AMI in the context of concomitant abdominal obesity, the overwhelming number of occlusions (60.7%) was found in the proximal segments of the arteries.



Hesham Ahmed

## THE USE OF INJECTION CHONDROPROTECTORS IN THE TREATMENT OF OSTEOARTHRITIS

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*Research advisor: ass.prof. Fyodorov V. A.*

**Introduction.** The purpose of the study was to determine the effectiveness of the injection chondroprotector Alflutop in patients with osteoarthritis.

**Materials and methods.** Under the supervision was 56 patients with polyosteoarthritis. Alflutop was included in all the patients in the complex of therapy. The drug was used according to the scheme: according to a slightly modified scheme, 1 ml. intra-articularly through day number 5, and then - daily intramuscular injection of the drug for 3 weeks.

**Results.** After the end of treatment, the number of painful joints was reduced to  $11.35 \pm 0.6$ , a decrease of the number of swollen joints to  $0.25 \pm 0.3$ . It was also stated that the patient's pain assessment for 100 mm. by VAS has considerably decreased and has made  $22.3 \pm 15.6$  by the moment of the termination of a course of treatment in a hospital. By the 12th week after the start of treatment, the pain score for VAS decreased on average to 56% compared with the baseline and a greater increase in the function of almost all joints 12 weeks after the start of the treatment. There were no adverse reactions to the drug intake. According to the data of biochemical studies of blood serum (alkaline phosphatase, seromucoids and sialic acids) positive dynamics was noted. In addition, in the control X-ray examination at 6 months in patients receiving alflutop, there was no evidence of an X-ray progression of the narrowing of the joint gap, which was regarded as an important positive point, since in patients who did not take this drug, in 25% of cases there was an increase in narrowing articular gap of 1-2 mm.

**Conclusion.** Alflutop, being a chondroprotector, has a structural and modifying effect on the structure of damaged cartilage, proved in practice its positive effect and can be widely used in the treatment of osteoarthritis without adversely affecting other organs and systems. The positive action of alflutop was noted already to 2-3 v / joint injection, which significantly outstrips this effect in the appointment of other chondroprotectors. In addition, in comparison with other chondroprotectors, the cost of alflutop is lower and remains available for the main category of patients.





*Hryhorova M., Sokol A., Yurkina I., Shelest B.A.*

## **THE ROLE OF CLIMACTERIC CARDIOPATHY IN PROGNOSIS OF CORONARY HEART DISEASES**

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**Introduction.** Climacteric cardiopathy is a diagnosis for 16% of women during the menopause. The climacteric period is most often clinically manifested behind 2-3 or more years before the disappearance of menstruation and lasts for 4-5 years or more after its termination. To date, link between hormonal disorders during menopause and the nature of myocardiopathy have not been adequately studied, and the mechanisms responsible for the disturbance of the heart rhythm have been studied very poorly.

**Materials and methods.** We have analyzed 49 women at the age of 43-57 years, the control group consisted of 20 women at the age of 35-41 years. 17 out of 49 women, have had menopausal complaints - "hot flashes", increased irritability, sleep disturbance, unstable blood pressure, paroxysms, tachycardia, irregular menstruation. 13 women, at the age of 53-57 years, have had their menstruation stopped, but the all the listed above complaints have persisted.

**Results.** In the control group, the level of progesterone and estradiol in blood was correspondingly  $(0.617 \pm 0.041)$  ng / ml and  $(41.73 \pm 3.01)$  ng / ml. Women who were suffering from climacteric cardiopathy, even before the termination of menstruation, levels of progesterone and estradiol in blood have significantly decreased  $(0.511 \pm 0.037)$  ng / ml and  $(33.42 \pm 3.38)$  ng / ml, respectively.

**Conclusion.** So, women's dyshormonal disorders in women, namely, the decrease of the level of progesterone and estradiol in blood is the main cause of climacteric cardiopathy. Change in the physiological level of genital hormones leads to the development of dysmetabolic changes of the myocardium, creates conditions for the development of coronary heart disease and as a consequence of these changes - rhythm disturbance.

*Iliukha S.*

## **THE ROLE OF ALLERGEN SENSITIZATION IN THE PROGRESSION OF OBESITY AND HYPERGLYCEMIA IN ASTHMATIC PATIENTS**

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*Research advisor: ass. Yeryomenko G.V.*

**Introduction.** The prevalence of allergies has been rising for the last time. Genes, hygiene, interplay of environmental factors along with obesity, are some of the most studied causes to be attributed to allergy. According to some studies, especially in past decades, there is an increase in obesity among individuals; not only in industrialized countries but in developing ones as well. Also there is a link



between obesity and allergy, based on other epidemiologic surveys, pointing out increased risk of asthma and atopy among obese subjects. Our aim was to assess the relations between obesity and allergic sensitization in patients with asthma.

**Materials and methods.** 23 patients with uncontrolled asthma, hyperglycemia and obesity. The patients were divided into 2 groups, with android and gynoid obesity types, according to anthropometric data. Laboratory and instrumental investigations were performed: HbA1c %, glucose, HOMA-IR (Homeostatic Model Assessment of Insulin Resistance), FVC, FEV1, the level of total (IgE) and specific (sIgE to Ara h9, Gly m 4, Tri a 19) by technique ImmunoCap (Fadia). Body mass index (BMI) and waist-to- hip ratio (WHR) were measured in all patients. Also, the control level of asthma symptoms was considered using questionnaires ACQ-5.

**Results.** It was shown patients with android type of obesity were older and had longer duration of a disease versus the patients with gynoid type of obesity. HbA1c and HOMA-IR index reliably increased in patients with android type of obesity. Assessment of pulmonary function has shown that FEV1 %, FVC % in these groups were different as well. Among the patients with android type of obesity FEV1 and FVC parameters were reliably lower in comparison with patients with gynoid type of obesity. Only 3 patients didn't have sensitization to food allergens whereas 20 of them were sensitized to 1 or more food allergens. These indicators were distributed as follows: from 9 – Ara h 9 averaged  $0.03 \pm 0.01$  kUA/l, at 6 Gly m 4 –  $0.04 \pm 0.02$  kUA/l; 10 patients Tri a 19 –  $10.4 \pm 2.1$  kUA/l. Reference level  $<0.1$ . Positive correlations among the group of patients examined between the level of hyperglycemia and the level of sensitization to food allergens ( $r=0,72$ ;  $p<0,05$ ), BMI ( $r=0,32$ ;  $p<0,05$ ), and negative correlation with FEV1 were found ( $r=-0,42$ ;  $p<0,05$ ).

**Conclusion.** The problem of insulin resistance in patients with obesity has an impact on level of sensitization to food allergens. So, we need further study to understand its pathogenesis, to optimize diagnostics and treatment. The influence of food allergy on disease progression is evident, however, for making detailed conclusions it is important to implement programmes of screening to food allergy this group of patients.



Karamian A.

# THE METHOD OF CAROTID-FEMORAL PULSE WAVE VELOCITY MEASUREMENT AND ITS MEANING IN THE PREDICTION ATHEROSCLEROTIC LESIONS OF CORONARY VESSELS DEPEND ON THE PRESENCE DIABETES MELLITUS

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**Introduction.** Arterial stiffness as an integral indicator of cardiovascular risk in cardiovascular events and cardiovascular prevention strategies and reducing cardiovascular mortality. The way to identify increased local and regional arterial stiffness is determining carotid-femoral pulse wave velocity (cfPWV), but there are not equipment for its measurement in Ukraine. The purpose of research – to develop a method for determining cfPWV by rheography and conduct its clinical approbation with the evaluation of the reproducibility of the method and its comparison with the ultrasound dopplerographic method for evaluating cfPWV and to assess cfPWV in patients with coronary artery disease (CAD), depending on the presence of diabetes mellitus type 2 (T2DM) and character of coronary arteries lesions and its value in predicting the presence and the severity of the atherosclerotic lesions of the coronary vessels.

**Materials and methods.** 51 patients with CAD, mean age of  $59.6 \pm 9.11$  years were examined. Depending on the presence of T2DM patients with CAD were divided into 2 groups: 1st group (n = 30) - patients with concomitant T2DM, 2nd group (n = 11) - patients with CAD without T2DM. All patients were performed coronary angiography to verify the diagnosis of CAD. Also were assessed cfPWV in all patients. We developed a method for determining cfPWV by rheography using "ReoCom", which was compared with the ultrasonic measurement technique of cfPWV measurement. The control group consisted of 20 healthy volunteers of corresponding gender and age.

**Results.** In our study, there was a strong correlation between the values of cfPWV obtained with rheography and ultrasonic measurement ( $R=0.99$ ,  $p<0.0001$ ). The coefficient of variation for intraoperative evaluation of cfPWV was 4.28%, with interoperative assessment - 5.31%, which is acceptable in well-reproduced medical-biological measurements and indicates the homogeneity of the obtained data. The study found that patients with CAD both with concomitant T2DM, and no values had increased levels of cfPWV significantly compared to the control group and the group of comparison ( $p<0.05$ ). In patients with diffuse lesions of coronary arteries with CAD patients with both T2DM, and without cfPWV values were significantly higher than in patients without diffuse coronary artery lesions ( $p<0.05$ ). Prognostic significance of determining the value of cfPWV with predict the presence of diffuse coronary artery disease was set for the value cfPWV more than 11.4



m/s, the sensitivity and specificity of the method constitute 86.0% and 73.3%, respectively, the area under the ROC curve (AUC) -  $0.853 \pm 0.0319$  (95% confidence interval: 0.787-0.906;  $p < 0.0001$ ).

**Conclusion.** A rheography using a four-channel reograph can measure cfPWV with high sensitivity and specificity, acceptable by intraoperative and interoperability reproducibility, as well as high consistency of measurement results with ultrasound. Determination cfPWV is important both in predicting the presence of diffuse coronary lesions.

*Khromei O.*

## **INTERRELATION OF CARDIOVASCULAR PATHOLOGY WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE**

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**Introduction.** For a long time the vascular heart pathology and COPD were considered antagonistic sickness, because there was data that under the influence of prolonged hypoxia the amount of triglycerides, decline cholesterol amount in the body and the activity of the anticoagulant system of blood raised. In conformity with new facts, it is detected that IHD is related with COPD from 1 to 28% of the persons who were examined. Also it was proved that in persons with COPD and concomitant vascular heart pathology, the chance of death increases 4-5 times. Purpose: To explore the prevalence of occurrence of a conjunction of ischemic heart disease together with chronic obstructive pulmonary disease.

**Materials and methods.** 50 case histories of patients with COPD delivered to the department of Internal Medicine of the city clinical hospital N27 were selected for learning, and the presence of a concomitant malady, namely vascular pathology of the heart, was studied. Clinical diagnostic, statistical ways were used.

**Results.** IHD was initially diagnosed in 7 out of the 50 patients on therapy, 3 persons had a antecedent established diagnostic of vascular heart pathology. All persons with established IHD had definite variations in the electrocardiogram (ST segment dislocation and T wave inversion). 9 persons had certain complaints about periodic pain in the chest. 7 patients had an acute pain in the heart after physical exertions. It was also discovered that chronic vascular pathology of the heart is one of the most general companion with chronic obstructive ailment along with arterial hypertension and diabetes mellitus. It impugns the previously formed opinion about the antagonism of IHD and COPD.

**Conclusion.** It was distinguish that 21% of persons with COPD were diagnosed with IHD. And 85% of them have complaints typical for vascular heart pathology. The obtained data show the need for



further study of the interaction of these pathologies with each other. The data of many studies approve that this two pathological conditions aggravate the course of each other, and not conversely.

*Knyhin M., Artsylenko K.*

## **STUDY OF FACTORS INFLUENCING THE FORMATION OF THROAT CANCER**

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**Introduction.** The majority of patients with laryngeal cancer go to medical institutions in the terminal stage of the disease. Because of this, there was a need to actively study the influence of various moments in the formation of malignant neoplasms of the larynx. In consequence, knowledge of the factors will allow to detect this pathology at an earlier stage, to carry out prevention and to start treatment, which will lead to a more favorable outcome than in the late stages of the disease.

**Materials and methods.** Retrospectively analyzed 30 case histories of the otorhinolaryngological department, of which 32 men (90%) and 8 women (10%) aged 35 to 65 with the diagnosis of laryngeal cancer.

**Results.** As a result of the analysis, it was noted that this disease is more often present in men over the age of 40 years. 80% of respondents (24 people) are smokers with more than 15 years of experience and intensity of more than 10 cigarettes a day. 15 people quit smoking after a diagnosis. In the study of occupational hazards, it turned out that 43.3% (13 people) often come into contact with diesel gas engines (truckers, tractor drivers). A significant number of people were locksmiths (23.3%, 7 people), welders (13.3%, 4 people), construction workers (10%, 3 people) who had frequent contact with carcinogenic metals (chrome, nickel), mineral oils, asbestos. Three of the patients (10%) had early detection of laryngeal papillomatosis, in their case this was the trigger mechanism in the development of laryngeal tumors. Also, the factors affecting the development of laryngeal cancer really include frequent tonsillitis, laryngitis. In 8 patients, laryngeal cancer was formed after these diseases, but the factors that were described earlier also took place in these patients. Analyzing scientific and various literature sources, it was found that gastroesophageal reflux disease (GERD) can also relate to a number of the above-mentioned moments that contribute to the development of the appearance of malignant neoplasms, but unfortunately in our study, patients with such a factor could not be identified.

**Conclusion.** Analyzing the study materials it is permissible to conclude that the factors that contribute to the formation of malignant laryngeal formations are: smoking (89%), male gender (97.2%), age over 47, occupational hazard (73.6%), chronic laryngitis and papillomatosis larynx (10%).



Kolganova N., Lesnay A.

## **FACTION PHOTO-TERMOLYSIS – MODERN METHOD OF CORRECTION OF INSTITUTIONAL CHANGE CHANGES**

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**Introduction.** With age the structure of the skin changes: wrinkles, pigment spots, vascular spots appear, its surface becomes less uniform, heterogeneous, pores expand, color changes. Today, fractional photothermolysis (FF) is considered as one of the most advanced means of rejuvenation and treatment of cicatricial changes in the skin.

**Materials and methods.** Bibliographic, semantic methods.

**Results.** Dermatology offers a wide arsenal of methods for correction of involutinal changes in the skin: peeling, mesotherapy, biorevitalization (intradermal administration of unstable hyaluronic acid preparations), contour plastic (injections of stabilized hyaluronic acid preparations), botulinum therapy (injections of botulinum neurotoxin type A preparations) [M. Wanner, E. Tanzi, T. Alster, 2015]. In 2003, M. Huzaira first proposed using the FF method for the treatment of skin damaged by ultraviolet radiation. FF is a fundamentally new method of laser grinding, in which numerous heat damage zones, microthermal treatment zones (MTZ) of controlled width, depth and density are created in the skin. Principles of FF are implemented in an erbium laser with a wavelength of 1500 nm and a wide range of pulse frequencies depending on the solvable problem (from 6 to 30 mJ). The density of MTZ in the region of influence varies from 250 to 2000 per cm<sup>2</sup> depending on the number of laser passes. The diameter of the damage is 70-100 microns, the depth is 400-800 microns. It has been proved that the tissue surrounding MRC has an increased recovery potential, since it involves activation of fibroblasts, which leads to an enhanced synthesis of structural components of the dermis — collagen and elastin [J.C. Bernengo, J. Rigal, P. Agache, P. Humbert, 2014]. Z. Rahman, M. Bogle (2013) note the improvement of the elastic properties of the skin, the absence of a negative effect of the laser on the parameters of moisture, decrease the depth of periorbital and perioral wrinkles, reduce hyperpigmentation and improve the uniformity of the skin texture. Frequency and severity of side effects when using FF is reduced because there is no damage to the epithelium. According to D.S. Behroozan and L.H. Goldberg (2016) side effects of FF in skin treatment include erythema (100%), dry skin (87%), swelling (82%), skin peeling (60%), surface scratches (47%), itching (37%) and «bronze» skin color (27%), these effects are fast passing.

**Conclusion.** Using the FF method to correct aesthetic defects and age-related skin changes can reduce the size of enlarged pores, the severity of atrophic scars, manifestations of hyperpigmentation (solar and aging lentigo), improve turgor and skin color. FF allows you to get a pronounced positive result with a minimum number of temporary complications.





*Koliubaieva O.*

## **THE CLINICAL CASE OF INFECTIVE ENDOCARDITIS IN INTRAVENOUS DRUG USER**

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*Research advisor: ass. Kulikova M.V.*

**Introduction.** The incidence of infective endocarditis (IE) among intravenous drug users (IDUs) is 5-10% per year, which is significantly higher than the incidence in general population. IE develops in the right heart chambers in 75-80% of cases in IDUs, compared with 9% in nonaddicts, and tricuspid valve is affected in 40-70% of cases. The course of the disease has atypical manifestations, so untimely diagnosis and treatment of IE often leads to the development of multi-organ failure. The young age of patients and high mortality (40-60%) make the problem of IE in IDUs not only medical, but also social issue.

**Materials and methods.** A clinical examination of patient was performed and his medical history was analyzed. Patient was hospitalized to the Department of Cardiology of Kharkiv Regional Clinical Hospital.

**Results.** Patient A., 29 years old, was diagnosed with “Infective endocarditis of tricuspid valve, active phase. Insufficiency of tricuspid valve, 2nd degree, heart failure II B, preserved ejection fraction. Pulmonary hypertension. Hypochromic anemia. Community-acquired pneumonia, peak period, III clinical group. Pulmonary failure of I-II degree”. Patient reported intravenous use of opiates over previous four years. Tests for HIV, HBV, HCV were negative. Patient complained on cough with scant sputum, pain under the left scapula, headache, weakness. Further research demonstrated development of the signs of heart failure; echocardiography showed vegetations on the tricuspid valve, which is the evident sign of IE. The main mechanism of pathogenesis of the right heart endocarditis in IDUs is not fully understood, however the following theories exist: damage of the valve’s endothelium by the particles of the drug; pulmonary hypertension and increased turbulence of the heart rhythm caused by drug use; increased expression of molecules that can bind microorganisms in the right heart. According to the results of microbiological analysis of sputum, the causative agents of IE were *Streptococcus viridans* and *Candida albicans*. To eliminate them, antibiotics of the aminoglycosides group and tricyclic glycopeptides were used, and an antifungal agent from the triazoles group was used as well. In addition, a course of treatment of heart failure was initiated in accordance with the protocol. After the course of conservative therapy, the patient underwent plastic surgery of the tricuspid valve at the National Institute of Cardiovascular Surgery named after N. Amosov.

**Conclusion.** IE in IDUs has the following features: acute course, primary lesion of right heart chambers and tricuspid valve, atypical clinical presentation, development of septic thromboembolism



with the formation of infarct-pneumonia. Combined specific antibiotic therapy, drugs for correction of heart failure should be used for treatment, but surgical operation remains the main method of treatment of IE in IDUs.

*Kolotilov O., Tyrkin D., Sikalo Yu.*

## **EVALUATING OF TNF- $\alpha$ BLOCKER THERAPY ADHERENCE IN PATIENTS WITH PSORIATIC ARTHRITIS AND PSORIASIS**

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**Research advisor: prof. Zhuravlyova L.V.**

**Introduction.** Aim: Evaluating of efficiency and adherence of therapy with TNF- $\alpha$  blocker infliximab in patients with psoriatic arthritis (PsA) and psoriasis (Ps).

**Materials and methods.** Retrospective analysis of case history of 10 patients with PsA and Ps from Kharkiv region, who took the TNF- $\alpha$  blocker infliximab from 2013 till 2017 as a start-biological therapy. The average age of patients was  $52.3 \pm 7.3$  years, the amount of men and women is equal. The efficiency of therapy was approved in case of achievement of clinical and laboratory remission. The long-term efficiency and adherence factors of treatment were evaluated with regression analysis and Kaplan-Meier estimate.

**Results.** It was estimated that after 6, 12, and 24 months after the beginning of treatment with infliximab 80%, 70% and 70% of patients have remained on biological therapy accordingly. Among the causes of stopping of admission the development of serious side-effects and absence of desired effect were equally noted. All patients who stopping to continue the admission of infliximab were females with concomitant impaired glucose tolerance and arterial hypertension ( $p = 0.01$ ).

**Conclusion.** Summarize, high adherence of TNF- $\alpha$  blocker infliximab therapy among the patients with PsA and Ps is observed. Female sex, carbohydrate metabolism impairment and concomitant arterial hypertension are factors of low efficiency and adherence of biotherapy for this category of patients.



Kovaleva A., Yatsina A.

## THE RELATIONSHIP BETWEEN VITAMIN D DEFICIENCY AND REDUCED FUNCTION OF THE THYROID GLAND

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**Introduction.** The hypothyroidism nowadays is known as the important issue of endocrinology. This disease is associated with a deficiency of vitamin D that plays an important role in the scenario of the hypothyroidism. The aim of the study was to determine the relationship between vitamin D deficiency and reduced thyroid function.

**Materials and methods.** The main group included 40 patients aged 30-45 years with primary hypothyroidism (17 males and 23 female persons). The study population was investigated in the endocrinological department of the Regional Clinical Hospital of Kharkiv. The group of comparison include of 20 healthy patients with the similar gender and age distribution. The blood serum level of vitamin D-25(OH)D using the electrochemiluminescent method, the level of thyroid-stimulating hormone (TTG), free triiodothyronine (T3) and free thyroxine (T4) were investigated. The results were processed by parametric statistical methods (mean-M, error-m) with the application of statistics software package Excel adapted for biomedical research. The significance was set at  $p < 0.05$ .

**Results.** The serum concentration of 25(OH)D in the blood serum in patients with hypothyroidism was  $20.6 \pm 1.1$  nmol/l. Same variable in the control group was  $27.2 \pm 1.2$  nmol/L ( $p < 0.05$ ). The serum TSH level in patients with hypothyroidism was  $8.27 \pm 1.72$  mIU/ml comparatively to the control group ( $2.15 \pm 0.41$  mIU/ml) ( $p < 0.05$ ). The level of T3 in patients with hypothyroidism was  $1.07 \pm 0.09$  pg/ml and in the control group this parameter was  $2.95 \pm 0.37$  pg/ml ( $p < 0.05$ ). The level of T4 in patients with hypothyroidism was  $0.63 \pm 0.26$  ng/dl and in control  $1.68 \pm 0.21$  ng/dL ( $p < 0.05$ ). The disturbed intestinal absorption could be speculated as a reason for the reduced vitamin D blood serum level in patients with hypothyroidism. Since vitamin D is known to have an evident impact on the immune response and participates in the development of autoimmune diseases its deficiency could lead to hypothyroidism.

**Conclusion.** Vitamin D deficiency was determined in patients with disturbed thyroid function. The reversed relation between the level of vitamin D and thyroid-stimulating hormone was found. These data captured the possible relationship between vitamin D deficiency and hypothyroidism.



Kovalyova K.

## **NEPHROPROTECTIVE AND HYPOLIPIDEMIC EFFECTS OF ESPA-LIPON IN PATIENTS WITH DIABETIC NEPHROPATHY**

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L.T. Malaya

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**Introduction.** An enormous hazard for patients with diabetes mellitus (DM) is diabetic nephropathy (DN), which is the main cause of disability and mortality among those patients.

**Materials and methods.** We examined patients with type 1 DM complicated with DN stage 3 (Mogensen classification). Patients were divided into 2 groups: group A that received the standard therapy and group B that received the standard therapy and in addition Espa-Lipon daily during 20 days.

**Results.** Patients of group A achieved the correction of systolic blood pressure (SBP) and heart rate (HR) in the daytime, but these indexes were still elevated in the night-time. The pathological circadian rhythms of blood pressure non-dipper and night-peacer still remained. The level of microalbuminuria (MAU) and glomerular filtration rate (GFR) decreased, but did not reach the control values. The use of Espa-Lipon allows to adjust SBP and HR in the daytime and in the night-time; this medicament also provides optimal circadian rhythm "dipper", which indicates the elimination of excessive hemodynamic load. After the therapy, the levels of cholesterol, low-density lipoproteins and triglycerides decreased to the control values, and the level of high-density lipoproteins increased in patients of group B. The level of MAU decreased to the control values in patients of group B. The GFR remained elevated in patients of group A and decreased in patients of group B, which may be the result of a reduction of hemodynamic load on the kidneys and the achievement of a great compensation of carbohydrate metabolism. Espa-lipon increased the activity of antioxidant properties of catalase and ceruloplasmin, and the signs of coagulopathy also were eliminated.

**Conclusion.** Espa-lipon has a nephroprotective effect - it provides the reduction of the level of MAU and GFR; it reduces the aggressiveness of other nephrotoxic factors such as hyperdyslipidemia.



Kukhar I.

## THE RISK OF DEVELOPING GASTRITIS AMONG STUDENTS OF THE KHARKIV NATIONAL MEDICAL UNIVERSITY

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*Research advisor: ass. Dzhamyev V.Yu.*

**Introduction.** To date, the current problem is diseases of the gastrointestinal tract. Diseases are often occur due to non-compliance of the basic rules of a healthy lifestyle, that leads to a deterioration of the health status. This is especially among young people.

In this regard, the purpose of my work was to study the lifestyle and health indicators of young people to identify the risks of stomach diseases.

**Materials and methods.** The research methods were questioning and statistical analysis of questionnaires. We have worked out a questionnaire that contains questions about the health status and lifestyle of students. Answers to the questions of the special section on the lifestyle were evaluated in points from 0 to 2. The probability of getting sick with gastritis for people was estimated on the sum of points scored: 0-6 points - low probability and absence of concomitant diseases; 7-10 points - average probability; 10-15 points - high probability and the presence of concomitant diseases. The survey was conducted among the first year students of the Kharkiv National Medical University. 82 women and 18 men at the age from 17 to 21 were interviewed.

**Results.** Research has shown that 6.1% of women and 5.5% of men have a medical diagnosis of gastritis, but only 20% of them follow the recommendations of the doctor, 20% believe erroneously that they adhere to it, while the others do not fulfill recommendations upon absence of symptoms.

A high risk of gastritis was found in 4.9% of women and 5.5% of man. A quarter of them have concomitant diseases, what confirms the high probability of gastritis. 20% of ill people have close relatives with a diagnosis of gastritis, so the high probability of gastritis risk may be due to hereditary predisposition. Health status of 40% of ones is likely to be caused by the way of their lives. Among the interviewed women, 73.2% are practically healthy and 13.4% have a high risk of gastritis. Among the interviewed men, these figures are 72.2% and 16.6%, respectively. However, among healthy people, 10% of women and 23% of men have a high risk of disease, 30% of women and 46% of men have a median risk and 60% of women and 31% of men have a low risk of.

**Conclusion.** Thus, studies have shown that about 25% of young people have a high probability of developing a stomach disease, but only a fifth part of them have a confirmed medical diagnosis. A few of patients follows the doctor's instructions, and also feeds properly. Most of the respondents have a tendency to inflammatory diseases of the stomach due to hereditary predisposition and the harmful habits. Men and women have a similar incidence rate, but the risk for men to get sick is significantly higher due to more harmful habits.



*Kuznetsova D., Agamiryan L.*

## **CYTOKINE ROLE IN ASSESSMENT OF MUCOSE MEMBRANE OF GASTRIC ANTRAL CONDITION IN CASE OF EROSIIVE DAMAGE**

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**Introduction.** Nowadays erosive damages of mucosal membrane of gastroduodenal zone are rather frequent. Moreover, anabrosis is inclined to backset, development of such complications as bleeding, transformation into polyps and stomach cancer. That's why the increasing of diagnosing of erosive damages makes learning of this problem actual. Aim: Finding out of peculiarities of cytokine component of immune system which patients with anabrosis of gastric antral have got.

**Materials and methods.** In the process of investigation 82 patients aged 48-52 with erosive damage of mucosal membrane of gastric antral were examined as to cytokine level of serum, including level of interleukins (IL): IL-4, IL-6, L-8 and TNF- $\alpha$  by enzyme immunoassay method with the help of test system produced by Ltd. "Vector-Best" (Novosybirsk). Anabrosis was diagnosed by esophagogastroduodenoscopy. The tested group consisted of 25 people aged 45-47. Statistic processing of the results was made by variation statistics methods with the use of SPSS 13.0 programme for Windows.

**Results.** During endoscopic investigation 56% of patients were diagnosed acute anabroses (AA), 32% - chronic anabroses (CA) and 12% of patients – anabroses of mixed types (AMT). The strongest imbalance in cytokine component of regulation was found out in cases of AMT, when maximum concentration of pro-inflammatory cytokines was observed: in comparisong with the tested group the level of TNF- $\alpha$  increased in 20 times ( $p=0,001$ ), IL-6 – in 3,8 times ( $p=0,001$ ), IL-8 – in 2,4 times ( $p=0,01$ ). Concentration of IL-4 was decreased in 1,5 times ( $p=0,01$ ). Also the association between quantity of erosive damages and IL-6 level ( $r=0,70$ ;  $p=0,001$ ), IL-8 level ( $r=0,66$ ;  $p=0,001$ ), TNF- $\alpha$  ( $r=0,63$ ;  $p=0,001$ ) and depression of IL-4 ( $r= 0,34$ ;  $p=0,001$ ) was found out. Chronic anabroses, on the contrary, was followed by the least expression of pro-inflammatory cytokines. It might be connected with least expression of inflammatory reaction, following CA only in 46% of cases. In addition, IL-4 level was not changed a lot in case of CA. In cases of acute anabroses quantity of erosive damages was increasing with arising IL-6 in 1,8 times ( $p<0,01$ ), ( $r=0,38$ ;  $p=0,001$ ), IL-8 in 1,4 times ( $p<0,001$ ), ( $r=0,40$ ;  $p=0,001$ ), TNF- $\alpha$  – in 8 times ( $p<0,001$ ), ( $r=0,47$ ;  $p=0,001$ ). While IL-6 and TNF-  $\alpha$  expression was enchancing the severity of inflammatory changes of mucosal membrane was increasing as well ( $r=0,37$ ;  $p=0,02$  ta  $r=0,48$ ;  $p=0,001$ , relevantly). Only in a quarter of cases the decreasing of IL-4 level in 1,4 times ( $p<0,01$ ) was observed. However, inverse





correlation dependence between IL-4 and IL-6 ( $r = -0,47$ ;  $p = 0,001$ ), IL-8 ( $r = -0,50$ ;  $p = 0,001$ ) and TNF- $\alpha$  ( $r = -0,46$ ;  $p = 0,001$ ) was an evidence of low intensity of anti-inflammatory action of IL-4.

**Conclusion.** The results which were obtained during the investigation are promising for using in working out of medical-preventive activities.

*Likha V., Dontsova E.*

## **THE CLINICAL CASE OF THE MYOCARDIAL INFARCTION IN YOUNG WOMAN**

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**Introduction.** Myocardial infarction (MI) is the extreme degree of coronary heart disease (CHD), which is characterized by the presence of a section of myocardial necrosis, through complete or relative insufficiency of blood supply in this area. In the general structure of mortality, cardiovascular diseases in Ukraine in 2017 occupy 62%, most of them with MI. At the same time, the mortality rate from acute infarction in developed countries does not exceed 5%. The main etiological factors coincide with the risk factors of atherosclerosis: diabetes, hypercholesterolemia, high blood pressure, smoking, the presence of ischemic heart disease in family anamnesis, obesity (defined if BMI (body mass index) is more than 30 kg / m<sup>2</sup>), age (for men - risk factor after 45 years, for women - after 55 years).

**Materials and methods.** On the basis of the MHO "RCH - CEMA and MC" in Kharkiv, a clinical case of MI was registered in a patient N. young age 37, who was hospitalized urgently to the cardiologic department with complaints on the retrosternal pain of a pressing nature, with a preliminary diagnosis: acute myocarditis. An ECG was performed, the level of cardiospecific enzymes and troponin levels were determined. For further differential diagnosis there was performed coronary angiography, ECHO of heart, MRI.

**Results.** The following results were obtained in this patient: ECG (during hospitalization), rejection of repolarisation in the form of negative T in III excretion and depression of ST. The troponin level was 2.4 ng / L (norm 0.2 ng / l). According to the results of coronary angiography, patient N. had no hemodynamic disturbances. On the echocardiography the zones of hypokinesis were not detected. At the MRI of the heart - signs of postinfarction cardiosclerosis in the apex of the heart and in apex segments of the interstitial septum, with the presence of microcirculation disturbance. The myocardium at this level is incapacitated.

**Conclusion.** Conclusions. According to the results obtained and the differential diagnosis with myocarditis, a diagnosis of a MI without a Q-wave was confirmed. The final diagnosis was



complicated by the lack of changes in coronary angiography and the similarity of clinical symptoms with myocarditis (pain form). This clinical case is a frightening bell "rejuvenation" of the MI.

Lysak M.

## **THE USE OF NEURO-HUMORAL MEDIATOR OF COPEPTIN FOR THE PREDICTION OF UNFAVORABLE COURSE OF ACUTE MYOCARDIAL INFARCTION ON THE BACKGROUND OF CONCOMITANT OBESITY**

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**Introduction.** For today, ischemic heart disease does not leave leading positions in the mortality and invalidation of the population all over the world. Priority place in the structure of cardiovascular diseases belongs to acute myocardial infarction. The course of coronary heart disease is considerably complicated by the presence of comorbid pathology. The most commonly encountered pathology is obesity. Obesity is one of the risk factors for the development of cardiovascular diseases and the progression of IHD. According to WHO, obesity is recognized as a non-infectious "epidemic of the 21st century". Along with the standard diagnostic marker of myocardial infarction troponin I, interesting is the study of the C-terminal part of the prohormone of vasopressin, copeptin, which causes vasoconstriction in the coronary and peripheral arteries increases afterload and contributes to the development of myocardial hypertrophy and is a marker of platelet aggregation. Remains debatable and requires additional research question of the participation of copeptin in the development of AIM and its predictors properties on the assessment of the current AIM in terms comorbide condition of obesity compared to the standard marker troponin I, which determines the relevance of the study. syThe increase in the level diagnosis of patients with acute myocardial infarction with concomitant obesity based on the assessment of copeptin in comparison with the standard diagnostic marker troponin I and its prognostic value in the development of unfavorable course of acute myocardial infarction. To assess the levels copeptin in comparison with troponin I in patients with acute myocardial infarction depending on the presence or absence of obesity. To assess the presence and nature of relationships between copeptin i troponin I with anthropometric parameters in patients with acute myocardial infarction depending on the presence or absence of concomitant obesity. To carry out risk stratification of the unfavorable course of acute myocardial infarction based on the definition of copeptin.

**Materials and methods.** 58 patients with AIM with elevation of ST segment were examined. All patients were divided into 2 groups: 1 group was infected with AIM with concomitant obesity (n = 42), and 2 groups of patients with AIM without obesity (n = 16). The control group consisted of 8



practically healthy subjects. To characterize obesity, we used the index of body mass, which was calculated according to the formula:  $IBM = \text{weight (kg)} / \text{height (m}^2\text{)}$ . The anthropometric indices of WC, Hip-C and NC were determined in the study, the ratio of WC / Hip-C ratio was calculated for establishing the type of distribution of adipose tissue. An enzyme-linked immunosorbent assay method was used to determine the cohort using the Human Copeptin (Copeptin) ELISA Kit, Shanghai, China kit. Troponin I was determined by the immunoassay method using a set of reagents "Troponin I" (Chema, Moscow).

**Results.** The presence of obesity in patients with acute myocardial infarction is associated with an increase in the level of copeptin in 2.3 times compared with patients without obesity at the co-equal level of troponin I.

**Conclusion.** Progression of obesity to grade II in patients with acute myocardial infarction is accompanied by hyperproduction of copeptin, and the presence of the strongest correlation bonds between cough and body mass index indicates the influence not only obesity but also fat distribution with abdominal type. Copeptin at a level greater than 150.5 ng / ml has the predictive properties in relation to the relapse of acute myocardial infarction in patients with obesity.

*Manska E.*

## **ASSESSMENT OF EATING BEHAVIOR IN YOUNG WOMEN WITH PRIMARY OBESITY**

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**Introduction.** The main etiological factor in the development of primary obesity is alimentary factor. The population of developed countries is now a kind of hostages of easily accessible food, especially carbohydrate and fat, this leads to the fact that food passes from the category of vital to the category of pleasures that a person tries to get every time in even greater quantities. Thus, gradually formed eating disorders, which is a predictor of the development of primary obesity.

**Materials and methods.** 105 young women (aged 16-45 years) with primary obesity. The Dutch eating behavior questionnaire (DEBQ) was used to assess eating behavior (EB): restrictive (R), emotional (Em) and external (Ex) EB. All patients were divided into groups depending on the age of the weight gain: group I – persons with obesity manifested before puberty (n=54) and group II-persons who have developed obesity in the post-pubertal period (n=51).

**Results.** It is established that violations in REB are in a small number of patients both I, and II groups (11.1% and 5.9%, respectively,  $p > 0.05$ ). The frequency of EmEB disorders was significantly higher (46.3%) in the group of women with a long anamnesis of the disease. More than half of the patients



(56.1% of group I and 51.0% of group II) revealed violations of ExEB. These women were dependent on external stimuli, and the amount of food eaten in these persons in most cases did not meet the real physiological needs. It was found that among the patients formed certain subgroups, in which there were violations of two or three types of EB. In group I, 5.6% of patients had disorders of three types of EB. It should be noted that patients in group I did not reliably more often determine any violations of EB compared to patients in group II (32.5% and 17.6%, respectively ( $p=0.07$ )). As obesity progressed, the number of patients with disorders of Ex and Em EB increased.

**Conclusion.** It was established that with the help of simple methods of research (DEBQ) it is possible to determine the presence of violations of the types of EB, which patients either do not suspect, or consciously silent. A low percentage of patients with eating disorders in both groups I and II (11.1% and 5.9%, respectively) confirm that obese women do not adequately assess the situation and do not consider it possible to limit themselves in food. Significant differences in the frequency of EmEB among patients of groups I and II (46.3% and 25.5%, respectively) were revealed, which is a confirmation of psychological failure and/or formation of false priorities and incentives in childhood. Each second patient (56.1% in group I and 51.0% in group II) showed a violation of ExEB.

*Markevych M., Kuriacha O.*

## **THE INTERRELATION BETWEEN SLEEP DISORDERS AND GLYCATED HEMOGLOBIN LEVEL IN PATIENTS WITH TYPE 2 DIABETES MELLITUS**

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**Introduction.** Numerous epidemiological studies have demonstrated a connection between short-term and poor-quality sleep with an increased incidence of type 2 diabetes mellitus (DM-2), abdominal obesity and metabolic syndrome (MS) in general. The assumption that sleep deficit can lead to MS has recently been finding more scientific evidence. At the same time, abdominal obesity and MS contribute to sleep disorders (sleep apnea syndrome), but there is not enough research on this problem for today. The aim of our study was to investigate the frequency and characteristics of sleep disorders in patients with DM-2; as well as their dependence on the glycated hemoglobin (HbA1c) levels of the patients under study.

**Materials and methods.** Group of surveyed and questioned patients included 34 patients with DM-2 (20 women and 14 men) treated at the endocrinology department of the Kharkiv Regional Clinical Hospital. The well-known questionnaire "the grade score questionnaire of subjective sleep characteristics" was used during the study. The work with medical histories of patients was performed. Statistical processing of research results was carried out using Excel.



**Results.** The data, obtained from questionnaire of subjective sleep characteristics, demonstrated that 66.3% of the respondents noted the marked disorders (42.8% women, 23.5% men). 20.5% of patients (11.7% women, 8.8% men), had the average severity of the disorders. A correlation analysis was performed between the indicators of the grade score questionnaire of subjective sleep characteristics and the level of HbA1c. The probable negative correlation between the data, obtained from questionnaire, and the level of HbA1c in patients was found ( $r=-0.65$ ,  $p<0.05$ ), so more distinct sleep disorders were associated with a higher level of HbA1c.

**Conclusion.** Thus, a majority of patients with DM-2 have severe sleep disturbances. The negative correlation between HbA1c and sleep quality can be indicative of sleep disturbance as a marker of decompensation of diabetes mellitus and an independent factor, which may worsen the carbohydrate metabolism and the course of diabetes. Obtained data suggest, that normalization of sleep in patients with DM-2 can improve the metabolic status, and, conversely, normalization of diabetes indices can improve sleep quality.

*Matvieiev S., Tiazhlova N., Yakovlieva K.*

## **RESEARCH OF LEVEL OF PEROXIDASES IN A NASAL SECRET AT PATIENTS WITH ALLERGIC RHINITIS**

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**Introduction.** An abundance of seasonal allergic rhinitis (SAR) in the different countries of the world varies from 1 to 40%, perennial (PAR)– from 1 to 18%. Symptoms of the AR are noted at 40% of Ukrainians. The high abundance of this pathology causes relevance of researches, diagnostics and treatments. Aim: To define activity of peroxidases (PO) in a nasal secret at patients with allergic rhinitis and to compare results with healthy people.

**Materials and methods.** The research was conducted on the basis of allergic department of regional hospital No. 1 and department of otorhinolaryngology of the Kharkiv national medical university. 30 people with allergic rhinitis were examined. In control group 30 healthy people are selected. The diagnosis and disease severity were established on the basis of the anamnesis, prick-tests, nasal cytology, the microbiological analysis of a nasal secret and rhinoscopy. Demographic characteristic of patients: the researched group –  $n=30$ , average age 36,5 years, sex m/f - 11/19; control group -  $n=30$ , average age – 22,8 years, sex m/f - 17/13

**Results.** Determination of the PO level is carried out to 30 patients. Patients are divided into 2 groups: 19 patients with SAR and 11– with PAR. The majority was made by patients with SAR– 63,3%. At skin testing it has been defined that patients with PAR in 63,6% of cases had sensitization to pincers



of house dust, and 36,4%- to epidermal allergens. At patients with SAR the hypersensitivity to birch pollen (52,6%), to poplar fluff (31,6%) and cereal herbs (15,8%) has been revealed. Nasal cytology has revealed an eosinophilia. The microbiological research of dab from a nasal cavity has revealed *S. aureus* at 46,7%, *C. pseudodiphthericum* — at 30% and *S. epidermidis* at 23,3% of patients. Content of extracellular PO varied from 2,43 to 5,75 depending on severity. For patients with PAR this indicator on average was 3,29 mkg/ml, with IAR— 3,34 mkg/ml, for healthy people without allergy— 0,69 mkg/ml. At patients with AR the increased level of PO activity in a nasal secret has been found. An eosinophilia of peripheral blood >5%, an eosinophilia of a nasal secret >10%, positive prick-tests with allergens (a papule >of 5 mm), increase in level of the general IgE and specific IgE-antibodies in blood serum, the positive nasal provocative test with allergens, the level of myeloperoxidase of  $3,29 \pm 0,73$  mkg/ml at norm of  $0,69 \pm 0,14$  mkg/ml are also objective criteria.

**Conclusion.** The method of assessment of PO activity in a nasal secret can be applied to diagnosis of allergic rhinitis. The increased levels of PO activity in a nasal secret (more than 1,011 mkg/ml) can be criteria of neutrophil hypersensitivity.

*Maysoon Dewedar*

## **PULMONARY EMBOLISM IN PATIENTS WITH CARDIAC PATHOLOGY**

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**Introduction.** Pulmonary embolism is a common, series complication among patients with cardiovascular diseases, that in many cases could be fatal. pointing out the main diseases complicated with PE, and proper selection of the treatment protocol may decrease the incidence of PE secondary to cardiovascular diseases.

**Materials and methods.** 58 cardiovascular diseased patients of both gender were examined to estimate their risk of developing pulmonary embolism. Geneva scale and Wells scale were the used clinical score system. Patients were divided in to 3 groups: 12 low risk patients (4 men and 7 women, 56.8 Y.O.), 28 intermediate risk group patients (10 men and 18 women, 62.5 Y.O.), and 9 high risk group patients (4 men and 5 women, 64.6 Y.O.)

**Results.** Patients with cardiovascular diseases complicated with atrial fibrillation, extrasystoles, arrhythmia, COPD, chronic bronchitis, autoimmune thyreoditis had poor prognosis and higher risk of developing PE compared to others. Since atherosclerotic cardiosclerosis was diagnosed in 58% of patients at higher risk group, and 53% of stable angina in intermediate risk group, we deduced that patients with atherosclerotic cardiosclerosis and stable angina were treated with insufficient anti-





coagulation therapy. On the other hand, patients with unstable angina, nonQ, and QMI had an adequate treatment protocols that made them at a lower risk of developing PE.

**Conclusion.** Cardiovascular diseases are major risk factors for pulmonary embolism, regardless the patient's history of PE. Patients with cardiovascular diseases complicated with atrial fibrillation, extrasystoles, arrhythmia, COPD, chronic bronchitis, autoimmune thyreoditis are at higher risk of developing PE. Intensive anticoagulant/antiaggregant therapy must be included in treatment protocols of atherosclerotic arteriosclerosis and stable angina to decrease the risk of PE development.

*Minukhina D., Grydneva O.*

## **PROGNOSTIC ROLE OF MARKERS OF ENDOTHELIAL DYSFUNCTION IN DIAGNOSING THE DEGREE OF ATHEROSCLEROTIC LESIONS OF CORONARY VESSELS IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION WITH CORONARY STENTING**

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**Introduction.** Nowadays it is very important to evaluate the prognostic value of markers of endothelial disfunction, such as type 1 plasminogen activator inhibitor (IAP-1) and asymmetric dimethylarginine (ADMA) in patients with coronary stenting with acute myocardial infarction (AMI) and type 2 diabetes mellitus (type 2 DM) in the degree of development of atherosclerotic hemodynamically significant stenosis of coronary vessels.

**Materials and methods.** 130 patients were examined, among them 44 women (33.85%) and 86 men (66.15%). All patients were divided into groups: the main - 73 patients with AMI with accompanying type 2 DM (among them - 43 people, 30 women, mean age of patients  $62.73 \pm 1.39$  years); comparative - 57 patients with type 2 diabetes without DM (43 men and 14 women, mean age  $63.98 \pm 1.47$  years); Control group - 20 practically healthy persons (among them 10 men and 10 women,  $60.85 \pm 1.37$  years). All patients were performed coronary angiography. The content of ADMA and IAP-1 were established by the immune enzyme method.

**Results.** In patients with acute myocardial infarction, regardless of the presence or absence of type 2 diabetes, an increase in levels of IAP-1 and ADMA in comparison with the control group ( $p < 0.05$ ) is observed. In assessing the prognostic role of IAP-1 and ADMA markers in predicting hemodynamically significant stenosis ( $\geq 70\%$ ) using ROC-analysis, the sensitivity and specificity of the model were high and amounted to 78.57 and 100% respectively, the AUC of the ROC-curve was  $0.942 \pm 0.028$  (95% CI 0.861 - 0.983;  $p < 0.0001$ );



**Conclusion.** Determination of both levels of IAP-1 and ADMA are important in predicting atherosclerotic hemodynamically significant stenosis of coronary vessels, which contributes to preventing the development of complications of AMI.

*Nagornyi I.*

## **THE INFLUENCE OF MUSIC ON THE CARDIOVASCULAR SYSTEM**

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**Introduction.** It is known that music influences a person. In ancient times, music was used to increase the stamina and lift the spirit of athletes during the Olympic Games. The attention of the researchers was attracted by music as a factor influencing various clinical symptoms: reduction of acute and chronic pain, pain and general emotional state in palliative medicine, improvement of motor functions after a stroke, reduction of preoperative anxiety, change in cardiovascular parameters.

**Materials and methods.** There were analyzed works published in the PubMed database for 2009-2016 are analyzed.

**Results.** Listening to the music of Mozart and Strauss caused a drop in systolic (SBP) and diastolic blood pressure (DBP) and heart rate (HR), in contrast to ABBA music. The authors did not find a connection between musical genres, changes in blood pressure and heart rate.

Another study examined the effect of music on patients with acute myocardial infarction. In patients with listening to Mozart's music and Beatles compositions, as well as news programs on the radio, SBP, DBP and heart rate were assessed. As a result, there was a decrease in SBP and DBP in patients with myocardial infarction who listened to Mozart, compared to those who listened to the Beatles or news.

**Conclusion.** Listening to music influences the change in the cardiovascular parameters of a person. Therefore, choosing the products for music therapy, you should take into account the genre and pace of the work.



*Ostapenko D., Halimov E.*

## **CORRELATION OF DYSFUNCTION OF TEMPOROMANDIBULAR JOINT LIGHT DEGREE AND DECLINING HEARING**

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**Introduction.** According to a literature dysfunction of temporomandibular joint meets at one-third of adult. Question of status hearing function at people with dysfunction temporomandibular joint light degree have not been sufficiently evaluated.

The purpose of this research is finding dependence between dysfunction temporomandibular joint light degree and declining hearing.

**Materials and methods.** Researching was conducted at the base of department otorhinolaryngology Kharkiv National Medical University. In researching participated 64 students (22 men and 42 women) from 18 to 26 years old. Nobody haven't acute disease of dentofacial system and craniofacial anomalies and also haven't complaints from other organs and systems. Function of temporomandibular joint was explored according to the following test: degree of opening mouse, determination of articular sounds when jaws move and presence of disturbances of its mobility. Hearing research made with acoustic and tone threshold audiometry. The degree of declining hearing is evaluated by Bazarov and Rozkladka classification (1989).

**Results.** The first group includes people without hearing disorders with dysfunction of temporomandibular joint light degree. The second group (control) include people without symptoms of dysfunction of temporomandibular joint and other complaints. 61,2% of people from the first group have normal hearing, 34,6% have declining hearing I degree, 4,2% have deafness II degree. In control group 84,4% of people haven't disorders hearing and 15,6% have declining hearing I degree.

**Conclusion.** In result of our research is established correlation of dysfunction of temporomandibular joint light degree and declining hearing. When people haven't complaints about hearing, 38,8% of people with dysfunction of temporomandibular joint have declining hearing. In conclusion such people should have complex medical examination with compulsory hearing tests.

*Piatyhor A.*

## **CLINICAL CASE OF PARANEOPLASTIC SYNDROME**

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**Introduction.** Studying of the clinical course of secondary (paraneoplastic) dermatomyositis, (DM) as manifestation of cervical cancer.



**Materials and methods.** The patient was cared for inpatient treatment in the rheumatology department of the Kharkov Regional Clinical Hospital (RCH).

**Results.** Patient K., 53 y.o., was admitted to RCH on 5.10.17 with complaints on sharp weakness and expressed restriction of movements in the upper and lower extremities; weakness in the neck muscles; pain in the muscles of the shoulder girdle, thighs; swelling of the hands, forearms; rashes in the face, décollete zone; inability to swallow food (including liquid); saliva swelling; hoarseness; cough; increased hair loss; occasional ulcerative rashes in the mouth; feeling of lack of air developing in a horizontal position; weight loss of 8 kg in the last 4 months. From the anamnesis of the disease it is known that she considers herself to be sick from 24.08.2017, than rashes appeared in the décolletage area after the insolation, body temperature increased into 37.7 C. She was consulted by dermatologist and allergic dermatitis was diagnosed. The symptoms of dermatitis regressed by taking of dexamethasone 4 mg im and rheosorbilact. After stop treatment the pain, densities and progressive weakness in the proximal parts of the hands, legs, a swallowing disorder appeared. She was directed to the dermatomyositis was suspected (KFK 7787 U/l). The Cervical cancer (T1vNxM0 (1st century) II clino group) was diagnosed in Clinical hospital No. 28 and patient was transferred to the Kharkiv regional oncology center, but specific treatment there was not performed because the patient's condition was severe due to manifestations of dermatomyositis. The patient was directed to a rheumatology department RCH. There Cervical cancer, T1v,NxMx (Icr), II clinical group. Intoxication syndrome. Secondary (paraneoplastic) DM, acute course, active phase, activity 3 stage with defeat: skin - erythema in the forehead, hyperpigmentation of the décollete zone, Livedo reticularis in the thighs, muscles of the upper and lower extremities, JFD III stage; muscles of the digestive system - dysphagia, violation of the act of swallowing. Hemorrhagic syndrome: vasculopathy, macrogematuria, metrorrhagia were diagnosed. Pathogenetic and symptomatic therapy was provided, unfortunately, without significant effect. The patient was transferred to Emergency care department, but the condition progressively worsened, hemorrhagic syndrome joined. Despite the ongoing therapy, the patient died, resuscitation was ineffective.

**Conclusion.** Its manifestation in this case in the form of DM, on the one side, helped to find the true cause of this condition, and on the other side, the severity of the manifestations of DM led to a fatal outcome. In order to avoid negative consequences of PNS, if a tumor is detected with PNS, it should immediately, if possible, resort to radical treatment.



*Pionova. O., Litvinova K., Ryzhova D.*

## **PRIMARY IMMUNODEFICIENCY HYPERIMMUNOGLOBULIN E SYNDROME (JOB SYNDROME) IN INTERNAL MEDICINE**

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**Introduction.** Hyper-immunoglobulinemia (Ig) E syndrome (HEIS, Job's Syndrome) is a rare primary (syndrome (congenital) immunodeficiency generally characterized by recurrent infections, "cold" skin abscesses, pneumonia with abscesses and cysts formation, pathological fractures and osteomyelitis, persistent eczema, and high serum IgE level. Job's Syndrome is often combined with skeleton, head, face and teeth development abnormalities. To date, 250 cases of this disease have been published worldwide. Insufficient awareness about clinical features of HEIS leads to certain difficulties in its diagnostics.

**Materials and methods.** Clinical case: we present a 25 years old male patient with Job Syndrome manifesting at 2 month age. It is known from medical documentation that the first symptom was streptostaphyloidermia. Atopic dermatitis with constantly recurring course was diagnosed at 3-4 month age. Frequent (4-6 times per year) recurrent infections of different localization were noted: furunculosis, bronchitis with obstructive syndrome, purulent otitis, retropharyngeal abscess; frequent pneumonia complicated by pyopneumothorax and the formation of cysts of the upper lobe of the right lung; purulent cervical and parotid lymphadenitis; acute phlegmonous appendicitis complicated by peritonitis; a giant abscess of the retroperitoneal space, an abscess of a greater omentum; the patient had an abdominal infiltrate in the area of the projection of the postoperative scar in the right iliac region, an infiltration in the region of the left sub-diaphragmatic space and in the spleen pole region, multiple small liver abscesses. Lobectomy was performed in 1996 and 2000. The patient was operated due to phlegmonous appendicitis, giant retroperitoneal space abscess and greater omentum abscess. The diagnosis of HIES based on medical history and significant increase serum IgE level up to 60 498 IU/ml (N-less than 87, 0 IU/ml) with eosinophilia to 24% was first established at the age of 14. From that time the child was under the supervision of immunologists in Kharkov. The patient constantly takes antibacterial therapy. Exacerbations of suppurative diseases became less frequent, the IgE levels were about 600 IU/ml). From the age of 18 the patient is monitored by the immunologist of the Regional Center of Allergology and Clinical Immunology (RCACI) of the Regional Clinical Hospital with diagnosis of primary immunodeficiency hyperimmunoglobulinemia-E. Polycystic lung disease. The condition after bilateral double-lobe lobectomy (1996, 2000). COPD of moderate severity, Respiratory failure II (second) degree. Peptic ulcer, duodenal bulb deformity. Chronic erosive gastroduodenitis. Mitral valve prolapse 1 degree without regurgitation. Tricuspid valve prolapse. Incomplete right bundle branch block. Heart failure 0 functional class (NYHA). Atopic



dermatitis. Chronic double-sided cochleoneuritis. Condition after corneal transplantation. Corneal leukoma of the right eye. The physical examination reveals that the patient looks older than his passport age, multiple areas of skin depigmentation, cicatricial changes on the face after streptoderma, traces of scratching covered by scabs. Cervical lymph nodes conglomerate on the right is dense at palpation, which fixed to subcutaneous tissue. Multiple stigms of disembrigenesis, deformation of the bones of the facial skull, thorax, and nail phalanges are evident. Decreased vesicular breathing and scattered dry rales are heard over the entire surface of the lungs. The second sound is accentuated over the pulmonary trunk. Serum IgE ranges from IU/ml to 1242 IU/ml. There is persistent eosinophilia up to 30% in CBC. Abscessed pneumonia with the formation of a chronic lung abscess was noted in adulthood, which aggravated 3-4 times per year and treated in RCACI of the Regional Clinical Hospital. Antibiotic therapy in a hospital provided a positive effect. In addition, there was a severe course of atopic dermatitis, the treatment of which was ineffective. CT of the chest: Strengthening, enrichment and deformity of the pulmonary pattern, emphysematous bullae mainly on the right lower segments. In the upper lobe on the right the rounded formation is determined. It extents 12\*8.5\*7.5 cm with uneven contours, adjacent to the right root (lymph nodes conglomerate of the right root?). There are several focal formations to 5 mm around the formation. Mediastinal organs are shifted to the left. No free fluid in the pleural cavity is revealed. Multiple extra- and intrathoracic lymph nodes are visualized. Ultrasound examination. The initial signs of left ventricular hypertrophy Mitral valve prolapse, the 1 degree, mitral regurgitation of the 1 degree. Tricuspid regurgitation of the 1 degree. Signs of chronic diffuse pathology of the liver parenchyma; calcification of the liver. Chronic calculous cholecystitis. Signs of chronic pancreatitis, chronic diffuse pathology of the spleen parenchyma, and diffuse pathology of the kidney parenchyma with the phenomena of chronic bilateral pyelonephritis.

**Results.** At the moment, the patient is being examined at the oncology center on the occasion of suspected Hodgkin's lymphoma.

**Conclusion.** Although Job's syndrome is a rare disease, patients with this immunodeficiency can be found everywhere, at any age; therefore it is very important the internal medicine specialists to know the symptoms, methods of diagnosis and treatment of this disease.





*Pischik A., Pasechnik S.*

## **EVALUATION OF INSULIN PUMP THERAPY EFFECTIVENESS IN CASE OF 1ST TYPE DIABETES MELLITUS**

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*Research advisor: ass. Oliinyk M.O.*

**Introduction.** To evaluate the effectiveness of using an insulin pump (IP) in patients with type 1 diabetes mellitus (T1DM).

**Materials and methods.** The study was performed on the endocrinology department of the Kharkiv Regional Clinical Hospital. The study included 2 patients with T1DM who had previously been on insulin therapy. The duration of DM was 19 years in the first case and 17 years in the second one. Before the IP therapy the patients were examined by physical examination, blood and urine clinical analysis, glycemic profile, glycosylated hemoglobin level (HbA1c). The level of HbA1c level was >7.5%. Evaluation of IP therapy effectiveness was carried out three months later by assessment of the HbA1c level, the variability of glycemia according to daily monitoring of glycemia.

**Results.** During the IP use both patients had a decrease the daily dose of insulin from 55 units to 46 units in the first case and from 48 units to 42 units in the second case, that may be due to better absorption of fast-acting insulin from subcutaneous fat alternatively to long-acting insulin. It was noted that level of HbA1c was decreased from 9.2% to 7.9% in the first case and from 8.7% to 7.6% in the second one during IP therapy. According to the daily monitoring both patients had a more expressed achievement of target values of serum glucose level. It should be noted that a reduction of injections number from 4 or 5 injections every day when using a syringe pen to one change of the cannula every three days in the case of IP use is an important factor in improving the quality of life.

**Conclusion.** The effectiveness of IP therapy in form decrease level of HbA1c level as well as decrease quantity of injected insulin and number points of injections can be advantages of this method in comparison to the use of syringe pens. Longer surveillance of patients will help evaluate the long-term effectiveness of therapy, its impact on quality of life and the progression rate of complications of diabetes mellitus.

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## **EFFECT OF ADDITIONAL ANTIOXIDANT THERAPY IN PATIENTS WITH COMBINE COURSE OF OSTEOARTHRITIS AND TYPE 2 DIABETES MELLITUS**

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**Introduction.** The aim of the present study to learn the influence of antioxidant therapy on the condition of patients with osteoarthritis (OA) in combination with type 2 diabetes mellitus (T2DM).



**Materials and methods.** 54 patients with OA and its in combination with T2DM were examined (30 male and 24 female). The mean age of patients was  $45 \pm 3.1$ . All patients were divided into 2 groups. The first group – 20 patients, with standard therapy - short course of non-steroidal anti-inflammatory drugs (NSAID) and structure-modifying medications. Second group – 34 patients, with standard therapy plus vitamin E as an addition to it. The course of treatment was 3 months. X-ray examination of joints was performed for all patients, the severity of pain syndrome and joint function were determined by the index of WOMAC, the level of C-reactive protein (CRP), fasting glucose test and level of glycosylated hemoglobin level (HbA1C) were determined.

**Results.** As a result of the therapy, a significant decrease of the WOMAC index in both groups of patients was determined: in the 1-st group of patients the pain score decreased by 29.5%, in the 2nd group - by 32.8% ( $r < 0.05$ ). There was also a statistically significant reduction of the level of CRP in both groups: in the 1st group by 30.1%, in the 2nd group - by 33.3% ( $r < 0.05$ ), which may indicate a decrease of inflammatory response. The use of vitamin E does not negatively affect the course of T2DM, therefore, in the 1st group, the level of HbA1C was  $9.62 \pm 0.3\%$ , glucose levels in serum of  $9.95 \pm 0.38$  mmol/l, after treatment  $8.33 \pm 0.2$  and  $7.8 \pm 0.38$  mmol/l respectively. In the 2nd group the HbA1C level was before treatment -  $9.64 \pm 0.27\%$ , glucose levels in serum was  $9.97 \pm 0.24$  mmol/l after treatment  $8.1 \pm 0.21$  and  $7.8 \pm 0.38$  mmol/l respectively.

**Conclusion.** We noted that adding vitamin E to standard therapy showed more positive effect on the course of OA in combination with T2DM.

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## **CORRELATION BETWEEN HYDROCARBON EXCHANGE INDICATORS AND THE DAILY MONITORING OF BLOOD PRESSURE IN THE PATIENTS WITH METABOLIC SYNDROME**

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**Introduction.** To identify the correlation between carbohydrate metabolism and 24-hour blood pressure monitoring in patients with metabolic syndrome (MS).

**Materials and methods.** 48 medical records of the in-patient department of CGBC №27 for 2017 (20 men, 28 women) with arterial hypertension with MS were analyzed, the average age of the examined patients was  $56 \pm 12$  years. The presence of MS was verified according to IDF criteria (2005). SMAD, determination of fasting blood glucose (GKN) level and glycosylated hemoglobin level (HbA1C) were performed.



**Results.** In 26 (54.2%) cases, the normal level of HCV was revealed, and after a load, a violation of glucose tolerance - in 22 (45.8%) patients. In patients with increased glucose tolerance, the mean daily blood pressure (BP) was  $(153.62 \pm 9.37) / (91.19 \pm 1.55)$  mm Hg, the maximum -  $(177.63 \pm 7.82) / (111.81 \pm 3, 66)$  mm Hg, with normal blood glucose level-  $(146.5 \pm 7.25) / (90.09 \pm 2.38)$  and  $(169.65 \pm 6.47) / (106.25 \pm 4.67)$  mm Hg. respectively. The daily profile of deeper was found in 15 (31.25%) among the patients examined, mainly in patients with normal blood glucose level, the over-deeper variant was found in 1 (2.08%), the night-peaker profile in 8 (16.67%) cases. The most common was the daily profile of "non-dipper" - in 24 (50.0%) cases, mainly in patients with impaired glucose tolerance. An increase in HbA1c > 6.0% was found in 21 (43.75%) patients. Among patients with increased glucose tolerance, an increase in HbA1c level was detected in 12 (54.55%) patients, with normal blood glucose level in 9 (34.62%) cases. Between the HbA1c index and the fasting glucose level and after 2 hours after the load, a straight line of medium strength is established for the correlation relationship: the correlation coefficient (r) is 0.38 and 0.36, respectively.

**Conclusion.** High blood pressure and adverse daily profile of blood pressure "non-dipper" are observed in patients with impaired glucose tolerance.

*Saara Imbili*

## **DIABETIC FOOT SCREENING AND AWARENESS**

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**Introduction.** Diabetic foot is defined as a condition, in which the foot is affected by ulceration that is associated with neuropathy and or peripheral arterial disease of lower limb in patient with diabetes. This often lead to amputation and or death due to complications. Every 30 seconds a lower limb or part of lower limb is lost to amputation somewhere in the world as a consequence of diabetes.

**Materials and methods.** The review was done being based on, the observation description study conducted at chronic outpatient department of a Regional hospital Durban, South Africa.

**Results.** 200 participants with type 2 Diabetes mellitus (DM) participated in the study, 91% of participants were either overweight or obese. 92% of participants had concomitant disease, hypertension(57%) , dyslipidemia(26.7%) and eye disease(7.2%) . 76% reported altered sensation in their lower limbs, and 90% reported having no previous Diabetic foot disease education. Only 22.2% of participants reported having examined their feet, but only when experienced a problem. The study demonstrated that awareness of Diabetic foot disease was suboptimal. Compared to another research, 108000 patients had lower extremity amputation in year 2014, national inpatient sample.



**Conclusion.** To minimize the burden of Diabetic foot disease, improved screening and prevention program and also patient education should be provided. All people with diabetes should be screened for risk and placed in appropriate risk stratification which is the clinical pathway for treatment and prevention.

*Shaparenko O., Mayorova M.*

## **CARBOHYDRATE EXCHANGE CHANGES AT THE DIFFERENT TYPES OF ANTIHYPERTENSIVE THERAPY IN PATIENTS WITH HYPERTENSION AND OBESITY**

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**Introduction.** Growing prevalence of the combined course of hypertension and obesity which lead to a summation of cardiovascular risk, causes search of new therapeutic strategies. There are differences between antihypertensive drugs both in one class, and between different classes, which concern all range the pharmacodynamic of effects.

**Aim.** To carry out the comparative analysis carbohydrate exchange changes at different antihypertensive therapy types in patients with hypertension and obesity on the basis of a carbohydrate exchange indicators dynamics research.

**Materials and methods.** 70 patients with hypertension and obesity participated in a research. On the I stage of research- all patient with hypertension and obesity were given ramipril in a daily dose 5 mg. In two weeks control of AP was carried out: 26 patients (37,14%) have reached the target AP levels. The II stage: in patients without clinical effect the ramipril dose was increased to 10 mg, 8 patients more achieved the target AP levels (11,43%). The III stage: two subgroups were created: the first group (n=20), where patients received 10 mg ramipril and 5 mg amlodipin; the 2-nd group (n=16), where lercanidipin was appointed daily dose 5 mg. The IV stage; in three months carbohydrate and adipokine exchange parameters were estimated. Level of blood insulin was estimated by the method of the imunofermentative analysis, glucose level - by a glucose oxidase method.

**Results.** Reliable differences concerning glucose levels dynamics on an empty stomach wasn't established in both groups ( $p > 0,05$ ). In patients of the 1-st group in 3 months insulin decreased on 26,69, index of NOME - on 24,42 ( $p < 0,05$ ). While by treatment with ramipril and lercanidipin decrease of insulin on 44,26, index of NOME on 45,59 was noted ( $p < 0,05$ ). Lack of changes concerning glucose level on an empty stomach and obesity depending on treatment schemes was showed ( $p > 0,05$ ). At the 2-nd group patients the level of insulin was decreased on 17,57 more than



in the 1-st group, the index of NOME - on 21,17 ( $p<0,05$ ). The efficiency of use of both treatment schemes in such the patients due to positive influence on carbohydrate exchange indicators was proved. Advantage should be provided to application of a ramipril and lercanidipin.

**Conclusion.** In treatment in patients with hypertension and obesity, in case of inefficiency of monotherapy by ACEI, advantage should be provided to purpose of a ACEI and calcium antagonists combination. Purpose of the ramipril and lercanidipine is more expedient due to the best influence on an indicators of adipokine exchange condition.

*Skoryi D.*

## **THE CLINICAL CASE OF PERICARDIAL EFFUSION WITH RISK OF CARDIAC TAMPONADE**

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**Introduction.** Pericardial effusion is a very common problem with a wide range of etiologic factors, primarily infectious and noninfectious ones. Noninfectious are divided into autoimmune (such as rheumatoid arthritis, systemic lupus erythematosus, ulcerative colitis), neoplastic (metastatic lung or breast cancer, rhabdomyosarcoma, melanoma), cardiac (dissecting aortic aneurism, myocarditis, pericarditis), traumatic (postthoracic surgery, blunt or penetrating chest trauma) and metabolic (hypothyroidism, uremia). In its turn, infectious are divided into viral (varicella, HIV, rubella, Epstein-Barr virus, hepatitis B virus), bacterial (*Mycobacterium tuberculosis*, *Neisseria*, *Salmonella*, *Staphylococcus*), fungal (*Histoplasma* and *Candida* species), parasitic (*Toxoplasma* and *Echinococcus* species) and infective endocarditis. All mentioned factors could provoke pericardial effusion development, with possible risk of progression into cardiac tamponade, what can cause sudden death due to heart failure. In addition, pericardial effusion can be the first factor, that causes patient to obtain doctor's help, and helps to reveal the main disease reason. Such case happened on 29 January 2017.

**Materials and methods.** A 57-year-old man presented to the cardiology department of Kharkiv Regional Hospital (KRH) on 29 January 2017. Patient had a progressive shortness of breath at rest and exertion, chest fullness associated with dry cough, overall weakness and swelling of the legs. He had a massive pericardial effusion with signs of abnormal right cardiac atrium and ventricle invagination (according to 2D echocardiogram data). Patient had signs of central left lung bronchogenic carcinoma with secondary changes in lungs, bones and adrenal glands, two-sided hydrothorax, hydropericardium, liver cyst (according to spiral CT). Pericardial effusion had atypical cells, positive Rivalta test, numerous erythrocytes, and leucocytes 5-10 in the field of view (according



to cytological examination of effusion). 5/12/17 left lung bronchogenic carcinoma T4N2M1 was confirmed (after oncologist consultation).

**Results.** 29/11/17 under echocardiographic guidance, 850 ml of fluid was aspirated during pericardiocentesis. Patient's condition has become much better after aspiration 50 ml of effusion. Cytological examination showed signs of malignization process. Oncologist consultation and spiral CT revealed central left lung bronchogenic carcinoma T4N2M1. Metastases entered lungs, bones, pericardium and liver. According to the type of cancer, specific treatment wasn't used.

**Conclusion.** This clinical case shows us, how with the help of urgent manipulations we can significantly improve patient's condition. Later, the etiologic factor was revealed, that caused pericardial effusion progression and cardiac tamponade development. It was the central left lung bronchogenic carcinoma.

*Sukhodolska O.*

## **DISTINCTIVE FEATURES OF X-RAY PATTERN IN H1N1 INFLUENZA A VIRUS RELATED PNEUMONIA**

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**Introduction.** Viral pneumonia A (H1N1) is currently an actual common problem for the medical community, as it leads to extensive mortality of patients. An important and irreplaceable value in the diagnosis and control of pneumonia treatment is the X-ray examination. The aim is to study the detailed radiographic pattern to clarify the mechanism of lung damage.

**Materials and methods.** 7 deaths from serologically confirmed H1N1 influenza A virus related pneumonia in the city hospital No. 9 in Mariupol, Donetsk region, Ukraine.

**Results.** Patients presented with productive cough, fever, chest pain, increased shortness of breath. On examination: acrocyanosis; vesicular resonance; rough weakened respiration with moist rale on auscultation. Saturation decreased to 50-24% despite oxygen therapy. Postmortem examination: impairment of interstitial tissue, changes by the type of serous fibrosis pneumonia. Complications: catarrhal and desquamative tracheobronchitis, pulmonary edema, pleurisy, focal emphysema caused by artificial lung ventilation, histiocytosis of the lymph nodes. X-ray in anteroposterior view in the lower pulmonary fields on both sides shows numerous, mixed foci of infiltration of various forms, of weak and medium intensity, homogeneous, with indistinct contours, merging with each other. Inflammatory infiltration is visualized as a black area with "air bronchography" symptom. Follow-up control shows an increase in size and intensity of the foci, their spread into the juxtahilar zone, and then to the periphery into the middle and upper pulmonary fields.





Pulmonary pattern is intensified, amorphous and deformed by reticular type. The roots of the lungs are enlarged, structured and unstructured, deformed, amorphous in the follow-up control. Some images showed hydrothorax.

**Conclusion.** H1N1 influenza A virus related pneumonia often results in acute severe respiratory failure and, as a result, death. The abovementioned changes in the pulmonary pattern indicate the most characteristic radiographic manifestation, namely interstitial infiltrative component. It is necessary to differentiate the radiographic pattern with increased blood filling of the lungs, collagenosis and tuberculosis.

*Sukhonos N., Diasamidze M.*

## **DISPERSION OF SODIUM IN BIOLOGICAL MEDIUMS IN COMORBID VIBRATIONAL DISEASE AND HYPERTENSION**

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**Introduction.** Amount of sodium — main cation of extracellular fluid providing its osmolality — is 90% of all plasma cations. One third of it is connected in bones, other part is exchanged freely. Sodium plays leading role in formation of extracellular fluid osmolality, its volume, regulation of acid-base state, CO<sub>2</sub> transportation, active transportation of glucose and aminoacids into the cell, and supporting of spatial configuration of biomolecules and cellular structures.

**Materials and methods.** It was included 107 patients with the vibration disease diagnosis of local vibration of I and II stages, aged 41 -66(average age 54±6, 17). The content of Na was determined by atomic absorption method with a spectrophotometer «Saturn-4» (Russia).

**Results.** Sodium levels in our research were found to be statistically increased in serum only in main group and increase was associated with progressing of VD. Thus, in VD I stage and hypertension II stage its level was 154.5 [150; 158] millimole/l; VD II stage — 162.1 [158; 166] millimole/l in comparison with control group — 139.5 [138; 142] millimole/l. Amount of sodium in erythrocytes statistically significant increased both in comparison and main group and grew with progression of VD. In comparison group: in VD I stage it was 19.5 [18.3; 21.6] millimole/l; in VD II stage — 27.7 [26.7; 31.3] millimole/l. In main group: in VD I it was 28.5 [26.1; 30.4] millimole/l and in VD II stage — 36.6 [33.9; 39.2] millimole/l, in comparison with control group — 14.8 [11.94 17.1] millimole/l. From organism, sodium excretes mainly through kidneys. Its excretion statistically significantly decreased both in comparison and main groups. In comparison group in VD I it was 130.6 [127; 135] millimole/l, in progression to VD II it was 121.5 [112.5; 125.9] millimole/l. In main group: VD I stage — 130.5 [122.7; 134.1] millimole/l; and in VD II stage — 114.3 [110.8; 117.3] millimole/l. Control group — 144.3 [133.2; 151.7] millimole/l. In hair sodium levels statistically



significantly increased in group with expressed VD in comparison group, and in main group too. Thus, its level were: in comparison group in VD II — 469 [454; 481] millimole/l; VD II stage 497.5 [473; 523] millimole/l, and control group — 434.5 [410; 463] millimole/l

**Conclusion.** Violations from physiologically normal sodium concentration are important pathogenetic change under VD. Inadequate ion content of cells leads to more severe disorders of metabolism, which forms “vicious cycle”. In patients with VD it can be observed inadequate secretion of vasopressin, caused by influence of stress, which can lead to accumulation of sodium in erythrocyte.

*Sypalo A., Kadykova O.*

## **THE CHANGES OF CARBOHYDRATE EXCHANGE PARAMETERS IN DIFFERENT TYPES OF DYSLIPIDEMIA IN PATIENTS WITH CORONARY HEART DISEASE AND DIABETES MELLITUS TYPE 2**

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**Introduction.** Coronary heart disease (CHD) is ranked first in the structure of morbidity and mortality in economically developed countries. According to World Health Organization (WHO) statistics, more than 16 million people die of cardiovascular diseases (CVD) every year. The prevalence of CVD increases due to aging of the population, and lifestyle changings. In recent decades our civilization is threatened by another disease, which takes an increasingly ‘epidemic’ outline, - diabetes mellitus (DM). Despite of the successful diagnosis, treatment and prophylaxis of coronary artery disease combined course in patients with concomitant diabetes mellitus type 2, the pathogenetic links of such patients’ metabolic disorders are still unclear. Our aim is to evaluate changes in carbohydrate metabolism rates, depending on the types of dyslipidemia in patients with coronary heart disease and diabetes mellitus type 2.

**Materials and methods.** A comprehensive examination of 75 patients with CHD and diabetes mellitus type 2 who were treated in the cardiology Department of Kharkiv city clinical hospital № 27 as a basic medical institution of the Department of internal medicine № 2 and clinical immunology and allergology of Kharkiv National Medical University MOH was provided. The average age of the patients was  $65.16 \pm 1.53$  years. Determination of the content of glycated hemoglobin (HbA1c) in the whole blood was carried out by photometric method in reaction with thiobarbituric acid using the commercial test systems of the company ‘Reagent’ (Ukraine) according to the instructions. The level of insulin in serum was determined by enzyme-linked immunosorbent assay using the ELISA kit (USA). Depending on the types of dyslipidemia, all patients were divided into 3 groups: the first



group included patients with dyslipidemia type II a ( $n = 30$ ), the second group included people with dyslipidemia type II b ( $n = 24$ ), the third group included patients with dyslipidemia type IV ( $n = 21$ ). Types of dyslipidemia were determined using the hyperlipidemia classification by WHO, based on the classification by Fredrickson (D. Fredrickson).

**Results.** As a result of the study, it was found that the level of insulin in patients of the first group was 23.5% and 19.8% ( $p < 0.05$ ) higher than that of the second and third groups' patients while glycosylated hemoglobin content was 18.5% and 16.4% ( $p < 0.05$ ) higher. Other indicators of carbohydrate metabolism in patients with coronary heart disease and diabetes mellitus type 2 have shown no reliable difference ( $p < 0.05$ ).

**Conclusion.** Thus, the obtained results indicate the changes in carbohydrate metabolism parameters in patients with all types of dyslipidemia. More significant changes were found in patients with dyslipidemia type IIa, which may indicate a negative effect of this type of dyslipidemia on carbohydrate metabolism in patients with coronary heart disease and diabetes mellitus type 2.

*Tabachenko O., Sayenko M.*

## **GEOMETRY AND FUNCTIONAL STATE OF THE LEFT VENTRICLE IN THE CONTEXT OF ARTERIAL HYPERTENSION AND DIABETES MELLITUS TYPES 2 OF COMBINATION**

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**Introduction.** Arterial hypertension (AH) is a major risk factor for the development of cardiovascular complications in patients with diabetes mellitus type 2 (DM), increasing the incidence of coronary heart disease, stroke, retinopathy and nephrosclerosis. Thus, the combination of hypertension and diabetes increases the risk of cardiovascular and cerebrovascular complications on average by 5-6 times compared with patients with hypertension without diabetes.

**Materials and methods.** Subgroups of patients with hypertension and type 2 diabetes. The first subgroup consisted of patients with duration of type 2 diabetes up to 5 years (23 patients, 31%), the second - up to 10 years (35 patients, 47%), and the third - more than 10 years respectively (16 patients, 22%). The ultrasound examination of the heart was performed according to the standard method (H. Feigenbaum, 1999) on the device RADMIR (Ultima PRO 30) (Kharkiv, Ukraine).

**Results.** According to the parameters of the left ventricular myocardial mass index (LVMMI), the probable growth changes are found in the group of patients with DM type 2 over 5 years and 10 years, which, unlike those in patients with experience of DM type 2 less than 5 years, the level of this indicator is not likely differed from those in the comparison group represented by patients with AH



without DM type 2. By the parameter of the left ventricular myocardial mass (LVMM) when compared with the comparison group (patients with AG without DM type 2). With respect to the relative wall thickness (RWT), with the duration of DM type 2 longer than 5 years and more than 10 years, the level of this indicator was significantly lower compared to the comparison group, and in patients with experience with DM type 2 less than 5 years was appropriate to that in the group comparison. The level of the LVMMI increased significantly in proportion to the duration of the DM 2 type, and according to the RWT parameters, a significant decrease was found in parallel with the increase in the duration of the DM 2 type. The final diastolic volume was significantly higher in patients with AH and the experience of DM type 2 more than 5 years and more than 10 years when compared with patients without DM type 2. Regarding the duration of DM 2 type less than 5 years, in this cohort patients, the level of the above indicator showed a tendency to increase, which did not reach the level of probability ( $p = 0.05$ ). And according to the parameter of the final systolic volume revealed a significant increase in comparison with patients without DM type 2, as for the duration of DM type 2 less than 5 years, and more than 5 years and more than 10 years. Indicators of ultimate diastolic size and ultimate systolic size were likely to increase with DM type 2 diabetes for more than 5 years and over 10 years in hypertensive patients, and under conditions of DM 2 type of less than 5 years corresponded to that in the comparison group presented by patients with AH without DM 2 type. But the size of the left atrium showed a significant difference in the form of growth only at the stage of duration of DM 2 type more than 10 years. In hypertensive patients with a history of DM 2 type less than 5 years or more than 5 years (but less than 10 years), the size of the left atrium was appropriate for the comparison group. The size and volume of the left ventricle increased in proportion to the duration of DM type 2 in patients with AH, reaching a maximum under conditions of more than 10 years of experience in DM type 2.

**Conclusion.** That is, the presence of DM type 2 with a duration of less than 5 years in hypertensive patients is accompanied by an increase in the size and volume of left ventricle cavity, and at the stage of increasing the durability of DM type 2 more than 10 years - an increase in the size of the accompanied by a decrease in left atrium is proportional to the history of metabolic disorders, which may be due to the effects of insulin resistance.



*Tereshchenko N.*

## **HEMODYNAMIC STATUS IN PATIENTS WITH DIABETIC NEPHROPATHY WITH ARTERIAL HYPERTENSION IN DYNAMICS OF TREATMENT**

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**Introduction.** Progression of diabetes mellitus leads to ischemia of the kidneys, activation of the pressor components of the renin-angiotensin system, and the formation of diabetic nephropathy (DN). Changes in the metabolism of lipids in diabetes lead to the rapid formation of coronary heart disease. Later signs of renal insufficiency are added. The goal of the medical treatment of nephrogenic hypertension is to reduce systemic blood pressure (BP), to ensure adequate blood flow in the main target organs. Proceeding from the current requirement of "aggressive" correction of BP, the greatest interest is the comparison of ACE inhibitors with calcium antagonists that have nephroprotective properties.

**Aim:** To study the clinical efficacy and effect on hemodynamics of calcium antagonist normodipine in monotherapy and in combination with an ACE inhibitor by lisinopril.

**Materials and methods.** The treatment with normodipine in monotherapy and in combination with lisinopril in 44 patients with DN I-III st. The control group included 10 patients with hypertension II st. Output data of AT - (207  $\pm$  190 mmHg). Normodipine was administered in a dose of 5 to 10 mg / day - 18 patients, lisinopril in a dose of 10 mg / day - 15 patients, a combination of normodipine and lisinopril - 11 patients. Hemodynamics was studied by methods of quantitative echocardiography, transcranial epidoplerigraphy of the vessels of the brain and by means of hemorrhagic tests.

**Results.** In patients treated with norodipine and lisinopril in monotherapy, gradual decrease in blood pressure was observed in the direction of increasing the heart rate (HR) in the case of the appointment of normodipin. Reduced blood pressure to 130/90 mmHg and below was recorded in the group of patients receiving combination therapy. In the dynamics of treatment in monotherapy normodipine and lysinopril reduces total peripheral resistance (TPR). TPR( $p < 0.05$ ) reaches normal values at their combination ( $p < 0.001$ ). The nephro-protective effect of normodipin and lisinopril has a positive effect on the metabolism of the renal tissue as a result of improved renal blood flow, which was expressed in proteinuria; normalization of glomerular filtration (more pronounced in the appointment of normodipine) and the direction of increasing blood flow in patients without renal failure. The drug improves the function of the left ventricle by reducing the internal size and increasing the particle size of the release. All of the above-mentioned positive effects of normodipin on the strength of action did not differ from the effectiveness of the ACE inhibitor of lisinopril. Very important for



patients with diabetes is that normodipine also acts positively on cerebral blood flow, thus reducing the probability of vascular lesions of the brain.

**Conclusion.** Normodipin - a highly effective hypotensive agent that reduces systemic vascular resistance, has a nephroprotective effect, increases cerebral blood flow, which in combination with lizinopril considerably improves clinical of diabetes mellitus.

*Titova Y., Misyura K.*

## **CONTENT OF VITAMIN D IN PATIENTS WITH TYPE 2 DIABETES MELLITUS AND NON-ALCOHOLIC FATTY LIVER DISEASE**

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**Introduction.** Currently, among the causes of secondary osteoporosis (OP), diabetes mellitus (CD) has a leading position. A greater number of diabetic patients are patients with type 2 diabetes mellitus (DM). Bone tissue metabolism, structural and functional characteristics of the bone depend on vitamin D<sub>3</sub>. There is evidence that there is a link between vitamin D<sub>3</sub> and such components of the metabolic syndrome (MS) as a violation of glucose tolerance and type 2 DM; arterial hypertension; atherogenic dyslipidemia. Also, with deficiency of vitamin D<sub>3</sub>, obesity is closely related, which almost always accompanies type 2 DM. Obesity is accompanied by a decrease in the level of vitamin D<sub>3</sub>. The question of how the level of vitamin D varies and whether it affects the indices of carbohydrate metabolism compensation in type 2 DM remains to be considered insufficiently.

**Materials and methods.** 60 patients with type 2 diabetes with non-alcoholic fatty liver disease (NAFLD) aged 48 to 80 years were examined, on average ( $63.3 \pm 0.89$ ) years. Measurements for growth, weight, and body mass index (BMI) were performed for each patient. A study was conducted on glycosylated hemoglobin (HbA<sub>1c</sub>), total cholesterol (HDL), high density lipoprotein cholesterol (HDL cholesterol),  $\beta$ -lipoproteins ( $\beta$ -LP) levels; total bilirubin, low density lipoprotein cholesterol (LDL cholesterol), very low density lipoprotein cholesterol (VLDL cholesterol) and atherogenicity coefficient (AC), thymol, alanine aminotransferase (ALT), aspartate aminotransferase (AsAT), and calculated the de Rhithis coefficient. Also, the determination of 25-hydroxycholecalciferol was performed.

**Results.** Vitamin D deficiency was detected, and the HbA<sub>1c</sub> index was in the compensation or subcompensation stage of the carbohydrate metabolism. It was established that at low content of 25-hydroxycholecalciferol, there is dyslipidemia. The levels of ZHC,  $\beta$ -LP, TG, LDL-C and LDL-C, CA increased statistically significantly with decreasing levels of vitamin D. An increase in the values of transaminases compared with their normative values and a decrease in the de Rhithis factor, while decreasing vitamin D.





**Conclusion.** There is a reverse relationship between levels of vitamin D and HbA1c, which confirms the relationship between vitamin D and carbohydrate metabolism in patients with type 2 DM. Lowered levels of vitamin D are associated with lipid metabolism disorders. The established inverse correlation between the serum level of vitamin D and the functional state of the liver in patients with type 2 DM with NAFLD.

*Viun T.*

## **DIAGNOSTIC OPPORTUNITIES OF TARTRATRESISTANT ACID PHOSPHATASE IN COMORBIDITY OF HYPERTENSIVE DISEASE AND CHRONIC PANCREATITIS**

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**Introduction.** The combination of socially-significant common chronic non-infectious diseases of internal organs, the interaction of their pathogenetic links quite often leads to the development of complications, aggravating the course of the main nosology. Among such diseases there are chronic pancreatitis (CP) and hypertension (HD), which are calcium-dependent diseases, the comorbidity of which can aggravate the disturbances in calcium metabolism, thereby contributing to the formation of osteoporosis. As such a marker, the indicator of tartrateresistant acid phosphatase, which characterizes resorptive processes in the bone, is considered. Its changes can be considered as one of the mechanisms for the osteopenic states formation.

**Materials and methods.** The study involved 58 patients with isolated HD (comparison group) and 70 patients with combined course of HD and CP (main group). The age of patients in both groups was comparable ( $32,9 \pm 3,1$  years and  $33,2 \pm 2,1$  years, respectively). In both groups, men predominated with the ratio of 53.4% and 54.3%, respectively. The duration of the HD history was in the range of 3-17 years, CP – 2 -15 years.

Diagnostic of structural and functional disorders of bone tissue was carried out by ultrasound-screening method of densitometry. On study of TRACP in blood serum DAC-SpectroMed commercial kits were used (Moldova) on the LabLine-90 analyzer (Austria).

Control results of biochemical and instrumental methods were obtained by examining 50 almost healthy people. The results of the study were processed by the analysis of communication tables using Statistica software package.

**Results.** A densitometric study showed that changes in bone mineral density were recorded in 23 cases (39.7%) of 58 patients with isolated HD. At its combination with CP - in 32 cases (45,7%). In the comparison group, the signs of osteopenia were confirmed in 14 persons (24.1% of 58 examined), and osteoporosis in 9 (15.5%). In the main group of patients osteopenic condition was registered in



19 persons (27.1% of 70 persons), osteoporosis - in 13 (18.6%). When studying TRACP content in the blood serum of patients of both groups, its increase was established. Thus, on the average for a group with isolated HD, the TRACP content was  $2.72 \pm 0.2$  units, at the control -  $0.9 \pm 0.15$  units. ( $p < 0.05$ ). In patients with combined course of PB and CP, the level of TRACP was  $3.14 \pm 0.2$  units. ( $p < 0.05$ ). In this case, among patients with osteoporotic changes, the value of TRACP was higher and amounted to  $3.12 \pm 0.3$  units and  $3.32 \pm 0.2$  units respectively. The level of TRACP tended to increase with an increase in the duration of the combined pathology history (increased after a five-year combined course), and was also gender-dependent - slightly higher in female subjects. The change in the structure of bone tissue in the isolated course of HD in young people can be the result of changes in the pathogenetic link of the disease - the redistribution of the potassium-sodium-calcium pump, and with the addition of HP, and the violation of calcium absorption in the intestine against maldigestia and malabsorption.

**Conclusion.** Hypertensive disease in young people occurs against the background of increased resorption processes in bone tissue, which provokes the development of osteopenic conditions. With the combined course of hypertension and chronic pancreatitis, the processes of bone destruction increase, which is manifested by an increase in the content of TRACP in the blood serum. The indicators of tartrate-resistant acid phosphatase correlated with changes in the structure of bone tissue in the densitometric study, the sex of patients, and the duration of the disease. In case of an anamnesis of the combined course of these diseases exceeding the five-year period, it is necessary to conduct studies aimed at detecting changes in the structural and functional state of bone tissue, both by densitometry and biochemical control of osteoporotic markers.

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## **INFLUENCE OF VARIOUS PHENOTYPES OF OBESITY ON THE FORMATION OF CARDIOVASCULAR RISK**

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**Introduction.** Overweight and obesity are among the main factors in cardiovascular risk (CVR) causing various cardiovascular diseases (CVD). However, in the absence of insulin resistance (IR), dyslipidemia (DL) and arterial hypertension (AH), patients who have such changes are considered to be metabolically healthy. According to different authors, the percentage of MNO-patients in the general population ranges from 11 to 24%.

**Materials and methods.** The results of a survey of males (65 patients), aged 37 to 54 (average age  $43.7 \pm 3.4$  years), who did not have clinical manifestations of coronary heart disease (CHD), were



analyzed. The survey program included: measurement of anthropometric parameters (body mass index (BMI), waist circumference (WC)); measurement of blood pressure (BP), systolic (SBP) and diastolic (DBP), heart rate. Laboratory data were assessed: glycemia in fasting state; serum insulin level with determination of insulin resistance; the level of total cholesterol (TC), triglycerides (TG), high-density lipoproteins (HDL), low-density lipoproteins (LDL) and very low density (VLDL) lipoproteins; coefficient of atherogenicity (CA), ultrasound of common right and left carotid arteries (CA) was performed. The standard Carotid Intima-Media Thickness (CIMT) of the common carotid artery (OCA) was 1-1.5 cm proximal to the bifurcation. Statistical processing of data was executed using Student test. Differences were considered significant at  $p < 0.05$ . The definition of INR was performed according to Wildman criteria. Those patients were considered metabolically healthy who had a SBP  $< 130$  mmHg; DBP  $< 85$  mm Hg; level of TG  $< 1.7$  mmol / l; HDL  $> 1.04$  mmol / l; glycemia in fasting state  $< 5.55$  mmol / l; preserved sensitivity of tissues to insulin.

**Results.** Patients included in the research were divided into 2 groups: 1st - 47 patients (72.4%) with MS manifestations (RT  $\geq 94$  cm) and GO (BMI  $31.2 \pm 0.5$  kg / m<sup>2</sup>); The second group consisted of 18 patients (27.7%) with GS (BMI  $30.3 \pm 0.3$  kg / m<sup>2</sup>), but OT  $< 94$  cm, regarded as INR. Patients in group 1 had higher LDL cholesterol levels than in group 2 (1 and 2 groups (mmol / l), respectively:  $3.87 \pm 0.5$  and  $3.01 \pm 0.7$  ( $p < 0.05$ )) ; TG (respectively, 1 and 2 groups (mmol / l):  $2.37 \pm 0.24$  and  $1.68 \pm 0.19$  ( $p < 0.05$ )); glucose (respectively, 1 and 2 groups (mmol / l):  $6.42 \pm 0.24$  and  $5.36 \pm 0.22$  ( $p < 0.05$ )). Patients' CIMT OCA in the 1st group was higher ( $1.1 \pm 0.02$  mm) than in the 2nd group ( $0.7 \pm 0.02$  mm). Stenosis of CA (20 patients (42.5%)) were revealed in patients of group 1, in contrast to group 2. During the correlation analysis between BMI, OT, and the severity of atherosclerosis, a positive relationship was found between OT and the severity of atherosclerosis of OCA ( $r = 0.45$ ,  $p < 0.05$ ), but this relationship was not established with BMI.

**Conclusion.** The presence of a GO does not significantly influence the formation of MS components and does not determine CVR. However, the combination of GO with an increase in RT, hyperglycaemia, DL significantly increases CVR and promotes the development of atherosclerosis, the initial manifestations of which is the thickening of CIMT OCA. In spite of the fact that patients only with the GO, can be considered INR, dynamic control over this category of persons is necessary, for the timely detection and treatment of possible CVD.



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## **THE INFLUENCE OF ZOFENOPRIL AND ENALAPRIL AS PART OF STANDARD THERAPY ON THE DYNAMICS OF INDICATORS OF CARDIOHEMODYNAMICS IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION WITH CONCOMITANT OBESITY**

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**Introduction.** Nowadays acute myocardial infarction (AMI) occupies a leading position as a reason of death all over the world. The course of AMI is significantly complicated by the presence of concomitant obesity. The successes achieved in the last decades in the treatment of the cardiovascular system are due to the use of drugs that reduce the activity of the renin-angiotensin-aldosterone system, in particular angiotensin-converting enzyme inhibitors.

The purpose of the present research is to evaluate the efficacy of treatment of patients with acute myocardial infarction and obesity by comparing the effects of zofenopril and enalapril on cardiodynamic indicators.

**Materials and methods.** 75 patients with AMI and ST segment elevation and obesity were examined. Statistical processing of the received data was carried out using the package of statistical programs "Microsoft Excel". All patients were treated in accordance with the Order of the Ministry of Health №455 dated 02.07.2014 "Unified clinical protocol of emergency, primary, secondary (specialized) and tertiary (highly specialized) medical care and medical rehabilitation of patients with acute coronary syndrome with elevation of ST segment". 2 groups of patients were formed: 1st group of patients with AMI and obesity, which included enalapril in the dose of 10-40 mg per day (n=37) in the standard therapy; 2nd group of patients with AMI with concomitant obesity, who received zofenopril in the standard therapy at a dose of 15-60 mg per day (n=38).

**Results.** In the 2nd group, the final diastolic volume decreased by 10,6 % ( $p<0,05$ ), the final systolic volume decreased by 15,19 % ( $p<0,05$ ), the ejection fraction increased by 15,49 % ( $p<0,05$ ). In the 1st group, there was also positive dynamics, but less significant: KDO decreased by 10,51 % ( $p<0,05$ ), KSO by 9,6 % ( $p<0,05$ ), FV increased by 10,87 % ( $p<0,05$ ). According to the indicators of the left atrium, the final diastolic size, the final systolic size, the thickness of the posterior wall, the thickness of the interventricular membrane, no probable changes were detected ( $p>0,05$ ).

**Conclusion.** The most significant positive changes in indicators of cardioghemodynamics were among the patients taking zofenopril compared with the enalapril group.



Yermak O., Ebenezer Aheto

## FUNCTIONAL FUND OF IRON AND SOLUBLE TRANSFERRIN RECEPTOR AS A MARKER OF ERYTHROPOIESIS ACTIVITY IN PATIENTS WITH ANEMIA ON BACKGROUND OF CHRONIC HEART FAILURE AND CHRONIC KIDNEY DISEASE

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**Introduction.** Prevalence of anemia in patients with chronic heart failure (CHF) and chronic kidney disease (CKD) rises up to 79%, depending on diagnostic definition, disease severity and patient characteristics. Thus, anemia has been recognized as a very common and serious comorbidity in patients with cardiorenal pathology. A clear association of anemia with worse prognosis has been confirmed in multiple heart failure trials. Interest of researchers focused on the study of new markers for assessing the functional state of red bone marrow in anemic patients with various underlying pathological conditions.

The aim - to evaluate the functional fund of iron based on determining the dynamics of transferrin saturation (TSAT) and activity of erythropoiesis based on determining the dynamics of soluble transferrin receptor (sTfR) level in patients with CHF and CKD with anemia varying grades of severity.

**Materials and methods.** 105 patients (45% male and 55% female) with anemia based on CKD and CHF of III NYHA functional class (60%), IV NYHA functional class (40%) were examined. Control group included 35 CHF patients (69% male and 31% female) without anemia and CKD. The concentration of sTfR in serum was determined by ELISA. TSAT was calculated as a ratio of serum iron and total iron-binding capacity, multiplied by 100. Glomerular filtration rate (GFR) was estimated by Cockcroft-Gault Formula.

**Results.** In patients with anemia based on CHF and CKD there was found sTfR level decreasing in parallel to anemia severity increasing (grade 1 of anemia  $2,21 \pm 0,05$  pg/ml, grade 2 of anemia  $1,117 \pm 0,04$  pg/ml, grade 3 of anemia  $0,47 \pm 0,02$  pg/ml,  $p < 0,001$ ). Comparison of sTfR level in patients with grade 1 of anemia and patients without anemia didn't find significant differences (grade 1 of anemia  $2,21 \pm 0,05$  pg/ml, controls  $2,25 \pm 0,067$  pg/ml,  $p \geq 0,05$ ). In patients with CHF and CKD presence of anemia was accompanied by decreased levels of TSAT. Results of studying the dynamics of sTfR showed the depletion of erythropoietic activity and decreased functional fund of iron in patients with anemia on background of CHF and CKD.

**Conclusion.** Presence of anemia in patients with CHF and CKD was characterized by reduced erythropoietic activity. Minimal levels of sTfR observed in patients with 3 grade anemia.



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## **IMPACT OF THE SOLUBLE VE-CADHERIN ON THE OCCURENCE OF UNSTABLE ANGINA IN PATIENTS WITH POSTINFARCTION CARDIOSCLEROSIS AND CONCOMITANT DIABETES MELLITUS TYPE 2**

**2**

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**Introduction.** In spite of gradual improvement in the treatment standards of acute myocardial infarction (MI), frequency of thrombotic complications among patients with concomitant diabetes mellitus type 2 (DM2) is extremely high.

**Materials and methods.** 60 patients with postinfarction cardiosclerosis and concomitant DM2 were enrolled into the study. They were divided into two groups depending on the appearance of unstable angina during one

**Results.** Patients with recurrent MI had significantly higher levels of sVE-cadherin than patients without this unfavourable end-point ( $1,70 \pm 0,03$  ng/ml and  $1,45 \pm 0,03$  ng/ml accordingly ;  $p < 0,05$ ). After that a ROC-curve was built using a stepwise logistic regression. Considering the ROC-curve, development of the unstable angina was associated with sVE-cadherin  $> 1,59$  ng/ml (sensitivity- 100%, specificity- 77,8% ( $p < 0,0001$ ), which supports the negative influence of endothelial desintegrity in the development of unstable angina.

**Conclusion.** Development of unstable angina during one-year observation was associated with sVE-cadherin  $> 1,59$  ng/ml ( $p < 0,0001$ ). It is necessary to assess a level of sVE-cadherin on the tenth day of MI among patients with concomitant DM2 for the prevention of thromboembolic complications, particularly unstable angina, during one-year observation.

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## **THE STUDY OF SPERMOGRAMS OF MEN OF REPRODUCTIVE AGE, DEPENDING ON THE TYPE OF ALCOHOL CONSUMED**

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**Introduction.** To date, the toxic effect of alcohol on cellular and subcellular structures has been proven, which causes damage to key systems of body. However, there is still no unity of opinion on the mechanism of disorders of the reproductive function under the influence of alcohol.





**Aim.** To study features of indicators of spermograms of men of reproductive age, depending on the type and amount of alcohol taken.

**Materials and methods.** Studies were conducted in 110 men aged 20 to 55 years who were divided into 3 groups. The control group consisted of 17 men not using any alcoholic drinks and having 1 - 2 children. Group II (comparisons) consisted of 27 patients, who were consuming but not abusing all types of alcoholic beverages (1-2 doses of alcohol approximately every 1-3 months). Group III consisted of 66 patients abusing alcohol (6 or more units of alcohol at a time or 22 or more doses per week). Depending on the type of alcohol, this group was divided into 3 subgroups: IIIa subgroup - 13 patients abusing strong alcoholic beverages; IIIb - 27 patients abusing beer and IIIc ("mixed" group) - 26 patients abusing beer and strong alcoholic drinks.

All men underwent a comprehensive study including: a survey using the AUDIT screening test and spermological analysis using the standard WHO recommended method.

**Results.** The control group, like the comparison group, was characterized by the saved fertility of the ejaculate (the spermogram values didn't go beyond the limits recommended by WHO). In men of group IIIa, teratozoospermia and minor dyskinesia appeared, indicating a slight decrease, but the preservation of the fertile properties of the ejaculate. Analysis of spermograms in men of group IIIb revealed the presence of minor dyskinesia, asthenozoospermia and severe teratozoospermia, which is typical for a moderate decrease in the fertile properties of the ejaculate. In men of group IIIc showed significant asthenoteratozoospermia and dyskinesia, which indicates a more pronounced decrease in the fertility of the ejaculate.

**Conclusion.** The most pronounced changes of the fertility of the ejaculate were observed at an average and high risk of consumption of beer and mixed alcoholic beverages, at which there was a marked teratozoospermia, which may be due not only to the effects of ethanol, but also to the action of the non-alcoholic components present. The revealed disturbances are an indicator of decrease in the fertilizing ability of ejaculate in a natural way, that, undoubtedly, has the important prognostic and diagnostic value concerning an estimation of a reproductive system of men.

iSIC  
2018

# NEUROSCIENCES





*Ali Fadel Al Mahafzah*

## **CORRECT ACUTE TREATMENT AS A PREVENT TO DISABILITY IN THE EVENT OF A STROKE**

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**Introduction.** Current ischemic stroke treatment: intravenous thrombolysis with rt-PA (first 4.5 hours); thrombectomy (TE) within 6–8 hours. Selective intra-arterial thrombolysis (IAT) with rt-PA can be also feasible.

**Materials and methods.** 14 patient with stroke underwent IAT. All patients had severe stroke (NIHSS 15–24 points). NCCT ASPECTS score was 7–10 points. DSA showed acute thrombotic occlusion of big vessel (internal carotid artery or M1 segment of MCA). Bolus infusion of 2–3 ml of rt-PA was performed which was followed with 1 hour infusion of 20–30 ml of rt-PA. Outcome was evaluated based on CT and NIHSS in 24 hours after infusion and NIHSS and modified Rankin Scale (mRS) on the 30th day.

**Results.** 8 cases (57,15%) showed the complete recanalization of occluded vessel (TICI 3). 3 cases showed recanalization of occluded vessel to TICI 2b (21,5%) in and 1 case to TICI 2a (7,1%) in 24 hours with 2 patients without recanalization (14,25%). 9 patients (64,25%) showed clinical improvement to 5–7 points on NIHSS, 3 (21,5%) - the same score and 2 (14,25) worsened to 25-27 points. CT data: 3 patients had hemorrhagic transformation, one PH2, two - PH1. 1 month: mRS was 0 in 5 patient, 1 in 2 patient, 2 in 3 patients, 4 - in 1 patient. Mortality: 3 patients.

**Conclusion.** IAT showed good outcome despite the severe stroke: TICI 2b-3 in 78,65% of patients and mRS 0–2 in 71,4% of patients in 1 month. The cost of IAT is comparable to IV rt-PA and lower than TE so this method can be used in developing economics.

*Damilola Oluwatosin Abdul-Azeez, Joan Oluwadamilola Ajayi*

## **ADAPTATION IN THE ACADEMIC GROUP OF ENGLISH MEDIUM STUDENTS**

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**Introduction.** Adaptation problems always have been important in human life. The current trends in psychology are smoothing the notion of normality or psychological health, it is understandable that such concept as adaptation comes to the first place. We understand the need for adaptation in different social environments, when we talk about foreign students. This is not only a university, a new country, a new way of life, but also a new microsocial environment - an academic group.



**Materials and methods.** The academic group obeys certain laws of behavior and has its own characteristics. Assessing the behavior of members of the group, distinguish such concepts: conformance, social inhibition, pressure, laziness, weakening of self-awareness, diffusion of responsibility. We believe that responsibility is one of the most important characteristics of the individual, especially the personality of the future doctor. Therefore, the purpose of our study was to analyze the transformation of the notion of responsibility in the academic group. In our study took part 2 academic groups of 4-year students in each for 12 people, an English-speaking form of learning. In the first group there were students of both sexes, from one country, at the age of  $23 \pm 1.8$  years. The second group was represented by students of both sexes, from different countries, at the age of  $23 \pm 2.3$  years.

**Results.** The study showed that the first group had a higher microsocial adaptation, a sense of unity, security in the conditions of the academic environment. At the same time, the level of personal responsibility was lower. The diffusion of responsibility and the feeling of collective impunity were more often revealed. In the second group, students often noted a sense of loneliness, anxiety, fear for their future professional career, high level of personal responsibility. At the same time, in this group there was a higher adaptation in domestic issues and adaptation to a new country of residence.

**Conclusion.** We can say that a more cohesive and closed group allows for better adaptation only within its limits and leads to a decreasing in personal characteristics. The group is diverse in its characteristics, it enhances not situational but general adaptation of students and leads to a higher personal growth on the example of the concept of responsibility.

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## **COMPARISON OF DIFFERENT TREATMENTS FOR MULTIPLE SCLEROSIS**

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**Introduction.** Disseminated sclerosis is a chronic autoimmune disease that causes damage to the myelin sheaths of nerve fibers, which leads to impaired nerve transmission and impaired coordination, visual impairment, depression, decreased intelligence. The disease has a remission-relapsing nature, but often turns into a severe form - second-progressive multiple sclerosis.

**Materials and methods.** The results of a multitude of studies by neurologists published in the journal Lancet Neurology.

**Results.** Siponimod ultimately reduces the number of lymphocytes in the central nervous system, prevents neurodegeneration and stimulates the recovery of myelin sheath of nerve fibers. It



significantly facilitated manifestations of the disease in patients with a secondary-progressive form of the disease. In the trials took part 1645 patients, of which 1099 received the drug, and 546 received a placebo. Patients received treatment for an average of a year and a half. It was shown that the destruction of the nervous tissue was less pronounced in people taking the drug, 20% less participants noted a worsening of their condition. Phenytoin has ability to block sodium channels. With multiple sclerosis, the nerves become inflamed, resulting in a sharp increase in the level of sodium in the axons. This, in turn, leads to an excess of calcium and, as a result, cell death. The study involved 86 patients with optic neuritis, caused by multiple sclerosis. Half of the participants received phenytoin. All volunteers measured the thickness of the retinal nerve fiber layer by means of optical coherent tomography. It was explained that, in the treatment with phenytoin, the layer of nerve fibers lost on average 30 percent less thickness than in the control group. Hemopoietic stem cells. In the course of experimental treatment, the participants were taken from the hematopoietic progenitor cells and carried out the destruction of the immune cells of the body with busulfan, cyclophosphamide and rabbit anti-thymocyte immunoglobulin. After this, the patients' immunity was restored by transplantation of their own cells. Aim was the destruction of the population of immune cells attacking myelin fibers and other structures of the nervous system of patients. Within three years after treatment patient's 69.9 percent of volunteers showed no evidence of MS activity (exacerbations, progression and brain damage seen on MRI). Throughout the observation period the rate of brain atrophy decreased to the level of a healthy person.

**Conclusion.** Currently there are three promising method of treating multiple sclerosis. According to the research, two therapeutic methods can prevent the development of complications in this disease, significantly slowing progression compared with control group. Methods to "reset" the immune system is the first type of treatment that is completely stopped inflammatory activity in the central nervous system in multiple sclerosis patients over a long time and without further treatment.

*Dombrovskaya I.*

## **THE ROLE OF OMEGA-3- POLYUNSATURATED FATTY ACIDS IN THE PRIMARY AND SECONDARY PROPHYLAXIS OF ATHEROSCLEROSIS AND ITS COMPLICATIONS**

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Department of Neurology №1

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*Research advisor: Riznychenko O.*

**Introduction.** The incidence of stroke in economically developed countries is an average of 150 people per 100,000 population, in Ukraine the incidence is 278.2 cases per 100,000 population. The main etiopathogenetic factor that causes the development of cardiovascular diseases is atherosclerosis, which provokes and supports the progression of coronary heart disease and violation





of cerebral circulation of blood. One of the links in the pathogenesis of the atherosclerosis is the change in the lipid profile of the blood, the increase in the level of low density lipoprotein (LDL), very low density (VLDL) and triglycerides (T), which form the so-called atherogenic lipid triad. Therefore, for the correction of the lipid spectrum, it is recommended to first adjust the diet: reduce the consumption of saturated animal fats in the diet and increase the amount of oily sea fish, as well as olive and other vegetable oils. Fat of sea fish contains substances that have a positive effect on the lipid spectrum and are not produced in the human body - eicosapentaenoic and docosahexaenoic omega-3 polyunsaturated fatty acids. The main function of omega-3-polyunsaturated fatty acids in dyslipidemia is hypolipidemic, which is expressed in lowering the synthesis of TG and their protein transport of apolipoprotein in the liver, as well as in increasing the excretion of cholesterol in general and LDL in particular.

**Materials and methods.** During the year, we reviewed 8 patients who had undergone cardiogenic ischemic stroke, including 4 men and 4 women aged 64 to 72 years. In 5 patients, ischemic stroke was in the middle cerebral artery and 3 patients in the vertebro-basilar vessels. In all patients, the lipidogram showed a high level of total cholesterol, LDL and LDL. All patients in the complex therapy prescribed omega-3 polyunsaturated fatty acids - Epatol Neo (Kiev Vitamin Plant), which they took for 3 months.

**Results.** At re-examination in 3 months, all patients had a positive dynamics - decreased levels of total cholesterol, LDL and LPDH.

**Conclusion.** Thus, our research proved that to all patients that carried a cardiogenic ischemic stroke, for the prevention of atherosclerosis, and thus and development of the repeated acute cerebrovascular disorders in complex therapy must include omega-3-polyunsaturated fatty acids preparations, so as they reduce the level of general cholesterol, lipids of low and very low density.

*Drokin A., Kravchenko M.*

## **CLINICAL FEATURES OF DIAGNOSTICS OF HALLERVORDEN-SPATZ DISEASE ON A CLINICAL EXAMPLE**

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*Research advisor: Riznychenko O.*

**Introduction.** Hallervorden-Spatz Disease (pantothenate kinase-associated neurodegeneration (PKAN)) - a rare (3: 1000000), hereditary degenerative disease of the nervous system, which is transmitted to the autosomal recessive type, associated with the accumulation of iron in the basal ganglia. Having a low frequency of occurrence and similar clinical manifestations with Wilson's disease (WD) - Parkinsonism syndrome, various types of hyperkinesia, pyramidal signs, decreased cognitive functions, pigment retinopathy, optic nerve atrophy, etc., PKAN may remain unidentified.





In both cases, we are dealing with the deposition of cations of transition metals (iron and copper) in the region of the basal ganglia of the brain, with their defeat and degeneration. The aim of the work was a thorough study of the differential diagnostic study between PKAN and WD in a clinical example.

**Materials and methods.** In the neurological department of the Kharkov regional hospital, the patient O., 48 years old, was on treatment, in the clinical picture of which the data for pronounced postural instability, the quivering of the right hand and the stamping gait came to the fore. Pendulum movements of the body in the sitting position were noted, which disappeared when performing active movements. In 2013, 2016, she was consulted at the Medical Genetics Center, where she was diagnosed on the basis of a thorough clinical laboratory examination: Hallervorden-Spatz disease. The final diagnosis was based on the definition of copper and ceruloplasmin, as well as the picture of magnetic resonance imaging (MRI) of the brain characteristic of the PKAN - the eye of the tiger in the projection of the basal nuclei - on the MRI of the patient, large symmetrical hyperintensive zones with a focus of enlightenment were visualized.

**Results.** In the presence of a characteristic MRI picture for PKAN, the normal content of ceruloplasmin and copper in the blood serum of the patient, with a repeated ophthalmological examination, a pathognomonic symptom for WD was detected -Kaiser-Fleischer rings.

**Conclusion.** Since the reasons for the increased seizure of metals by certain areas of the brain have not been completely clarified at the moment, it is possible to assume similar mechanisms of their accumulation in other organs, including the cornea of the eye. Thus, this opens up a wide field for further studies of the role of iron and copper in the human body, their interaction and tropism to various organs and systems.

*Elakkumanan Kavitha*

## **VERTEBRAL ARTERY SYNDROME**

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**Introduction.** Vertebral artery syndrome is considered synonymous with vertebral artery compression syndrome and vertebro-basilar insufficiency (VBI). The vertebral artery is a major artery in neck which arises from the subclavian artery. Within the cranium both the extracranial and intracranial vertebral arteries unite to form the basilar artery. Twenty percent (20%) of strokes and transient ischemic attacks (TIA) occur in the vertebra-basilar circulation. It supplies blood to posterior circulation of brain which includes: cerebellum, medulla, pons, mid brain, thalamus and



occipital cortex. Due to this any defect in posterior circulation causes a collection of symptoms rather than one.

**Aim.** To study the set of symptoms that cause insufficient blood flow through the vertebral artery.

**Materials and methods.** The study is carried out by systematic review of observational studies, searching electronic databases with manuscripts about case studies on patients with Vertebral Artery syndrome. Studies were assessed for methodological quality and clinical data.

**Results.** According to New England medical Center posterior circulation registry mechanism of posterior circulation stroke or TIA attack were observed in 407 patients. The result showed that cause of stroke or TIA in 132 patients was because of large artery occlusion, in 173 patients was embolism, in 58 patients was penetrating artery disease, in 10 patients was migraine and in 34 patients was other causes. The most common causes of vertebral artery syndrome are: embolism, atherosclerosis, penetrating small artery disease and arterial dissection. The most frequent arterial sites of emboli are the intracranial vertebral arteries which usually lead to cerebellar infarction. Athero-stenosis or occlusion of intracranial vertebral artery most often causes symptoms and signs related to ischemia, which are referred to as Wallenberg or lateral medullary syndrome. Major symptom in patients with vertebral dissections is pain in posterior part of neck, spreading to shoulders. Intracranial vertebral artery dissections cause medullary, cerebellar and pontine ischemia and can cause subarachnoid hemorrhage. Migraine, fibromuscular dysplasia, coagulopathies and drug use are less frequent causes of Vertebral Artery Syndrome.

**Conclusion.** Patient diagnosed with vertebral artery syndrome needs lifestyle modification like: quit smoking, exercise, lower cholesterol intake and control diabetes. Surgical treatment options include: Endarterectomy, bypass grafting and vertebral artery reconstruction. Endovascular treatments involve angioplasty and stenting.

*Glushchenko S.*

## **INFLUENCE OF THE STATE OF THE VEGETATIVE TONUS ON CLINICAL FEATURES OF SLEEP DISORDERS IN MEDICAL STUDENTS**

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*Research advisor: Kauk O.*

**Introduction.** Sleep disturbances (insomnia) become one of the most frequent complaints of young and middle-aged people. This is especially true among medical students, as their activity is often accompanied by stress and increased mental load, and they usually neglect the standards of sleep hygiene.

**Materials and methods.** The research was conducted at the Department of Neurology № 2 of the Kharkiv National Medical University among the students of the 4th year of the 1st medical faculty.



The study group included 35 students (21 girls and 14 boys) aged 21 to 23 years. All students were evaluated for vegetative tone status (Kerdo index), signs of autonomic dysfunction (questionnaire by Wein A.M.), presence and severity of insomnia (Bergen scale of insomnia, Epworth drowsiness score).

**Results.** The conducted research showed that 26 students (74,3% of cases) have certain variants of sleep disorders. Moreover, there were some gender differences: in girls this percentage was 85.7%, while among young men only 57.1%. Episodic insomnia was disturbed by 16 students (61.5%), short-term - 8 students (30.7%), chronic insomnia was 2 students (7.7%). Among the main reasons that caused sleep disturbance, students pointed out: emotional experiences (42.3%), strong external noise - 23.1%, uncomfortable posture - 19.2%, a violation of sleep mode (night duty, preparation for classes) - 15.4%. The difficulty with falling asleep was felt by 18 students (69.2%), the lack of sleep duration was noted - 10 students (38.5%), 8 students (30.8%) complained of an early awakening with the subsequent inability to fall asleep again and 7 students (29, 2%) noted daytime drowsiness. According to a questionnaire by Wayne A.M. (1998) out of 26 students suffering from insomnia, 24 students (92.3%) had manifestations of autonomic dysfunction of varying severity: 5 (20.8%) students had mild severity (16-19 points), 17 (70, 8%) – moderate severity (20-24 points) and 2 students (8.3%) were severe (more than 25 points). According to the Kerdo index, 15 students (57.7%) had a predominance of sympathetic influence, 9 students (34.6%) - parasympathetic, and 2 students had the Kerdo index 1.0, indicating a functional equilibrium of vegetative tone. Among students with sympathetic disease, there were significant difficulties with falling asleep, and among the causes that caused them - stressful situations, while in parasympathicotonics dominated daytime sleepiness and insufficient sleep duration, and among reasons - a violation of sleep mode.

**Conclusion.** The conducted research showed that students with a predominance of the sympathetic department of autonomic nervous system often have a sleep disorder at the initiation stage, and with the predominance of parasympathetic effects - the duration of night sleep is disturbed with subsequent daytime sleep.

*Gritsenko A.*

## **CHARACTERISTICS OF A CHILD'S PSYCHOLOGICAL STATE DEPENDING ON THE FAMILY ONE IS BROUGHT UP**

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*Research advisor: Zelenska K.*

**Introduction.** Nowadays most people hide their true feelings, emotions, intentions, etc., because they can not express them, they are afraid to seem weak, to be betrayed. This is especially true for school-age children, and even more adolescents. Especially this period of life is important in a personality



formation. In this period priorities, "idols" and circles of communication change. Children are deprived of their parents, instead they are getting closer to their peers, but the relationships in the family for the rest of the life are "dug up" on the child.

Goal. To study the psychological and social status of children (adolescents) from different families.

**Materials and methods.** To assess the psychological state of children, one of the types of art therapy was used - isotherapy (the method helps in the development of creative abilities, the understanding of their own feelings and experiences, and gives resolving to internal conflicts and increases self-esteem). The study involved 12 children from problem families (under the control of social services) (5 boys and 7 girls), and 13 children from ordinary families (6 boys and 7 girls). The children performed individual and group projective drawings. The research was carried out on the basis of the municipal health care institution "Regional Multidisciplinary Children's Sanatorium" and the municipal institution "Kharkiv School of Secondary Degrees No. 135 named after the Hero of the Soviet Union, KF Olshansky".

**Results.** During the study, 27 pictures (25 individual and 2 group) were received. The evaluation of the work was carried out according to the following criteria: plot, color, size and pressure of the drawing.

Colour. In the pictures of children from problem families the red and black colours dominated, that means irritation, tension, conflict, the presence of difficult experiences. Instead, in the works of children from ordinary families, children prefer yellow and green - reliability, calm, good and positive mood. 13 children (9 children - a problem family, 4 - ordinary family) - red and black drawings, 12 children (9 children - ordinary family, 3 - problem families).

The size of the pictures of children from problem families represented the uncertainty of their authors, that was evidenced by the small size of the image. There were works the image on went beyond the boundaries of the sheet - the author's inclination to ill-considered decisions and the lack of self-control. The work of children from ordinary families had a relative proportionality and caused no imbalance in the picture.

Onslaught - if in the previous paragraphs children from troubled families drew attention to some redundancy or imbalance in the drawings, then in this paragraph, on the contrary. The onslaught of most pictures (8 children) was very weak, indicating apathy, mood swings and asthenia. There was also work with a strong and ordinary pressure. In the drawings, children from ordinary families had only ordinary (10 children) and strong (3 children) onslaught. However, only some parts of the work were drawn with force. This shows that this part of the picture in real life causes the child high tension. Collective drawings also had sharp differences. An ordinary family –a positive story, a problem family - a negative one. I would like to draw your attention to the fact that the puppets were performed by the whole group (each participant dusted one detail) in a circle. The beginning of the two works



was equally optimistic, but at one point the drawing of children from troubled families began to fade, the plot was gaining negative turns and attempts by the presenter to save the drawing were useless.

**Conclusion.** The psychological state of children differed according to the family they live in, so children from ordinary families were emotionally open and expressed friendly relations with others, telling about their drawing pointing to life situations from their own experience. Instead, children from problematic families portrayed the general picture, and in the story depicted in the drawing based on the plot of the movie or cartoon (the lack or unwillingness to open events from their own lives), the children were in psychological stress.

*Gorbatovskaya D.S.*

## **TREATMENT OF PATIENTS WITH ANOREXIA NERVOSA BY USING THE METHOD OF BIOACOUSTIC CORRECTION**

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*Research advisor: Vovk V.*

**Introduction.** Nutrition disorders appear most common among adolescents and young girls. In Ukraine 5% of people suffer from anorexia, mostly girls. Modern culture imposes a certain image of the "ideal" body and destructive habits, which influence increasingly the impressive number of people. It is well known that the treatment of anorexia is considered to be a very difficult task, since full recovery occurs only in half of the patients. Therefore, we decided to turn to "non-standard" methods of treatment of anorexia such as bioacoustic correction (BAC). Aim: to study the effectiveness of BAC influence on patients with anorexia nervosa. The goal of this study is to use BAC as an additional method of treating patients with anorexia nervosa to increase appetite, combat depression and low self-esteem.

**Materials and methods.** Following the set goal and tasks, 40 girls with anorexia nervosa have been examined. Evaluation of the results of the influence of BAC was aimed at studying the degree of self-confidence and the level of depressive state of patients. All participants underwent the Rathus Test for Self-Esteem (Rathus Assertiveness Schedule) and were tested by self-assessment scale before and after completing 3 courses of BAC (1 course = 10 sessions of 20 minutes) to compare the initial and final results.

**Results.** We assessed self-esteem using the Rathus Test. Analysis of BAC influence has showed an increase in the level of self-esteem by 79%. The level of depression was studied by self-assessment scale and it has showed 67% decrease in the level of depression in comparison with the initial results.

**Conclusion.** The BAC method has influenced positively the state of girls suffering from anorexia nervosa. This additional stage helped to increase self-esteem of participants, gain self-confidence,



reduce the level of depressive states and normalize the food ration. This music therapy method can be used further to treat anorexia nervosa as an auxiliary therapy.

*Holovko A., Fokina D.*

## **AB0 BLOOD GROUP SYSTEM AS AN ISCHEMIC STROKE DEVELOPMENT FACTOR**

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**Introduction.** One hundred thousand new ischemic stroke cases are stated annually throughout Ukraine, of which one third was declared by people of employable age. Death is observed in 40% of the cases. Thus, the ischemic stroke share in disease structure of Ukraine spreads wider so far. It is the reason of recent lethality increasement and working ability loss, that makes the relevance of this research. The goal of the research is to detect the blood group distribution of the Kharkiv Regional Clinical Hospital patients with ischemic stroke according to the AB0 system. This data is the base for further stroke emergence risk discovering, as well as for prophylactic, diagnostic and therapeutic arrangements.

**Materials and methods.** The aiming group consisted of 50 patients of the neurological department of the Kharkiv RCH having ischemic stroke as a diagnosis in 2017. Blood group was determined by monoclonal antibodies. In order to get and group the results, medical statistics methods were used.

**Results.** During the research following results were revealed (blood group distribution among patients) 0(I) – 29%, A(II) – 25%, B(III) – 37%, AB(IV) – 9%.

**Conclusion.** From the data analysis derives the conclusion, that B(III) blood type patients are the most exposed to the ischemic stroke development risk. Despite the fact, that blood type is permanent, it is still possible to detect people with higher stroke emergence risk, as well as examine and give them suggestions for healthy lifestyle and nutrition maintenance.

*Knyhin M., Artsylenko K.*

## **EVALUATION OF MENTAL AND EMOTIONAL STATUS OF PATIENTS WITH DISCIRCULATORY ENCEPHALOPATHY**

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**Introduction.** At present, the rapid changes that have occurred in the life of mankind have a direct impact on the psychoemotional state and people's well-being. As a result, we assessed the mental and





emotional status of patients with discirculatory (atherosclerotic) encephalopathy using the HAM scale (state of health, activity, mood) to detect the dynamics of mood level and activity against the background of treatment. The HAM scale is designed for rapid assessment of a person's psychoemotional state. The questionnaire consists of 30 pairs of words (10 for each category). On the form there is a rating scale, according to which the subject evaluates the state in a certain numerical index. The evaluation result displays the sum of the scores for each category. The norm of psychoemotional status is indicated by the sum of scores of more than 40 points.

**Materials and methods.** Thirty patients with discirculatory (atherosclerotic) encephalopathy who were on inpatient treatment in the neurological department of Educational Scientific Medical Complex «University Clinic» of KhNMU, participated in our study. Of these, 13 men (43.3%), 17 women (56.7%). In (86.6%) cases there was hypertonic disease of I-III degree. Age of patients from 50 to 60 years.

**Results.** The functional state of the patients was assessed by testing the HAM questionnaire. When processing the results, the "raw" scores had the following numerical value: state of health -  $3.9 \pm 0.8$ , activity -  $3.3 \pm 0.6$ , mood -  $4.2 \pm 1.0$ . According to the results of the calculation of "raw" points, a low level is noted in the indicators of state of health and activity, in the category of mood – medium level. When calculating the average score of each category, «state of health» was expressed in 36.8 points, «activity» - in 32.6 points, «mood» - in 38.6 points. There was not only a decrease in functional indicators, but also their disproportion - the decline in state of health and activity prevailed. A normal state of health of more than 40 points had 6 (20%) patients, 4 (13.3%) had a favorable evaluation (50 points). When studying the state of activity, it was found that a normal score (40 points) was present in 5 (16.6%) patients, a favorable estimate was in 2 (6.6%) patients. After checking the state of mood, 12 (40%) patients had a normal assessment, 4 patients (13.3%) showed favorable results.

**Conclusion.** Having analyzed the questionnaires of patients on the HAM scale, we summarize that 33.3% of patients with discirculatory encephalopathy rated their health as normal and favorable. Also, 23.3% of patients rated their activity as favorable and normal. Similarly, 53.3% of patients rated their mood as normal and favorable. In the study, the indicator of activity and state of health of patients with DEP was lower than the mood indicator. Patients are recommended to review their work and rest schedule, as well as concentrate their attention on increasing motor activity and physical exertion.



*Korovina L., Kondratenko A.*

## **TEMPORARY IMMIGRATION LIKE ONE OF THE BASES OF ADJUSTMENT DISORDERS WITH DEPRESSED MOOD AMONG FOREIGN MEDICAL STUDENTS**

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**Introduction.** Adjustment disorders are among the most frequently experienced mental health disorders. However, given the range of stressors involved, severity levels, and settings in which data is collected, the reported prevalence estimates vary significantly. Given how complex and busy our lives have become in this technological age, it is not surprising that adjustment disorders are a relatively commonly experience. It is rare that we encounter only one single stressor at a time because of the number of different roles we take on. The main part of modern researches is devoted to importance of immigration factor in etiology of all mental disorders. We consider that even temporary immigration is highly stressfull.

**Materials and methods.** That's why foreign students have been taken to our study. There were 38 students in our research, 4th and 5th year courses,  $23 \pm 1,6$  years old. Most of them were from the Middle East, India and Nigeria (muslims, christians, buddhists). They noticed a deterioration in mood for more than a few weeks in a month and had non-attached psychiatric anamnesis.

**Results.** According to the results of the clinical interview, the entire contingent of the study showed a subdepressive condition: a rough sleep disorder, sleep disturbances (long falling asleep, heavy awakening), loss of appetite most of the time, which did not lead to a significant reduction in adaptation, and there weren't complaints after returning home during the holidays. Several groups of factors were identified that negatively impacted students mood. This is the geopolitical characteristics of the country of study; micro-social factors, academic language difference and slang. At the same time, most men identified the leading differences in academic and outdoor communication, lack of information about cultural and social differences between countries, differences in expectations, and the actual situation, according to learning. Women noted the lack of information about supporting organizations, the language barrier. In the pursuit of adaptation, the students of both sexes became more closed, they lost their wish to leave their house or university alone, they were inclined to isolation or communication in closed organizations, increasing religiousness and the desire of protection, the tendency was to avoid contact with official organizations. In most cases, the men indicated using of nicotine, alcohol, caffeine, cannabinoids and non-chemical addictions (social networks, etc.).



**Conclusion.** In conclusion we should note the presence of AD with depressive mood among foreign students. For prevention of them, it is possible to develop the following measures: supporting work among students from the university and contact establishments, support for open student's organizations, involvement in sports organizations, support for hobbies, active leisure time (competitions, contests, parties) and student's researches.

*Leshchyna I.*

## **PSYCHOPREVENTION NONPSYCHOTIC MENTAL DISORDERS IN PREGNANT WOMEN**

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**Introduction.** The high prevalence of nonpsychotic mental disorders in women during pregnancy determine the relevance of studying, developing and implementing methods of psychoprevention. Art therapy has a significant prevention potential in working with patients with nonpsychotic mental disorders. The use of art therapy in psychoprevention programs helps pregnant women utilize various verbal and non-verbal forms of creative activity. This improves a stress resistance, a social and personal level of adaptation in condition of significant changing of their life.

**Materials and methods.** The purpose of our study was to evaluate the effectiveness of art-therapy in the psychoprevention nonpsychotic mental disorders in pregnant women. Material and methods: The clinical-anamnestic, clinical-psychopathological and psychodiagnostical research methods were used. Tools used were The Hamilton Depression Rating Scale (HDRS), The Hamilton Anxiety Rating Scale (HARS), Symptom-Checklist, SCL-90-R, Quality of life index by Mezzich J.E., Cohen N. et al., 1999. During the research, 64 pregnant women were examined. The average age of women was  $26,12 \pm 8,06$  years. Gestational age ranged from 22 to 32 weeks.

**Results.** The nonpsychotic mental disorders were observed in 43% of the examined women. In the structure of mental pathology are dominated by neurotic, stress-related and somatoform disorders in the form of adjustment disorder, anxiety disorders, somatoform disorders, neurasthenia. Anxiety, irritability, depressed mood, fear, decreased mental and physical activity, autonomic dysfunction were the main symptoms in pregnant women with nonpsychotic mental disorders. The average anxiety score on the HARS scale was  $16,34 \pm 3,55$  points, which corresponds to a moderate anxiety. The average estimation of depression on the scale HDRS was  $12,69 \pm 2,76$  points, which corresponds to mild degree of depression. According to SCL-90-R, in pregnant women were identified high level of mental distress (GSI –  $0,78 \pm 0,69$ , PSDI –  $1,54 \pm 0,46$ ). The analysis of the profile of the quality of life demonstrate a more significantly decline general perception of the quality of life in pregnant



women with nonpsychotic mental disorders than mental health women ( $p < 0,01$ ). In the second step of our research, we use the art-therapy as the type of psychological support among pregnant woman. It was a group art therapy with a thematic approach. Art-therapy sessions were conducted in groups of 10-14 people. Each session was 60 minutes long and sessions were conducted twice a week. Art-therapy using the methods of drawing, sculpting, collaging, and elements of music therapy. As a result, of application of art therapy in the scheme of measures aimed at prevention of mental disorders among pregnant woman demonstrate significant declining prevalence of nonpsychotic mental disorders and improving indicators of the quality of life in pregnant women.

**Conclusion.** The use of art-therapy as the component of the psychological support pregnant women is effective in prevention nonpsychotic mental disorders. Art-therapy promotes to normalize the emotional and psychological state of women, improving their stress resistance, quality of life and it determines an effectiveness of preparing for successful delivery.

*Likha V.*

## **THE FEATURES OF EATING DISORDERS IN YOUNG WOMEN**

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**Introduction.** Nervous anorexia is a nutritional disorder characterized by limits in food in order to reduce weight and / or to prevent an overweight set. Often this disorder occurs in young girls. Anorexia is a dangerous disease that has become widespread in recent years, especially in European countries, where there are 4 new cases per 100,000 people. This is due to a change in the criteria for assessing women's beauty and body and the popularization of fragile physique. Mortality from this disease reaches 5 - 10%.

**Materials and methods.** 17 women aged  $20.2 \pm 2.1$  years were interviewed. The study was conducted on the base of 11 psychiatric department for adults (the Department of Crisis and Boundary States) KhRCPH № 3. In the resource were used "Scale for Evaluating Eating Behavior"; "Questionnaire of the image of his own body", test "Attitude to eating" (EAT-26). Also, BMI (Body Mass Index) was calculated by Ketley.

**Results.** As a result of the study, the following data were obtained: according to the assessment of the dietary habits, the desire for cattle was detected in 88.2%, self-body dissatisfaction was 94.1%, perfixionism - 76.5%, distrust in interpersonal relationships - 64.7% . "The questionnaire of the image of his own body" illustraited dissatisfaction with own body was found in 88.2% of patients. In all patients on the scale of EAT-26 were found serious psychological problems with the attitude to eating.



**Conclusion.** According to the results of the study, we see a clear tendency towards unhealthy control of own weight and non-compliance with the rules of nutritional management, which in the long run may lead to serious health problems.

*Likha V.*

## **EPILEPTIC SEIZURES AS A MANIFESTATION ARTERIOVENOUS MALFORMATIONS ON CLINICAL EXAMPLES**

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*Research advisor: Riznychenko O.*

**Introduction.** Nowadays, the topicality of the issues of modern clinical neurology is constantly growing. One of the most interesting topics is arteriovenous malformation of blood vessels, which in clinical practice is also called a "time bomb". Arteriovenous malformation is a disease that is based on abnormal vascular development, which is a ravel of interlaced arteries and veins, in which there are no capillaries. It consists of a feeding artery, a pathological vascular network, a draining vein and an intervenous tissue. The most particular, but not pathognomonic, symptoms of AVM are: in 50% - spontaneous hemorrhage; in 25% - epileptic seizures; in 20% - headaches, and also a neurological deficit.

**Materials and methods.** We carefully studied the medical documentation three men of young age (24, 29 and 32 years old) who entered to the neurological department with a newly developed epileptic seizure - two had a generalized tonic-clonic seizure, one had a seizure of motor Jackson epilepsy of the type "brush-shoulder-face" on the right. At all patients on SKTA AVM of different localization was revealed.

**Results.** All these patients underwent a successful surgical treatment - endovascular embolization of cerebral vessels, which consists in occluding the vessels with a special gluing agent, which is inserted into the femoral vein with the help of a catheter, from there it reaches the malformation. A few days after the procedure, there is a blockage of blood vessels and blood stops fall into pathologically convoluted vessels.

**Conclusion.** 1) our study proved that frequent clinical manifestation of AVM are epileptic seizures; 2) patients with newly developed epileptic seizures should be included in the complex examination, to timely detect AVM and conduct modern surgical treatment, which makes it possible to neutralize the "time bomb", and, thus, save the patient's life.



*Magapu Veera Venkata Akhil*

## **AUTISM SPECTRUM DISORDER AND SUBSTANCE USE IN YOUTH**

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*Research advisor: prof: Hmain S.*

**Introduction.** The prevalence of Autism Spectrum Disorder (ASD) has increased greatly over the past several years. Substance use is a major health concern in the persons ages 15-24. Most persons with ASD, even those with relatively developed language skills have a constellation of social and non-social cognitive deficits. They can present difficulties understanding the thoughts and emotions of others and their own and the modalities involved in nonverbal communication. They can be rigid in their thinking and interests which can lead to difficulties in confronting life challenges. Adolescence and young adulthood can be a time of stress and confusion for any growing child. Especially youth with ASD and teens with ASD may become aware that they are different from their peers. For some this may lead to depression, anxiety or even substances use disorder (SUD). Based on clinical experiences, youth with ASD with a co-occurring SUD represent a unique treatment challenge and require additional or modified interventions that target the constellation of social and non-social cognitive deficits.

**Materials and methods.** We conducted a limited review of the literature to determine the challenges and types of interventions employed when treating SUD in individuals with ASD. A paucity of literature exists in this area. We thus reviewed three clinical cases. We first looked at the required skills needed for an individual to successfully participate in a substance abuse program. Then, we looked at the common characteristics seen in the individuals with ASD participating in SUD programs requirements to affect treatment. We suggest possible interventions and highlight the need for further research.

**Results.** Youth patients with ASD and substance use disorder display poorer outcomes in traditional substances abuse programs. Traditional substances use treatment modalities such as individuals, family or group counseling rely on participating individuals to have certain skills that individuals with ASD lack or have difficulties with. We suggest that the poorer outcomes are directly related to an incompatibility between program requirements and core autism characteristics.

**Conclusion.** Completing treatment is the strongest predictor of continued sobriety and positive health outcomes, so it is important that youth participate in and successfully finish substance abuse treatment services. Youth with ASD represents a unique and challenging population when it comes to SUD treatment. Limitations of existing substances abuse programs create struggles in addressing the core deficits of ASD. Program structures must be modified and adapted to address the unique needs of





these individuals. As we illustrated, individuals with ASD may require additional or modified interventions to treat their SUDs. These interventions may be required as a prerequisite or in a parallel. Concomitant fashions to facilitate a successful outcome. We hypothesize that persons with ASD may benefit more from individuals rather than traditional group therapies given their social deficits, need a highly structured program with routines individualized to their needs and possibly additional modalities such as a computer based interventions given their intense interest in technology. These and other interventions may be a useful addition to a traditional treatment plan thus increasing motivation and interest and resulting in increased responsiveness to intervention. Further research is needed to explore these and additional interventions.

*Martin Medhat Mousa Istanese*

## **PERSONAL IDEALS AND ADAPTATION OF ENGLISH MEDIUM STUDENTS**

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**Introduction.** Personality is one of the basic characteristics in psychology. This is an integral indicator of the biological and social in man. At the present stage of development of psychologists, there are many theories of personality, one of them is psychoanalysis. From the classical works of Z. Freud, we understand the structure of personality as the interaction of It (It), Ego (I) and Super-ego (super-I). As a dynamic structure, the personality develops in a system of conflicts, prohibitions, compromises and motivations. If It is instincts (unconscious inclinations), the Ego is what we are (realized), then the Super-Ego is a moral and ethical attitude, a religion, a conscience and a system of ideals. Super-Ego is formed in the process of development and education of a particular person, helps him to adapt in a civilized world. One of the main functions of the Super-Ego is the formation of Ideals. The concept of the ideal is understood as perfection, the highest goal, determining the mode of thinking, activity, something that affects society and reduces to a combination of norms of behavior and requirements. Also this concept is inseparable from the cultural evolution, the crisis periods of the development of society, self-esteem. The purpose of our study is to determine the characteristics of personal characteristics, their formation and adequacy of maintaining adaptation in changing social conditions.

**Materials and methods.** The contingent of our study was presented by 38 students, KhNMU, 4th courses, English language training. Most of them were residents of the Middle East, Central Africa, India, at the age of  $23 \pm 2,1$ . We used the method of clinically directed conversation, the psych diagnostic method (personality questionnaire, Cattell 16 SF-16).



**Results.** The results of the research showed that in most cases the students detected a disharmonious personal profile. In some cases, sensitivity prevailed, the desire to obey the rules, a sense of privacy. In other situations, expressiveness, suspicion, and low self-control prevailed. At the same time, the absolute majority of the subjects had enough anxiety and tension.

**Conclusion.** Thus, it can be said that, despite the different predominant personal traits, the presence of anxiety and tension shows the weakness of adaptation. It can be assumed that the ideals that were present before are not sufficient for the adaptation of the individual in the objectively changed conditions. These factors can become a basis for the formation of further programs to improve the adaptation of foreign students.

*Matowe C.C.V*

## **THE CLINICS OF COMA AFTER A HAEMORRHAGIC STROKE**

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**Introduction.** Many physicians believe that when a patient is in a coma, we can learn nothing from the neurological examination. In reality, by practicing a few simple techniques, we are able to interrogate essentially all the nervous system even when a patient is in a coma.

Coma accounts for a substantial portion of admissions to the emergency wards and occurs on all hospital services. Conditions that cause sudden coma include: cardiac arrest, cerebral haemorrhage, drug ingestion, epilepsy, trauma and basilar artery occlusion from an embolism.

**Materials and methods.** We chose to define coma as Glasgow Coma Scale (GCS)  $\leq 8$  given the widespread clinical use of this score and our ability to track quantitative progression using daily GCS scores documented on nursing flow charts. We identified 11 patients with Intracranial haemorrhage (ICH) admitted in the Emergency Department of the Kharkov Regional Hospital. The initial GCS of  $\leq 8$  was recorded in the first 24h of hospital admission to account for 45% of patients with ICH who decompensate in the first 24h.

**Results.** We did a routine neurological examination on the patients for 7 days consecutively. The signs we found were remarkable. We had assumed all were in coma. But to our surprise, about 21% patients' level of consciousness was obtundation. Hyperventilation was the common respiratory pattern among the majority with a 10% displaying Cheyne-Stokes pattern. On eye examination all the patients demonstrated small (pinpoint) unreactive pupils. As for brainstem reflexes we identified equal unresponsive pupillary reflex in both eyes for 91% patients except one showed sluggish response. None of the patients showed irritation upon nose tickling. All patients exhibited loss of corneal responses, and impaired ocular bobbing (movements in the vertical direction). None at all



showed motor and sensory responses. Muscle stretch and pathological reflexes we witnessed extensor posturing of the limbs and bilateral Babinski signs in 9% of the subjects. The rest were unresponsive upon noxious stimulation on the upper and lower limbs. In general, most patients' GCS was on average  $\leq 8$ , except 9% whose score improved (by 2 points in motor response) on the 3rd day during the 7-day clinical observation.

**Conclusion.** The incidence of coma after a haemorrhagic stroke is quite minimal. Coma that appears sub-acutely is usually related to a pre-existing medical or neurologic problem or, less often, to secondary brain swelling surrounding a mass such tumour or cerebral infarction. The diagnosis of coma due to cerebrovascular disease can be difficult. The most common diseases are (1) basal ganglia and thalamic haemorrhage; (2) pontine haemorrhage; (3) cerebellar haemorrhage; (4) basilar artery thrombosis; and (5) subarachnoid haemorrhage. In terms of prognosis, pupillary and eye responses have a predictive value whereas absence of corneal responses has a discriminative value.

*Mynka N.A.*

## **DYNAMICS OF SOCIAL AND PSYCHOLOGICAL ADAPTATION IN YOUNG PEOPLE**

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**Introduction.** The adaptation to the new conditions is essentially in the further formation of the student as an individual, since it includes adaptation not only to the peculiarities of studying, the acquisition of knowledge, but also to the social environment, living conditions, as well as in general to an independent, adult life. Social-psychological adaptation is an active and purposeful assimilation of norms, rules, values, both society and more closest social environment. In this case it is a university group. The mechanism of adaptation, which was formed as a result of long evolution, ensures the possibility of an individual's existence in an ever-changing environment. Consequently, adaptation of young people, in a society of constant change, is a complicated process. In this context, the field of maladaptation is expanding. Prevention and overcoming of social and psychological maladaptation is an urgent problem in our time. Goal. To study the dynamics of socio-psychological adaptation of a group of students in the conditions of higher education.

**Materials and methods.** In the empirical study the method of diagnosis of socio-psychological adaptation of C. Rogers and R. Diamond was used to study the adaptation of the person. The sample of the study consisted of a group of students from 20 people (3rd year students of the Kharkiv National Medical University) aged 19 to 26 years.

**Results.** In most students - 55%, a high level of "adaptation opportunities" was revealed, 15% of the respondents had the average one, normal data demonstrated 6 students - 30%. The integral indicator



of "maladaptation" was normal in 45% of the respondents, 50% had low and only 5% had a high level of "maladaptation". The rate of "self-acceptance" was high in 85% of students, 10% persons were in norm range and only 5% had a low level of "self-acceptance". The low level of "self-denial" was found at 55% of students, the normal data was observed at 45%. For 45% of students the high level of "acceptance of others" was discovered, while the remaining 55% showed a low level of "acceptance of others." The rate of "non-acceptance of others" had 30% of responders, 65% had low and 5% high rates of this indicator. Such a characteristic as "emotional comfort" was observed in 20% of students, "low" – in only 5% and within the norm ranges – 75%. The high rate of "emotional discomfort" had 5% persons of sample group, in 55% it was low and the norm had 40% of the respondents. Within the norm rates of 25% of students there was an indicator of "internality". The high level of "internality" had 75% of the respondents. "Externality" covered 55% of students with normal ranges, 5% had increased levels of such data, 40% had a low one. The "dominance" indicator was normal in 45% of students, the high value of the indicator had 50%, and only 5% had a low value. Within the normal range, 55% of the respondents had the score "leadered", the low value had 30%, high - 15%. "Mendacity" was observed within the norm ranges in 25% of the respondents, 75% had a low rate. In 60% of respondents the escapism was within the norm, 15% students had raised and 25% had low levels.

**Conclusion.** Here are high integral indicators of this survey. No one of the 5 surveyed males is accepting oneself. Non-admitting ourselves in 3 young men ( 60% of all 5 interviewed male) was admitted. There is positive dynamics of emotional comfort that is observed in 11 out of 15 girls and in 4 out of 5 boys. The indicator of "integrity" also attracts attention, since only 4 girls out of 15 have their meanings within the norm and 1 boy. In general, we have a good picture of social and psychological adaptation, with some personal deviations from the norm. Processed data shows that in practice it is appropriate to apply special corrective programs aimed at overcoming difficult life situations.

*Nagornyi I.*

## **ASSESSMENT OF ANXIETY IN STUDENTS OF THE 4 COURSES OF THE SECOND MEDICAL FACULTY OF KhNMU**

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**Introduction.** Modern reality puts forward to the individual the requirement of free adaptation to realities of life. Anxiety for a young person, a future medical specialist, is a serious obstacle to obtaining knowledge, as well as their implementation in the future. C. Spielberg distinguished two



main types of anxiety: situational and personal. Situational anxiety is an adaptation reaction of the organism to a specific situation and is peculiar to all of the people without exception, personal anxiety is an individual feature of a person associated with a low threshold of excitability of the nervous system. There is a direct correlation between the types of anxiety, as well as their joint influence on the behavioral characteristics and health of the individual. It is proved that constant intense fears increase the risk of developing various neurotic states and neuroses.

**Materials and methods.** A selective study was conducted at the 4th year of the 2nd Faculty at KhNMU. The study involved 30 people. The sample was divided according to gender (men - 11, women - 19). The age of students varied from 20 to 23 years. During the study, scales of the assessment of reactive and personal anxiety of C. Spielberg-Yu. Khanin were used, which allows differentiating anxiety measurement as a condition and personality property. The level of anxiety was estimated in this way: up to 30 points - low; 31-45 - moderate; 46 and more - high anxiety.

**Results.** The indicators of anxiety are presented in the table.

	Situational anxiety	Personal anxiety
Male	37,3±0,29	38,7±0,34
Female	40,3±0,17	45,2±0,21
General level of anxiety		40,4±0,23

The data presented in the table indicate that in most of the examinees regardless of their gender, the reactive anxiety indicators are within a moderate level. Comparison of groups by sex showed an increase in the level of personal anxiety in girls ( $p < 0.01$ ).

**Conclusion.** An assessment of anxiety among 4 th year students of the Faculty of KhNMU revealed reliable sex differences in the level of anxiety. A higher level of anxiety in girls can be regarded as a high probability of neuroses.

*Olkhova A., Pavlichuk E.*

## **PECULIARITIES OF POST-TRAUMATIC STRESS DISORDER IN SOLDIERS RETURNING FROM AREAS ATO**

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**Introduction.** It is impossible to overestimate the importance and relevance of the study of mental disorders of military personnel who protect nowadays the sovereignty of our country in the east. Each day they are exposed to threshold-exceeding stress, which sometimes leads to adaptation disorders, namely post-traumatic stress disorder. Some of the fighters, that cannot handle such stress, seek solace in alcohol subsequently becoming addicts, which only complicates the course of PTSD.



**Materials and methods.** We conducted our research in the Military Medical Clinical Center of the Northern Region. In our study, we interviewed 47 patients diagnosed with post-traumatic stress disorder F43.1, the manifestation of which we directly linked with a traumatic injury received in the ATO zone in the east. We deliberately excluded patients with other dependencies and craniocerebral trauma. Methodology: clinical-psychopathological (interviewing and observing), clinical-anamnestic and psychodiagnostic. Used techniques: Mississippi post-traumatic stress disorder scale, Impact of Event Scale-R, questionnaire for traumatic stress.

**Results.** All patients were divided into two groups: the first one with a high level of post-traumatic stress ( $119 \pm 11$ ) was 29 people (61.7%), the second with a middle level ( $87 \pm 8$ ) 18 people (38.3%). Results of IES-R: in group I -  $68,33 \pm 8,02$ : in the "invasion" subscale -  $24,33 \pm 9,07$ , which testifies to the frequent experiences of the traumatic situation: in the "avoidance" subscale -  $20,67 \pm 5,03$  - expressed fear of the experienced event; on subclass, "excitability" -  $23,33 \pm 2,89$ , expressed irritability; insomnia. In the 2nd group:  $42.39 \pm 24.94$ ;  $14.68 \pm 8.96$ ;  $14.38 \pm 9.30$ ;  $13.33 \pm 8.81$  - respectively (less pronounced effects). The Questionnaire for traumatic stress showed us: super-vigilance - in 70.2% of the examined; exaggerated response - 31.9%; blunted of emotions - 23.4%; aggressiveness - 53.1%; memory impairment and concentration of attention - 31.9%; depression - 48.9%; general anxiety - 85.1%; attacks of rage - 48.9%; abuse of narcotic and medicinal substances - 82.9%; uninvited memories - 34.0%; problems with sleeping - 91.4%; "Survivor guilt" - 57.4%; optimism is 19.1%.

**Conclusion.** A significant proportion of patients suffer from a high level of post-traumatic stress. This is primarily a sleep disorder and general anxiety. This illustrates the importance of the customization of treatment methods for such patients. Needless to say that in this case psychotherapy, such as gestalt and cognitive-behavioral techniques are of paramount importance.

*Pyndykivska S.,*

## **CLINICAL AND NEUROLOGICAL FEATURES OF HEMORRHAGIC STROKE WITH DIFFERENT LOCALIZATION IN ACUTE PERIOD**

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**Introduction.** Hemorrhagic stroke mortality in Ukraine is 86.7 per 100 thousand people, among them 65% of patients die in acute period [Samosiuk I.Z., Flomyn J., 2012]. The impact of comorbid conditions, early symptoms, preceding hemorrhage as well as the connection between the early treatment of stroke and the amount of disability, the degree of cognitive impairment and rehabilitation of patients with hemorrhagic stroke need more detailed study. The correlation between the results of





ties different diagnostic scales (HIHSS, MoCa et al.) is not sufficiently studied. The main aim of the research is to clarify the impact of etiologic factors, rate of early diagnosis and treatment on neurological deficit severity, the degree of cognitive impairment and rehabilitation of patients with parenchymal and ventricular-parenchymatous hemorrhagic stroke in the acute period, to study the correlation ties between the results of different diagnostic scales.

**Materials and methods.** Under conditions of the neurological department of Ternopil Regional Psychoneurological Hospital in 2017 there were examined 20 patients with hemorrhagic parenchymal and parenchymatous-ventricular strokes aged 29 to 89 years. Clinical neurological, neurotrophic (CT, MRI) examination, scale assessment of neurological status of the patients (Glasgow Coma Scale, NIHSS, MoCa, Bartel and Rankine scales) were used.

**Results.** By 2(10%) patients there was a history of hemorrhagic stroke. 9(45%) patients were given therapeutic support during the first 3 hrs, 2(10%) - in the range of 3-6 hrs, 9(45%) - after 6 hours from the time of first symptoms. By 9 patients there was moderate suppression of consciousness on the Glasgow Coma Scale, of which 6(66,7%) – patients whom treatment was given within 6 hours or more. Assessing patients by NIHSS scale, by 9(45%) were found critical condition disorders. Among patients in critical condition by 5(55.6%) were diagnosed mixed parenchymatous-ventricle stroke. According to the Rankin and Bartel scales by 9(100%) patients in critical condition expressed significant signs of disability. Assessing the status of patients by the MoCa scale in 18(90%) patients were found cognitive impairments. By 2 patients whose stroke occurred repeatedly, cognitive impairments were more severe. Among 12 patients with significant disorders (<20 points) by 10(83,3%) - stroke affected the left hemisphere. When comparing the patients status by NIHSS scale and MoCa scale, there was not found relationship between them.

**Conclusion.** 1. There was established the dependence between the size of the affected area of brain and stroke severity according to NIHSS scale and degree of disability by Rankin and Bartel scales. 2. The degree of cognitive impairments depends on the general condition of the patient, on the cerebrovascular disorders in history and their localization. If stroke occurred in the dominant hemisphere cognitive impairments are more pronounced.

*Rudenko S., Usyk O.*

## **ASSESSMENT OF COGNITIVE FUNCTIONS IN PATIENTS, TAKING SYNTHETIC SMOKING BLENDS SUCH AS "SPICE"**

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**Introduction.** The last decade in Ukraine was marked by a sharp increase in the popularity of synthetic smoking blends, mainly among teenagers and young people. The use of narcotic substances



inevitably leads to social disadaptation and a significant role in this plays a decrease in cognitive functions. The aim of the work is to identify cognitive impairment in patients who regularly consume smoking blends such as "Spice".

**Materials and methods.** The study involved 17 patients who regularly (5-7 times a week) use synthetic smoking blends such as "Spice" for more than 1 year. The median age was 21 years, 14 men (82.35 %) and 3 women (17.65 %). All patients were tested using a questionnaire MMSE (Mini-Mental State Examination) in order to identify dementia and pre-dementia cognitive impairment. The following parameters of cognitive functions were studied: orientation in time, orientation in place, perception, concentration and memory.

**Results.** The results of the study: 3 patients (17.65 %) the result of the MMSE is made up 24-27 points, which corresponds to the rating: "predementia cognitive impairment". In 8 patients (47.06 %) the result was 20-23 points - "dementia of mild severity". In 2 patients (11.76%) the result was 11-19 points – "moderate dementia". In 4 patients (23.53%) the result was 0-10 points – "severe dementia". As can be seen, none of the subjects has not scored a result, which would indicate the absence of cognitive impairment.

**Conclusion.** We can see a certain correlation between the use of synthetic cannabinoids and cognitive impairment, highlighting the need for further research in this area, as well as activities to combat the spread and use of narcotic substances.

*Shishkina S.*

## **RESEARCH OF LIPID METABOLISM IN PATIENTS WITH ACUTE CEREBRAL ISCHEMIA**

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**Introduction.** Today it is important to study the issues that reflect the state of various chains of homeostasis and metabolism in patients with ischemic stroke in correlation with clinical syndromes, taking into account the integrity of the organism, the multifaceted system of regulation of the interconnections, interdependencies of processes in organs, tissues and systems.

**Materials and methods.** The goal of this study is to research the features of metabolic disorders in acute cerebrovascular abnormalities and their effect on the clinical course, as among the major problems of clinical neurology, vascular diseases of the brain consistently hold the leading position in connection with their continued increase in Ukraine and abroad. The most severe vascular lesion of brain is a brain attack, which is mainly caused by atherosclerotic genesis. This work considered lipid blood plasma content using enzymatic calorimetric method: total cholesterol (CH), triglycerides



(TG), high density lipoprotein cholesterol (HDL), low density lipoprotein cholesterol (LDL), very-low-density lipoprotein (VLDL), the atherogenic index of plasma (AIP); also calculation of leukocyte lipid bodies was performed. The study was conducted in 7 patients with acute ischemic stroke on 1,7,20 days: 4 men, 3 women, aged 33-85 years were surveyed among them. Clinical diagnosis of "acute cerebrovascular accident by type of ischemic attack" was established on the basis of clinical and paraclinical data, using standard neurological examinations, data of neurophysiological methods for investigation: electro-encephalography, reo-encephalography, echoencephalography, neuroimaging research methods: magnetic resonance imaging, computer tomography of brain, circulatory dynamics; research: ultrasound dopplerography.

**Results.** The study results showed that in all periods of observation in patients with cerebral ischemic attack in the acute period there a steady violation of plasmaparameters of lipid metabolism was detected.

**Conclusion.** The most diagnostic and prognostic value is the decrease in cholesterol of high density lipoprotein and an increase in the coefficient of atherogeny associated with the severity of the course of disease, as well as the steady increase in the cellular parameters of lipid metabolism - lipid-bearing leukocytes. At the same time, in patients with severe and very severe course of stroke, LH was lower than in patients in satisfactory condition and moderate in severity.

*Shchebetenko V.*

#### **APPLICATION OF MEMANTINE HYDROCHLORIDE AND GOPANTHENIC ACID FOR TREATMENT OF LANGUAGE DISORDERS WITH ISCHEMIC STROKE**

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**Introduction.** Acute cerebrovascular accident occupy the third place in the list of causes of death and is one of the leading causes of population disability. The most significant post-stunning cognitive defects include linguistic disturbances. Language defect leads to social maladaptation of patients, greatly reduces their communicative capabilities, daily life activity, contributes to isolation. Unfortunately, often the linguistic defect is quite stable. In most cases, subject to lengthy systematic correctional exercises with the speech therapist, only slight improvement of the speech function can be achieved. The aim of the work is to study the effect of memantine hydrochloride and gopanthenic acid on the efficiency of the restoration of higher mental functions, including the language, in patients with left ventricular stroke.

**Materials and methods.** The study included 10 patients in the early recovery period of pissing of ischemic stroke in the basin of the left cerebrospinal artery with neurological disorders of mild to



moderate intensity, with elements of motor aphasia and postnatal cognitive impairment. The age of the patients - from 63 to 73 years, including 5 women and 5 men. For all patients, in the context of complex neuro-rehabilitation, memantine hydrochloride was prescribed for 90 days in an initial dose of 5-10 mg / day with a gradual increase to 20 mg / day. The control group consisted of 8 patients undergoing therapy and neuro-rehabilitation with a gopanthenic acid. Gopanthenic acid was used at a dose of 750 mg /day. Neuropsychological testing data were also taken into account.

**Results.** In most patients, 3-4 weeks of taking the drugs Speech therapists recorded a qualitative change in speech defect. However, it was noted that the result of taking the drug is better on the background of active speech therapy classes. The treatment of all patients was well tolerated. In a neuropsychological study conducted in the dynamics after the course of treatment with memantine hydrochloride, marked improvement in the processes of remembering, preservation and reproduction of information. In the comparison group, the results were significantly worse. As a result of treatment marked regression of subjective disorders.

**Conclusion.** Thus, the results of the study indicate that memantine hydrochloride contributes to the improvement of the mnemonic functions and the ability to study, slowing the progression of the pathological process, indicating the neuroprotective properties of memantine hydrochloride. The results of this study confirm that the inclusion of memantine hydrochloride in the integrated therapy of postnatal speech disorders is justified. The inclusion of memantine hydrochloride in the integrated therapy of post-venous speech disorders along with speech therapy can help restore linguistic functions.

*Silina M.*

## **APATHY, ANXIETY AND LIFE SATISFACTION LEVELS IN PATIENTS WITH SCHIZOPHRENIA**

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**Introduction.** Schizophrenia spectrum disorders – is a group of serious diseases, that can be characterized by productive symptoms and misbalance of emotional, volitional and intellectual functions. According to the WHO, the world's number of schizophrenic patients is more than 21 million people, 50% of whom do not even receive adequate medical care (mainly in the underdeveloped countries). In whole world, this disease is associated with a significant decline in ability to work and affects the quality of learning and professional activity. Nevertheless, schizophrenia is well tolerant in treatment, which is presented by a comprehensive approach: drugs and psychosocial support. The second includes work of psychiatric departments, social services and



people around the patient and means removing stigmatization from such people, creating the most comfortable conditions for treatment and rehabilitation these patients, return them to quality and comfortable life: at first self-care facilities and full work capacity after. To solve such difficult tasks, psychiatric specialist's work should have a comprehensive approach, including feedback from the patient.

**Materials and methods.** Standardized questionnaire were chosen for work: the Sheehan Patient-Rated Anxiety Scale (1983), Jane Endicott's Satisfaction Scale (1990), and the Apathetic Degree Scale (1990).

10 women with diagnosis of schizophrenia (paranoid form, continuous type) were invited for the two-stagesurvey, which was performed on the basis of KRCPH#3. Respondents had to answer for the questionnaire at the beginning of therapy when they were admitted to the hospital and three weeks after the start of treatment. The purpose of the survey was to follow changes in the degree of apathy, anxiety and life satisfaction in progress.

**Results.** The results of the first stage of the research found that the average life satisfaction rate was 45%, with minimum 30% and maximum 62%. The value of apathy was 11 points, lowest was 6 and highest was 14. Average rating of the degree of anxiety among respondents was 17 points, minimum and maximum were 12 and 21. The second stage of the survey showed some other results individually in each patient. The average value of life satisfaction increased to 67%, the minimum was 43% and maximum was 81%. Apathy decreased to an average of 7 points, with a minimum of 2 and a maximum of 12 points. The average value of anxiety decreased to 10 points, the lowest result was 4 points and the highest 17.

**Conclusion.** Based on the results, it can be concluded that there is a clear improvement in the internal state of patients due to the received therapy. Also, we can talk about feasibility of using standardized questionnaire with patients, because they can provide a good opportunity to assess the quality of the patient's treatment.

*Sinan Cobanoglu*

## **THE ROLE OF SIDE EFFECTS OF MODERN ANTIPSYCHOTICS IN THE QUALITY OF LIFE OF PATIENTS WITH PARANOID SCHIZOPHRENIA**

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**Introduction.** Schizophrenia is a long-known disease. It is a chronic and harmful mental disorder that affects how a person thinks, behaves, and distorts sense of reality in daily life. Although this disorder is commonly known, but some symptoms are very complexive to understand. Especially the



etiopathogenetic mechanisms of development are not elaborately understood. Moreover, the dopamine theory has been recognized for a long time. This theory mainly responds the emergence of positive psychosymptomatics. However in recent years, the serotonin theory of schizophrenia, explaining the emergence of deficiency symptoms has been begun to investigated by more and more views. The combination of these hypotheses answers many questions related to schizophrenia.

**Materials and methods.** In this respect, we have drawn attention to the features of the course of paranoid schizophrenia in patients taking antipsychotics, affecting to dopamine and serotonin receptors. Methodologically, we used quantitative technic in this study. We determined 23 women as a sample group, who participated in our study. The women whose ages are between 18 and 40, are patients, who have been taking second-generation antipsychotics for more than 1 year due to paranoid schizophrenia. We also used clinico-psychopathological, clinical-anamnestic and psychodiagnostic methods.

**Results.** The entire contingent of the study was in a state of remission. But active positive symptom was not found on patients in this process ( $P=15$  points by PANSS). Symptoms of the disorder are thought disorder, flattening affect, decreased volitional motives ( $N = 22$  points by PANSS) and general symptoms ( $G=31$  points by PANSS). In this case, all contingent has been reducing quality of life (SF-36), mainly due to the presence of neuroendocrine side effects, especially galactorrhea.

**Conclusion.** Finally, it can be said that the use of atypical antipsychotics leads not only the reduction of positive and deficient psychosymptomatics, but also significant causes of neuroendocrinal disorders, reduced quality of life.

*Symkina V.*

## **VITAMIN D LEVEL IN THE BLOOD SERUM OF CHILDREN WITH DISORDERS OF THE AUTISTIC SPECTRUM**

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Department of Neurology №2

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**Introduction.** every year in Ukraine, the number of children suffering from autism spectrum disorders (ASD) increases. Perhaps this is due to the fact that more pediatricians and pediatric neurologists have access to up-to-date information on early diagnosis of these disorders and methods for their correction. Many authors indicate that the pronounced imbalance of vitamins and minerals plays a role in the pathogenesis of ASD. Most often there is a lack of vitamin D and B vitamins (B1, B2, B5, B6).

**Materials and methods.** The study was conducted on the basis of the rehabilitation center of the Regional Children's Home No. 3 in Kharkov and included an in-depth somatic and neurological examination, psychological testing to detect signs of ASD and determination of the level of 25-





hydroxy-cholecalciferol in the blood serum. The study group comprised 36 children aged 3 to 7 years (29 boys and 7 girls). For the purpose of control, data were taken from 22 children who had a delay in psycho-speech development (PSD), due to early organic lesions of the central nervous system and group of children, who's psychological testing did not reveal specific signs of ASD.

**Results.** All children in the study group had a delayed PSD of varying severity: 9(25%) of children had severe, 18 (50%) was with moderate severity, and 9 25(%) children had mild severity. In 83.3% of cases (children) in children with ASD, 25-hydroxy-cholecalciferol decreased in serum less than 10 ng / mg (at a rate of 30-50 ng / mg), while in the control group only 3 children (13.6%) had indices in the range of 12-24 ng / mg.

**Conclusion.** The study showed that children with RAS have a pronounced vitamin D deficiency, which must be taken into account when conducting rehabilitation activities and dispensary observation of this group of children.

*Velikiy O., Karmazin M.*

## **RESEARCH THE COGNITIVE PROCESSES AMONG STUDENTS OF THE KHARKIV NATIONAL MEDICAL UNIVERSITY**

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Department of Neurology №2

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*Research advisor: Markovska O.*

**Introduction.** Memory and attention are always included in cognitive processes and in practical activities. They are necessary for the successful acquisition of knowledge, quality and productivity of labor activity, self-expression of the individual. With hard intellectual loads, by the end of the working day, there is a decrease in the ability to memorize information, which leads to the problem of student disadaptation. The aim of the study was research the characteristic of memory and attention of students of KhNMU in the educational process.

**Materials and methods.** The study was conducted with the participation of 50 students of KhNMU with the use of tests: "Memorizing 10 words" A.R. Luria, "Memory for numbers", "Remembering 10 pairs of words".

**Results.** The test "Memorizing 10 words" before the beginning of the learning process: 70% of students passed with 1-2 attempts, 30% of students - with 3-4 attempts. After a 4-hour lesson: 40% of students passed the test with 1-2 attempts, 56% of students - with 3-4 attempts, and 4% of students could not pass the test. The test "Memory for numbers" before the beginning of learning process passed 100% of the students. After a 4-hour lesson, 98% of the students passed the test completely, and only 2% of the students could not pass the test at all. The test "Remembering 10 pairs of words"



before the beginning of learning process 100% of students passed with 1 attempt. After 4 hours of lesson: 94% of students - from 1 attempt, 6% of students - from 2 attempts.

**Conclusion.** The students of KhNMU are dominated by short-term visual and associative memory over the auditory. In this regard, students should intensively develop auditory memory. When planning and conducting classes, it is necessary to apply methods that relieve fatigue, which improves the properties of attention and, consequently, improves the quality of the learning process as a whole.

*Zelenska K., Kraskovska T.*

## **IDENTIFICATION OF THE RELATIONSHIP STATE IN FAMILIES BY MEANS OF "MY FAMILY" - DRAWING TECHNIQUE DEPENDING ON THE CHILD GENDER**

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**Introduction.** One of the oldest social institutions, which changes its form and kept in all known civilizations is a family. The family life of mankind has been popularized throughout the world. Socio-cultural and historical experience of various cultures has shown that the organization of the family is protected and valued [1, p.134]. At the same time, it is difficult to find social events that describe the crisis of the family institution, in comparison with the family organization crisis during the last half century that some researchers assume as inevitable death [2, p.264]. Drawing test " My Family " allows to understand the psychological state of the child, unconscious or hidden problems in the family, as well as understand the child's attitude to each family member and the perception of the family as a whole. Purpose: to identify the state of relations in families using drawing techniques "My Family" and conversations with parents and children, and the gender characteristics of the attitude towards the family.

**Materials and methods.** The study of the status of 34 families was provided. 8 families were incomplete (the father lived separately). There were 13 boys and 21 girls in all families. In 16 families there were more than 1 child, but other children did not participate in the study. 21 families lived in the city of Kharkiv and 13 in the city of Vovchansk. Children age  $7.4 \pm 2.7$  years. Each child drew his or her family, and the father or mother were interviewed for the purpose of the schedule of a child's day, family relationships according to the adults and to the child's opinions.

**Results.** According to the drawings, the majority of children 61.7% (51.3% girls and 48.7% boys) drew themselves away from their parents, often their father was completely aloof from the child, 14.7% of children did not draw their father at all (8.8% of children lived in a full family). Only 17.6% (66.6% - girls, and 33.4% - children) of families based on the picture had a harmonious relationship with their parents, but after a more focused conversation with parents there were some obstacles in



relationships identified. These obstacles adults invented by themselves. In many drawings between the child and one of the parents there was something drawn, stroller of younger child, home care tools (mops, table), etc. Only 20.5% (42.9% - girls, and 57.1% - children) of the pictures of the parents were drawn their ears, which may indicate that the child believes that he does not listen and do not listen to the needs, even small. During the conversation with the child, all the components of the picture were confirmed, the children complained that they often spend a lot of time in the circles and hobby groups and almost do not have their own free time, do not spend time with their parents, parents avoid or scold them for little blame, complain to many tasks at school. The parents of all children in the first minutes of the conversation said that they had nothing to do with quarrels in the family, the children were obedient. During the conversation, the following problems were revealed: the children are not obedient; they spend a lot of time playing gadgets and watching television; they do not pay attention to studying; thus, a lot of time spent on homework; do not help in everyday life. Parents do not consider their mistake the fact that a child aged 5-6 is engaged in several classes and sections, comes back home after 20.00-21.00 and goes to sleep after 23.00. More adults can do homework until 24.00 and, of course, go to bed late.

**Conclusion.** Parents easily transfer part of their child's upbringing to the teachers of circles and schools, because the children spend more time with teachers than with their parents. But adults do not see problems in the schedule of their children, they accuse their children of disobedience, although they are not authorities for their children themselves. Most girls paint themselves apart from the family, and the guys often believe that their relatives do not hear them. Even at an early age, children already feel aloof from the family and do not feel the support of loved ones. This can lead to many problems in the future in both the family and the child of a mature age.

iSIC  
2018

# OBSTETRICS and GYNECOLOGY





AbdelRahim Fawzia

## THE INFLUENCE OF HYPOKANISIA ON THE OCCURRENCE OF COMPLICATIONS OF THE FIRST HALF OF PREGNANCY

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**Introduction.** Negative population growth in the world determines the struggle of obstetrician-gynecologists for every pregnancy, the end of which should be the birth of a healthy fetus. Based on the above, factors that have a negative effect on the course of the gestational process are studied and the search for ways to overcome the complications that result from them is performed. Aim. The purpose of the research was to study the effect of limiting the volume of muscle activity on the course of the first half of pregnancy of women who have been exposed to this factor for a long time.

**Materials and methods.** The analysis of exchange cards of 50 pregnant women who were in conditions of hypokinesia, 8 hours a day during five years (group 1) and 50 pregnant women, leading a way of life with the usual volume of muscle activity (group 2) was made. The age of women was 23-25 years old. Groups of pregnant women were identical in terms of anamnestic indicators and social status. The menstrual cycle of the patients of the observation groups was characterized by regularity, lasting 27-31 days with a mild painless 5-6 day menstrual bleeding. Among the women surveyed there were both women with the first pregnancy, and re-pregnant with one physiological birth in the anamnesis, and gynecological diseases in both groups were represented by one or two episodes of colpitis of mycotic etiology. All pregnant women had no chronic infections of genital and extragenital etiology, endocrine disorders and adhesive process of the pelvic organs, which could significantly affect the course of pregnancy. The present pregnancy in the observation groups occurred within six months of a regular sexual life without the use of contraceptives.

**Results.** The results of the study showed that 35 women with hypokinesia (70%) of the pathological course of the first half of pregnancy was observed, and women with the usual volume of muscle activity, the pathology of the first half of the gestation process was detected in 15 cases (30%). Among the main types of violations were the threat of miscarriage at the gestation period of up to 15 weeks, noted of 22 pregnant women of the main group (44%) and in 10 - control (20%). Hypochromic anemia of the second degree was recorded 15 cases among women with hypokinesia (30%) and the patients with a usual volume of muscle activity (10%). Candidomycosis, which caused inflammation of the vaginal mucosa, was detected among 7 pregnant women of the 1st group (14%) and among 3 in the second (6%).

The combination of several types of complications of the first half of pregnancy was detected among





10 pregnant women with hypokinesia (20%) and only one patient was found with a usual volume of muscle activity (2%).

**Conclusion.** Thus, the prolonged limitation of the volume of muscle activity has a significant effect on the course of the first half of pregnancy, causing the occurrence of a complex of complications. The main type of pathology when this factor affects a woman is an early termination that is a threat of miscarriage.

*Aniebiet – abasi Akpan*

## **UTERINE LEIOMYOMA IN NIGERIA : CLINICAL PRESENTATION AND MANAGEMENT**

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**Introduction.** Nigeria is among the countries in the world with the highest record of women with leiomyoma. Leiomyoma is a benign tumor of smooth muscle origin, it commonly involves the smooth muscle of the uterus of a woman of reproductive age (15-49). Result from a study in 2016 has shown that a total of 50 females at the age from 30 to 49(51.9%) has been diagnosed with leiomyoma. It has been noted that leiomyoma is accounted for 20-70% cases of infertility in Nigeria. Majority of women with leiomyoma are asymptomatic as a result get less clinical attention and are not diagnosed.

**Materials and methods.** Majority of the women don't show any symptoms, however few of them complains of abnormal uterine bleeding. In the study conducted from July 2016 -August 2016,we found out that 20 women presented with leiomyoma among which 50% complained of gushing -type of bleeding which increase their use of pads/tampons,10% pain during sex,10% non-cyclic pelvic pain and 30% infertility. The treatment includes; conservative therapy (progestin, oral contraceptive,levonorgestrel-releasing intrauterine system and gonadotropin releasing hormone agonist),surgical intervention which includes embolization of uterine artery, endometrial ablation, myomectomy and hysterectomy for patients with severe symptoms.

**Results.** The data collected during the study shows that among the 20 women who presented with leiomyoma , 50% presented with bleeding, 10% presented with pain during sex, 30% presented with infertility, and 10% presented with non-cyclic pelvic pain. During treatment it was recorded that among these women 30% of the cases were treated with myomectomy, 20% with hysterectomy, 10% with endometrial ablation and 5% with embolization of uterine artery.

**Conclusion.** Leiomyoma is accounted for 20-70% cases of infertility in Nigeria. Majority of women with leiomyoma show no symptoms as a result get less clinical attention and are not diagnosed. Due to lack of untrained medical staff and financial constraints of patients , recent therapeutic and surgical





methods cannot be implicated. The preference to myomectomy is mostly due to the patient's strong desire to reproduce.

*Anmalugsi Pius*

## **EFFECTS OF MALARIA DURING PREGNANCY AND ITS PREVENTION**

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**Introduction.** Malaria is a global health crisis with most of cases occurring in some African countries. Ghana, west Africa is one of those nations. Plasmodium falciparum is the main causative agent. Malaria affects all sex and ages as well as pregnant. Among pregnant women, malaria accounts for 28.1% of OPD attendance, 13.7% of admissions and 9.0% of maternal deaths.

**Materials and methods.** 80 primegravidae women, a fully equipped hospital. The subjects were grouped into A,B,C and D. All groups were made up of 20 women each. A was women in their 1st trimester, B were in their 2nd trimester, C were in their 3rd trimester and finally group D were also in their 1st trimester but only 16 weeks into their pregnancy. All the group except group D were patients of malaria. Subjects form group A were put on Quinine 600mg orally 8hourly for 7 days. Group B and C was administered Anthemeter lumifanterien 80/480 mg 12 hourly for 3 days. Subjects from group D were given Sulphadoxine Pyrimethamine 500/25 mg every month until 36th week.

**Results.** 90% of the subjects from group A B and C showed signs of maternal anaemia but disappeared after treatment. All subjects from group A complied with the medication and had no complications. 3 subjects from group B who did not complete their medications developed spontaneous abortions. Also 1 subject from group B had a preterm baby. In group C there were 4 still births, 1 preterm and 1 feotal anaemia amongs subjects who did no complete their medication. Group D on the other hand did not record any anomalies, all subjects in this group did not have complicated pregnancy.

**Conclusion.** Malaria in pregnancy can have complications like, I anaemia, feotal anaemia, low birth weight, premature birth and still birth. Sulphadoxine Pyrimethamine is a drug of choice for preventing malaria in pregnancy.



Aralova V.

## INTERFERENCE OF THE MICROBIOECENOSIS OF THE VAGINA AS THE ETIOLOGICAL FACTOR OF THE CERVICAL ECTOPIA DEVELOPMENT

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**Introduction.** Cervical ectopia – is an atypical location of the cylindrical (cubic) epithelium, that lines the cervical canal, on the vaginal part of the cervix. The maximum frequency of cervical ectopy (40-50%) occurs in women younger than 30 years. On average, the frequency of this disease in the population is over the 40%, with 11.3% of patients having this feature congenital. By itself, ectopy never has a tendency to malignant, but on its background, the risk of cervical cancer development increases. Despite the prevalence, the etiology of this disease has not yet been fully clarified and continues to be an important topic for research. The aim of the study was to identify the etiological relationship of cervical ectopia with a interference of the vaginal microbiocenosis, namely the presence of *Candida albicans*, *Atopobium vaginae* and *Gardnerella vaginalis*.

**Materials and methods.** In this study participated 35 patients between the ages of 25 and 30 who was divided in two groups. The first control group included 13 (37.14%) women with no signs of an epithelium change on the vaginal cervix. And the second group included 22 (62.86%) women who had a cervical ectopia. For all women, we performed a colposcopic examination with the colposcope MK-200, with the MEDVisor v3.0 software, a bacterioscopy of the vaginal discharge, a cytological examination of the scrapes of the vaginal epithelium of the cervix and the cervical canal.

**Results.** During the colposcopy study, in all women of the first group, epithelial changes were not detected, while in women of the 2 groups, zones of incomplete transformation were determined. In the cytological study of scraping ecto- and endocervix in all examined women, the signs of atypia were not found. In the scrap of ectocervix in women of the first group only cells of multilayered planar epithelium were found. 18 (81.8%) women of the second group had cells of cylindrical epithelium with signs of inflammation. As a result of bacterioscopy of vaginal discharge, *Candida albicans* was found in 9 (40.9%) women of the second group. In women of the first group, *Candida albicans* was found in 2 (15.4%) cases. In 7 (31.8%) women of the second group, the smear contained *Gardnerella vaginalis*, while in the first group this pathogen was found in 1 (7.7%) of the woman. In 2 (9%) women of second group smears were defined by *Atopobium vaginae*, and in the first group this causative agent was found in the analyzes of vaginal discharge of 1 (7.7%) of the patient.



**Conclusion.** Based on this study, we can conclude that the violation of vaginal microbiocenosis, namely the presence of *Candida albicans*, *Gardnerella vaginalis*, *Atopobium vaginae* increase the risk of developing cervical ectopy.

*Brakova Y.*

## **OPTIMIZATION OF THE PREVENTION OF PREGNANCY AFTER A CAESAREAN SECTION ANAMNESIS**

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**Introduction.** In the modern world the issue of giving birth by caesarean section (CS) is becoming more acute. The WHO says the percentage of birth by surgical intervention to natural births should not exceed 15%. In Ukraine, in 2009 it equals 16.10%. Indicator of maternal mortality associated with CS is 8 times higher than for vaginal births.

**Materials and methods.** Aim: to evaluate the condition of the scar on the uterus after the CS and to draw conclusions about the factors affecting its full-fledged formation, and the possibility of birth due to natural birth lines.

**Results.** Description of the study: on the clinical basis of the Department of Obstetrics and Gynecology No. 1, 10 cases of childbirth in women who had a history of CS were conducted. The analysis of the history of diseases - anamnestic data, data on the conduct of the previous CS; ultrasound data of the scar on the uterus; The lower segment in the scar location was evaluated intraoperatively; The carved scar was studied histologically. The interval between the previous CS and the current pregnancy was 3-5 years. In all cases, previous CS was performed in the lower segment of the uterus according to Gusakov's technique, a cut on the uterus was sutured with two-row acrylic seam, and peritonization was performed. Postoperative period was without complications. As a result of ultrasound scanning on the uterus, we found out: 8 out of 10 women had a scar, the structure of which was heterogeneous, local segments of the seal, marked reduction of sound conductivity, decreased vascularization of this site; 2 women have a sophisticated and elongated lower segment of the uterus, a heterogeneous structure, large foci of seal. During operations in 2 pregnant women, the thinning of the lower segment of the uterus in the area of the postoperative scar was shown by palpation, in 8 women neither macroscopically nor palpatory defects were not detected. During the histological examination of carved scar on the uterus in 7 women, the correct placement of muscle fibers was found, often hypertrophy of myocytes. The scars are mainly represented by myocytes with thin layers of connective tissue and isolated sections of hyalinosis and sclerosis were found in 30%. In 70% of the studied tissue it was restored and vascularized.



**Conclusion.** Conclusions: As a result of our study, it was found that in the case of using modern synthetic suture material during uterine suturing and adequate antibiotic prophylaxis, in the majority of cases, a histologically complete scar is formed. For a small mass of the fetus and the absence of other contraindications in choosing the fertility after the previous CS birth due to the natural birth lines should be considered as a valid option.

*Chekhunova A.*

## **COMPLICATIONS OF CESAREAN SECTION**

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**Introduction.** Caesarean section is the most common surgical obstetric intervention used to improve the condition of the fetus. Over the past decade, the frequency of cesarean section has doubled. Indications for surgery are pathological changes in the mother and the fetus. The purpose of the study was to determine the main causes of maternal and fetal injury in operative delivery.

**Materials and methods.** The study was conducted at the Department of Obstetrics, Gynecology and Pediatric Gynecology of KhNMU (clinical center "Kharkiv City Maternity Hospital No.1"). The study involved the assessment of childbirth histories of 50 pregnant women who had undergone an operative delivery. Indications for cesarean section were as follows: 14 (28%) patients had fetal distress, 5 (10%) patients had post-term pregnancy, 10 (20%) patients had poor uterine contraction strength, 12 (24%) had malposition of fetus, 5 (10%) had a scar on the uterus, 4 (8%) had clinically narrow pelvis.

**Results.** The analysis showed that frequent operative complications in mothers were as follows: injuries of a.epigastria superficialis vessels and uterine vascular bundles, hypo- or atonic state of the uterus, development of bladder and uterine hematomas and traumas of adjacent organs (bladder, ureters, intestine). The study implied the assessment of incidence of traumatic injury to the fetus, depending on the technique of cesarean section: time of withdrawal of the fetus, type of operative access (laparotomy, uterotomy). The study showed that the incidence of damage to the fetus depended on the duration of the operation before its withdrawal, the size and position of the fetus in the uterus. The type of incision on the uterus did not affect the frequency of injuries to the fetus. The surgery carried out at the end of the second period of childbirth was more likely to result in an increase in injury rate.



**Conclusion.** Thus, cesarean section is a complex surgical intervention with high incidence of intra- and postoperative complications associated with intervention techniques requiring its individualization.

*Cheremskaya D., Suchkova N.*

## **ADAPTIVE-COMPENSATORY CAPABILITIES OF FETUSES WITH FETO-FETAL TRANSFUSION SYNDROME**

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**Introduction.** The problem of multiple pregnancy remains relevant in modern obstetrics due to the increase in its prevalence worldwide, which is 3% for births and 14% for perinatal mortality. A multiple pregnancy refers to high risk pregnancies as it results in high rate of premature births, high perinatal mortality and infant morbidity. During pregnancy with monochorionic twins, which is 20-30% of all pregnancies, specific complications characteristic to monochorionic type of placentation may develop. One of these complications is fetal transfusion syndrome, which leads to delayed growth of one of the fetuses in 7.5% of cases.

**Materials and methods.** A 24-year patient N, having the first pregnancy, diagnosed with premature 34-week birth, who delivered monochorionic diamniotic twins, the first of which had a head presentation, and the second — a longitudinal lie, position I, front view.

**Results.** Diagnostic ultrasound and Doppler examination at the term of 28 weeks revealed the signs of moderately discordant growth of monochorionic diamniotic twins – the smaller size of one of the fetuses; and disorder of fetal-placental arterial hemodynamics of both fetuses. At 34 weeks of gestation, active labor began spontaneously, the patient delivered two male newborns through the natural birth canal. At birth, the weight of the first newborn was 2500 g, and of the second — 1700 g. According to the Apgar score, newborn I (a recipient) had 7/8 points, and newborn II (a donor) – 7/7 points. The postnatal condition of the newborn-recipient significantly worsened, which led to his death in the early neonatal period.

**Conclusion.** The course of adaptation in newborns with monochorionic type of placentation was severe due to peculiarities in the vascular system of the chorion. As a result, fetal transfusion syndrome developed, which led to a delay in the growth of the fetus-donor, and the lack of adaptive compensatory mechanisms (decrease in contractile and pumping function of the heart) of the fetus-recipient became the cause of his death in the early postnatal period.



*Chijioke-Opata Nene Lamira*

## **MODERN ASPECT OF DIAGNOSTICS AND TREATMENT OF POLYCYSTIC OVARIAN SYNDROME IN NIGERIAN WOMEN**

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**Introduction.** According to the definition of World Health Organization, PCOS is a heterogeneous, complex genetic trait of unclear etiology, it is an important cause of ovulatory and menstrual irregularity, sub-febrility and infertility, clinically evident hyper-androgenism and metabolic dysfunction in women

**Materials and methods.** A study of women with polycystic ovaries was carried out in a health centre in Lagos, south west Nigeria over one month and treatment options that were successful in relieving symptoms and wading off infertility.

**Results.** A total of 50 women presented with infertility in the health center within the one month period, out of whom 26 had PCOS. PCOS occurred in 52% of the women who presented in the health centre. The most common presentations were: inability to conceive (infertility) in 8 (30.7%), amenorrhea in 3 (11.5%), oligo-menorrhoea in 3 (11.5%), obesity in 2 (7.7%), LH/FSH ratio > 2 in 4 (15.4%), hyperprolactinemia in 2 (7.7%) and hirsutism in 4 (15.4%)

**Conclusion.** PCOS is quite common occurring in approximately two in five infertile Nigerian women or women presenting with oligomenorrhea or amenorrhea. Commonest presenting features being Infertility, amenorrhea, oligomenorrhea, obesity, LH/FSH ratio > 2, hyperprolactinemia and hirsutism. After assessing treatment responses by each woman who were given C<sub>4</sub>H<sub>11</sub>N<sub>5</sub> or C<sub>26</sub>H<sub>28</sub>ClNO or C<sub>17</sub>H<sub>11</sub>N<sub>5</sub> (I mean not chemical formula, just title active substance) according to their desires to have kids or just have menstruation restored, 3-fifth of them conceived and 4-fifth of them had restored menstruation. Hirsutism didn't really stop significantly but reduced hair growth was noticed in 1-fifth of them in whom strict drug regimen was followed and the rest had other hair removal methods proposed to them.

*Daramola Gbolahan*

## **METHODS OF DIAGNOSING POST-PARTUM DEPRESSION IN NIGERIA**

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**Introduction.** Postpartum depression occurs in 15% to 25% of women who have recently given birth in Nigeria, but fewer cases are reported due to lack of early diagnosing. Postpartum depression is a





depressive episode or depressed mood that occurs within four weeks of child birth. It is characterized by irritability, sleep and appetite disturbance, feeling of worthlessness and suicidal thought.

**Materials and methods.** A research study was made on 95 pregnant women after delivery at Trust care hospital in Abuja, Nigeria. July 2016. Blood samples were collected from all to check for levels of reproductive hormones. A self-assessment test by Edinburgh Postnatal Depression Scale (EPDS) was also performed as method of early diagnosis.

**Results.** After a normal routine Evaluation: Post 4 weeks after delivery. 4 women were indicated for probable PPD with a score  $\geq 12$  of Edinburgh Postnatal Depression Scale. A dramatic decrease in Oxytocin, Estradiol and progesterone were seen in 5 cases. 15 women were reported with significant increase in thyroxin. 11 cases of women with decrease in plasma prolactin were found. 3 cases were reported with signs of PPD showing major symptoms such as anxiety, sleep and appetite disturbance, suicidal thoughts and feeling of guilt.

**Conclusion.** Conclusion: Postpartum depression in Nigeria is rampant due to patient not returning to health centers after having major or light symptoms in PPD, most women are very ignorant of this illness and are unaware when it exacerbates. Improvement in clinical outcomes requires enhanced care that ensures adequate treatment and follow-up.

*Drokin A., Kravchenko M.*

## **ANTIBIOTICS DURING PREGNANCY - NECESSITY AND EXPEDIENCY**

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**Introduction.** It is known that various drugs can have a negative effect on the fetus. The use of antibiotics during pregnancy is highly discouraged, but in some cases their reception is a must, both for the fetus and for the woman herself. Important factors in the administration of antibiotics are: the dose of the drug, the duration of admission, the duration of gestation and individual features of the body's tolerance. Because absolutely safe antibiotics do not exist, and for some there is a direct relationship between their intake and teratogenic effect, several groups can be identified as preferred in the treatment of bacterial diseases during pregnancy. These include penicillins (amoxicillin, ampicillin), cephalosporins (cefazolin, cefotaxime), macrolides (azithromycin, erythromycin).

**Materials and methods.** The purpose of this study was to determine the effect of the three main groups of antibacterial agents on the course of pregnancy, to assess their toxic effects on the fetus. To do this, we analyzed the case histories of 20 patients of the KRCPC at different gestation periods (8 to 32 weeks) who received antibacterial therapy for various indications. Of these: cystitis - 6 patients, acute pyelonephritis - 5 patients, catarrhal tonsillitis - 4 patients, urethritis - 3 patients, chlamydia - 2 patients.



Each patient was assigned antibiotics monotherapy of one of the above groups (amoxicillin received 11 patients, cefazolin - 7 patients, erythromycin - 2 patients), as well as nonspecific maintenance therapy.

**Results.** To assess the course of pregnancy, the following biochemical markers were used: free  $\beta$ -subunit of hCG, pregnancy-associated plasma protein-A (PAPP-A test), placental lactogen. At the same time, the results of the ultrasound of the fetus were taken into account. In all of the observed levels, the  $\beta$ -subunit of hCG and placental lactogen from the start of antibiotic use to the time of delivery remained within normal limits, but in two patients taking erythromycin, the PAPP-A level was slightly reduced. On ultrasound, developmental abnormalities and other visualized pathologies were not identified. Each pregnancy ended with physiological birth. The evaluation of newborns on the APGAR scale at the 1st and 5th minutes varied from 6 to 9 points, which in general testifies to the happy state of infants. The deformities and stigma of disembryogenesis were not revealed.

**Conclusion.** The results of our study indicate a relative safety of the use of antibiotics of penicillin, cephalosporin and a number of macrolides during pregnancy. Good indicators of the state of newborns can also be associated with a relatively late onset of antibiotic therapy (after 8 weeks, which corresponds to the early fetal period), when all the major organs and systems of the embryo have already been laid.

*Ekedigwe Sandra Onyinye*

## **THE ANALYSIS OF RISK FACTORS OF SPONTANEOUS ABORTION IN NIGERIAN WOMEN**

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**Introduction.** Spontaneous abortion, miscarriage or pregnancy loss, are all synonyms used to describe the death of an embryo or fetus before it is able to survive independently. In relation to gestation weeks, it is the loss of fetus before 20weeks of gestation. After this time, it is called a still birth. There are many variants of spontaneous abortion, it could be of the threatened, inevitable, incomplete, complete and missed type of abortion. A good number of Nigerian women (about 34%) of the child bearing age have suffered from this at one time in their lives. This often leads to sadness, anxiety and guilt in the women.

**Materials and methods.** For the purpose of this study, Jos University Teaching Hospital, JUTH, in Nigeria was used as a hospital of interest. The study was carried out in December of 2017 with 16 women who were admitted into the gynecology wards with an already established diagnosis of spontaneous abortions. A questionnaire and interview method were used on these women to get a history of their lifestyle, medical records and pregnancy, while it lasted of course. The



16 women selected had basic primary and secondary education, were willing to participate and answered all questions honestly.

**Results.** Of the 16 women used for this study, 10 of them had a case of “recurrent spontaneous abortion”. Out of the 10 women, 6 of them were seen to be between the ages of 35 to 40 years. This drew attention to an older age being a risk factor. 3 other women with the recurrent case were found to have “cervical incompetence” causing inability of the cervix to stay closed during the entire pregnancy. This is a result of weakness of the cervix and it was not earlier diagnosed in the women. The 10th woman, was honest enough to say she continued to take alcohol when pregnant without fully understanding the effects. For the other 6 women, it was a 1st time diagnosis and they were all found to have “inter-current diseases” ranging from diabetes mellitus type 1 to poorly managed infectious diseases like toxoplasmosis and malaria.

**Conclusion.** The importance of antenatal classes and care should be emphasized in Nigeria. Women should be encouraged to have their children in younger ages, in their 20's or early 30's. Pregnant women should undergo routine checkups to manage any inter-current diseases. Antenatal classes should focus on educating women on how to make healthy changes to their lifestyle during pregnancy for a safe carrying of a whole term pregnancy.

*Ellazova A.*

## **DIAGNOSTIC CRITERIA OF ADENOMYOSIS OF THE UTERUS**

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**Introduction.** Adenomyosis is a common gynecological pathology in women of reproductive age. This pathology is one of the main causes of abnormal reproductive function, often leading to a decline in the ability to work due to severe pain syndrome. Therefore, adenomyosis is an urgent problem and requires timely diagnosis and effective treatment. The purpose of the study was to identify the main ultrasound signs of adenomyosis of the uterus.

**Materials and methods.** The study was carried out at Kharkiv City Maternity Hospital No.1, the clinical center of the Department of Obstetrics, Gynecology and Pediatric Gynecology of KhNMU. The study involved examination of 30 women of reproductive age with suspected adenomyosis of the uterus. Of them, 28 (93%) women presented with abdominal pain, and 23 (76.7%) women had dark brown spotting discharge from the genital tract before and after menstruation. All the patients underwent complete clinico-laboratory and instrumental examination.

**Results.** Ultrasound examination (ultrasound scanner MINDRAY 7MC) of pelvic organs revealed changes in the shape and structure of the uterus. In 27 (90%) women, the uterus was sphere-like, in



25 (83%) women endometrium had a cellular structure, in 15 (50%) cellular structures had a diffuse nature, and in 10 (33.3%) these structures were of local nature. Moreover, 12 (40%) women were found to have hyperechogenic inclusions in the structure of myometrium.

**Conclusion.** Sphere-like uterus, cellular structure and hyperechogenic inclusions of the myometrium are the main ultrasound signs of adenomyosis of the uterus.

*Gradil O.G.Filipov O.A.,*

## **THE METHODS OF HORMONAL CORRECTION OF OXIDATIVE STRESS IN INFERTILITY WOMEN**

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**Introduction.** One of the main methods of infertility treatment is assisted reproductive technologies (ART) by means of in vitro fertilization (IVF). It is known that during maturation of the oocytes there is an activation of the oxidative processes in the follicular fluid. Therefore, it is important to provide a high level of antioxidant protection during ovarian stimulation. One of the most powerful components of the antioxidant system is melatonin, which acts as a direct inhibitor of free radicals. Melatonin can be useful for reproductive function, especially for ovarian stimulation. The aim of the study was to improve the results of ART by studying the activity of oxidative stress in the follicular fluid during oocyte maturation and using preventive hormonal therapy.

**Materials and methods.** The aim of the study was to improve the results of ART by studying the activity of oxidative stress in the follicular fluid during oocyte maturation and using preventive hormonal therapy.

**Results.** All patients over the age of 33 years had low levels of AMG (less than 1.1 pg /ml), indicating the low ovarian reserve. The levels of the melatonin hormone rapidly decreased in serum samples from 56-60 to 20-23 ng/ml during ovarian stimulation. Group I (n = 29) patients had ovarian stimulation without preventive hormonal therapy. Group II (n = 30) patients received a preventive course of melatonin hormone therapy for reducing the negative effects of oxidative stress. The number of oocytes during the puncture in group I ( $2,0 \pm 3,01$ ) is 2.3 times lower than in patients receiving preventive therapy with melatonin ( $4.82 \pm 3.5$ ) and in 4,5 times lower than control group ( $17.61 \pm 7.35$ ),  $p < 0.001$ .

**Conclusion.** The preventive course of melatonin hormone therapy, which has a active antioxidant effect, increases the number of oocytes in patients associated by the low ovarian reserve. It may be advisable to prescribe melatonin as preventive course before IVF procedure.



*Halashko K., Holubieva A.*

## **RATIONAL TREATMENT OF BACTERIAL VAGINOSIS IN PREMENOPAUSAL WOMEN**

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**Introduction.** Bacterial vaginosis is a common pathology among women in early menopause. The development of the disease is often associated, in particular, with progressive hypoestrogenism. With a decrease in the level of estrogen, the number of Doderlein bacillus decreases as the environment in the vagina leaches, which forms a favorable environment for the development of the opportunistic flora and vaginosis. Rationally selected treatment taking into account the pathogenetic mechanism of vaginosis development in premenopausal women can eliminate predisposing factors, restore vaginal microbiocinosis and prevent recurrence of the disease.

**Materials and methods.** The aim of our work is development of a rational method for treating bacterial vaginosis in premenopausal women. At the clinical base of the Department of Obstetrics and Gynecology No. 1, 15 women at the age of 44-49 with bacterial vaginosis were examined. According to the results of the bacterioscopy, at the first treatment, a small amount of white blood cells was detected in the smear, mainly coccal flora and gardnerelles were found against the background of absence or reduced amount of lactobacilli, pH of the vaginal environment - neutral. Women were divided into 2 clinical groups: 8 women of the 1st group used clindamycin phosphate 100 mg in suppositories vaginally, 7 patients of group II took combination therapy, including estrogen preparations and probiotics. After 7 and 30 days of treatment, a control examination was conducted and the results were compared in two groups.

**Results.** At the first control exploration, 7 women of the I group had a lack of conditionally pathogenic microorganisms and an abrupt decrease in the lactoflora. One patient had a Candida mycelium in small quantities. According to the results of the bacterioscopy of women of the II group, all patients have normalization of clinical and laboratory parameters. At the repeated control examination a month after the treatment in patients of the I group there was a development of dysbiosis and 6 women had candidiasis. The results of a bacterial smear in the II group are within the normal range.

**Conclusion.** In this way, complex treatment with the use of probiotics and estrogen preparations is pathogenetically founded and more effective for the treatment of bacterial vaginosis in premenopausal women.



Khalil Arwa

## PHYTOESTROGEN THERAPY IN AUB

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**Introduction.** The frequency of abnormal uterine bleeding (AUB) varies from 15 to 20%. AUB can be not only a manifestation of pathological processes in the reproductive system, but also the first recognition of violations of the main links of the hemostasis system.

**Materials and methods.** To study the effectiveness of phytoestrogens in the treatment of patients with AUB, a comparative analysis of the results of treatment of 36 patients who received traditional treatment: haemostatic and hormonal therapy (comparison group) and 33 patients, which constitute a complex therapy involving the use of phytoestrogens. The control group consisted of 16 healthy women. All sick people complain of general weakness, a violation of the menstrual cycle. All patients were examined, which included clinical and laboratory examination, functional diagnostics tests, determination of hormones in blood serum (FSH, LH, estradiol, progesterone), ultrasound of pelvic organs, and histological examination of endometrial scraping.

**Results.** Complete normalization of menstrual function, absence of painful periods was noted in 33 (93.9%) patients of the main group in comparison with 28 (77.8%) women in the comparison group. When phytoestrogens were administered, a positive dynamics was observed, complications were not revealed. Clinical efficacy of phytoestrogens in the treatment of patients with AUB is confirmed by clinical-laboratory, hormonal, histological and ultrasound data. In the patients of the main group, the general condition improved, the complaints disappeared, and menstrual blood loss decreased. In the 1st (2.7%) patients of the comparison group, there was a need to abolish hormonal therapy due to side effects. In 2 (5.6%) patients of the same group, due to heavy menstruation, a second scraping of the uterine cavity was performed after 6 months. Histological study of scraping of the uterine cavity revealed endometrial hyperplasia.

**Conclusion.** Thus, the obtained data, the absence of relapses in patients with AUB using phytoestrogens, evidence of high efficacy of the therapy and can be a prospective treatment for AUB and is recommended for wide application in gynecological practice.

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*Kuka A.*

## **INTRAUTERINE GROWTH RESTRICTION SYNDROME AS THE MAIN FORM OF PERINATAL MORBIDITY**

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**Introduction.** Relevance. Intrauterine growth restriction syndrome (IUGRS) is a pathological condition characterized by a decrease in the mass, a decrease in the parameters of physical development, morphofunctional immaturity of organs and systems. Signs of functional immaturity of organs and systems are often the cause of the disorder of the neuropsychic and somatic development before adolescence. IUGRS is one of the main forms of perinatal morbidity, which adversely affects further development of the child. The purpose of the study was to identify the main risk factors for the development of intrauterine growth restriction syndrome.

**Materials and methods.** Materials and methods. The study involved retrospective screening of 50 pregnant women diagnosed with intrauterine growth restriction syndrome at the clinical center of the Department of Obstetrics, Gynecology and Pediatric Gynecology of KhNMU, Kharkiv City Maternity Hospital No. 1. All the pregnant women underwent a complete clinic-laboratory and instrumental examination.

**Results.** Results and their discussion. Assessment of the conducted research showed that the main risk factors for the development of IUGRS could be regarded as: social-household in 10 (20%) pregnant women, somatic factors in 12 (24%), associated with pregnancy in 15 (30%), infectious in 5 (10%), genetic in 5 (10%) and unfavorable influence of environmental factors in 3 (6%).

**Conclusion.** Thus, the study showed the main risk factors for the development of intrauterine growth restriction syndrome in pregnant women.

*Yakusheva A., Lola N., Zatoloka D.*

## **ESTIMATION OF THE INFLUENCE OF VEGETOVASCULAR DYSTONIA ON PREGNANCY AND ACT OF DELIVERY**

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**Introduction.** Currently, the frequency of treatment of pregnant women to neurologists with symptoms of vegetovascular dystonia (VVD) is steadily increasing. This diagnosis can lead to various complications during pregnancy, during act of delivery and the postpartum period, to increase the numbers of perinatal mortality and childhood disability.



**Materials and methods.** A study of 96 pregnant women aged 17 to 42 years was conducted. Patients were divided into 2 groups. The first group consisted of 66 women, who were observed with neurologists and therapists, diagnosed with vegetovascular dystonia, delivered during this pregnancy and in an anamnesis. The second group was a control group - 30 pregnant women.

Patients underwent standard laboratory tests (general and biochemical blood analysis, general urine analysis, hormonal, bacteriological studies, coagulogram), cardiomonitor examination of the fetus and dopplerometric examination of utero-placental and fetoplacental blood flow rates. They also were examined by obstetrician-gynecologist, and a neurologist, an ophthalmologist, an anesthesiologist.

**Results.** Leading syndromes in patients from the first group were: asthenic ( $n = 13$ ), with cerebral angiodystonia ( $n = 23$ ), tachycardial ( $n = 18$ ) and cardiac syndrome ( $n = 12$ ). Frequent complications were early toxicosis (22.7%), threat of termination of pregnancy (4.5%), undeveloped pregnancy (1.5%) in the period of 8-9 weeks, 3 pregnant women (6.1%) - delay fetal development: 2 women (3.03%) - against a background of moderate and severe gestosis, 1 woman (1.52%) - against a background of polyhydramnios. In 1 patient (1.5%), despite ongoing treatment, severe gestosis developed. During the dopplerometric study of utero-placental and fetoplacental blood flow rates in 10 pregnant women (15.2%), their deceleration was diagnosed. When examining the cardiotocogram in 13 pregnant women (19.7%), uniform periodic fetal accelerations and tachycardia were recorded. In the control group, in the same study, 3 women (10%) had a violation of uteroplacental blood flow and severe variable fetal decelerations with bradycardia. These patients were shown emergency operative delivery (caesarean section), due to the presence of indications from the side of the fetus. In the remaining pregnant women from the control group, the birth occurred in the period of 37-41 weeks physiologically. In the first group, 17 women (25.8%) were delivered operatively, due to the presence of indications from the fetus and from the mother, and in 49 women the births passed through the natural birth canal.

**Conclusion.** Thus, in the group of women with vegetovascular dystonia, the frequency of deliveries by operative route is 15.8% higher than in the control group.

*Matowe C.C.V., Ngwenya S.*

**ANALYSIS OF EARLY TEENAGE PREGNANCIES FOR HIV RATES AND  
OBSTETRIC COMPLICATION AT MPIOLO CENTRAL HOSPITAL,  
BULAWAYO-ZIMBABWE**

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**Introduction.** Teenage pregnancies are a growing global public health concern. Early adolescent (13-17 year old) pregnancies are particularly worrying as they involve issues of statutory rape as in most



communities the age of consent is 16. There are also varying cultural practices that involve early child marriages.. There are also varying cultural practices that involve early child marriages. The girl child loses out on education, has to navigate the risks of pregnancy, childbirth and child rearing from a very young age. In the literature reviews, there are no similar studies on the 13-17 age group but there studies on the 15-19 age group. Annually, teenagers give birth to millions of babies globally. Teenage pregnancies are associated with adverse perinatal outcomes. Adolescents going through pregnancy and childbirth may be vulnerable especially in low-resource settings.

**Materials and methods.** This was a retrospective descriptive cohort study carried out at Mpilo Central Hospital, a tertiary teaching referral government hospital in a low-resource setting in Bulawayo, Zimbabwe. Thirty (30) early teenager pregnant patients aged 13-17 years seen at the unit between January 1 to December 31 2016, were included in the study. Data were obtained from the registers in labour, antenatal/postnatal and neonatal wards.

**Results.** The incidence of early teenage pregnancies was 4.5%. 8.1% were HIV seropositive. Nearly three-quarters (73.3%) delivered vaginally a quarter(25.7%) by Caesarean Section (CS). The majority(80.4%) had no major obstetric complications. 14.9% developed severe preeclampsia and 2% had eclampsia. Maternal mortality was 0%. A vast majority (97.3%) of the babies were live births and 2.7% were stillbirths. 2.5% of the live births were early neonatal deaths (death within the first 7 days of life). The vast majority(94.6%) had a good 5-minute Apgar score of  $\geq 7$ . 13.3% of the babies had birth weights of  $\geq 500$ -2499g with the majority(84.7%) had normal birth weights of 2500-3999g.

**Conclusion.** The incidence of early teenage pregnancies was approximately 5%. The HIV seropositive rate was lower than the hospital unit and national rates. The majority had no major obstetric complications but the commonest complication was severe preeclampsia. Maternal mortality was 0% among the early teenage mothers during the period of the study. Most early teenage pregnancies were delivered by normal vaginal route with healthy infants.

*Melnyk K., Blagoveshchenskiy R.*

## **ECHOGRAPHIC CHARACTERISTICS OF TERATODERMOID FORMATIONS**

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**Introduction.** Relevance. Teratodermoid formations of the ovaries are a common cause of women's referral to the doctor. Over the last decade their frequency has increased by 2.5 times. The complexity of differential diagnosis with malignant neoplasms dictates the need for a clear definition of the echographic criteria of these formations.



The purpose of the study was to determine the basic echographic characteristics of teratodermoid formations in women of reproductive age.

**Materials and methods.** Materials and methods. The study was conducted at the Department of Obstetrics, Gynecology and Pediatric Gynecology of KhNMU (clinical center “Kharkiv City Maternity Hospital No.1”). The study involved examination of 37 women with cystic ovarian formations. The average age of patients was  $30 \pm 12$  years. All the patients underwent complete clinico-laboratory and echographic examination. All the women were operated due to ovarian formations, with further histological examination.

**Results.** Results and their discussion. Echographic study showed rounded fluid formations of anechoic structure with clear, even contours in the projection of the ovaries. The main part of the formations was occupied by a hyperechoic elevation in the form of a “tubercle”. The “tubercle” was located on different walls of the cyst and had an irregular round or oval shape. In 25% of cases, its structure was homogeneous and, according to histological examination, consisted of adipose tissue, in 50% of cases there were echoscopic inclusions, which gave an acoustic shadow on the posterior surface (according to the histological examination, these were teeth, bone fragments and areas of calcification), in 25% of cases there were echo-negative sections in the structure of the tubercle, which, according to histological studies, were due to edema, mucus and degenerative-dystrophic processes (hemorrhage, necrosis).

**Conclusion.** The main echographic criteria of teratodermoid formations is the presence of anechoic formation with the inclusion of a “tubercle” with different echostructures.

*Mielikhova T.*

## **COMPARATIVE CHARACTERISTIC OF PATHOMORPHOLOGICAL CHANGES IN THE JUNCTIONAL ZONE OF THE UTERUS IN ADENOMYOSIS AND PROLIFERATIVE PROCESSES OF THE ENDOMETRIUM**

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**Introduction.** Introduction. In the structure of various forms of genital endometriosis, the adenomyosis, the frequency of which is constantly increasing, is especially important in combination with leiomyoma of the uterus and hyperplastic processes. A review of previous studies has shown that the involvement of the transitional zone of the uterine wall in the development of adenomyosis is not sufficiently studied. Aim. To identify the pathomorphological features of the connective tissue component of the endometrium and the junctional zone of the uterus in adenomyosis in women of late reproductive age.



**Materials and methods.** Materials of the study were fragments of endometrium with the subject myometrium, which were obtained by hysteroscopic surgical intervention with subsequent mechanical evacuation of the tissue and conducting its histological and histochemical examination. The study was attended by 36 women of late reproductive age. Depending on the nature of the pathological process in the resulting biopsy material, the patients were divided into the following groups: I group consisted of 18 cases of adenomyosis I-II degree, II group - 6 cases of endometrial hyperplasia, group III - 6 cases of glandular fibrotic polyp of endometrium, IV group - 6 cases of glandular-fibrous polyp on the background of glandular hyperplasia of the endometrium/

**Results.** As a result of a morphological study, it was found that in the cases of groups II, III and IV, the boundary between endometrium and myometrium is quite clear, collagen fibers are observed in small numbers in the stroma of the basal units of the endometrium, that is, in the endometrial part of the junctional zone, and in polyps of collagen fibers are located mostly in the so-called "leg" in a moderate amount. In the study group I, the junctional zone "jagged" due to immersion of the endometrium in the myometrium on interfascicular spaces of the connective tissue, endometrial glands are hypertrophied, in the basal department are surrounded by a stroma with a large number of cells. In the stroma of the lower third, and sometimes 1/2, the layer of endometrium, collagen fibers were diffusely found in a moderate amount, in places with a significant number of the latter. In all the groups, in addition to the stroma, collagen fibers were detected along the basement membranes of the glands and blood vessels. As for the myometrial part of the junctional zone, collagen fibers surrounded the tufts of smooth muscle fibers. In adenomyosis, smooth muscle fibers are slightly enlarged in comparison with the comparison groups.

**Conclusion.** It has been established that the stroma of the endometrium and the junctional zone in adenomyosis and some proliferative processes of the endometrium differ both in the survey microscopic pattern and in the number and location of collagen fibers, which may be one of the differential criteria between the pathological processes studied in this study.

*Nahiiieva Ainur*

## **EVALUATION OF THE EFFICIENCY OF ABNORMAL UTERINE BLEEDING'S TREATMENT WITH TRANEXAMIC ACID**

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**Introduction.** Abnormal uterine bleeding (AUB) is the uterine bleeding of any origin, which does not correspond to the parameters of woman's normal menstruation in reproductive age. To date, this is a very common problem in Ukraine. Also, AUB is an important indicator for the urgent hospitalization of the patient and often it requires surgical treatment.



**Materials and methods.** We analyzed the results of treatment of 45 patients with AUB. Patients were divided into 3 groups. 1 group consist of 15 patients with acute prolonged uterine bleeding (APUB). Group 2 consists of 15 patients with AUB on the background of uterine leiomyoma. And group 3 is 15 patients with AUB on the background of adenomyosis. The mean age of the patients of group 1 was  $49.3 \pm 1.2$ ; group 2 -  $45.6 \pm 2.5$ ; and group 3 -  $48.6 \pm 1.6$  years. Regarding the volume of menstrual blood loss (VMBL), the following was noted: in group 1 -  $185.7 \pm 10.2$  points on the PBAC scale; in group 2 -  $193.3 \pm 8.5$  points; in group 3 -  $180.3 \pm 9.1$  points. On the body mass index was noted: in group 1 -  $22.5 \pm 1.8$ ; in group 2 -  $23.2 \pm 1.2$ ; in group 3 -  $22.8 \pm 3.1$ . For the purpose of treatment and secondary prophylaxis of AUB development, for patients were assigned Tranexamic acid 500 mg 3 times a day from the first day to the third day of the menstrual cycle for three months.

**Results.** In the course of the research, it was revealed that VMBL decreased from 1 month of treatment with further improvement in treatment dynamics. VMBS in the 1 group of patients with APUB decreased from  $185.7 \pm 10.2$  to  $175.2 \pm 8.4$  points; in the 2 group of patients with uterine leiomyoma - from  $193.3 \pm 8.5$  to  $171.6 \pm 7.3$  points; in the 3 group of patients with adenomyosis - from  $180.3 \pm 9.1$  to  $163.6 \pm 8.8$  points. A more pronounced decrease of VMBL was observed in patients of groups 2 and 3. It was noted that all patients had a good transfer of the therapy. Side effects were not found in any of the patients.

**Conclusion.** As a result of our researches was determinated the high efficacy, good tolerability and safety of the tranexamic acid preparation in the treatment and prevention of AUB in patients with APUB, adenomyosis and patients with uterine leiomyoma which one had the most pronounced treatment effect.

*Nesteruk H., Verba Y.*

## **MODERN APPROACHES TO THE TREATMENT OF CHRONIC SALPINGO-OOPHORITIS IN WOMEN OF REPRODUCTIVE AGE**

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**Introduction.** Currently, chronic salpingo-oophoritis (HSO) in women of reproductive age is considered as a general polysystemic disease involving reproductive as well as endocrine and immune systems in the pathological process. According to the authors, in conditions of chronic inflammation, both microbial invasion and immunological disorders are the factors of pathologic changes. It is known that in patients with chronic pelvic diseases there is an increase of endogenous intoxication, which leads to immunosuppressive and cytotoxic conditions. Determine the effectiveness of treatment of HSO with the inclusion of the immunomodulator preparation glutamyl-cysteinyl-glycine disodium to the standard therapy.





**Materials and methods.** A study was carried out at the Department of Obstetrics, Gynecology and Pediatric Gynecology, KhNMU (clinical base - "Maternity Hospital No. 1", Kharkov). We examined 16 patients aged 19 to 35 years with the diagnosis: chronic salpingo-oophoritis (HSO) in the stage of acute inflammation. All women underwent a full laboratory tests and ultrasound examination of the pelvic organs with a Mindray M7 Ultrasound System.

**Results.** Sixteen patients were treated. The first group (10 women) received standard anti-inflammatory and antibacterial therapy for 10 days. The second group (6 women) in addition to standard therapy received intramuscular injection of 1% glutamyl-cysteinyl-glycine disodium (2 ml) according to the following scheme: 1 time per day every other day for 10 days. Before treatment, in 50% of patients the peripheral blood leukocytes was in the range of  $4,0 - 5,2 \times 10^9/l$ , in the other patients –  $6,8$  до  $9,5 \times 10^9/l$ . According to the data of the ultrasound examination, an increase in the size of both ovaries, as well as an increase in the echogenicity of the tissues in the space anterior to the uterus was detected. After treatment, a decrease in the size of the ovaries by 12-28% was observed in both groups. The levels of leukocytes in the groups were corresponded to the physiological norm of  $7,0 - 8,2 \times 10^9/l$ . Clinical efficacy was significantly higher in the second group of women as compared with first group.

**Conclusion.** At the present time of gynecology development, it is becoming increasingly clear that standard methods of antibacterial and anti-inflammatory treatment are not sufficient for the full-fledged conservative therapy of women with HSO. It is obvious that with this disorder against the background of a depressed state of the immune system it is necessary to use additional therapy with immunomodulators, which will allow achieving more stable remission.

*Ogbole Eseohe*

## **ANALYSIS OF CAUSES OF INFERTILITY IN NIGERIAN WOMEN**

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**Introduction.** According to the definition of World Health Organization, PCOS is a heterogenous, complex genetic trait of unclear etiology, it is an important cause of ovulatory and menstrual irregularity, sub-febrility and infertility, clinically evident hyper-androgenism and metabolic dysfunction in women.

**Materials and methods.** A study of women with polycystic ovaries was carried out in a health centre in Lagos, south west Nigeria over one month and treatment options that were successful in relieving symptoms and wading off infertility.



**Results.** A total of 50 women presented with infertility in the health center within the one month period, out of whom 26 had PCOS. PCOS occurred in 52% of the women who presented in the health centre. The most common presentations were: inability to conceive (infertility) in 8 (30.7%), amenorrhea in 3 (11.5%), oligo-menorrhoea in 3 (11.5%), obesity in 2 (7.7%), LH/FSH ratio  $> 2$  in 4 (15.4%), hyperprolactinemia in 2(7.7%) and hirsutism in 4 (15.4%)

**Conclusion.** PCOS is quite common occurring in approximately two in five infertile Nigerian women or women presenting with oligomenorrhea or amenorrhea. Commonest presenting features being Infertility, amenorrhea, oligomenorrhea, obesity, LH/FSH ratio  $> 2$ , hyperprolactinemia and hirsutism. After assessing treatment responses by each woman who were given C<sub>4</sub>H<sub>11</sub>N<sub>5</sub> or C<sub>26</sub>H<sub>28</sub>ClNO or C<sub>17</sub>H<sub>11</sub>N<sub>5</sub> (I mean not chemical formula, just title active substance) according to their desires to have kids or just have menstruation restored, 3-fifth of them conceived and 4-fifth of them had restored menstruation. Hirsutism didn't really stop significantly but reduced hair growth was noticed in 1-fifth of them in whom strict drug regimen was followed and the rest had other hair removal methods proposed to them.

*Olabinatan O.*

## **ENDOMETRIOSIS AS A CAUSE OF INFERTILITY IN NIGERIAN WOMEN**

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**Introduction.** The prevalence of Endometriosis is said to have been low in African women, but in recent years more African women are diagnosed with Endometriosis every day. Report shows that in Nigeria 6 in 20 women who report with infertility are diagnosed with endometriosis.

**Materials and methods.** This analysis involves 50 women between the ages of 26-46 years, who reported at the government owned infertility clinic in Lagos, Nigeria. There was used physical investigation, hormonal research, ultrasound examination, method of diagnostic laparoscopy.

**Results.** Diagnosis done based on history, 70% of the women reported hypermenorrhea, 60% of women reported with dysmenorrhea and 40% amongst women who had dysmenorrhea reported with dyspareunia. Bimanual examination, same percentage of women who reported dyspareunia presented with Douglas scream, the uterus was retroverted in 10% of the women, 15% had abnormally shaped uterus, on palpating the adnexae, 60% of the women had ovarian masses, and 35% of the women felt pain in the ovaries. Hormonal test revealed 70% of women had increased estrogen levels. Ultrasound examination showed 40% of women with ovarian cysts. 1% of hospitals and diagnostic centers in Nigeria are equipped with Laparoscopic instrument. Laparoscopy was conducted on all



these women and 30% (15) of these women presented with gun powder lesions on the peritoneum and chocolate cysts in their ovaries. Results of the ultrasound investigations were not specific, as to the type of cysts present in the ovaries, but laparoscopic examination revealed the type of cyst and also superficial lesions present in the female reproductive system. Laparoscopic examination gives a more definite diagnosis of Endometriosis.

Comparing these results in Nigerian women with other parts of the world, this results show that 15 women out of 50 women who present with infertility in Nigeria are diagnosed with endometriosis. This shows that about 30% of women in Nigeria who present with infertility have Endometriosis. 10% of women in the world have been diagnosed with Endometriosis which means that more women in Nigeria are affected by Endometriosis compared to other parts of the world. Endometriosis in Nigeria is managed using analgesics and hormonal therapy, in woman who are infertile and hope to have children, surgical treatment to remove endometrial tissues and adhesions is indicated, in women who are still unable to conceive after surgery, IVF is recommended.

**Conclusion.** Laparoscopic examination revealed that about 30% of women who present with infertility in Nigeria are diagnosed with Endometriosis.

*Onabolu A.*

## **THE CORRELATION BETWEEN HAIR RELAXER USE AND THE OCCURRENCE OF UTERINE LEIOMYOMAS IN AFRICAN AMERICAN WOMEN**

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**Introduction.** African American women are three times more likely to develop uterine leiomyomas than women of other races. They are also at a higher risk of developing more significant symptoms and disease complications.

**Materials and methods.** Using information from the Black Women's Health Study published in the American Journal of Epidemiology. A total of 23,580 premenopausal women were studied from the year 1997 to 2009. In 1997, the women were asked, via questionnaire, to report on their use of hair relaxers (I.e burns during use, duration of use e.t.c). In the following years, the subjects reported, via follow-up questionnaires, on whether or not that had been diagnosed with uterine leiomyomata. Only cases confirmed by ultrasound or surgery were counted.

**Results.** In total, 7,146 cases of diagnosed uterine leiomyomata were reported. The incidence ratio of women that had used hair relaxers to those that had never used them was 1.17.



**Conclusion.** Studies show that the use of hair relaxers, amongst other factors, may contribute to the development of uterine leiomyomas in African American women.

*Onaolapo Oluwaseun Oluwatayo*

## **TREATMENT AND PREVENTION OF OBSTETRIC FISTULA-MOST COMMON BIRTH INJURY IN NORTHERN NIGERIA**

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**Introduction.** An obstetric fistula can be defined as a trauma caused by prolonged forced child birth. It is an abnormal hole between the vagina wall and the lower urinary tract or the rectum. There are two types urogenital fistula and recto-vaginal fistula. This can cause urine or faeces incontinence. Northern part of Nigeria is becoming one of the most popular areas with this post-partum trauma in Africa with over 18,000 new cases every year with high rate of mortality and disability almost 350,000-500,000 housewives living with this condition. Several factors have been associated: Child marriages and child bearing (age 12-16), lack of access to good health care facility, poor antenatal care, female circumcision, poor education and awareness, poverty.

**Materials and methods.** 20 cases of women aged 13-20 years who had vaginal delivery in Kazim clinic in Kano northern Nigeria between June 2017- July 2017 with complication of labor-obstetric fistula. The main treatment which is surgery was used to treat the patients. Pre-operative antibiotics were given, enema, physiotherapy, post surgery catheterization and follow up. 5 cases of women aged 18-20 years had caesarian section due to possible complication by fistula.

**Results.** 16 cases out of the 20 cases underwent pre-surgical care (antibiotics, physiotherapy), surgery and post-surgical care carried out were successful with full rehabilitation of the patients without any complications. They made urine within 24 hours after surgery. 4 out of the 20 cases has post-surgical complications which was urinary retention. 1 case of urinary retention due to bilateral ureter ligation, which was repaired immediately and was successful. 3 cases of urinary retention due to a blocked catheter but quickly resolved. 5 cases of caesarian section to avoid complication by fistula were successful, with no complications.

**Conclusion.** Obstetric Fistula is the leading cause of labor trauma in northern Nigeria due to poverty, bad health care system, poor education and bad ethnic moral. This can be prevented by creating awareness on the cons of young marriage and child bearing, improving the health system making it easily accessible and affordable.



*Onwujekwe Udodi E.*

## **THE ROLE OF EXCLUSIVE BREASTFEEDING DURING THE PUERPERAL PERIOD IN PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV**

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**Introduction.** Mother to child transmission is defined as the transmission of HIV infection from an infected mother to her baby vertically (transplacental), intranatally, or by breastfeeding. It is the most common way children become infected with HIV, with an incidence ranging from 15-45% worldwide (World Health Organization). Previously, HIV infected pregnant women were advised to completely avoid breastfeeding their neonates, as this was considered an important route of transmission of HIV infection from the HIV positive mother, to her negative baby. The aim is to prove that exclusive breastfeeding in the puerperal period plays a positive role in the Prevention of Mother-To-Child Transmission (PMTCT) of HIV infection, when practiced with adequate Anti-Retroviral (ARV) therapy for the mother and baby.

**Materials and methods.** The study included 90 HIV positive pregnant women being treated at a HIV centre in Lagos, Nigeria. 30 women who opted for exclusive breastfeeding, were counseled thoroughly on the need for strict adherence to the recommended course of ARV therapy for themselves and their babies especially during the puerperal period. Babies had to receive a syrup containing the ARV drug- Nevirapine as its active ingredient, at a dose of 1.5ml/day for the entire puerperal period-6 weeks (Group A). 30 women who chose to use formula feeding were counseled as per the first group, and also advised to ensure that their water source and the chosen formula were high quality (Group B). The last group of 30 women refused to give their babies the recommended ARV therapy, but insisted on breastfeeding them (Group C). All women were monitored closely at a maternity centre, under the superintendence of consultants from the HIV centre. Viral loads were determined before delivery dates to decide which route of delivery would most suitably prevent transmission to the neonate. All neonates were tested at 6 months for HIV infection. Consent was obtained from all women.

**Results.** 57 infants (63%) of all infants in the study tested negative to HIV infection at 6 months, and 33 of them (37%) tested positive. Of the 57 negative infants, 25 of them were from group A (28%), 33% from group B (all infants from this group-30), and 2 were from group C (2.2%). Out of the 33 positive infants, 5 infants (6%) were from group A, 28 were from group C (31%). 3 mothers of positive infants in group A, admitted to giving mixed feeding instead of exclusive breastfeeding as advised due to problems with lactation they had experienced; the remaining 2 mothers admitted to skipping some doses of the recommended ARV therapy for the infants, and their own doses at times.



**Conclusion** If practiced strictly in conjunction with the recommended regimen of ARV therapy, exclusive breastfeeding in the puerperal period plays a positive role in the PMTCT of HIV infection, therefore HIV positive mothers are permitted to administer exclusive breastfeeding to their babies in this case. If exclusive breastfeeding won't be possible, breastfeeding should be avoided completely, and use of high quality formula should be ensured.

*Ogunyemi Opeyemi*

## **THE EFFECT OF HYSTEROSCOPIC ADHESIOLYSIS AS A METHOD OF TREATMENT FOR ASHERMAN'S SYNDROME IN NIGERIA**

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**Introduction.** Asherman's syndrome or intrauterine adhesions (IUA) is a condition that is majorly characterized by adhesion of uterine walls, complete or partial obstruction of uterine cavity, different placement of adhesions in uterine cavity and the clinical presentation of symptoms such as menstrual abnormalities, infertility or induced abortion. The true incidence is unknown, but it was shown to occur in about 20% of patients being treated for infertility. In most cases it occurs in women who have had several dilation and curettage (DC) that was performed because of a missed or incomplete miscarriage, retained placenta with or without hemorrhage after a delivery, or elective abortion.

**Materials and methods.** This study included 61 patients presented with infertility (primary or secondary) or recurrent pregnancy losses caused by IUAs. The major complaints were infertility, hypomenorrhea, and amenorrhea. Each case of Asherman's syndrome was classified according to the American Fertility Society classification. The intensive therapeutic plan for the 61 women included (1) diagnosis and severity of the disease was confirmed preoperative using hysteroscopic method; (2) Hysteroscopic adhesiolysis using ultrasonography as a guide to dissect adhered tissue and placement of gel as a halo barrier, also intrauterine balloon catheter was placed at the end of the surgery; (3) oral estrogen supplements were given in post operative period to enhance endometrial proliferation with removal of the catheter after which another hysteroscopy was done; and (4) in vitro fertilization for 21 of the patients.

**Results.** No complication was associated with the hysteroscopic method. Normal menstrual cycles resumed in all the women. From the 61 infertile patients, 54 conceived (88.5%). None of the patients had obstetric complications. Two patients had spontaneous abortions (3.28%), one had an ectopic pregnancy (1.64%), 3 (4.91%) had an abortion at 16 weeks' gestation due to incompetence of the cervix. Pregnancy rate changed from 19 to 88.5%, while live birth rate improved from 14.7 to 76%. The mean time until the first conception was 9.2 months after the operation.





**Conclusion.** Hysteroscopic adhesiolysis aided by transabdominal ultrasonography is a suitable treatment method for Asherman's syndrome, adequate management of this syndrome provides the best possible outcomes in poor-prognosis women with severe Asherman's syndrome. Hysteroscopic adhesiolysis of IUAs is safe and effective in terms of reproductive outcome as seen in the study above.

*Pylypenko N.*

## **HYSTEROSCOPY METHOD EXPERIENCE IN THE TREATMENT OF ABNORMAL UTERINE BLEEDING IN REPRODUCTIVE WOMEN**

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**Introduction.** Abnormal uterine bleeding (AUB) is one of the most frequent reason for urgent hospitalisation. Nowadays, hysteroscopy is gaining rapid growth in the diagnosis and management of abnormal uterine bleeding. The purpose of the study was to determine the efficiency of hysteroscopy in diagnosis of AUB.

**Materials and methods.** Were examined 32 women in reproductive age with complaints of bleeding from genitalia. Study was passed in Kharkiv clinical maternity hospital №1 in 2017. Women examined via hysteroscopy. The following examination by biopsy and histopathological evaluation was done.

**Results.** Patients age was  $35.7 \pm 5.4$ . Via clinical study 64.3% were identified as menorrhagia, 30.4% polymenorrhoea and 5.3% intermenstrual bleeding. Hysteroscopy study 53.6% presented with abnormality, it diagnosed polyps in 16.1%, calcification in 12.5%, submucous fibroma in 10.7%, necrotic mass in 7.1%. Histological study gives the next data: 18 (56.25%) women had normal/proliferative/atrophic endometrium, 6 (18.75%) had hyperplasia, 3 (9.375%) had calcified endometrium and 5 (15.625%) had polyp. In all cases, a liquid method was used with a non-electrolyte 5% glucose solution (a hysteroscope Mahe Medical, Germany). Most often, diagnostic resectoscopy was performed for hyperplastic endometrial processes, such as endometrial polyps and hyperplasia.

**Conclusion.** Hysteroscopy is a new advance diagnostic method. Nowadays, this is a gold standard method to study the intrauterine pathology as like to identify the disorders and to treatment the gynecological abnormalities.



Sesay-Tlahyoni Abdulai

## THE METHODS USED IN THE PREVENTION AND TREATMENT OF POSTPARTUM HEMORRHAGE IN SIERRA LEONE

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**Introduction.** Sierra Leone is among the countries with the highest maternal mortality in the world. 1,360 mothers dying per 100,000 live births. Recent estimates from 2015 revealed that one in every seventeen mothers has a lifetime risk of death associated to childbirth. Postpartum hemorrhage - blood loss of up to 500ml and above within the first 24 hours to 12 weeks after delivery; due to uterine atony, uterine inversion, placental abruption, blood clotting disorders, uterine, cervical or vaginal lacerations are the leading causes of mortality and morbidity among women with vaginal delivery in the country. 70% of postpartum hemorrhage occurred amongst patients that delivered outside the hospital (home deliveries). There are few well trained medical doctors in large cities. Physician Assistants, Midwives, or unskilled birth attendants and herbalists are the primary healthcare providers in the rural areas.

**Aim:** To analyze the methods of postpartum hemostasis used by childbirth attenders, or midwives and untrained herbalists at health clinics in the rural communities of Tonkolili District.

**Materials and methods.** This study included 23 cases of women who had vaginal delivery aged 17 to 38 years admitted at the Yoni health clinic from July 2017 to August 2017. The following methods are used: Administration of misoprostol, ergometrine, or oxytocin for the prevention of postpartum hemorrhage, in the active management of the third stage of labor. Less than 3% of primary healthcare workers have knowledge about the use of these medications. Manual and Bimanual massage of the uterus to stimulate uterine contractions, abdomen aorta compression, the use of gauze packs as tamponade, and application of condom catheter as tamponade for intrauterine pressure are the methods used.

**Results.** Postpartum hemostasis in the third stage of labor:

- 3 cases with the use of misoprostol medication in one of the clinics, (600-800 mcg rectally or sublingually, 200mcg per tablet)
- 4 cases with bimanual uterine massage.
- 5 cases with combination of manual uterine massage and intrauterine balloon tamponade introduction.
- 11 cases with the application of condom catheter as tamponade for intrauterine pressure. The condom is inflated with 300-500ml of normal saline. The condom catheter is kept 12-48 hours. Followed by antibiotic therapy.



**Conclusion.** A postpartum hemorrhage is the leading cause of maternal mortality and morbidity in Sierra Leone. Due to the underdevelopment of the rural communities of the country, medications like misoprostol, ergometrine, and oxytocin are not available in rural community health clinics. Primary health providers in rural health clinics lack the knowledge, skills and the ability to accurately assess the risk factors and blood loss during delivery. Antenatal care is limited in rural communities.

*Shakirova O. Bobrytska V.,*

## **THE PROBLEM OF CONTRACEPTION AMONG YOUNG PEOPLE AND THE WAYS TO SOLVE IT**

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**Introduction.** The problem of contraception still remains open, and also important for our country. According to information for 2016, the level of abortions in Ukraine is 21 per 1000 women of childbearing age; 46 for 100 pregnancies; 84 - for 100 deliveries. Women don't adequately assess the risk of pregnancy, considering it is low or almost non-existent. They do not use contraceptives or use ineffective methods, which leads to an unwanted pregnancy that ends with abortion. Even after an abortion operation, only 67.6% of respondents consider it is necessary to use contraceptives. According to the Ministry of Health of Ukraine in 2016 about 120 girls became mothers, not reaching 14 years old, and at the age of 15-17 gave birth to about 6000 girls.

**Materials and methods.** The survey involved 84 students, aged up to 25 years, 76.5% of whom are female, and 23.5% - male. In order to subsequently know which way to start instruct, we created a small anonymous online questionnaire and distributed it among the students of KhNMU. The form consisted of 5 simple questions, devoted to mode and methods of contraception.

**Results.** When students were asked about whose prerogative is contraception, 85% answered that both men and women, 9% answered that it was the prerogative of a woman, and only 6% were men. In this case, most men believe that this is the prerogative of women, and most women - that both are responsible for this. When students were asked if contraception should be used in a marriage, 79.5% persons gave a positive response; 20.5%, answered that it is not necessary. Regarding the question of the best means of contraception, 53% agreed that it was a male condom, and 47% shared it: the calendar method (6%), interrupted coitus (6%), IUD (3%), oral female contraceptives (23.5%), lactational amenorrhea method (3%), mini-pili (3%), chemical contraception (3%), trivial methods (3%), hormonal patch (0%).

**Conclusion.** Despite the fact that the students of the medical university took part in the review, the results are not satisfactory, because the most of respondents don't differ between family planning methods and methods of contraception. We can change this situation for the better, it may be



necessary to inform in the form of lectures and small messages. It is also necessary to remind students more often that it is best to consult a doctor, when they choosing a contraceptive, and keep to his recommendations, choose the most suitable and reliable way, rather than refer to wrong information of advertising, friends, the Internet, etc.

*Stroga I.*

## **HYPERPLASTIC PROCESSES IN POSTMENOPAUSAL PERIOD**

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**Introduction.** Hyperplastic processes of the endometrium are the most common forms of uterine pathology in peri- and post-menopausal period. The relevance of the study of this pathology is due to the high risk of malignancy.

**Materials and methods.** Materials and methods. The study involved examination of 36 women aged 49-59 years and the term of menopause from 1 to 5 years. Group 1 included 10 women in postmenopausal age up to 5 years without pathological changes in the reproductive system. Group 2 comprised 26 women with postmenopausal bleeding. Group 1 was the control and the second group was the main one. All the women underwent general-clinical and gynecological examination. The state of the endometrium was evaluated by ultrasound examination of the pelvic organs by ultrasound scanner MINDRAY 7MC.

**Results.** Results of the study. Group 1 women were not found to have pathological changes in the pelvic organs; the thickness of the endometrium was  $2.5 \pm 0.5$  mm. Group 2 women were shown to have the following changes in the thickness of the endometrium: in 10 (38.5%) women -  $5.5 \pm 1.5$  mm, in 12 (46.2%) -  $7.0 \pm 1.5$  mm, in 4 (15.3%) - 8.5 and more mm. The inner medial echo of the uterus was of heterogeneous structure, hyperechogenous, with clear equal contours. All the women of the main group underwent a fractional scraping of uterine cavity. Histological examination showed glandular-cystic hyperplasia.

**Conclusion.** Ultrasound examination is the main method for diagnosis of hyperplastic processes of endometriosis in postmenopausal women.



*Timofieiev D.*

## **DIAGNOSTIC FEATURES OF CERVICAL DYSPLASIA IN PREGNANT WOMEN**

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**Introduction.** The pathology of the cervix occupies one of leading position in structure of oncogynecological pathology. In recent years, there has been a tendency to increase the incidence of dysplasia and cervical cancer. According to Ukrainian statistics, more than 5 thousand women with cervical cancer had registered this year, more than 2 thousand women from this group are in reproductive age. Every fifth woman dies within a year after the diagnosis. According to WHO, 530 thousand cases of cervical cancer has already registered and would reach a million a year by 2050. The results of the study of clinical and pathohistological research are presented with intent to determine the frequency of disease and detection risk factors.

**Materials and methods.** Analyzed 40 histories of pregnancy and parturition and outpatient cards of the patient was conducted.

**Results.** The incidence of dysplasia in the study group was as follows: L-SIL- 52.3%; H-SIL – 47.7%. Researches have shown: presence of a virus that affects cervix has been established at 34,4% of patients, from them HPV - 67%, HSV - 17%, HPV +HSV - 43%. Investigations showed: chlamydia (4.8%), ureaplasmosis and mycoplasmosis (5.9%), bacterial vaginosis (7.8%). From the anamnesis: early onset of sexual activity (before age of 18 years) - 8.5%; chronic cervicitis - 45,8%; colpitis - 42.6%; erosion of the cervix - 18.2%; adnexitis - 17,5%; endometriosis - 3.7%.

**Conclusion.** The most significant risk factors for cervical dysplasia in pregnant women were: viral cervical disease, inflammatory diseases of female reproductive system. It is important to separate the HPV infection and HPV-associated disease and determine the risk of its progression. Actually any method of detecting HPV DNA has a 95-100% diagnostic sensitivity. However, the qualitative definition of HPV DNA has a controversial clinical significance, since it does not allow to predict the course of the infection. The prognostic value of HPV testing increases with age, while the value of the standard cytological method is reduced.



*Udoidiok, Imo Ekanem*

## **METHODS OF TREATMENT OF GENITAL ENDOMETRIOSIS WITH PRESERVATION OF FERTILITY IN NIGERIA**

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**Introduction.** Endometriosis is a pathological process that occurs on the background of hormonal dysfunction. It is characterized by abnormal growth of endometrial cells in a location outside of the uterus. It is a common problem among women of reproductive age, especially those who have been pregnant, had an abortion or a miscarriage. It is one of the main causes of infertility in Nigerian women (about 30 %) and has no specific symptoms. It has no cure and the specific cause is unknown, but the theory of retrograde menstruation is widely accepted. Some treatments require suppression of hormones that would otherwise be needed for the woman to be able to conceive and bear children, so, this study will show how to help these women with endometriosis who want to manage their condition, and at the same time, deal with the infertility that comes with this condition.

**Materials and methods.** 14 women reported to the clinic with a problem of infertility, even though they had been sexually active without using contraceptives for more than a year. After proper investigation and history taking, they were diagnosed with genital endometriosis. These cases were studied in Efkam clinic, Nigeria, from June 2017 to August 2017. The two methods that were used were; laparoscopy to remove or vaporize the growths and In-vitro fertilization (IVF); combining sperm and eggs in the laboratory to form an embryo which was placed directly in the uterus of the women involved.

**Results.** 5 of the women were able to conceive 5 weeks after the laparoscopy and removal of growths from uterus. These 5 women had the mild form of endometriosis so this can explain why they were able to conceive after the growths or lesions were removed. They testified to the fact that not only did the laparotomy help with their infertility problem, but it also reduced the pain they normally felt in connection to the endometriosis. The rest of the women had an advanced stage of the disease and still did not conceive after the laparoscopy. They all had to further undergo IVF to improve their chances at conceiving. 6 of them were confirmed to be pregnant 2 weeks after the procedure. Apparently, it was an effective option as fertilization was done by manually combining the eggs with sperm outside of the body and then transferring the embryo into the uterus. Unfortunately, 2 of the women were still unable to conceive. This could possibly be related to the fact that they were both over the age 40 and had this problem for a very long period of time.

**Conclusion.** The use of IVF in women with endometriosis related infertility is effective for most women but still may not work for some. The use of hormones in IVF is effective to treat the infertility





but other forms of hormonal therapy are not so successful. These hormones do not cure the endometriosis lesions and so, the pain may reappear after pregnancy.

*Vadamalai Sangeetha*

## **EFFECTS OF SEXUALLY TRANSMITTED INFECTION ON PREGNANCY AND ON THE FETUS CONDITION**

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**Introduction.** Syphilis is a sexually transmitted disease caused by *Treponema pallidum*. Frequency of vertical transmission /occurrence of congenital syphilis is high in primary (50%) and secondary (50%) syphilis. In tertiary syphilis, it is usually less (about 10%). When Trans placental migration of spirochete occurs it may lead to 1) Abortion; 2) Preterm birth; 3) Intrauterine deaths; 4) Non - immune fetal hydrops; 5) Early neonatal death ; 6) Congenital syphilis.

**Materials and methods.** During this study 45 pregnant women delivered were diagnosed with syphilis. Groups of patients :- Group 1 includes 11 patients who were diagnosed at delivery and treated postpartum. Group 2 includes 34 patients who were diagnosed with syphilis during their pregnancy in various trimesters. At first, Serological test was done and they all were VDRL positive. Then, VDRL test was confirmed by FTA-ABS and MHA-TP test. Group 2 is further divided into : 2a) Primary syphilis - 3 patients; 2b) Secondary syphilis - 8 patients; 2c) Early latent syphilis - 10 patients; 2d) Late latent syphilis - 13 patients. 34 patients in group 2 were staged and treated according to CDC recommendations. Groups 2a, 2b, 2c (duration of disease is < 1 year) were treated with 2.4 million units of benzathine penicillin G Intramuscularly single dose. Group 2d (duration of disease is > 1 year) were treated with 2.4 million units of benzathine penicillin G Intramuscularly 3 doses in a weekly interval are given over 3 weeks.

**Results.** Success rate of the therapy for each group is as follows : group 2a - 3 of 3 (100%); Group 2b - 6 of 8 (75%); group 2c - 9 of 10 (90%); Group 2d - 13 of 13 (100%). So, the success rate of therapy for all stages of syphilis is 31 out of 34 (92%). The success rate of secondary syphilis is lesser than that of other groups. One of the treatment failures in secondary syphilis is resulted in Intrauterine death (stillbirth) and another one resulted in late abortion. One treatment failure in early latent syphilis is resulted in preterm birth and low birth weight.

**Conclusion.** CDC recommended treatment regimen is effective in prevention of congenital syphilis and other effects of syphilis on pregnancy. But, also the risk of treatment failure exists with maternal secondary syphilis. It is possible to protect the baby from developing congenital syphilis even if the treatment is begun late in pregnancy. But treatment should be started as soon as the diagnosis is made



to prevent further spreading of spirochetes. So, it is necessary to make diagnosis as early as possible in pregnancy.

*Wesley Noeline Jeronika, Plakhotnaya.I.*

## **THE STUDY OF HYPERTENSIVE DISORDERS IN PREGNANT WOMEN AND COMPLICATIONS TO LABOUR AND FETAL DEVELOPMENT**

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**Introduction.** Pre-eclampsia is the complete or partial failure of trophoblast invasion of the myometrial segments of the spiral arteries causing impaired perfusion of the fetoplacental unit. Antiphospholipid syndrome (APS) is the presence of autoantibodies to phospholipids which lead to severe pre-eclampsia.

**Materials and methods.** Research analyzed on 30 primigravidas. Further divided into two main groups:

1st	20 primiparas – favourable perinatal outcome	premature birth,	miscarriages.
2a:	diagnosed with APS	-	4primiparas
2b:	pre-eclampsia without APS,normotensive	6	primiparas.

The diagnosis was made on the complaints of the patients and diagnostics -blood pressure monitoring, 24 hour urine, ultrasound, and biophysical profile.

**Results.** 20 pregnant women with normal pregnancy gave birth with healthy fetus (66.6%).In 10 pregnant with pre-eclampsia the courses of pregnancy were complicated with premature birth and miscarriages (33.3%).In 4 pregnant of group 2a -termination of pregnancy of all 4 patients due to perinatal death (13.32%). In group 2b the course of pregnancy was complicated with intrauterine growth restriction in 2patients (6.66%); premature birth – 1 (3.33%) and there were 3 cases of induction of labour in the 36th weeks (9.99%)

High risk group is 2a with APS. Normotensive women with mild pre- eclampsia give birth to a child with monitoring and sufficient treatment leads to a better prognosis whereas in case of severe pre-eclampsia leading to termination of pregnancy.

**Conclusion.** Study confirms the fatal outcome to the mother & fetus thus; monitoring blood pressure from the 1st trimester till the end of pregnancy and screening for antibodies prior to pregnancy will be good prognosis.



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## HEMODYNAMIC PECULIARITIES IN THE “MOTHER-PLACENTA-FETUS” SYSTEM IN PREECLAMPSIA OF PREGNANT

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**Introduction.** Preeclampsia is one of the most severe complications of pregnancy, which affects its course, childbirth and postpartum period. Doppler ultrasound examination helps to diagnose the state of utero-placental and fetal blood flow and timely determine fetal distress. The purpose of the study was to determine the features of hemodynamics of utero-placental and fetal blood flow in pregnant women with preeclampsia.

**Materials and methods.** The study was conducted at the Department of Obstetrics, Gynecology and Pediatric Gynecology of KhNMU (Clinical center “Kharkiv City Maternity Hospital No.1”). The study involved examination of 60 women at gestational age of 28-41 weeks. Clinical groups were as follows: control group consisted of 20 women with physiological course of pregnancy and the main group comprised 40 women with preeclampsia of varying degrees of severity. The severity of preeclampsia was evaluated in accordance with clinical protocols for obstetric and gynecological care. The Doppler ultrasound examination was performed using the MINDRAY 7MC ultrasound scanner.

**Results.** Preeclampsia is characterized by the primary impairment of utero-placental hemodynamics. So, 6 (15%) of the pregnant women of the main group were found to have isolated violations of the feto-placental blood flow. Pregnant women of the control group were not found to have any hemodynamic disorders. Pregnant women of the main group were shown to have pathological curves of blood flow velocity (BFV) in the uterine arteries a few weeks before the increase in the severity of the disease. The increase in the severity of preeclampsia was accompanied by an increase in the indices of vascular resistance to 0.73-0.78 due to the decrease of the BFV in the ventricular diastolic phase and the development of persistent early diastolic notch. Examination showed a decrease in the diastolic component (DC) to 34 (85%) in the umbilical artery. Registration of persistent zero DC, permanent zero DC, retrograde DC reflected the degree of severity of preeclampsia. Increased peak systolic velocity above 1.5 MOM in the middle cerebral artery was detected in 5 (12.5%) pregnant women. Mild preeclampsia in the thoracic aorta was characterized



by a decrease in DC in 10 (25%) pregnant women and its complete absence in severe preeclampsia in 3 (7.5%) cases.

**Conclusion.** The study showed features of hemodynamics of utero-placental and feto-placental blood flow in pregnant women with preeclampsia. Impairment of utero-placental blood flow is accompanied by a decrease in end-point diastolic velocity, an increase in vascular resistance index, development of diastolic notch, and an increase in peak systolic velocity in the middle cerebral artery. Disruptions of fetal hemodynamics indicate centralization of the fetal blood flow.

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2018

# PEDIATRICS, MEDICAL GENETICS





Ashcheulov O.M., Slonetskyi Y.V.

## CHILDREN'S LIFE QUALITY WITH BRONCHIAL ASTHMA DURING THE VISIT OF THE ALLERGIC SCHOOL

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**Introduction.** Bronchial asthma (BA) is the one of widespread and severe diseases that meets in 8-10 % of children, and has high medical and social value. Limitations of the emotional and social spheres that related to the BA sometimes have repressing value for teenagers, unlike parents that give more important value to the physical condition of their children. Divergences in attitude toward illness can perniciously tell not only on mutual relations «parent-child» but also on efficiency of the therapy. The estimation of the life quality (LQ) in such cases gives an opportunity to objectificate the condition of the patients.

**Materials and methods.** the estimation of LQ is provided to 34 children in age from 13 to 18 years old with BA in the acute stage, and one of their parents that visited allergic school at Regional Children's Allergic Center of the Kharkiv Regional Children's Clinical Hospital №1. LQ was estimated with the licensed questionnaires «PedsQL» that consist of the estimation of the general condition and separate spheres: physical, emotional, social functioning and functioning at school. All obtained data was statistically analyzed.

**Results.** The estimation of the general condition showed: by teenagers –  $76.4 \pm 4.3$  %, parents –  $61.5 \pm 3.8$  % ( $p < 0.05$ ). Parents determined the indexes of the general condition of their child during illness worse, than their children. Indexes of separate spheres were distributed as follows: physical functioning –  $72.8 \pm 3.9$  % evaluated by teenagers and  $54.3 \pm 4.5$  % evaluated by parents ( $p < 0.05$ ), emotional functioning –  $71.5 \pm 3.8$  % and  $85.6 \pm 3.7$  % ( $p < 0.05$ ), social functioning –  $73.4 \pm 3.4$  % and  $78.6 \pm 4.7$  % ( $p < 0.1$ ), functioning at school –  $79.8 \pm 2.9$  % and  $85.4 \pm 3.2$  % ( $p < 0.1$ ) respectively. There weren't find out reliable divergences in the estimation of the social functioning and functioning at school, although there was a tendency to the underestimation of these indexes by parents.

### Conclusion.

1. General LQ index estimated by children with BA is reliably elevated ( $76.4 \pm 4.3$  % against  $61.5 \pm 3.8$  % ( $p < 0.05$ )), than with estimation by their parents, and attests to symptoms exaggeration by parents.
2. The parameters of the physical functioning were reliably elevated by sick children than by their parents, however the emotional functioning had opposite correlation bonds.
3. The visitation of the allergic school for children together with their parents is necessary for the adequate understanding and evaluation of the children's.





Dehtiar K. O.

## WATER BALANCE OF FOREIGN STUDENTS OF THE MEDICAL UNIVERSITY

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*Research advisor: prof. Atamanova O.V*

**Introduction.** The need for fluid for each person depends on a number of parameters - gender, age, climate, types of performed work, physical and even emotional state. For middle-aged men, the WHO recommends on average 2900 ml of water per day. Women should drink at least 2,200 ml per day for a moderate climate zone. The insufficient amount of incoming water in the body can cause weight reduce, increase blood viscosity, inadequate supply of oxygen, increase of body temperature. Energetic drinks, which are popular among young people, require special control, so as their full safety has not been proved yet. In November 2016, the FDA made a public declaration about 21 incidents because of the use of energetic drink "Red Bull". These cases have included heart attack, convulsions and one case of spontaneous miscarriage. Therefore, in order to prevent such cases, in many countries of the world such beverages are strictly controlled. In countries, where they are allowed, it is recommended not to drink more than 2 cans per day. It is also known that regular usage increases tolerance to tonic substances that leads to raising the dosage of these drinks, causing depression, drowsiness and weakness due to the exhaustion of the nervous system. To determine the specifics of the regime of drinking water and energetics by foreign students of our medical university.

**Materials and methods.** We have interviewed 38 foreign students aged 19-25 years. A comprehensive questionnaire have been specifically designed for this study.

**Results.** It was showed that the consumption of energetic drinks was distributed equally to 19 people. 37% of people who drink energetics will recommend these drinks due to good taste. For 63% of students, the cause of using is indicated by two options: to increase the hours of vitality or as a regular drink for thirsting. Energy brands were distributed as follows: Redbull ranked 63% of the respondents, Blu Day - 21% and XL -16%. The frequency was equal for variants several times a day, once a month and one time in three months and reached 21%, 26% - once a week and 11% once a day. According to the results of our survey, 10% of students drink less than 1 liter of water per day, 53% - 1.5 liters per day, and 37% - more than 2 liters. On the main meals, students usually use different drinks: 7up and energetic drinks - 0.9%, Pepsi - 3.5%, Coca-Cola - 9.6%, and tea, coffee and milk - 10, 5%, 11.4%, 12.3% respectively, but the most popular drinks were juice and water - 22.9% and 28% respectively.

**Conclusion.** More than a half of students (63%) do not drink necessary amount of water per day, consuming energetic drinks instead of ordinary mineral water. For some students, energetics and soft



drinks are included in the diet. Regular usage of mineral-unbalanced beverages and usage not enough water can lead to serious violations of functioning of human organism in future.

*Drobova N. M.*

## **FEATURES OF IMMUNE STATUS IN CHILDREN WITH CYSTIC FIBROSIS DEPENDING ON THE ATOPY**

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*Research advisor: Klymenko V. A.*

**Introduction.** Cystic Fibrosis (CF) is one of the most common hereditary diseases with variety of clinical manifestation depending on difference of CFTR gene mutations and comorbid states. Aim. To characterize the phenotypes of CF depending on the comorbid atopy.

**Materials and methods.** The study included clinical and paraclinical examinations of 42 children with CF at the Kharkiv Regional Children's Clinical Hospital No 1 according to the Order of MOH of Ukraine from 29.01.2013 № 59 and from 15.07.2016 № 723. Investigation of immune status was carried out by the standard methods. The determination of serum total IgE level was performed by solid phase immunoassay in the remission period. The control group consisted of 30 healthy children who were randomized to the age. Immune status was studied in children of the main group depending on the elevated total IgE levels. Statistical data processing was performed using IBM SPSS Statistics software. Indicators were compared using the nonparametric tests.

**Results.** 23 patients (54.8%) had serum total IgE within the normal range, 19 patients (45.2%) had an increase of this indicator. Among children with elevated IgE, 4 patients (9.6%) had allergic rhinitis, 1 patient (2.4%) had bronchial asthma, 5 patients (26.4%) had allergic bronchopulmonary aspergillosis. During the skin prick testing for food, domestic and pollen allergies, a positive allergic reactions were found to house dust (16%), cat's wool (11%), pillow feathers (11%), egg protein (6%), apples (6%), cabbage (16%), orange (21%), lemon (11%), chicken meat (16%), birch (6%), sunflower (6%), timothy (6%), plantain (6%), foxtail (11%), ambergris (6%); a pronounced positive allergic reaction was found to cat's wool (6%), house dust (11%), ragweed (21%). During the comparing with the control group, increased of the lymphocytes (50 [44-60] % and 51 [32-59] %), CD3 (68 [62-70] % and 69 [63-72] %), CD4 (43,0 [38-46] % and 40 [37-41] %), phagocytosis of latex (63 [55-68] % and 66 [59-70]%), IgA (1,43 [0,99-1,59] g/l, and 1,29 [1,02-1,22] g/l) and decrease of the CD8 (28 [26-29] % and 27 [26-30] %) were found ( $p < 0.05$ ). The results are presented for groups with normal and elevated levels of serum total IgE, respectively. During the comparing groups with normal and elevated levels of serum total IgE, decrease of the CD4 (40 [37-41] %), CD8 (28 [26-30] %), IgA (1,43 [0,99-1,59] g/l) and increased of the lymphocytes (50 [44-60] %), CD3 (69 [63-72] %), phagocytosis of latex (63 [55-68] %), IgM (0,98 [0,82-1,12] g/l) were found.



**Conclusion.** The clinical and paraclinical features of the CF phenotype associated with atopy was done.

*Fedorkovych A.M.*

## **THE COMBINED COURSE OF CYSTIC FIBROSIS AND DIABETES IN CHILDREN**

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**Introduction.** In our days diabetes in children with cystic fibrosis (CF) began to meet more often since success in treatment increased life expectancy of patients. According to monitoring data of Midwestern Medical Center of USA, the normal glucose tolerance in patients with CF was identified in 50% of children and 25% of adults only, meanwhile diabetes was diagnosed in 9% of children, in 26% of teenagers and in 35% of patients aged from 20 to 29. Diabetes related to CF is associated to impairment of lung function, bad nutrition status and low level of survival rates compared with CF patients without diabetes.

**Materials and methods.** The aim of this work is to study the features of combined course of CF and diabetes in children. We reviewed the literature and analyzed the case report of 15 y.o. patient of pulmonological center of Kharkiv Regional Children's Clinical Hospital. After passing a full medical check it was diagnosed cystic fibrosis, complicated by diabetes. The patient was received treatment of underlying disease with diabetes control.

**Results.** Diabetes-related CF caused the decrease of patient's nutritional status: first weight, then height measurements. According to anthropometric indicators of 14 y.o. patient, her weight was 37 Kg (N - 51,32  $\pm$  7,3) and her height was 147 Cm (N - 160,86  $\pm$  6,36). A girl was stunted in sexual development (Ax1,P2, Ma2, M0). The increasing exacerbations frequencies of CF, caused by the accession of diabetes, had prolonged character and bad effect from massive antibacterial and enzymatic therapy, that caused impairment of lung function. According to spirometric data, the accession of diabetes also caused the increasing of mixed-type ventilation disorders with prevalence of obstructive changes from moderately to severe. The first signs of diabetes (slow-growing polydipsia and polyuria without ketoacidosis, accompanied by unmotivated body weight loss) appeared when patient was 8 y.o. During the next seven years of monitoring the course of diabetes was labile, glucose level was fluctuated from 3,0 to 20,0 mmol/L without ketoacidosis, micro- and macroangiopathy, but with microalbuminuria from 20,7 to 20,15 mg (N - 20,0). Diet therapy and physical activity was prevented the course of main disease, that's why insulin therapy was the one and only way of treatment.



**Conclusion.** Therefore, the acceptance of diabetes in patient with CF increased exacerbations frequencies of lung disease and impairment of lung function. Besides, another feature of diabetes, associated with CF, was slow gradual development of symptoms without ketoacidosis and low body weight during all combined course of diseases.

*Hryhorova M.V.*

## **ANALYSIS OF THE TREATMENT OF CHILDREN'S WITH COMMUNITY ACQUIRED PNEUMONIA IN REGIONAL CHILDREN'S HOSPITAL № 1 IN KHARKOV**

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**Introduction.** The problem of time hospitalization of children's with community acquired pneumonia to the profile hospitals and departments and the organization of their effective treatment-remains quite relevant, because children's complications from pneumonia the so-called acute destructive pneumonia and constitute between 0.3 and 15% of the total number of children's pneumonia and associated with the development of microbial destruction of lung tissue.

**Materials and methods.** We have analyzed the results of treatment of 110 children with various forms of destructive pneumonia, who were on treatment at the Department of Anesthesiology and Intensive care of the regional children's hospital No.1 in Kharkov in 2017, boys - 46 (42%), girls - 64 (58%). Up to 1 year - 8 children (7%), 1-3 years - 50 (45%), 4-6 years - 14 (13%), 7 years and older - 38 children (35%). The average age of the patients was  $5.68 \pm 4.3$  years, with children under 3 years of age accounting for 52% of the total number of patients. Less than 5 days from the beginning of the disease, 31 (28.18%) of them were hospitalized in first 5 days of the disease, 48 children (43.63%) and 31 children (28.18%) more than 11 days. Previous acute respiratory viral infection was identified in more than 85% of cases (95 patients).

**Results.** Treatment of children was complex and included, first of all, optimal antibacterial therapy ( $\beta$ -lactams in combination with aminoglycosides of 2nd- 3rd generations and metronidazole, due to the high probability of participation in the process of anaerobic microorganisms) to deal with post-prandial therapy and to prevent of fungal infection and dysbiosis intestines. If the child has expressed signs of microbial intoxication against the background of previous ineffective combined antibiotic therapy, the drugs of choice carbapenems were chosen. The effectiveness of antibiotic chemotherapy was assessed by the clinical and radiological dynamics of the process, with ultrasound and hemograms. For the purpose of immunostimulation, bioven-mono was included in the treatment package. It should be noted that the practical need for immunosuppressive therapy is occurred only in cases of late admission to the hospital (more than 11 days). An important component of destructive pneumonia treatment is the rehabilitation of the foci of destruction - 27 pleural punctures, 23



bronchoscopies, and 18 drainage of the pleural cavity were performed. In our clinic, 18 thorascopies were performed with video-assisted sanation of the pleural cavity. Thorascopy was performed mostly on the 4th day after the admission of the child hospitalization. It was noted that the later the child entered the clinic, the earlier the operation was required. The average length of a child's residence in the Department of Anesthesiology and Intensive care was 6.4 days. Transfer to the thoracic department was mostly on 5-th day after operation. There were no cases of fatal outcome by 2017.

**Conclusion.** So, after analyzing the treatment of patients with destructive pneumonia in the Department of Anesthesiology and Intensive Care of the regional children's hospital No.1 in Kharkov, the following conclusions can be made: the development of microbial destruction of lung tissue is more common for children under 3 years, as a complication after previous acute respiratory viral infection, so acute respiratory viral infection (ARVL) was a «trigger mechanism». Late treatment in a specialized hospital contributes to a more severe course of the destructive process and requires surgical treatment - sanation thorascopy.

*Khmil O.B., Eliseev V.M.*

## **THE CASE OF PHENOTYPIC AND GENOTYPIC SYNDROMY IN A CHILD WITH AN UNDIFFERENTIATED FORM OF PHACOMATOSIS AND A RING 15 CHROMOSOME**

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**Introduction.** The presence of a ring chromosome in a karyotype has a pronounced clinical picture. Therefore, diagnosis is important at an early age, because timely correction can significantly improve the patient's quality of life, and most importantly - to establish the cause of the violations.

**Materials and methods.** Somato-genetic, clinical-genealogical, cytogenetic and biochemical examination was conducted.

**Results.** Girl A., 7 years old, parents complained of frequent abdominal pain, not related to food intake, rapid increase in weight of the child, the presence of multiple pigment spots like "coffee with milk," increased fatigue, impaired concentration. From the anamnesis of life and disease it is known that she was a child from II pregnancy (I pregnancy ended at an early stage) of I childbirth by cesarean section. From the first days of life, parents mark the pastosity of the limbs in the child. The girl grew and developed with a delay, up to 1 year poorly gaining weight, but from the age of 3 there was a sharp increase in body weight, consulted by an endocrinologist, a diagnosis was established: alimentary obesity. The girl was also consulted by a geneticist, in connection with a nevus on her



right leg was diagnosed: Threatened by the development of neurofibromatosis. The child was observed by a neuropathologist, after electrophoresis the girl had multiple pigment spots.

When looking at the child, attention was drawn to the following: excess body weight 31 kg, multiple spots on the skin like coffee with milk, dry skin, hypotension, microcephaly, broad flat face, epicanth, gingival hyperplasia, short neck, broad chest, small and short brushes with shortened V fingers, hypermobility of joints, small feet, syndactyly (trident) of II and III fingers of both feet.

After the cytogenetic examination, a karyotype of 46, XX, r (15) (p11, q26) was established. A biochemical examination revealed an increase in the level of blood homocysteine, lactate dehydrogenase, Antibodies Ig G to gliadin, an increase in a number of amino acids: taurine, serine, glutamic acid, aspartic acid. Against the background of ongoing therapy: nutrition correction - a gluten-free diet and a diet with restriction of foods with a high content of methionine, enzymes (Triens), probiotics (Rioflora immuno), energy therapy (Korilip candles, Coenzyme Q10), vitamin therapy (Magne B6, vitamin E), additional assignment of microelements (copper, zinc, selenium), parents note the positive dynamics in the state of the child - the girl lost weight, became more active and interested.

**Conclusion.** Concomitant chromosomal pathology metabolic disorders allow you to select effective individual rehabilitation measures aimed at treating and improving the quality of life of the patient.

*Koval V.*

## **A CASE OF ACQUIRED COAGULATION DISORDER**

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**Introduction.** Acquired coagulation disorders can be caused by various underlying conditions. In some cases it is a real challenge for a physician to find the reason of a coagulopathy.

**Materials and methods.** A case of unusual acquired coagulation disorder is presented.

**Results.** A 16 years old boy was admitted to emergency department of municipal clinical children hospital № 16 with complaints of nose bleeding, vomiting with blood, bleeding from the urinary tract, hemorrhagic rash on the skin of the lower limbs, large subcutaneous hematomas on the shoulder and chest, severe pain syndrome in the calf muscles. First symptoms included large hematoma in the calf muscles appeared about 3 weeks before admission, when there was a fall from the steps (from the words of the child). A few days before admission condition of the child worsened, hemorrhagic syndrome increased. Any episodes of bleedings had been noticed before. There were no cases of hemophilia in family. During clinical examination, the condition of the child was severe due to hemorrhagic syndrome. The skin was pale with subcutaneous hemorrhages in the stage of reverse development on the lower limbs. Also there were large hematomas on the shoulder, left hip and





thorax. Calf muscles were painful while palpation. Examination of respiratory, cardiovascular and digestive systems detected no pathology. Complete blood count: Hb – 84 g/l, RBC -  $3,0 \cdot 10^{12}/l$ , colour index 0.9, PTL –  $157 \cdot 10^9/l$ , WBC  $4.0 \cdot 10^9/l$ , Stabs -1%, seg. – 61%, eos. -2%, lymph. – 33%, mon. -3%, ERS 7 mm/h. Urine test: specific gravity – 1018, pH – 6,5, protein – 0,033 g/l, glucose – no, leukocytes – 4-6 in field of vision, erythrocytes – 20-30 in field of vision, casts- no. Coagulation test (at admission): APTT – 36.2 s, fibrinogen - clot did not form, INR – 3.22, prothrombin index – 19.6, PT – 34.1 s. Proteinogram, liver function tests, kidney function tests were normal. Adhesiveness of platelets and retraction of the blood clot was normal. US of abdomen and kidneys detected no pathology. MRI: there were signs of damage of lumbosacral muscle, formation of a small hematoma between the iliac muscle fiber, and a small accumulation of blood in the posterior pararenal space. Treatment included transfusion of fresh frozen plasma. However, changes in coagulation test persisted. Analysis of psychological situation in family and careful talk with the patient detected that he made a suicidal attempt and ate a rat poison (group of coumarin) before first symptoms appeared. Vitamin K was prescribed to the child as an antidote therapy. After antidote therapy positive dynamics was observed. Coagulation test parameters became normal (APTT – 19.7 s, fibrinogen – 2.4, INR – 1.4, prothrombin index – 67.1, PT – 18.3 s.). Observation of a psychiatrist and family psychotherapy was recommended to the patient.

**Conclusion.** Some rat poisons include analogues of coumarin and can lead to acquired coagulation disorders. In these cases the use of antidote therapy with vitamin K is a proper tactics.

*Kozhyna O. S.*

## **PREVALENCE OF BRONCHIAL ASTHMA RESPIRATORY SYMPTOMS AMONG CHILDREN OF KHARKIV**

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*Research advisor: Klymenko V. A.*

**Introduction.** Bronchial Asthma (BA) is the most common chronic respiratory disease among pediatric population. International Study of Asthma and Allergy in Childhood (ISAAC) - known as the golden standard for the early detection of BA - has been originally realizing in Ukraine in KhNMU by professor Ognev V.A. since 1997. Aim. Explore the BA epidemiology according the phase IV of ISAAC program.

**Materials and methods.** By means of the sampling method 5926 pupils of schools in all districts of Kharkiv were questioned in 2016-17 school year. The results of the phases I and III of ISAAC in Kharkiv (Ognev V.A., 1998, 2002) were used to compare the result of this study.

**Results.** 3374 parents of children aged from 6 to 7 years old and 2552 children aged from 13 to 14 years old were questioned. 5926 pupils (97% of the total number) participated in investigation. Each



questionnaire contains 8 questions regarding symptomatic signs of BA. The percentages of positive responses of children aged from 6 to 7 years old were analyzed. The results are represented over 2017, 2002 and 1998 years respectively. 1. (the first question of the ISAAC questionnaire) - The presence of "wheezing" in the past was revealed in 41.12%, 19.4% and 21.1% of children respectively. 2. "Wheezing" within the last 12 months was observed in 38.83%; 12.5%; 12.2%. 3. More than three episodes of "wheezing" within the last 12 months occurred in 5.44%; 2.5% and 2.3%. 4. Sleep disturbance caused by wheezing one or more nights a week within the last 12 months occurred in 11.43%; 1.3% and 1.4%. 5. Speech was disrupted by wheezes within the last 12 months in 3.26%; 1.7% and 1.5%. 6. Asthma in history was pointed out in 8.7%; 6.8% and 5.5%. 7. "Wheezing" in the chest during or after exercises within the last 12 months occurred in 11.8%; 10.4% and 4.6%. 8. Short cough at nights (not associated with cold or inflammatory diseases) within the last 12 months was pointed out in 40.65%; 13.7% and 11.9% of children. The percentage of positive responses to 8 questions of the ISAAC questionnaire among children from 13 to 14 years old was analyzed. The results are represented in accordance with the questions from 2017, 2002 and 1997 respectively: 1. – 49.42%; 29.6%; and 25.3%. 2. – 23.88%; 20.9% and 12.9%. 3. – 11.46%; 2.5% and 1.2%. 4. – 4.14%; 1.1% and 0.8%. 5. – 3.5%; 2.3% and 1.9%. 6. – 11.78%; 5.5% and 6.1%. 7. – 19.74%; 20.6% and 13.2%. 8. – 32.8%; 19.3% and 12.1%.

**Conclusion.** 1. The current prevalence of respiratory symptoms which are pathognomonic for BA among pediatric population of Kharkiv is 14.59%. 2. Over the past 19 years the prevalence of respiratory symptoms has increased in 3.18 times among 6-7 years old children and in 1.85 times in adolescence.

*Kuznetsova D., Orlova N., Tishko O.*

## **FORMATION OF CARDIOVASCULAR PATHOLOGY IN CHILDREN WITH RESPIRATORY SYSTEM DISEASE.**

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**Introduction.** The disease of the respiratory system is one of the most frequent causes of children's referral to a doctor. According to the literature data, the disease of the bronchopulmonary system can lead to irreversible changes in the cardio-pulmonary complex with the development of complications and early mortality.

**Materials and methods.** The research was conducted on the basis of the Regional Children's Clinical Hospital in Kharkiv, Kyiv. The anamnestic, clinical and instrumental-graphic data of patients were analyzed.



**Results.** We examined 78 children aged 1 month to 3 years old, who were divided into 3 groups: the first group included 28 (35.8%) children with acute obstructive bronchitis and pneumonia, the second - 27 children (34.6%) with acute simple bronchitis, the third group - the control group of 23 children (healthy children - 29,6%). The groups were representative and comparable. The examined children analyzed the results of electrocardiography (ECG) and doppler-echocardiography (DopEHOCG). Subsequently, patients were divided into 2 groups: without changes from the cardiovascular system (12%), with morphological features (73%) - (motorized rhythm disorders in the form of sinus tachycardia - 40.5%, reduction of bioelectric activity of the heart (voltage) - 14,3%, overload and hypertrophy of the right chambers of the heart - 18%, violation of processes of ventricular myocardial repolarization - 73,8%). The most pronounced changes were observed in 1 group children.

During the Doppler-echocardiography (DopEHOKG) of the heart in children of the 1st group, an increase in mean pressure on the pulmonary artery (LA) was found to be 20 mmHg. (63%), which significantly exceeds the norm ( $p < 0,05$ ) in comparison with the control group. Regurgitation on the tricuspid valve of the I st. (14%) and the valve of the LA I-II st. (23%), which is significantly increased in comparison with the control group ( $p < 0,05$ ); an increase in the diameter of the right atrium and right ventricle (30%), which significantly differed in patients in the control group ( $p < 0,05$ ). In 19 (50%) patients, there were small abnormalities in the development of the heart.

**Conclusion.** In order to prevent the formation of cardiovascular complications from the cardiovascular system in young children, especially with the presence of broncho-obstructive syndrome, timely detection and appropriate treatment is required, as well as dynamic monitoring of the state of the cardiovascular system with inclusion in the ECG and DopEHOKG examination plan. When cardiovascular complications are detected, further discussion of further patient care tactics is necessary.

*Lola N.V., Zatoloka D.V, Yakusheva A.Yu*

## **RESULTS OF ANTIBIOTIC RESISTANCE MONITORING IN THE DEPARTMENTS OF CHILDREN'S REGIONAL CLINICAL HOSPITAL**

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**Introduction.** Nowadays, the frequency of resistance of microorganisms to antibacterial drugs (ABD) is steadily increasing, this negatively affects control over many diseases. Resistance of infectious agents to ABD leads to an increase in the duration of treatment of patients, the number of deaths increases, the duration of epidemics increases.



**Materials and methods.** The spread of resistance was monitored in patients who were at Children's regional clinical hospital departments of Kharkov city in 2017: children, pulmonal center, pediatric department for children with multiple congenital malformations. Sputum was sent for bacteriological examination. Isolation was performed by standard bacteriological methods. Sensitivity to antibiotics was determined by a disc-diffusion method in Müller Hinton's medium, the results were evaluated according to standards.

**Results.** A total of 3855 pathogens were isolated. Gram positive flora prevailed. *S.aureus* (60%), *Str.pneumoniae* (11%), *S.epidermidis* (7%), *Str.viridans* (6%), *P.aeruginosa* (5%), *Str.haemoliticus* (7%), *H.Influenzae* (4%) mostly were sown. . All studied isolates of *S.aureus* were characterized by high sensitivity to ABD (methicillin-resistant strains were not detected). There was a high level of resistance *Str.pneumoniae* to tetracyclines (35%), moderate resistance to ceftriaxone (4.5%), erythromycin (3.1%). Cultures of *S.epidermidis* had high resistance to ABD, in particular to ciprofloxacin and vancomycin. *P.aeruginosa* isolates were resistant to ciprofloxacin (81%), amikacin (65%), cefepime (53%), ceftazidime (45%). A decrease in the sensitivity of *Str.haemoliticus* to azithromycin (43%) and clarithromycin (47%) was observed. *Str.haemoliticus* were resistant to oxacillin (70%), lincomycin (85%).

**Conclusion.** It is not enough to investigate only the species composition of microorganisms in the oral cavity. Qualitative and quantitative characteristics, lactobacilli and secretory Ig A are also important. Thus, epidemiological study gives an opportunity to analyze information about the spread of antibiotic resistance and to develop measures necessary for the development and implementation of effective approaches to the treatment of infectious disease control and prevention of the appearance and spread of antimicrobial resistance.

*Morozova O.O.*

### **Early diagnosis of renal scarring in children with vesico-ureteral reflux.**

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*Research advisor: prof. Makieieva N.I.*

**Introduction.** Vesico-ureteral reflux (VUR) is characterized by the retrograde flow of urine from the bladder to the kidneys. The VUR is watched in 1-2 % of children's population, and its frequency among the children with an infection of urinary system achieves 70 %. The VUR is bound to the increased risk of pyelonephritis and renal scarring (RS). The nephrosclerosis on the background of VUR is formed in 30-60 % patients and results into development of end-stage chronic renal insufficiency in 25-60 % patients.

**Materials and methods.** The objective of this study was to assess the urine levels of IL-6 and IL-8 as noninvasive markers of VUR and RS in children. 54 patients from 6 months up to 16 years with



III-V degrees of VUR after its endoscopic treatment in a period of clinical-laboratory remission of pyelonephritis were examined. These patients were divided into two groups: 1st group without renal scarring (n=37), 2nd group - with RS (n=17). 16 healthy children were included in control group. Urine IL-6 and IL-8 concentrations were measured with commercially available Vector Best. Renal ultrasound, <sup>99m</sup>Tc-dimercaptosuccinic acid scintigraphy and voiding cystourethrography were carried out in all patients. Statistical analyses were performed with StatSoft STATISTICA Version 7. Planned clinical trial was obtained for the current study were approved by the Medical Ethics Committee of the Kharkiv National Medical University and conducted in accordance with the guidelines of Helsinki Declaration. All participants and/or their parents gave written informed consent.

**Results.** We have found a significantly higher urine IL-6 and IL-8 level in children with VUR without RS than in children of control group ( $p_{k-1}=0,0001$ ;  $p_{k-2}=0,0008$ ). Median urinary IL-6 level in patients with VUR without RS was significantly higher than in patients with VUR and RS and control group (11,50 vs. 5,92 vs. 1,76). Median urinary IL-6 level was significantly lower in patients with VUR and RS than in patients with VUR without RS ( $p_{2-1} = 0,011$ ), but significantly higher than in children of control group ( $p_{k-2} = 0,0008$ ). The median urine IL-8 level was significantly higher in patients with VUR without RS than in children with VUR and RS (13,18 vs. 3,42). Median urinary IL-8 level was similar in patients with VUR and RS and control group ( $p_{k-2}=0,5868$ ) and was significantly higher than in children with VUR without RS.

**Conclusion.** In patient with RS confirmed by scintigraphy decreased level of IL-6 and IL-8 in urine were detected. Thus, excretion of above mentioned IL can be used similar dynamics of urine IL-6 and IL-8 level confirmed renal scarring as early marker of renal affection.

*Nguyen Thi Lien, Khaustov D.S.*

## **THE PREDICTORS OF DEVELOPMENT BRONCHIAL ASTHMA IN CHILDREN WITH WHEEZING AT PRESCHOOL AGE**

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**Introduction.** Nowadays, the predictors, the indicators and the prognostic indexes of asthma have been created to identify children with the risk of development asthma at preschool age - the asthma predictive index (API). However, for now the API is not accurate enough. Modified variant of the API (mAPI) increased the probability of detecting patients with risk of developing bronchial asthma. Also, this variant in addition to the API criterions, includes additional markers: family income lower than the living wage, sensibilization to the egg whites during the first year of life, visiting preschool institutions and the presence of a child in the same house with a pet before reaching the age of 3. The



mAPI is a simple, inexpensive and non-invasive method for predicting the risk of developing bronchial asthma for children with wheezing syndrome at preschool age.

**Materials and methods.** Based on the mAPI criteria which were recommended by the European Respiratory Society, questionnaires were developed and used in survey that involves 143 children at preschool age with  $\geq 1$  episode of wheezing during the lifetime. The survey was conducted at the Department of Pediatrics No. 1 with Neonatology of Kharkiv National Medical University on the basis of the pulmonology centre of the Regional Children's Clinical Hospital from October 2017 to February 2018. The results were processed in this way: when the main criterion is absent the risk is evaluated as low. If there are one main criterion and  $\leq 2$  additional criteria the risk is evaluated as medium. The risk is high if there are one main and  $> 2$  additional criteria. The results were processed in EXCEL-2016 and STATISTICA-7.

**Results.** Among the 143 questioned children, 23 ( $16.1 \pm 4.3\%$ ) were  $\leq 1$  year old, 56 children were from 1 to 3 years old ( $39.1 \pm 2.7\%$ ) and 64 ( $44.8 \pm 2.9\%$ ) were from 3 to 6 years old. Male patients were  $44.0 \pm 2.9\%$  (63 children), female -  $55.9 \pm 2.8\%$  (80 children). The survey has showed that about the half of the examined children have had low risks of developing bronchial asthma (66 children,  $46.1 \pm 2.6\%$ ). Only the fifth of patients (30 children,  $21.2 \pm 3.0\%$ ) have had a medium risk and the third (44 children,  $33.1 \pm 2.9\%$ ) have demonstrated a high risk of developing bronchial asthma.

**Conclusion.** 1. The mAPI includes non-invasive predictors, which are easy to evaluate at the primary level. The positive index can be high and low, which allows to divide patients with a high, medium or low risk of developing asthma. The mAPI is a simple, inexpensive and non-invasive method for predicting the risk of developing bronchial asthma in children with wheezing syndrome at preschool age.

2. A differential approach to evaluation wheezing syndrome will prevent the hyperdiagnostics of bronchial asthma in children at preschool age.

*Orlova N.V., Prykhodko M.I.*

## **TREATMENT OF NEUROPATHIC PAIN IN CHILDREN**

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**Introduction.** According to WHO recommendations (2012), the use of anticonvulsants, such as gabapentin, in relieving neuropathic pain in children with neurological disorders can often be effective, since treatment is directed to visceral hyperalgesia and central neuropathic pain. GABAFENTIN (off label) is registered as an anticonvulsant for children aged three years, but it is encouraged to use it with neuropathic pain. The structure of gabapentin is similar to a neurotransmitter





of GABA (gamma-aminobutyric acid). The binding site of gabapentin is an alpha2 delta subunit of potential dependent calcium channels.

**Materials and methods.**Clinical Case.

**Results.** Girl J., 3 years 1 month, diagnosed with: Anoxic brain damage as a result of drowning in fresh water, vegetative condition, spastic tetraparesis, symptomatic epilepsy, hypothalamic syndrome, cognitive impairment. The child is from 2-nd pregnancy, 2-nd delivery in 38 weeks. He grew and developed according to age. From anamnesis of the disease: 10.08.2017 at 14 o'clock 30 minutes the girl was found under the water of an inflatable pool, where there was within 3 minutes, it was recorded lack of respiration and cyanosis of each cover. The first medical aid was provided by my father. After restoration of independent breathing and cyanosis reduction, the parents took the child to the intensive care unit of the city children's hospital, where the treatment. Artificial ventilation of the lungs was not carried out. The level of consciousness is a sopor. Physical examination: contact is not available, the review responds to motor crying and an increase in muscle tone. Cognitive interest sharply reduced, toy does not capture and holds in her hands. The evaluation on the FLACC scale gave 7 points (severe pain). Physical development is disharmonious, below average. Coarse spastic tetraparesis, multiple contractions of the joints of the upper and lower extremities. The girl does not change her position, the forced position on her back, on her side, her head thrown back. Tendon reflexes torpid. Pathological foot signs from the Babinsky. Tongue in the middle line, tense at the root, trism of chewing muscles. The hypokal reflex is lowered, is fed through a probe. In the somatic status without pathological changes. Physiological departures are normal. An individual rehab program was assigned. The baby received gabapentin (neuralgin) in 7 days, an assessment of the pain score on the FLACC scale in the dynamics of pain reduction (5 points - moderate pain), tristimulation of chewing muscles and decreased spasticity of the muscles. In 11 days the FLACC scale investigation of girl was 3 point – mild pain.

**Conclusion.** There is a new approach to the treatment of neuropathic pain in children. The main task of managing childhood pain is its reduction, control and prevention, which varies depending on the type, source, severity and duration of pain.

*Polikov H.O.*

**MORPHOLOGICAL CHANGES OF ESOPHAGUS IN CHILDREN WITH ALLERGIC DISEASES**

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*Research advisor: Karpushenko J.V.*

**Introduction.** In the daily practice a pediatrician often faces with children which have chronic diseases of the digestive system. These diseases are more prevalence in pediatrics, after respiratory



organs pathology. Allergy is very often etiology factor, but we don't diagnose the allergic diseases of gastrointestinal tract because of invasive diagnostic method and absents of diagnostic morphological criteria.

**Materials and methods.** The scientific work was made in Allergy Center of Regional Children Clinical Hospital No.1 in 2016-18 years. All children were examined according to the Order of MOH of Ukraine from 29.01.2013 № 59. 61 children aged from 6 months to 17 years with allergic diseases were investigated by endoscopy. The results were processed using the Microsoft Excel variation statistics methods on PC Pentium IV.

**Results.** The average age of the examined children was 10.1 years; the majority (67%) were boys. Allergic diseases were represented by allergic rhinitis (AR) – 31 %; bronchial asthma (BA) – 18 %; urticaria (Ur) – 8 % and comorbidity of several nosological allergy forms – 67 % children. Complaints from gastrointestinal tract were characterized for all children: appetite decreasing – 56 %; meteorism – 28 %; belching – 23 %; dysphagia – 21 %; abdominal pain – 14 %; vomiting – 8 %; constipation – 6 %.

The pathology of the esophagus mucosa was not detected in the majority of patients (85.2 %). The catarrhal inflammation and erosions were revealed in 14.8 % children. The erosions were detected only in patients with asthma – 9 %. Erythematous lesions of esophagus's mucosa were founded in 27 % children with BA; 20 % - with Ur; 5 % - with AR and 4 % - with comorbidity. The more characterized sign of esophagus pathology was lymphoid hyperplasia, which was observed in 23.8 % patients with BA, AR and comorbidity of these diseases. The boys were prevalence (70 %) among these patients. Hyperplastic changes (polyps) of esophagus were diagnosed in 2 patients, and the hernia of the esophagus aperture of the diaphragm - in 4 cases. Motor dysfunction in the form of gastroesophageal reflux was revealed in 15% of the subjects.

**Conclusion.** The morphological changes of esophagus were in 15% of children with allergic diseases, more common and more severe in patients with asthma. The lymphoid hyperplasia of the esophagus mucosa is the most characterized sign for patients with allergy.

*Prikhodko M.I.*

## **MODERN PRINCIPLES OF DIAGNOSTICS AND TREATMENT OF MUSCULAR DYSTROPHY UNDER THE MODERN PROTOCOL**

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**Introduction.** Muscular dystrophy of Duchenne is the most severe form of neuromuscular diseases with a recessive type of inheritance linked to the X chromosome, which occurs at a frequency of 1:



3,500 newborns and, in case of untimely diagnosis and delayed therapy, require the involvement of physicians of many specialties in the treatment process.

#### **Materials and methods.**Clinical case.

**Results.** Patient F., 6 years old, was sent to the pediatric department of the CSTO CZOZ to clarify the nature of the changes in the CAS, with complaints of weakness in the legs, walking disturbance (she cannot climb the stairs herself, get up off the floor and sit down). From the anamnesis of life and disease it is known that the child from 3 pregnancies proceeding against the threat of interruption, 3 urgent births. The family history is aggravated: on a parent line - muscular dystrophy Duchenne.

The somatic status: the boy of the lowered food, the intellect corresponds to the age. Physical development is low in weight (-2 sigma), in height (-1 sigma).

Neurological status: tendon reflexes from the upper extremities are lowered, lower extremities are not caused. Muscle strength: in the hands 3-4 B; flexors of the forearm 4b; extensors of the forearm 4b, deltoid muscles 3-4b; back folding of the foot 4b; leg extension 5b; bending at the knee 4b; extension in the knee 4b; reduction of thighs 3-4b; Thigh breeding "-"; the rear flexion in the hip joint "-"; pterygoid scapulae "-"; receptions Goversa "+"; "Duck walk" "+"; myotonic phenomena "-"; fasciculation of the "-" language; hyperkinesis "-".

Supplementary examination data: Molecular genetics study: deletion of 52 exon of the dystrophin gene. ECG heart rate 71 per minute, sinus bradycardia. ECHOEG / EEG - desynchronous, asymmetrical type of EEG, no epiactivity, signs of cerebrospinal hypertension. Holter research (16 hours) - recorded episodes of CA blockade of II st. (4 episodes). UZP OBU and kidney disease pathology. ECHO-KG left-right shunt of the central part of the MPP to 1.5 mm, minimal dilatation of the aorta at the sinus level of the Valsalva. Rn brushes-bone age corresponds to 4 years. Densitometry - the minimum density of bone tissue at the level of the lumbar spine is reduced. Total Area (cm<sup>2</sup>) 26.23; BMC (g) 9.62; BMD (g / cm<sup>2</sup>) 0.367; z-score-2,8. A feature of this case is the manifestation of this disease in probands on the maternal line. The debut of the disease among the brothers differs in terms of the appearance of the first signs of the disease: at 4 years old at the cousin, in a year and a half with the proband, which indicates a well-known phenomenon of anticipation - "rejuvenation" of the disease in younger relatives. In therapy, the child received: non-pharmacological agents, medicamentous and physiotherapy. Modern medication method for the preservation of muscle strength and motor activity in patients with DMD is the appointment of steroid therapy, as the child received prednisolone at a dose of 0.75 mg / kg / day.

**Conclusion.** The use of complex therapy in the treatment of progressive muscular dystrophies, in particular Duchenne amyotrophy, is the most effective, clinically confirmed, method of therapy at the present stage of this group of diseases.



*Saakian T.E., Cherevko V.V.*

## **PECULIARITIES OF MUCOVISCIDOSIS DIAGNOSIS VERIFICATION IN CHILDREN OF THE FIRST MONTHS OF LIFE**

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**Introduction.** Mucoviscidosis (MB) is a genetic disease with autosomal recessive mode of inheritance which is the lesion of all excretory glands of human body. MV is a rather widespread disease occurring in 1: 2000 cases among newborn babies. According to the estimation of the World Health Organization, 45-50 thousands children with MV are born in the world every year, and the number of heterozygote disease carriers is tens of millions.

**Materials and methods.** A baby P. (boy), 7 months, was admitted to the Gastric Center of the Regional Children's Clinical Hospital with complaints of atidrosis, undigested fatty stool and insufficient weight gain.

It is known from the anamnesis that the child was born from the 1st pregnancy which was taking a course against the background of chronic toxoplasmosis (the mother was treated with macrolides), placental dysfunction, thrush, 1st stage anemia. During prenatal US screening on the 20th week of pregnancy, high intestine echogenicity was revealed in the fetus. Term birth, 37 weeks of gestational term, weight at birth: 2200 g. On the second day of life, the child underwent surgery—small intestine resection. The result of small intestine biopsy: data indicating at meconium ileus. Post-operative diagnosis: fetal peritonitis, small intestine atresia. Mucoviscidosis is supposed. NaCl content in secretion of perspiratory glands is 40.0 mmol/l (the child's birth is 2100 g). On the 8th day, skin jaundice with olive shade appeared, acholic stool, dark urine, hyperbilirubinemia due to direct fraction appeared. Liver biopsy was performed: manifestations of intracellular cholestasis, moderate portal fibrosis. The following diagnosis was established: congenital defect of gastrointestinal system development - small intestine atresia, post-operative condition. Cholestatic hepatitis. Post-natal hypotrophy of 1st degree. Deficit anemia. ursodeoxycholic acid and iron supplements, enzymes were prescribed. To 2.5 months, jaundice regression was observed.

**Results.** At birth, attention was paid in RCCH to static and kinetic development delay, 25% body weight deficit, phenotypic manifestations of rachitis, muscle hypotonia, abdomen size increase. Stool to 6 times a day, light yellow, undigested, fatty.

At examination: 1st type steatorrhea, ALT, AST increase to 2 norms, hypocalcemia. At abdominal US with Doppler sonography – increase of the liver right side linear size by 1.4 cm. Increase of liver parenchyma acoustic solidity, adequate visualization of intrahepatic bile ducts is impossible. Hyperplasia of lymph nodes in porta hepatis. Flaked suspension in the gall



bladder. Movable liver fibroelastography: METAVIR F3 score – numerous septa without cirrhosis. At MRI with cholangiography: depletion of intrahepatic small ducts, the left and the right hepatic ducts are visualized well. Pilocarpine test (twice with the 7 day interval) was conducted: 1-a– 77.2 mEq/l, 2-a– 88.2 mEq/l. At molecular and genetic study, mutation of the gene CFTR-F 508 del –heterozygote was revealed. Based on the aforementioned, the following diagnosis was established: mucoviscidosis with pancreatic insufficiency. Meconium ileus, post-operative condition. Hepatic fibrosis, under METAVIR F3, with cholestasis syndrome. 2nd degree hypotrophy, pre- and postnatal, of mixed genesis. Subcutaneous chelitis, eruptive phase.

**Conclusion.** Thus, the delayed final diagnosing is, most possibly, connected with erroneously negative pilocarpine test results. The children's weight (less than 3 kg) should have been taken into account, together with administration of antibiotics (macrolides) by the mother during pregnancy. It should be kept in mind that these factors influence on the reduction of sodium and chlorine ions in children's perspiratory glands.

*Shubina M. V., Panich R. V.*

## **CLINICAL CASE OF SUPRAVENTRICULAR PAROXYSMAL TACHICARDIA IN PREVIOUSLY NEWBORN**

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**Introduction.** Arrhythmias in newborns occur in 1-3% of pregnancies and may be hereditary, congenital or acquired. Most often, they are manifested as ventricular paroxysmal tachycardia. Fetal tachyarrhythmias are more often complicated by the development of congestive heart failure and watery fetuses. To study the clinical features of paroxysmal tachycardia and hydrocephalus syndrome in previously newborns.

**Materials and methods.** The history of the newborn disease, literature data.

**Results.** The baby was born by a caesarean section with a weight of 1300g with an assessment on the Apgar scale of 3-5 points. A child from the second pregnancy on the background of colitis, II genera, premature, during the gestation period of 28 weeks due to the examination of signs of antenatal fetal distress during the ultrasound examination, arrhythmias of the cardiac activity, such as fibrillation of the atrium, fetal vesicular syndrome, pulmonary hypoplasia. Objectively: the general condition is heavy, the skin is pale, acrocyanosis; paid attention to the pastosity of the upper and lower extremities. Above the light, various calibrated wet wheezing. Tone of heart is rhythmic, muffled. The stomach is tense due to ascites. The baby was examined by a pediatric surgeon. A puncture of the abdominal cavity was performed on the left, 250 ml of clear fluid was removed. Mother's blood group B (III) +, baby's B (III) +. The total bilirubin level is 34.6 mmol/l. In the first days of life, the clinical



deterioration of the condition due to an increase in heart rate to 250 per minute. There were 2 episodes of paroxysmal ventricular tachycardia with a maximum heart rate of 288 per min. According to doppler-echocardiography: moderate dilatation of right atriums, open foramen ovale, open arterial duct. The contractile function of the myocardium is reduced. Attacks were stopped by infusion of a solution of ATP 0.3 mg/kg, cordarone at the rate of 5 mg/kg/day. Isotropic support of dopamine 1-5 mg/kg/min was conducted, noninvasive ventilator. In further examination of the signs of inflammatory myocardial damage was not detected. In dynamics, with the reception of the cordarone, there were attacks of apnea, gas respiration, a decrease in oxygen saturation, bradycardia, which required the withdrawal of the drug. The state of the baby remained heavy during the month, then with positive dynamics. During daily monitoring of the heart rhythm, paroxysmal tachycardia attacks were not recorded. The baby is diagnosed with congenital heart rhythm disorders, supraventricular paroxysmal tachycardia. Open oval window, open arterial duct. Pulmonary hypertension in newborns. Perinatal hypoxic-ischemic lesion of the central nervous system, syndrome of tinnitus disorders.

**Conclusion.** Thus, the peculiarity of this case is the development of a dropsy syndrome of non-immune genesis in the fetus due to congestive heart failure with a non-corrected paroxysmal supraventricular tachycardia.

*Silina M.P.*

## **A CLINICAL CASE OF A TEENAGE GIRL WITH ANOREXIA NERVOSA**

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**Introduction.** Anorexia nervosa is an eating disorder characterized by excessive restriction on food intake and irrational fear of gaining weight. It occurs predominantly in adolescents and young women, causing severely disability, high morbidity and mortality. 1-5 % of teenage girls suffer from anorexia, in the ratio boys to girls 1 to 10. Patients with anorexia nervosa have high probability of recurrence even after recovery, healing is observing in 50-70% of causes of children, but 25% are not completely cured. Without timely treatment death rate in that patients reaches 20%.

**Materials and methods.** The following report is a case of a 15-year-old girl. She was presented with chief complain of severe body weight lost: 10 kilos in the last 6 months. Another complains included weakness and amenorrhea last 4 months. During clinical examination, her weight was 38 kg, height is 167 sm. (BMI 14,0). Sex formula: Ax- 4, P- 4, Ma- 4, Me- 2. Vitals: BP 60/40 mmHg, HR 54 bpm and temperature 36.0°C. Physical examination found pain in right hypochondrium. Liver wasn't enlarged. Her mood was depressed and irritated; she wasn't set up for a conversation, didn't answer for the questions about her nutrition and became very self-contained, no critic to herself conditional.





Also, she had tendency for obsessive hand washing. Laboratory blood and urine tests were performed and were normal at the most: just low level of blood proteins with dysproteinemia. Ultrasound of abdominal cavity showed functional changes in the gallbladder, intravesical cholestasis, signs of pancreatic and uterus hypoplasia. Examination of thyroid gland found diffusion changes regarded as goitre in the 1st stage. Echo showed 1st stage mitral valve prolapse. RO of the wrist showed that bone age is 13,5-14 years, zones of epiphyseal growth are traced in the distal epiphyses of the forearm. Girl was counseled by psychologist. Luscher and Boiko tests showed average level of stress with depression coefficient 31. PDQ found psychasthenic type of character accentuation, infantilism and propensity to depression. Anorexia nervosa was diagnosed. Associated disorders are dysmetabolic encephalopathy, dysentsephalic syndrome, asthenic syndrome, primary amenorrhea and functional disorder of the gallbladder, hypotonic type. Treatment first of all included diet therapy: fractional meals enriched with carbohydrates. Patient was taking metabolic medications, vitamins, enzymes. Important part of treatment was psychotherapy.

**Results.** Patient's general statement got much better: her mood improved, irritability and weakness gone, while her weight value became 43,7 kg.

**Conclusion.** This clinical case shows course of anorexia nervosa that leads to development of pathological changes in the cardio-vascular, central nervous and digestive system. Accordingly to this, therapy has to include not just weight normalizations and eating habits recovery, but also correction of somatic and psychological disorders and relapse preventing.

*Sultan Mohamad*

## **FANCONI ANEMIA: CASE REPORT**

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**Introduction.** Fanconi anemia was described for the first time by G.Fanconi in 1927. It is autosomal recessive disease which is characterized by progressive pancytopenia, presence of congenital anomalies, melanoderma, endocrine disorders and predisposition to malignancies.

**Materials and methods** A 5-year-old gypsy boy was admitted to the hematological department of Children Hospital №16, Kharkiv, Ukraine in 2016 with the diagnosis: aplastic anemia. General examination and numerous laboratory tests, including test with MMC, helped to make final diagnosis: Fanconi anemia. CKD of III grade, chronic renal insufficiency of II grade, left kidney agenesis with reduced GFR. Functional oval window. VSD. Left ventricular false Chorda. Primordial nanism. Subclinical hypothyroidism. Chronic herpetic infection (type VI). The boy received packed



erythrocytes transfusions N3, Cyclosporine during 7 days, Danabol 1.25-2.5 mg every day during 14 days, long-lasting Thyroxin intake 25 mcg 1 t/d in fasting state in the morning. On the background of Danabol intake appetite decreased, aggression arose, toxic hepatitis developed, nitrogenous wastes increased, and nasal bleedings appeared. Due to it Danabol intake was stopped, and Cyclosporine intake was renewed.

**Results.** Fanconi anemia's symptoms begin to appear at 4-10 years. Spontaneous bleedings, skin bruises, skin and mucous membranes paleness, fatigue, and weak responses to stimuli are the early symptoms. Moreover, tendency towards infections appears. Liver and spleen aren't enlarged. Lymphadenopathy can develop. About 2/3 of patients have inborn defects (skin hyperpigmentation, dwarfism, microcephaly, clubfoot, hip dislocation, strabismus, ptosis, eyes hypoplasia, mental retardation, genitals hypoplasia, kidneys anomalies, congenital heart disease). Risk of malignancy is 10%, with tongue squamous cell carcinoma and pancreatic cancer being the most frequent. Usually treatment with androgens is used. Relapse of the disease after androgens withdrawal occurs almost in all patients, due to it androgens dose should be carefully decreased, but not cancelled, after maximal hematological improvement.

**Conclusion.** 1. Fanconi anemia is a rare hereditary disease with poor prognosis which is necessary to differentiate with non-congenital aplastic anemia.

2. Hematological response is received in about 50% patients while treatment with androgens.
3. Allogenic transplantation of hematopoietic stem cells (THSC) is the one and only effective treatment approach.

*Tymbota M. Stytsenko M., Belichenko P.*

## **FEATURES OF THE DAILY REGIME OF PUPILS AND THE MEASURES TO BE NECESSARY FOR ITS CORRECTION**

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**Introduction.** Today, the problem of the formation, preservation and health promotion of children and adolescents is one of the priorities, as children, as stated in the program "Children of Ukraine" – are the future creative and intellectual potential of the country. In this context, the reform of modern education in our country is very important, which requires to Ukraine to make significant efforts to implement reforms aimed to creating conditions for the formation, preservation and health promotion of each child, the harmonious development of her personality, creativity and his further development. One of the most important aspects of the topic of this scientific work is the need for a extensive study of the role of the daily regime and its impact on the health of children and adolescents, and observance of rules of rational use of time. The prevalence of the disregard for daily regime among school



children, the deterioration of the health of children of all ages, the emergence of diseases associated with it, set parents, teachers, medical workers, and academics an important task: to teach the child the importance of observance of the daily regime, to set aside time for active rest and exercise during the day.

The aim of the study was to explore the peculiarities of the daily regime for medium school children, to substantiate and work out the necessary measures for its correction.

**Materials and methods.** 45 schoolchildren 13-14 years old took part in the survey. The interview was carried out with the help of the author's questionnaire, which help to identify the level of compliance to the regime of the day among school children.

**Results.** Most pupils are not following the rules of the day. Exactly this, and inadequate motor activity can adversely affect the health of the school child will contribute disruption of physiological functions of the body, which in the future may become a disease. 16.7% of school children have less than physiologically grounded duration of sleep. 33.3% of adolescents exceed the duration of night sleep. Failure to comply the age norms of sleep reflects on the state of working capacity of school children, increases the likelihood of the development of fatigue. The most frequent breaks in the diet are between breakfast and dinner. Most students, 86.7%, indicated that the break is 6.5 - 7 hours and does not correspond the standards. Only 13.3% of pupils feed 4 times a day at intervals of 3.5 - 4 hours.

In general, 20% of students prepared homework for more than 2 hours at the normative values of this indicator, according to state sanitary norms and rules of Ukraine <5.5.2.008 – 01> - two hours. About 36.7% of students spend on homework less than an hour, which is insufficient to learn the educational material.

Sufficient physical activity is a significant indicator of a rationally organized regime of the day, but only 27.8% of students while walking to school in the sports section. Not less important is the fact that 10.7% of schoolchildren spend time in the fresh air less than one hour per day, which is not sufficient to restore the reduced functional state of the organism and disability in the process of activity.

**Conclusion.** In connection with the above-mentioned problems, was proposed the introduction and dissemination of practical recommendations for measures to correct the daily regime for improving the health and performance of children and adolescents in the form of a memorial.



*Yeliseyev V.M., Khmil O.B.*

## **THE CASE OF COMBINATION OF GLUTARIC ACIDEMIA TYPE II AND HYPERHOMOCYSTEINEMIA**

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**Introduction.** Glutaric acidemia type II is characterised by multiple acyl-CoA dehydrogenase deficiencies resulting in marked excretion of glutaric acid, as well as lactic, ethylmalonic, butyric, isobutyric, 2-methyl-butyric and isovaleric acids.

**Materials and methods.** Clinical-genealogical method, syndromological analysis, laboratory and instrumental studies.

**Results.** A., 4 years old girl, with the seizures, coarse delay of the psycho-speech development, holds her head badly, don't able to sit, stand and walk, chokes on liquids. III pregnancy's child, occurring against the maternal preeclampsia, threatened miscarriage. Born with respiratory failure, hyperthermia, convulsions.

The survey found a high ammonia levels, hydrothorax, gidroperitoneum, MRI Dandy Walker cyst. Anticonvulsant, detoxification and antibiotic therapy didn't provide improvement. Phenotype: microcephaly, microangiopathy, muscle hypertonia, hepatomegaly, nephroptosis. In the pedigree: cardiovascular and oncological diseases.

In urine increased concentration of 2-ketoglutaric acid, 3-hydroxybutyrate, 3-hydroxypropionic acid and 4-hydroxyphenylacetate, a glutaric acid, ethylmalonic acid and lactate.

Blood test:

C12-0,35 (result 0.469 mM/m) -acylcarnitine

C12: 1-0,24 (0.469 mM/m) -dodekspaylcarnitine

C4-0,1 (1.58 mM/m) -izobutirylcarnitine

C5-0,6 (1,16 mM/m) -valeril-2-methyl-butylcarnitine

C6-0,24 (0.691 mM/m) -geksanaylcarnitine

C8-0,3 (0.461 mM/m) -oktancarnitine.

Homocysteine -  $\uparrow$  17,5 mmol/l

Diagnosis: Organic aciduria, glutaric acidemia type II, hyperhomocysteinemia

**Conclusion.** A diet with a sharp restriction of fats and proteins (1 g/1 kg of body weight), energotropic therapy and correction of metabolic disorders has significantly improved the condition of the child - normalized ammonia and homocysteine blood, the child began to swallow normally.

iSiC  
2018

# PREVENTIVE MEDICINE







Addae-Kum M., Asiedu J., Ahuokpeme A.

## HYGIENIC CHARACTERISTICS OF RISK FACTORS FOR THE FORMATION OF DIFFERENT ADDICTION TYPES

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**Introduction.** An addiction is a condition in which a person engages in a behavior due to its rewarding effects despite its detrimental consequences. An addiction is a brain disorder. It is a biological process induced by continuous exposure to an addictive stimulus. All addictive stimuli are characterized by 2 properties: they are reinforcing - they increase the chances of repeated use, and they are intrinsically rewarding - they are perceived as positive, desirable and pleasurable. It can be a substance dependence or a behavior addiction. Hence, people can be addicted to: food, alcohol, drugs, smoking, drugs, gambling, technology, internet, sex, exercise, work. An addiction can result from a seemingly harmless behavior- a habit- which one loses control over, with time. Most times, the addiction which results in dependency, ends up as tolerance as the addict, needs larger and more regular doses of the addiction, just to get the effect, as without it, they cannot function normally. Often times, the initial reward and euphoria are no longer felt and the addict only continues because withdrawal is so unpleasant.

**Materials and methods.** Aim of work: to conduct an analysis of factors contributing to the formation of food, drug and computer dependence of man with using of analyzing methods.

**Results.** Food dependence is characterized by loss of control over the multiplicity and quantity of food consumed or certain foods. The most common food dependence on foods with height content of sugars or foods high in fat. The result of this dependence is the formation of distorted thinking and a profound metabolic disorder. Risk factors of food addiction are poor parenting, genetics, Anxiety, Depression, Difficulties regulating emotion, Obsessive-compulsive disorder, Having a close family member with an eating disorder. It is a disorder of the brain reward's system. It activates brain rewarding system resulting in the release of dopamine "the feel good hormone", which causes a person to repeat the act in order to get another release of dopamine. Computer dependence is manifested in the excessive and intrusive use of computer technology. It can be offline like playing computer games, or online as in sexual preoccupations, excessive use of social media and social networking sites. Online addiction is more popular. Risk factors of computer dependence are Low self-esteem, social anxiety, depression, Loneliness, isolation, stress, Lack of emotional support.

Substance addiction It is the dependent use of harmful and toxic substances like drugs, cigarettes, alcohol in order to derive pleasure. Risk factors of substance addiction are presented by Stress,





drinking from an early age, depression, taking medication with alcohol, genetic predisposition, early drug use, troubled relationships.

**Conclusion.** Results of work show that all three types of presented addiction characterize by same risk factors. That can be use for the development of methods of psycho-prophylaxis for the formation of dependence.

*Aleksandrova K., Zhuravliova P.*

## **PREVENTION OF MENTAL DISEASES BY RESEARCHING OF EFFICIENCY OF SOCIAL-PSYCHOLOGICAL ADAPTATION IN YOUNG PEOPLE DEPENDING ON LEVEL OF NEUROTICISM**

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**Introduction.** Neuroticism is a personality trait, which characterizes moral instability and can lead to vegetative disorders, which manifest as a decline of adaptation level. The personal adaptive potential (PAP) is the most important integrative property of the personality, characterizing the stability of the organism's functional systems and the resistance to the influence of external factors of the environment. The aim of the research was to study correlation between the severity of neuroticism and the effectiveness of socio-psychological adaptation in young people.

**Materials and methods.** The research involved 50 3th year students of KhNMU at the age of 19-21 years, 17 of them being male and 33 female. The definition of adaptability was based on the following parameters: neuropsychological stability, communicative skills and moral normativity. Interpretation of the adaptive abilities on the scale of "PAP" was carried out using a multi-level personal questionnaire "Adaptability". The level of neuroticism was determined by the Eysenck Personality Inventory (EPI).

**Results.** All examined students were divided into three groups according to their personal adaptive potential indicators: low, sufficient and high level of adaptation. Evaluation of the level of adaptability showed that 6% of students had a high level of PAP, 32% of the students were in the sufficient adaptation group, and the most numerous group was the group with low level of adaptation (62%). According to the level of neuroticism in individuals of the first group, high emotional stability ( $5.7 \pm 1.5$ ) was revealed. In the group of sufficient adaptation, the level of neuroticism was defined as  $11.7 \pm 2.7$ , but 2% of the individuals in this group had pronounced neuroticism. 62% were students with a low personal adaptive potential. Their indicators were: 2% - with emotional stability; 12% - with medium neuroticism; 10% - in a condition bordering on neuroticism; 38% - with pronounced neuroticism, the average value of the indicator of neuroticism in this group was 15.8.



**Conclusion.** 1. According to the results of the research, the majority of students belong to the group of low socio-psychological adaptation, which can lead to nervous breakdowns and functional disorders in the case of incessant influence of stress factors.  
2. The proposed method for determining the dependence of PAP and neuroticism shows high accuracy and simplifies the process of measuring indicators to prevent the development of mental diseases on the basis of stress.  
3. Direct dependence of PAP on the level of neuroticism was established - the higher the level, the lower the PAP.

*Artemenko M., Sidora A.*

## **RADIATION DIFFERENTIAL DIAGNOSIS OF MYELOMA AND HORMONAL SPONDYLOPATHIES**

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**Introduction.** Relevance of the topic. Myeloma is 1% of all cancers and 10% of hemoblastoses. It is a malignant lymphoproliferative disease in which a clone of plasma B cells is spread in the bone marrow. Myeloma cells produce an osteoclastative factor. The consequence is focal bone defects or diffuse osteoporosis, pathological fractures, pain in bones. First treated patients, who have complaints of pain in various parts of the spinal column, according to X-ray, it is necessary to differentiate the focal and diffusive-cellular forms of multiple myeloma from hormonal spondylopathies, manifested by diffuse osteoporosis, pathological fractures. The aim of our work was to improve the early diagnosis of myeloma with the use of a set of radiation and laboratory methods.

**Materials and methods.** We examined totally 42 people, 21 of them with myeloma, 21 with hormonal spondylopathies. Clinical manifestations in these diseases are nonspecific. It is pain in various parts of the spine (100%), more often in the lumbar (60-70%), pelvic bones (40%) and ribs (45%), radicular syndrome (60%). The patients who had these complaints, were provided radiation examination: radiography of the spinal column (100%), radiography of the skull, ribs, pelvic bones (70%), OSG (40%), CT (23.5%), MRI (9.3%), as well as laboratory tests that included a clinical blood test (100%), a urinalysis (75%), a biochemical blood test in which the total protein and protein spectrum of the serum (60%), serum calcium (85%).

**Results.** Based on the results of 42 spondylograms studied, the phenomena of osteoporosis were observed in 100%. Myeloma was suspected, confirmed by laboratory methods and histological examination of bone marrow puncture in 10 cases (23.8%). In 100% of cases a multiple form was



diagnosed. During X-ray examination of other bones of skeleton, similar changes were observed in the bones of the skull in 8 patients (80%), in 10 patients (100%), in pelvic bones in 6 patients (60%).

**Conclusion.** X-ray characteristic manifestations of myeloma are preceded by the phenomenon of osteoporosis. With a pronounced clinic radiological picture, it manifests itself as center of destruction of round or oval shape, with sharply outlined contours - "piercing". Affected all parts of the spine. More often the centers are isolated and merge with each other only by the big amount without losing their own outlines of each center. The defeat of the pelvic bones and femurs is revealed in the late stages of the process. Pathognomically multiple defeats of the ribs, usual pathological fractures of many ribs and their small soreness. In the skull usually large holey centers of osteolytic destruction.

*Artemenko M., Sidora A.*

## **THE INTERNET ADDICTION OF MODERN YOURTH**

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**Introduction.** Technical progress has made more than one step forward. If before "live" communication was not only interesting, but also useful, now, at the time of smartphones and the Internet, it is losing its value. Instead, the virtual communicating comes, which is becoming increasingly widespread among young people. Viber, Telegram, WhatsApp give you an opportunity to change the information quickly and to save time. Every day on the streets of the city, in the underground we can observe people, who don't release smartphones from their hands. The consequence of excessive use of gadgets may be changes in the minds of people, functioning of brain, diseases of the organs of vision and cardiovascular system, behavioral violations and chronic fatigues.

Recently, the number of people who do not like to communicate alive is increasing. Therefore, they choose online dating in the Internet, correspondence on forums and chats. Those people, who have taken the habit of correspondence in the Internet may have antisocial characteristics in behavior, problems with communication in real life. Our young people do not have to admit the negative consequences of Internet use, and for this purpose it is necessary to use the Internet "wisely".

**Materials and methods.** In order to identify individuals who are inclined to irrational use of the Internet network and virtual communication, a survey was conducted among schoolchildren of the middle school (7-8 classes) - 33 students, and high school (grades 9-11) - 34 students. They were offered questionnaires "Virtual Communication".

**Results.** According to the data, we can say that most students of grades 9-11 allocate 3-5 hours of their time for virtual communication, and students 7-8 classes - up to 3 hours; for correspondence they use such social networks as Viber, Instagram; 70% of all children are more satisfied with direct



communication with each other than with virtual communication, but 30% of students tend to express their opinions in a text version mainly (20% of them are boys, 10% girls). 65% use the conference mode for simultaneous communication with several people; 88% feel comfortable when communicating with a large number of people alive.

**Conclusion.** Consequently, we can conclude that virtual communication is common among teenagers, but does not interfere with live communication. As to the risk of dependence, the children do not deny that the Internet takes a lot of time both in secondary school students and in high school students. Secondary school students spend about 3 hours of their evening time on online games. Among the students of grades 9-11, out of 34, almost 44% (15 students) use mobile Internet at each break to watch social media news, videos on YouTube. Children do not adhere to the hygienic norms of the duration of the computer employment (7 classes - 20 minutes, 8-9 classes - 25 minutes, 10-11 classes - 30 minutes).

Thus, all the benefits and conveniences that the Internet provides, with their non-alternative and constant use, threaten to turn into a problem. Considering that the main category of people who are inclined to online dependencies are children and teenagers, the problem of computer hijacking requires special attention and joint efforts of psychologists, pediatricians, educators, and communication with the use of social networks should have a measure and by no mean, does not replace "live communication".

*Asante G.O., Polyvianna Y.*

***DRACUNCULIASIS ERADICATION FROM GHANA***

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**Introduction.** Dracunculiasis is a parasitic disease that can lead to disability. One of the reasons for the spread of this disease is the use of water containing fleas infected with parasites. The governments of countries with endemic dracunculiasis and partners started a sequence of programs to eradicate Guinea worm. In 1995 the International Commission for the Certification of Dracunculiasis Eradication (ICCDE) was formed by World Health Organisation (WHO). The main target was to evaluate the status of transmission in those countries applying for certification of dracunculiasis eradication. The cases of dracunculiasis were widespread in 16 African countries. 3.5 million cases of dracunculiasis were reported in these countries in 1980. The cases of dracunculiasis were also common in Ghana.

**Materials and methods.** We studied and analyzed data from WHO and scientific literature from Medline.



**Results.** 4060 cases of dracunculiasis were reported in 1985 in Ghana. According to the conducted survey about 70.000 dracunculiasis cases were noted in the Northern region. The Global Guinea Worm Eradication Program started in 1985 by The Carter Centre but they did not have enough resources for realization of this program. In 2000 after involving additional resources the number of dracunculiasis cases decreased to 7402 nationwide. Community volunteers played a significant role in this work. They provided health educational program among inhabitants, implemented dracunculiasis surveillance and first aid care to affected persons. The last case of dracunculiasis was reported in May 2010. Government efforts and the help of international organization made it possible to achieve success in eradicating dracunculiasis in country. It is necessary to continue surveillance, supply the population with potable water and carry out sanitary and educational work to certify the eradication of this disease. In January 2015 WHO certified Ghana as free of dracunculiasis transmission.

**Conclusion.** The ecology and epidemiology of dracunculiasis is well bound to local environments where the infection thrives. Providing the population with safe water, detecting, recording and treatment every case of dracunculiasis, extensive sanitary and public education has proved its effectiveness. To avoid the reemergence of dracunculiasis cases in Ghana, it is necessary to carry out these activities without interruption.

*Bilera N., Dehtiar K.*

## **ASSESSMENT OF THE NERVOUS SYSTEM STATE IN THE MILITARY COMMAND STAFF OF LOGISTICS UNITS OF THE UKRAINIAN NATIONAL GUARD**

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**Introduction.** Maintenance of a high level of capacity for work and prevention of neurological morbidity in the military command staff of logistics units constitute an urgent current problem. The purpose of the study. Assessment of the nervous system state in the military command staff of logistics units.

**Materials and methods.** Thirty professional military officers took part in the study; their nervous system state was assessed at the beginning and at the end of the working day by the index of excitation process force after L. Kopytova. The participants of the study were divided into two groups, depending on the service record (under 10 years and over 10 years).

**Results.** According to the results of assessment of the nervous system state by L.O.Kopitova's method, it was revealed that the average index of the excitation process in both groups fluctuated



within the norm (100%) at the beginning of the working shift. Instead, the average index fell to 78.32% in the military group with less than 10 years of service record at the end of the working shift, which indicates a decrease in the period of adaptation to work, but more rapidly rising fatigue. In the group of persons with service record over 10 years, on the contrary, the working capacity remained at a high level, but the adaptation to work was slower than at the beginning of the shift.

**Conclusion.** According to the criteria of the strength of the nervous system by the index of the excitation process force, it was revealed in the group with a shorter service record that at the end of the working day, the period of adaptation to work decreases, but fatigue develops more rapidly, which may serve as a criterion of lower level of adaptation to professional load than that of a group with a longer service record. In persons belonging to the group with a longer service record - the period of adaptation to work increases, but there is a higher stable working capacity, which, of course, has a beneficial value for an appropriate performance of professional responsibilities during day duties.

*Chornous N., Sheyko A.*

## **PROPHYLAXIS OF COPING WITH STRESS IN PROFESSIONAL ACTIVITY**

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**Introduction.** In modern rapidly changing world, the mental health of a specialist faces daily new challenges and tasks caused by hard professional competition, the instability of the social and economic conditions of the functioning of the society, and, as a result, the increase of stressful situations. Thus, one of the most up-to-date problems of modern psychology is the prevention and prophylaxis of stress in the professional activities of a specialist.

**Materials and methods.** Recently, more and more researches of the scientists from different areas of science – economics, psychology, sociology and other sciences, connected with the provement that the human resource is one of the most important components of the economic welfare and development of modern society appear. In particular, in the absence of psychological health, comfort, respect for democratic, humanistic norms in the professional activities of a specialist, it is impossible to achieve high performance indicators. Consequently, the most rational way of personal development is to reduce the amount and intensity of stress in the professional activities of a specialist, to focus attention on the emotional well-being of workers. In order to carry out the prophylaxis of occupational stress the most effectively, it is necessary to know the nature of stress and its main determinants of occurrence.





The universal concept of stress was formulated by the world-famous Canadian physiologist H.Selye, which had a great influence on various directions in the development of human science: psychology, medicine, sociology and other fields of knowledge. The scientist detaches out a number of statements related to the preventive activity of determining stress and ways to overcome it: the problem of studying the mechanisms of emotional stress, which are the result of human progress and the development of modern civilization; development of methods for overcoming stressful situations.

**Results.** In the context of the chosen problem, the definition of the group factors of stress occurrence is particularly appropriate. Thus, A.Visnoslavskaya emphasizes the importance of maintaining favorable group relationships for prophylaxis and coping with stress in the team. First of all the group of stress factors primarily include:

1) lack of group unity – lack of opportunities for an employee to feel himself a member of the team due to various factors: the specifics of the workplace; actions of a manager who does not allow or restrict the rights of employees; rejection by other members of the group into their ranks, etc.; it can be a source of stress;

2) interpersonal and intrapersonal and group conflicts, that is, the presence of serious contradictions or incompatibility of individual characteristics of the employee's personality, for example, his personal goals and values with the values of the group where he have to work, to be, to communicate, to interact constantly.

**Conclusion.** So, stress can cause many different negative factors. The most common are the incorrect correlation between the authority and responsibility of the specialist, poor channels of information exchange in the organization and unreasonable demands of employees to each other.

*Gorbunova I., Araslanova T.*

## **PROBLEMS OF PROFESSIONAL SELF-DETERMINATION AND SOCIAL AAPTATION OF STUDENTS WITH HEARING DISORDERS**

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**Introduction.** Opportunities of obtaining professional training for individuals with hearing abnormalities in Ukraine depend not only on the quality of school education, the degree of hearing impairment and the development of verbal communication skills, but also on the impact of social environment, thoughts and expectations of the family, as well as on the willingness of professional education system to integrate people with defects into the educational process. Modern social problems require earlier professional self-determination and high functional literacy from youth. The aim of our research was to study features of psychophysiological and sociopsychological adaptation of students with hearing abnormalities during their professional training.



**Materials and methods.** The research was based on the analysis of previously published papers.

**Results.** People with hearing impairments have their own features that depend on the type of defect, age-related patterns of cognitive processes and personality traits. Taking into account the features mentioned above, it is necessary to take into consideration disadvantages of their capabilities and psychological peculiarities when organizing and implementing professional training for students with hearing disorders.

As a result of hearing abnormalities, language is affected primarily and to a greater extent. Thus, it has been reported about several training systems. The first system is traditional for teaching deaf children. The system focuses on teaching verbal language to them. The most important issues of the communication system are: the formation and development of the language of deaf children in subject-practical activities; purposeful activity that aims at developing reasoning; successful linguistic development of deaf children is possible only in a specially organized linguistic environment, when there is a need for communication and the use of language in cognitive activities. The second system is a bilingual approach. In training deaf individuals, it implies the use of those languages that have the equal status in the educational process - the national language (in oral, written and dactylic forms) and the national sign language, which act as equal partners in communication between deaf children, teachers and non-deaf parents. The use of sign language in the educational process removes the communicative barriers between teachers and students, providing emotionally colored training, significantly increasing the amount of educational information and accelerating its assimilation by students.

Nowadays a system whose main feature is sign language has been widely used at special schools in the United States and European countries. It implies total communication, i.e. the use of all linguistic means in the education of deaf children. However, according to some experts, "total communication" causes difficulties in developing skills of deaf children. Nevertheless, there are some restrictions on the acquisition of certain professions, namely those that require communication using verbal language and extra load on the vestibular apparatus or rely on hearing in professional activities. The list of such professions includes: mining, blasting and underwater activities, felling, timber harvesting, timber floating, transport-related activities, manufacturing associated with occupational noise. Such professions are contraindicated for people with a high degree of hearing loss and chronic suppurative otitis media.

**Conclusion.** Thus, children with hearing disorders have problems with integration into society compared to healthy individuals. Professional training in higher educational establishments is not conceivable for them. Indeed, the choice of profession for such people is somewhat limited. However, technological advances may provide realization of their professional potential in some fields.



*Koshyl' M., Rapota A.*

## **THE POST-TRAUMATIC SYNDROME**

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**Introduction.** The actuality of our research is stipulated by the fact that the problem of social and psychological rehabilitation of soldiers is very important and not considered enough in the modern science and research literature.

The soldiers, who came back from the battle field, are greeted with flowers and orders, tears of happiness and joy by their relatives. However, absolutely different people come back home even not having died or been wounded. No doubt, any case of facing death leaves traces on man's soul and fate. Nightmares, depression and alcoholism, suicide attempts are only some symptoms of the disease called "Donbass syndrom", that is typical post-traumatic stress breakdown.

**Materials and methods.** The psychologists suggest several reasons of this condition. Firstly, it's hard for former soldiers to adapt in the peaceful life. They understand that they can't defend their motherland sitting at home. Secondly, many military men have access to the weapon and it's easier for them to lay hands on them. Thirdly, they feel injustice and annoyance because of the fact that many men were not at war and did not feel the horror of war.

The specialists distinguish three categories of people: 30 % - those who managed to overcome war stress themselves; 30% - those who need some consulting and taking medicines; the rest – those who need psychological support for the whole life. It's known nowadays that about 500 people committed suicide after coming back from war. While facing troubles at the critical moments we feel frightened and nervous. Muscle strength of a person who feels fear can increase, and this person can rush against danger. The same feeling can cause the total loss of strength.

**Results.** People, who took part in the war, feel very strong emotions. To motivate themselves in dangerous situations they had high aims: Motherland, nation, freedom and victory. Their relatives don't understand these words very well because solving everyday problems is more important for them. That's why soldiers often complain about misunderstanding and conflicts with relatives, friends and colleagues. They can't adapt to everyday life. They have much worrying, grief and guilt. However, not only former soldiers feel the lack of strong emotions, but also ordinary Ukrainians do. It happens because they did not experience difficult events in full measure. Soldiers should come to the group of support and speak about their emotions because it's very important to feel sympathy, attention and help from the surrounding people. A kind word plays a magic role. The main defenders' wish is to find soul peace and harmony.



**Conclusion.** So, psychological and social rehabilitation is the most important element of renewing the balance and emotional stability.

*Kurchanova S., Ivanteeva Y., Matveeva S.*

## **COMPARATIVE ANALYSIS OF CHILD'S MORBIDITY IN ACTIVE TUBERCULOSIS IN UKRAINE FOR 2016-2017**

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**Introduction.** According to WHO, every year in the world, 8-10 million people get tuberculosis and 1.5-2 million people die from this disease, among them up to 1 million children get sick and they die up to 150000-170000 incidents. It makes possible to assess tuberculosis as one of the master diseases leading to death, and it represents a particular danger to the children and adolescent population. Aim: conduct a comparative analysis of child's morbidity in active tuberculosis in Ukraine and the Kharkiv region for 2016-2017.

**Materials and methods.** Statistical data were obtained by analyzing the annual analytical and statistical handbook "Tuberculosis in Ukraine" and a package of documents about the incidence of tuberculosis in the regions of Ukraine, compiled by specialists from government agency "The Center for Public Health of the Ministry of Health of Ukraine" and public institution "The Center of Medical Statistics of the Ministry of Health of Ukraine".

**Results.** Results. According to the received materials, the incidence among children aged 0-17 years old per active form of tuberculosis (without relapses) for 2017 compared to the same period in 2016 can be estimated as follows. , The highest incidence for the 100 thousand population in 2016 among all regions of Ukraine was observed in the Zaporozhye region (24.2), Kherson region (17.2), Dnepropetrovsk region (17.1), Cherkassy region (15.7), and in Odessa region (14.9). In 2017, there were 23.6 cases per 100,000 of the population in the Dnepropetrovsk region, 20.7 in the Zaporozhye region, 18.7 cases in the Odessa and Kherson regions, and 17.8 cases in the Zhytomyr region. In the city of Kharkiv and the Kharkiv region, 7.8 cases per 100 thousand population in 2016 and 12.0 per 100 thousand population in 2017 were recorded, that means there was an increase in morbidity by 1.5%. A similar trend is observed in other territorial regions of our country, with the exception of the Luhansk (-40.1%) and Donetsk (-18.9%) regions controlled by Ukraine, the Rivne region (-34.2%), Khmelnytsky region (-29.5% %), Chernigov region (-24.8%), Cherkassy region (-8.9%) and the city of Kiev (-38.8%), where we can see a decrease in incidence.

**Conclusion.** The children's part of the population always reacts sharply to various changes in the external environment. Summarizing, we can confidently say that tuberculosis is a complex medical and biological, as well as a social and economic problem. All efforts should be directed to influence



the driving factors that nowadays are relevant in Ukraine, and finally to launch a mechanism to reduce the incidence of active tuberculosis infection everywhere among children of all ages.

*Litovchenko O., Zub K., Bezega E.*

## **PECULARITIES OF COMBINED EFFECT OF CHEMICAL AND PHYSICAL FACTORS ON PLASMA LIPID SPECTRUM OF RATS**

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**Introduction.** The influence of modern production conditions, in particular, within machine-building industry, on occupational health has not been sufficiently studied. Thus there is high demand to evaluate the response of the organism to combined effect of industrial factors such as lubricating-cooling liquids (LCL) and electromagnetic radiation (EMR) which may lead to stress-condition. Atherosclerosis and cardiovascular diseases are the most common manifestations; therefore the change of plasma lipid spectrum should be carefully studied. Aim. Assess changes in lipid spectrum of blood serum under the combined effect of LCL "Typol" and EMR on laboratory animals via experiment.

**Materials and methods.** The experiment was conducted for 30 days on mature male rats divided into 4 groups: 1st – exposed to the LCL "Typol" (5000 mg/kg); 2nd - exposed to combined action of EMR (frequency 70 kHz, voltage 600 V/m) and LCL; group No.3 and No.4 – control samples (to 1st and 2nd groups respectively). Lipid spectrum was evaluated according to the content of total cholesterol, triglycerides, high, low and very low density lipoproteins (TC, TG, HDL, LDL, VLDL, respectively). Atherogenic index (AI) was also calculated. Biomaterial was gathered on the 5th, 15th, 30th days of the experiment. The statistical analysis was carried out via Student's t-test,  $P < 0.05$ .

**Results.** Group No.1 had no significant changes in lipid metabolism compared to control. However, an increase in TC, TG, LDL, VLDL and reduction of HDL were noted. By contrast, values of lipid profile in group No.2 were significantly changed. A verisimilar increase in TC content was revealed: from  $1.70 \pm 0.06$  mmol/L on the 5th day - up to  $2.83 \pm 0.15$  mmol/L on the 30th day; TG from  $0.69 \pm 0.3$  mmol/L on the 5th day - up to 0.78 mmol/L on the 15th day and 0.76 mmol/L on the 30th day; LDL values increased from  $2.16 \pm 0.06$  mmol/L on the 5th and 15th day up to  $2.24 \pm 0.15$  mmol/L on the 30th day; VLDL – high on the 15th day:  $0.16 \pm 0.10$  mmol/L, on the 30th day –  $0.15 \pm 0.01$  mmol/L; AI had a maximum value – up to  $5.79 \pm 0.35$  SU – on the 5th day, AI stayed at the level of  $5.54 \pm 0.45$  SU on the 30th day. The HDL level significantly decreased, had value of  $0.40 \pm 0.01$  mmol/L on the 5th day,  $0.45 \pm 0.01$  mmol/L on the 15th day and  $0.44 \pm 0.02$  mmol/L on the 30th day. From our point of view, such a pattern may be explained as an effect of trigger properties of the EMR and LCL leading to atherogenesis.



**Conclusion.** Changes of lipid spectrum in both experimental groups were characterized by increased levels of TC, TG, LDL, VLDL, HDL and AI. According to the study, the changes were more significant in the group exposed to combined effect. Such alterations strongly denote the negative influence of EMR combined with LCL on lipid metabolism in the body.

*Owoeye S.*

## **LIFESTYLE MODIFICATION AND THE DISTRIBUTION OF RISK FACTORS OF CARDIOVASCULAR DISEASE AMONG YOUNG PEOPLE IN UKRAINE**

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**Introduction.** Cardiovascular disease has become a redoubtable health problem in the whole world. The Global Burden of Diseases study has reported that by the year 2025, CVD would be the major cause of death all over the world including the developing countries. According to World Health Report, an estimated 17.5 million people died from CVDs in 2012, representing 31% of all global deaths. Of these deaths, an estimated 7.4 million were due to coronary heart disease and 6.7 million were due to stroke. Most cardiovascular diseases can be prevented by addressing behavioural risk factors such as tobacco use, unhealthy diet, obesity, physical inactivity and harmful use of alcohol using population-wide strategies.

**Materials and methods.** A cross sectional analytical study was conducted in three faculties of Karazin University, 100 students in all. There were 59 Ukrainian students and 41 international students (from over 12 countries). There were 67 females and 33 males. The average age of the subjects was  $20 \pm 2.7$  years. Structured self-administered questionnaires were given to the students, which contained questions about their health history. There were no potential risks for participants as the study did not involve any difficulties or rigorous exercise. Software Statistical Package for Social Sciences (SPSS) was used for data analysis.

**Results.** Alcohol consumption was 20% among international students and 76% among Ukrainian students. 5% of the international students and 24% of Ukrainian students were found smoking regularly. None of the Ukrainian students was found obese, whereas 7% of the international students were obese. 22% of international students and 5% of Ukrainian students were found overweight. In both groups, students with normal weight were dominant, their percentage in both groups was approximately the same. Overweight students prevailed in the International group. The frequency of overweight in this group was 4-fold higher than in Ukrainian group. 10% of Ukrainians and 17% of international students have no physical activity. Most of the students in both groups have a physical activity ranging from mild to regular vigorous exercise. About only one-third of the two groups





engage in mild exercise, and about 50% in both groups do vigorous exercise – occasional and regular. Frequencies of occurrence of family history of hypertension, stroke and heart related diseases were almost the same in both groups. 15% of international students and 3% of Ukrainians have history of diabetes in their immediate family. The frequency of previously diagnosed hypertension was mostly the same in both groups and did not exceed 7%.

**Conclusion.** Results of our study showed that risk factors such as smoking and alcohol consumption have a much more prevalence among Ukrainian students than International students. On the other hand, overweight and obesity were more common among International students. Taking into account that the family history of hypertension, stroke and heart related diseases were almost the same in both groups, we can say that Ukrainian students have issue with living habits, while international students have issue with feeding habits. This is also confirmed by the fact that history of diabetes in immediate family was higher among international students than among Ukrainians.

*Owolabi A., Damoah L.O.*

## **MAIN PROBLEMS OF NUTRITION OF FOREIGN STUDENTS KHARKIV NATIONAL MEDICAL UNIVERSITY**

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**Introduction.** Like the saying goes, “Health requires healthy food”, this saying is not true for foreign students due to a high rate of undernutrition. Undernutrition is associated with many health risks for example obesity and being underweight.

**Materials and methods.** Questionnaire method, I interviewed students from the following countries: Israel, Ivory Coast, Somalia, Namibia, Nigeria, Ghana and Zimbabwe.

**Results.** It was found out that there was a very high rate of undernutrition due to factors like, increased expense of food especially traditional food, unavailability of traditional food or the food ingredients, little or no time for cooking due to a very big work load on students, unaware about the traditional food of the country they are studying in, resulting in an increased intake of food that are high in calories and lack sufficient nutrients.

**Conclusion.** These factors if not prevented can lead to diseases, and a poor state of health of the individual. Undernutrition of foreign students can be tackled by student’s awareness through orientation about the country’s traditional food which is Ukraine, and also by creating foreign restaurants in order for them to always have a taste of home.



*Rusanov O., Sushetskaia D.*

## **RISK FACTORS OF THE DEVELOPMENT OF ALLERGIC DISEASES IN CHILDREN**

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**Introduction.** In recent years, allergic diseases have become a large-scale problem and acquire the status of the most common diseases in child patients. Thus, one of the factors, determining the development of allergic diseases is a genetic predisposition. Scientific researchers have shown that the presence of permanent allergic reactions in parents, increases the chance of developing similar diseases in their children by approximately 50-65%. There is also a number of risk factors that contribute to the development of allergic diseases in children of different ages. All of them are the reasons for the reduction of social adaptation of children and violation of their physiological development, and sometimes leads to their disability and death.

**Materials and methods.** We studied and analyzed literary data on the most common causes of development of allergic diseases in childhood.

**Results.** The results showed that one of the underlying risk factors of the development of allergic diseases in children is a genetic predisposition. Detection of the gene of atopy in the family makes it possible to predict similar diseases in descendants, with a maximum probability and to classify them to a high-risk group. It is important that allergic diseases in relatives of the second degree of kinship and more can slightly burden allergic heredity. So that, the main marker of possible allergic diseases may be their existence in relatives of the first degree of kinship. The influence of allergens during pregnancy, its course, the environment of the gravida and her age can also become the cause of allergies in the offspring. Studies have shown that children born from women under the age of 20 have a higher risk of developing bronchial asthma than children of older women. The period from the 2nd trimester to 2 years is the period of the greatest activity of the child's immune system, therefore it is the age of increased risk of allergies. The factors that increase the risk of allergies include: taking antibiotics and hormonal drugs, using household chemicals, food supplements (e.g. E210, E211, E252, E621), drugs, alcohol, passive smoking and polluted air. Influence of allergens of house dust and dust mites also provoke the development of allergies of both mother and fetus. It is worth noting that pets, especially cats and dogs, are factors that increase the risk of allergies. It is known that viral and bacterial infections are capable of provoking or aggravating manifestations of allergies in children. This factor can be neglected, talking about children over 12 years old.

**Conclusion.** Therefore, the development of allergic diseases in children should be considered as a result of the influence of both: exogenous and endogenous factors. The results stress the need to



eliminate the effect of the most explicit risk factors on the health of the child especially, on his allergic morbidity.

*Shcherbakov O., Zaikina A.*

## **ASSESSMENT OF THE INFLUENCE OF THE TREATMENT AND REHABILITATION ON THE INTENSITY OF PAIN SYNDROM IN SPINE OSTEOCHONDROSIS IN YOUNG PEOPLE**

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**Introduction.** According to the literature, one of the frequent reasons for going to the doctor is pain in the back area. Approximately in 90% of cases, the cause of the development of the pain syndrome is degenerative-dystrophic diseases of the spine, in particular - osteochondrosis, which recently became much more common in young people.

**Materials and methods.** The examination and treatment was carried out on the basis of the Public health institution "Kharkiv student's hospital". 25 people were diagnosed with the diagnosis: osteochondrosis of the spine, while 12 people had osteochondrosis of the cervico-thoracic region, 9 people - lumbosacral, and 4 students were diagnosed with a common osteochondrosis. The average age of the patients is 18-21 years, the ratio of men and women is 15 to 10. The patients complained of periodic pain of the back, which is aggravated after physical exertion, prolonged sitting while sitting, supercooling. The diagnosis was established on the basis of complaints, data of objective examination, X-ray examination. All patients were treated with a therapeutic and rehabilitation complex consisting of exercises of physical therapy, ultraphonophoresis of the finalgel (3 cm strip) and finalgon (strip 0.5 cm) and alternating magnetic field of low frequency. The course of treatment - 10 daily procedures, conducted sequentially, without a time interval.

**Results.** Treatment was effective, as indicated by a decrease in the incidence and intensity of pain in 23 (92%) of the patients, 8 (32%) patients completely disappeared, and only 2 patients (8%) did not.

**Conclusion.** The appointment of a therapeutic and rehabilitation complex with the use of therapeutic physical factors and physiotherapy in young people makes it possible to obtain a positive effect without the use of non-steroidal anti-inflammatory drugs of systemic action.



Skoryi D.

## CORRELATION BETWEEN CORTISOL AND ALOPECIA AREATA PRESENCE

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**Introduction.** Alopecia areata (AA) is a worldwide problem. According to statistics, it takes place at 0,1-0,2% of population, depending on ethical purposes. It is the second most common type of alopecia after androgenic alopecia. Etiology factor, that is proposed to be in a case of AA, is autoimmune disorder. However, nowadays, the new direction is held in this field. According to the latest reports, stress can be a potential trigger, which induce AA development. During experiment on mice, which was engineered to overexpress corticotropin-releasing hormone (CRH), a bilateral symmetric hair loss took place. Nevertheless, when astressin-B, a special antagonist of CHR receptors, was used, mice had hair regrowth. It stays interesting, that in case of absence of CHR overexpression, astressin-B didn't induce hair regrow. In addition, it is still unclear, whether different hormones can influence on AA progression. From our point of view, cortisol can be a hormone, worth for paying attention. It is the main hormone, which is produced by adrenal gland under adrenocorticotrophic hormone guidance, which in its turn controlled by CRH. In this way, studying cortisol level can be helpful in revealing AA etiology factors.

**Materials and methods.** We studied 23 people. Among them 12 had AA (1st group) and 11 had no signs of this disease (2nd group). An average age among people from 1st group was  $34,4 \pm 9,8$  years and from 2nd group it was  $35,7 \pm 8,5$ . The duration of AA among the 1st group patients was from 7 to 11 months. The blood was taken for control between 6.00 and 9.00 am. All patients gave agree to participate in the study.

**Results.** After performing a laboratory examination, the following results were obtained: an average cortisol level among the patients from 1st group was  $154,38 \pm 89.36 \mu\text{g/l}$  and for 2nd group cortisol level was  $122.47 \pm 69.25 \mu\text{g/l}$ . This examination revealed higher cortisol level among patients with AA, than in healthy ones.

**Conclusion.** Revealed correlation between higher levels of cortisol in patients with AA can be a positive sign for proving a stress etiology factor as one of the possible triggers for this disease development. On the other hand, we still don't have enough proves in order to confirm a direct influence of cortisol on AA development and progression. It can a theme for next studies.



*Sokhaneych K.M.*

## **APPLICATION OF AUTOHEMOTRANSFUSION FOR ATHLETES FOR THE ADVANCEMENT OF SPORTS WORKING EFFICIENCY**

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**Introduction.** The using of doping is a problem that has attracted athletes and their coaches since the first competitions. In recent decades, the so-called blood doping has become widespread in sport. It is established that the fence in the athlete of certain portions of blood with their subsequent introduction into the body after 3-4 weeks leads to an increase in the maximum oxygen consumption by 8-10%. After the IOC banned the use of blood doping in 1987, this problem is particularly acute, because of there is no reliable method of detecting it. Attempts to identify the use of blood doping at excessively high levels of hemoglobin do not lead to success, because of high hemoglobin values may be due to the genetic characteristics of the athlete's body, training methods, training in high altitude conditions.

**Materials and methods.** There are literature sources on the use of autohemotransfusion. It was studied and analyzed.

**Results.** The essence of the method of infusion-transfusion integration in the differentiated or complex use of transfusions of autologous whole blood, its components (erythrocytes, platelets and leukocyte mass). It is necessary to take blood (from 200 to 600 and more ml) and storage for 1-2 months using a stabilizer (sodium citrate) in special refrigeration units. During this time, the content of red blood cells in the body is restored to a normal level. Before the competition, 3-7 days before the beginning, the autologous blood is transfused intravenously. With the increase in the concentration of erythrocytes and, accordingly, the concentration of hemoglobin, the amount of oxygen in the working muscles also increases.

**Conclusion.** We are having studied the materials of the literature sources and determined the expediency of this method. Thus, we determined the expediency of using autohemotransfusion method in athletes, which leads to an increase in efficiency and muscle productivity.

*Trush O.*

## **MYOPIA BETWEEN THE STUDENTS OF THE KHARKIV NATIONAL UNIVERSITY**

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**Introduction.** Myopia – is the disease of the eye, when images of objects are formed in front of the retina. The extent of myopia are approaching epidemic. According to researches of scientists by 2020



a one third of the world's population runs the risk of becoming myopic. At present, the 1 billion people wear glasses. The factors are: heredity, overtraining, improper correction and even malnutrition. The aim of the research is to determine how many hours students spend using various gadgets. Find out how much does the time spend at the computer influence the degree of myopia. Correction of the under studies sight.

**Materials and methods.** Under study was a group of ukrainian students of Kharkiv National Medical University. 49 students were asked: 18 male and 31 female. The average age of rolled is 17,9. It was survey by questionnaire and statistical data were processed with the help of Excel.

**Results.** Low degree was in 29 of the respondents (9 boys and 20 girls). The average degree in 16 (6 boys and 10 girls). High degree of 4 (3 guys and 1 girl). The use of corrective means at low degrees of myopia – 26 use glasses (7 boys, 19 girls), 6 contact lenses (1 guy, 5 girls). Hereditary predisposition have 19 of 29 students. Duration of the use of the computer, the phone during the day of 5 people, during the day – 11 hours, in the evening and at night - 13 hours. Guys spend 10 hours during the day using this gadgets, the girls spend 8 hours. On average, boys and girls spend 8.35 hours. Blurred vision while using gadgets are observed in a 4 of 7 respondents, in the 11 of 15 respondents in the evening and at night, and in 4 of 7 respondents during the day.

The use of corrective means with middle degrees of myopia – 14 use glasses (5 boys, 9 girls), 9-contact lenses (4 guys, 5 girls), 2 girls-computer treatment. Hereditary predisposition is observed in 8 of the 16 students. Duration of the use of the computer, tablet, etc., during the day: 3 men use them constantly, during the day-5, in the evening and at night – 8. Guys spend 10,3 hours during the day using this gadgets, the girls spend 6,8 hours. On average, boys and girls spend 8,6 hours. Blurred vision while using gadgets are observed in 3 of the 7 respondents in the evening an at night, and 1 of the 4 respondents during day.

Hereditary predisposition is observed in 2 of the 4 students. Duration of the use of the computer, tablet, etc., during the day: 1 person use constantly, 3 in the evening and at night. Guys spend 9,3 hours during the day using this gadgets, the girls spend 8 hours. On average, boys and girls spend 8,7 hours. Blurred vision while using gadgets in the evening and at night are observed in 2 of 3 respondents.

**Conclusion.** The great role is played by heredity and the amount of time spend on the computer, phone books, etc. The most common deterioration occurs in respondents who use a variety of gadgets. Because it affects the poor lighting, reflection of light from the screen, etc. A total of 49 respondents 15 people drink vitamins. Determined that the guys spend more time at the computer than girls. Together, averaging about 9 hours.





*Tymbota M., Stytsenko M.*

## **AGE ASPECTS OF THE FORMATION OF PROFESSIONAL BURNOUT IN HIGH SCHOOL TEACHERS**

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**Introduction.** Professional activity of high school teachers is associated with different workloads. In addition to the physical factors of the load, such as noise, it is worth noting yet a mental load. It can be caused by interactive emotional work, especially communication between students and teachers. At the same time, very little is known about the fact that I teach in higher education institutions affects the health and emotional exhaustion of teachers. Pedagogical staff leads, in addition to teaching, scientific work, and, in medical universities, also a clinical one. Information on the burnout syndrome at university teachers is still not enough. There are only indications that the teaching staff of universities is not at risk in terms of stress and emotional burnout. The purpose of the study was to determine the role of teaching activity in higher education institutions in the genesis of emotional exhaustion in different age groups.

**Materials and methods.** To achieve the goal, 81 professors of higher education were questioned. The data were collected by anonymous questionnaires. The questionnaire contained questions about socio-demographic and professional data, as well as questions of the standardized scale – Maslach Burnout Inventory – General Survey (MBI-GS), which allows to determine the risk of development of burnout based on three scales: «emotional exhaustion» (EE), «cynism» (depersonalization) (D) and «personal achievements» (PA) (Maslach & Jackson, 1981).

**Results.** The obtained results indicate that the "high" level of emotional exhaustion of teachers is higher in their age group up to 36 years (35.3%), gradually decreasing to 4.5% with the age of 58 years, which can be explained by the formation of psychophysiological mechanisms of adaptation to the implementation of responsible tasks and formation, finally, the adaptive stability of working to influence of the factors of the work process. Depersonalization phenomena have a high degree of severity in the group under 36 years old (41.2%), gradually decreasing to 4.5% in the group more than 58 years.

The assessment of the phenomena of the scale "Personal Achievements" confirms the high level of personal achievements of teachers in all age groups, but the highest level is showed in the age group more than 58years, which indicates a pretty high self-esteem of professional efficiency among teachers with the highest academic teaching experience. The results of a higher incidence ("some burnout symptoms" and "burnout risk") in the first age group (up to 36 years) compared with other groups confirm some studies that show a propensity to burn out not only older, but also a younger age.



**Conclusion.** The influence of age on the burnout effect is ambiguous.

*Veera Venkata Akhil M.*

## **MEDICAL EUTHANASIA**

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**Introduction.** The practice of intentionally ending a life, in order to relieve pain and suffering or permitting the death of hopelessly sick injured individuals in a relatively painless way. In current usage, euthanasia has been defined as the "painless inducement of a quick death".

**Materials and methods.** One kills a person when, having considered bringing about a person's death as something one could do, one commits oneself to doing it by adopting this proposal instead of some alternatives and by undertaking to execute it. The moral characterization of killing in strict sense make no distinction between intent to kill, attempt to kill and the consummation of the undertaking by successful execution. Although everything which is an act of killing in the strict sense is immoral not every deadly deed is an act of killing in this sense. There are also other cases of causing death, such as some killing in self defense, which are neither killing in the strict sense nor deadly deeds as here defined. Even in ordinary language some ethically significant distinctions are made in speaking of this, for one does not call "suicide" all cases in which someone cause his or her own death. since "suicide" suggest an act of killing oneself. Yet not all who commit suicide do a moral act of killing in the strict sense.

In cases in which suicide is an act of killing in the strict sense the proposal to kill oneself is among the proposal one considers in deliberation, and this proposal is adopted by choice as preferable to alternatives. one can propose to kill oneself without saying to oneself "I could kill myself" one might say something which one would accept as equivalent in meaning: "I could destroy myself", "I could rub myself out", or something of the sort. Again, one might say something which one would admit amounts to "I could kill myself" although not equivalent in meaning to it, such as "I could shoot myself," when what one has in mind is shooting oneself in the head and thereby causing death, not merely shooting oneself to cause a wound. Considering matters from a moral point of view and from the side of the one whose life is to be ended.

**Results.** There are two types of euthanasia: "voluntary and non-voluntary". Voluntary euthanasia is not significantly different from other cases of suicide. The proposal is to bring about death as a means to ending suffering. This proposal, if adopted and executed, is an intense of killing in the strict sense. It can never be morally justified. Non voluntary euthanasia also clearly proposes death as a treatment of choice. The act hardly can fail to be killing in the strict sense. And in addition to the violation of



the good of life, the rights of those to be killed also will be violated-for example, by denial to them of equal protection of the laws. non voluntary euthanasia would violate both life and justice. In some countries, there is a divisive public controversy over the moral, ethical, and legal issues of euthanasia. Those who are against euthanasia may argue for the sanctity of life, while proponents of euthanasia rights emphasize alleviating suffering, and preserving bodily integrity, self-determination, and personal autonomy.

**Conclusion.** That in all cases of hopeless and painful illness, it should be the recognized duty of the medical attendant, whenever so desired by the patient, to administer chloroform anesthetic as may by-and-by supersede chloroform so as to destroy consciousness at once, and put the sufferer to a quick and painless death. All needful precautions being adopted to prevent any possible abuse of such duty and means being taken to establish, beyond the possibility of doubt or question, that the remedy was applied at the express wish of the patient.

iSIC  
2018

# SURGERY





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## COMPARATIVE BIOCHEMICAL EVALUATION OF MYOCARDIAL STATE WITH DIFFERENT CORONARY ARTERY BYPASS GRAFTING

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**Introduction.** In recent years, cardiosurgical practice has accumulated a vast experience of performing coronary artery bypass surgery (CABS) in patients with coronary disease. Improvement and development of the methods of artificial circulation (AC), myocardial protection allow us to consider CABS as a safe surgical intervention with a low level of mortality, complications, and a high rehabilitation potential. However, the characteristic postoperative complications associated with the use of infrared radiation, at one time led to the development and introduction into clinical practice of CABS on the working heart (CABS-WH). The transitional technology, aimed at improving the results, was CABS in conditions of parallel normothermic auxiliary perfusion (CABS-WH-NP), which allowed conducting operations in patients from the high-risk group.

**Materials and methods.** The study was carried out based on the cardiovascular surgery departments of the KUOZ "Regional Clinical Hospital-Center for Emergency Medical Care and Catastrophe Medicine" and V.T. Zaitseva AMS of Ukraine Institute of General and Urgent Surgery. 40 patients aged 57-68 years were examined, divided into 3 comparable by sex, age, the number of affected coronary arteries, the state of the myocardium and evaluation of surgical risk according to the scale of the EUROSCORE group, depending on the technique of CABS. The 1-st group included 14 patients subjected to CABS with AC (CABS-AC), in 2-nd - 12 patients with CABS on WH and NP, the 3-rd group consisted of 13 patients after CABS-WH. Biochemical examination was performed on the 1-st day after CABS, the parameters of creatinephosphokinase (CPhK), CPhK-MB, troponin I in blood plasma were evaluated. The diagnosis of myocardial infarction (MI) in the postoperative period was established based on increased levels of CPhK, CPhK-MV, troponin I in combination with ischemic changes in the ECG and the appearance of violations of local myocardial contractility in the corresponding zones.

**Results.** The index of CPhK, units / l in the first group (CABS-AC) was  $1058 \pm 71$ , in the second group (CABS-WH-NP) -  $928 \pm 65$ , in the third group (CABS-WH) -  $731 \pm 63$ . The level of CPhK-MB (%) in the first group reached  $44.7 \pm 1.3$ , in the second group  $42.7 \pm 1.5$ , in the third group  $38.0 \pm 1.3$ . Troponin I (ng / ml) in the first group was  $1.3 \pm 0.1$ , in the second group  $1.2 \pm 0.1$ , in the third group  $0.4 \pm 0.1$ . FELV (Fraction of ejection of the left ventricle) (%) in the first group -  $50.0 \pm 1.1$ , in the second group -  $50.8 \pm 1.1$ , in the third group -  $56.8 \pm 1.2$ . The presence of foci of MI (myocardial infarction) (%) in the first group was 14.1, in the second group 9.7, in the third group 6.7.



**Conclusion.** The obtained data testify to the absence of statistically significant differences in the studied parameters between the groups of patients after CABS-AC and CABS-WH-NP in the presence of a tendency to more pronounced positive dynamics in the group of patients operated using the CABS-WH-NP technology. At the same time, statistically significant differences in the studied parameters in the group of CABS-WH were revealed in comparison with other groups, which differ in the decrease in the level of CPhK, CPhK-MB and increased FELV. Along with this, a marked decrease in the incidence of myocardial infarction was revealed in the CABS-WH group.

Anpilov A., Velikiy A.

***MORPHOLOGICAL CRITERIA OF THE INTESTINAL INSUFFICIENCY DURING PERITONITIS***

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**Introduction.** Clinical manifestations of enteric insufficiency syndrome (EI) in patients with diffuse peritonitis are described [Timerbulatov V.M., Saveliev V.S., 2006]. Pathomorphological changes in the small intestine, depending on the degree of EI in open sources of information, have not been identified.

**Materials and methods.** The analysis is based on the results of treatment of 65 patients who underwent resection of the small intestine or various enterostomas during primary surgery. The subject of morphological methods of investigation were biopsies of the small intestine taken at the border of the pathologically changed and normal intestinal wall. Histological examination consisted in determining the specific volume of dystrophic and necrotic altered enterocytes of the small intestine, vessels of the microhemocirculatory bed (MHCB).

During hospitalization all patients underwent a comprehensive examination, including an assessment of the severity of EI on the scales of Gain Yu. M., Zavada N.V. (2003) are divided into 3 groups: group I consisted of 20 patients with the first degree of EI; group II — 24 patients with grade II EI; III group — 21 patients with III degree of EI.

**Results.** The specific volume of the dystrophically altered villi enterocytes increased by 1,82 times (group II) and 5 times (group III) as the growth of enteric insufficiency increased as compared to the corresponding specific volume in group I ( $p < 0,05$ ). Also, the specific volume of necrotic villi enterocytes increased, which was clinically confirmed by the presence of extensive foci of acute erosion. The specific volume of dystrophically altered cryptic enterocytes increased 1,69 times (group II) and 4,78 times (group III) as compared to group I, although it was less than the specific volume of dystrophically altered villi enterocytes ( $p < 0,05$ ). In the submucosal base of the small intestine, an





increase in the specific volume of the MHCB vessels by groups is also observed. In group II, the specific volume of the submucosal base vessels is 0,5564  $\times 10^{-3}$ , 1,6 times higher than the corresponding index of group I ( $p < 0.05$ ). In the III group the specific volume of the vessels of the MHCB is 0,7921  $\times 10^{-3}$  is 2,27 times more than in the I group. Blood circulation in the small intestine was disturbed, which led to ectasia of the vessels, stasis, formation of vessels-sinusoids, increased vascular permeability, extensive foci of diapedemic hemorrhage.

**Conclusion.** Microcirculatory disorders in particular mucosal and submucosal layers of the small intestine wall are a morphological manifestation of EI.

*Artemenko M., Sidora A.*

## **VISUAL ASSESSMENT OF THE WOUND BYRP, ITS CONFORMITY TO THE CLASSIFICATION OF THE WOUND PROCESS ACCORDING TO COUSIN**

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**Introduction.** The problem of local treatment of infected and purulent wounds keeps relevant until now. According to different authors, the frequency of infectious postoperative complications from the wound is on the level of 5-35%. At present, new classes of dressings have appeared, the rational use of which is possible only taking into account the phases of the wound process, that means, various wound dressings are used for different phases of the wound process. In the post-Soviet space, the most famous was the classification of the phases of the wound process by M.I. Cousin (1977): Phase I - the phase of inflammation; Phase II - regeneration phase; Phase III - the phase of scar formation and reorganization. This classification, reflecting the biology of the wound process, is based on morphological changes in the wound, the dynamics of which are more intrinsic to uncomplicated wound healing. In clinical practice, the wound process can evade the above-mentioned phase sequence and, for example, the regeneration phase can be complicated by the infectious process with the development of secondary necrosis and inflammation. In addition, revealing the morphological and pathophysiological mechanisms wounded process, this classification does not have applied visibility, which is necessary for assessing the clinical situation. There is a visual classification of the wound process BYRP (Black, Yellow, Red, Pink), used in the US, and Europe. According to it, four stages are distinguished: Black - black (necrosis), Yellow - yellow (fibrin in the wound), Red - red (granulation tissue), Pink - pink (epithelization of the wound). In addition, the moisture content of the wound is taken into account at each stage. Objective: To establish a correspondence between phase classification of the wound process by M.I. Cousin and BYRP.



**Materials and methods.** In 15 patients with diabetes mellitus with diabetic foot syndrome, a cytological examination of smears-imprints of wounds / trophic ulcers was discovered. A smear was prepared, fixed and stained by the Panengame method. Performed microscopy. The ratio of cells (intact segment neutrophils, including phagocytic bacteria, eosinophils, monocytes, macrophages, lymphocytes, flat epitheliocytes, fibroblasts, various damaged cells (with disturbed cytolemmas and karyolemmas)) was calculated as a percentage, phagocytosis activity. Based on the obtained data, the type of the cytogram was determined: necrotic, degenerative-inflammatory, inflammatory, inflammatory-regenerative, regenerative-inflammatory, regenerative (according to M. I. Kuzin with co-authors, 1990).

**Results.** Based on the study, the following results were obtained: 1) Stage B matches to the stage of exudation; 2) Stage Y matches to the stage of exudation; 3) Stage R matches to the granulation stage; 4) Stage P matches to the stage of scarring.

**Conclusion.** 1. Visual classification of the wound process BYRP, sufficiently corresponds to the classification proposed by M.I. Kuzin. 2. Given the visibility of the BYRP visual classification, its correspondence to morphological changes, it is possible to apply the BYRP classification in clinical practice.

Askerova K.

***THE QUALITY OF LIFE IN PATIENTS WITH DIFFUSE TOXIC GOITER IN EARLY AND LATE POSTOPERATIVE PERIOD***

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**Introduction.** Rationale in the system of thyroid pathologies, the diffuse toxic goiter is the most common among the autoimmune diseases, which is characterized by excessive secretion of thyroid hormones. According to statistics, women suffer from the disease more frequently (7-10 times more often than men). At present, surgery remains the most effective method of treatment of the diffuse toxic goiter (DTG). Surgical treatment improves the quality of life of the patients. The timing and the degree of improvement depends primarily on the severity of the disease. Evaluation of the quality of life by the patient, rather than the doctor, is more informative about his/her general state in the early and the late postoperative periods.

**Materials and methods.** In order to assess the quality of life of the patients with diffuse toxic goiter 65 patients aged 30 to 50 years (average age  $45.2 \pm 2.5$ ) at various postoperative timepoints after 2 months, 6 and 12 months were examined. The control group included 18 patients without thyroid disease that was comparable to the main group by age and sex. Evaluation of the QoL after surgical treatment was performed with the use of the SF-36 questionnaire, which provides assessment of



physical and mental health. This questionnaire includes 36 questions divided into 8 scales: physical functioning (PF), physical role functioning (RP), bodily pain (BP), vitality (VT), general health (GH), social role functioning (SF), emotional role functioning (RE) and mental health (MH). The items of each scale range from 0 to 100 points, where 100 points imply the complete health.

**Results.** In the survey of the patients operated on the thyroid gland for the DTG, the following data was obtained, depending on the duration of the postoperative period, namely: physical functioning after 2 months ( $63.5 \pm 2.8$ ), 6 months ( $80.5 \pm 1.5$ ) and 12 months ( $91.6 \pm 3.2$ ); physical role functioning 2 months ( $57.3 \pm 3.8$ ), 6 months ( $66.3 \pm 2.5$ ), 2 months ( $71.5 \pm 1.2$ ); vitality 2 months ( $58.2 \pm 3.5$ ), 6 months ( $73.2 \pm 1.5$ ), 12 months ( $78.7 \pm 3.2$ ); social functioning after 2 months ( $50.2 \pm 2.8$ ), 6 months ( $62.4 \pm 1.5$ ), 12 months ( $70.4 \pm 2.2$ ); pain level after 2 months ( $68.2 \pm 2.5$ ), 6 months ( $77.2 \pm 1.8$ ), 12 months ( $88.5 \pm 2.2$ ); overall health after 2 months ( $68.2 \pm 2.5$ ), 6 months ( $77.2 \pm 1.8$ ), 12 months ( $88.5 \pm 2.2$ ); role emotional functioning 2 months ( $47.0 \pm 2.8$ ), 6 months ( $65.3 \pm 1.9$ ), 12 months ( $69.3 \pm 2.2$ ) and mental health 2 months ( $61.2 \pm 1.8$ ), 6 months ( $75.7 \pm 2.0$ ), 12 months ( $80.4 \pm 1.2$ ). Comparing the quality of life scores in early and late postoperative period, the reduced social role functioning and vitality observed at 2 months after surgery point, since patients note physical and mental suffering associated with early postoperative period and hormonal imbalance. Whereas in patients after 6 months and 1 year the indicators of vital, social and physical activity reliably increased.

**Conclusion.** Thus, when a study of the quality of life of the patients operated on for diffuse toxic goiter, indicators of physical and mental components depend on the duration of the postoperative period (6 and 12 months) that demonstrates an improvement in both physical and psychoemotional sphere patients.

*Bezverbniy V.*

***THE EFFECTIVENESS OF PLASMOTHERAPY IN PATIENTS WITH CHRONIC  
CRITICAL LOWER LIMB ISCHEMIA***

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**Introduction.** Chronic critical lower limb ischemia (CCLLI) is a syndrome of decompensation of chronic arterial insufficiency of the limb as a result of diseases of the peripheral arteries (PAD). In addition to traditional treatments such as direct revascularisation (open shunting and endovascular interventions), indirect revascularisation (osteotomies and lumbar sympathectomy), the possibility of using cell technologies (plasmotherapy) is being studied recently to create new ways of collateral circulation in the limbs. Due to the prevalence of this disease, especially among people of



working age and the ineffectiveness of generally accepted methods of treatment, CCLLI worldwide is considered a difficult medical and social problem.

**Materials and methods.** The method has been applied to 23 patients with CCLLI manifestations, patients with obliterative atherosclerosis (15) and obliterating endarteritis (8) who were treated at the Kharkiv Regional Hospital at the period 2017-2018.

**Results.** All patients had a degree of ischemia of the lower limbs III-IV by Fontaine and received conservative treatment due to the impossibility of conducting direct revascularisation interventions. The developed method of stimulation of angiogenesis using PRP in patients with chronic limb ischemia has been used in the treatment of all the patients. At the end of inpatient treatment, all patients were sent to a rehabilitation cycle with metered physical activity on the lower extremities, while the classes were under the supervision of a physician-rehab. At the end of the third month after cell therapy and training, an improvement in the condition of the limbs were seen in the form of an increase in distal motion was on average by 27% compared with the baseline level, a decrease in the intensity of pain by 48% and an improvement in the quality of life of the patients an average by 34%.

**Conclusion.** The application of the method of cell therapy for patients with CCLLI with the use of plasmotherapy in combination with thorough physical rehab is effective in complex treatment of patients with CCLLI and reduces pain syndrome, improves the quality of life of patients.

*Cheremskaya D.*

## ***DIAGNOSIS AND SURGICAL TREATMENT OF OBTURATIVE COLONIC OBSTRUCTION OF TUMOR GENESIS***

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**Introduction.** The most frequent complication of colon cancer is obturative intestinal obstruction (OIO), which occurs in 20–40% of patients with this pathology. At present, the problem of choosing a rational surgical tactics in treating OIO remains relevant, and modern achievements of surgery can improve the results of diagnosis and treatment.

**Materials and methods.** We analyzed the results of treatment of 88 patients with OIO operated in the clinics of Kharkiv from 2012 to 2017. The average age of patients was  $66.5 \pm 4.5$  years, of which 52 (59.1%) were women and 36 (40.9%) — men. All the patients were operated and had a complex clinical, laboratory, X-ray and ultrasound examination. After colon preparation, colonoscopy was performed in 53 (60.2%) patients.

**Results.** The classification of OIO on the background of colon tumor was used: I degree — compensated obstruction, II — subcompensated, III — decompensated (Boyko V. V., Krivoruchko I. A., 2014). In the first day of the disease 13 (14,8%) patients were hospitalized, in the 2–3 days —



44 (50%), in later periods of the disease — 31 (35.2%). Diseases of the cardiovascular system were found in 69 (78.4%) patients: ischemic heart disease — in 50 (72.4%), hypertensive disease — in 16 (23.2%). Diabetes mellitus — in 9 (10.2%) patients. Chronic obstructive pulmonary disease was diagnosed in 30 (34%) patients. 39 (44.3%) patients had a combination of two or more diseases. 4 (4.5%) patients had an extremely serious condition with manifestations of decompensation of vital organ functions, 30 (34%) — severe condition, 54 (61.5%) — moderate condition. The left half of the colon was the predominant localization of the tumor in 61 (71.5%) patients, the right half — in 12 (13.6%), the transverse colon — in 4 (4.5%), the rectum — in 10 (11.3%). The primary multiple colon cancer was diagnosed in 2 (2.27%) cases. The OIO of degree I was detected in 15 (17%) patients, of degree II — in 54 (61.5%), of degree III — in 19 (21.5%). The OIO treatment was started with conservative measures, which, if necessary, were also the preoperative preparation. Stomach and bowel decompression was necessarily performed through nasogastric intubation, enemas, and probing of the tumor during colonoscopy. 17 (19.3%) patients had a minimum volume surgery: a double-barrel ileostomy, a colostomy, a bypass transverse anastomosis of the ileum. Hartmann-type surgery and intraoperative lavage of the colon with small intestine intubation were performed in 9 (10.2%) patients with severe dilation of the colon at sub- and decompensated stages of intestinal obstruction. Postoperative complications were observed in 22 (25%) patients. The causes of death were progressive multiple organ failure — in 3 (3.4%) patients, thromboembolism — in 2 (2.2%), myocardial infarction — in 1 (1.1%). All the patients had a surgery on the background of peritonitis. The average duration of inpatient treatment was 23.5 days. Postoperative mortality level was 6 (6.8%) patients.

**Conclusion.** 1. Emergency colonoscopy (after preparation of the colon of the patient with OIO) allows to specify the cause of the intestinal obstruction and provide an adequate preoperative preparation. 2. The volume of surgical intervention in patients with OIO should be determined differentially, depending on the degree of intestinal obstruction, presence of peritonitis, extent of the tumor process, severity of the patient's condition and comorbidities.

*Fraira Shibli N., Rana J.*

## **MINIMALLY INVASIVE INVESTIGATION TECHNOLOGIES IN TREATMENT OF PATIENTS WITH CHRONIC CRITICAL ISCHEMIA OF LOWER LIMBS WITH DISTAL FORM OF VASCULAR LEASION**

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**Introduction.** The problem obliterating vascular disease ceases to be relevant and annually diagnosed with a frequency of 500-1000 cases per 1 million people in Europe and North America. According to



TASCII, among patients with critical lower limb ischemia between 10 and 30 % live less than 6 months, and 25-30% of patients may need a "big" amputation.

The high rate of development of endovascular surgery and interventional radiology has led to the fact that percutaneous balloon angioplasty of the extremity arteries in recent years is increasingly used as a method of direct revascularisation in patients with CCLLI, including those with diabetes mellitus. Lumbar sympathectomy is widely used in the treatment of patients with obliteration diseases of the vessels of the lower extremities in the initial stages, because in most cases it is accompanied by good results.

**Materials and methods.** At the Kharkiv Regional Hospital at the period 2017-2018 53 patients with CCLLI with distal form of vascular lesion were treated. The etiological factor of CCLLI in these patients was obliterating endarteritis in 3 (6%), post-thrombotic occlusion in 4 (7.5%) and atherosclerosis in 46 (86.7%) patients, of which in 24 (45.2%) were diabetes mellitus. According to the method of treatment, the patients were divided into 3 groups. The first (I) group included 22 (41.5%) patients with open surgical treatment. This group consisted mainly of patients with atherosclerosis. The second (II) group consisted of 24 (45.2%) patients who had undergone endovascular intervention - balloon angioplasty and balloon angioplasty with stenting (7 patients, 13.2%). This group consisted mainly of patients with atherosclerosis with diabetes mellitus. The third (III) group included 7 (13.2%) patients who had performed lumbar sympathectomy. In this group, there were patients with obliterating endarteritis and patients with post-thrombotic occlusion.

**Results.** In group I, the positive result with regression of ischemia was achieved in 18 (81.8%) patients, in 4 (18.1%) thrombosis developed, and in 3 (13.6%) patients, thrombectomy was ineffective and amputation was performed. Small amputation was performed in 10 (45.5%) patients. Accordingly, the quality of life was determined by the patients as good in 10 (45.4%) patients, satisfactory in 9 (40.9%) patients and unsatisfactory in 3 (13.6%) patients at the time of discharge. In the 2nd group, in the immediate postoperative period, a positive result was achieved in 24 (100%) patients, which was determined by regression of ischemia. Small amputation was performed by 8 (33.3%) patients. The quality of life at the time of the discharge was determined by the patients as good in 22 (91.6%) patients, satisfactory in 2 (8.3%) patients. The poor quality of life has not been determined by any sick person. In the 3rd group in the postoperative period, a positive result was achieved in 7 (100%) patients. Small amputation was performed by 4 (57.1%) patients. Accordingly, quality of life was determined by the patients as good in 3 (42.8%) patients, satisfactory in 2 (28.5%) patients and unsatisfactory in 2 (28.5%) patients at the time of discharge.

**Conclusion.** The best results from treatment with CCLLI were achieved in group II (91.6% and 54.1%, respectively, in patients with good quality of life), and the patients were treated with





endovascular methods. It is worth remembering that the choice of treatment method depends on the etiological factor of CCLI and the state of arteries.

*Hammad E., Sultan F.*

### ***DYNAMICS IN PATIENTS WITH CHRONIC CRITICAL ISCHEMIAU***

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**Introduction.** Currently, the immediate and long-term results of reconstructive interventions on the arteries of the lower extremities, especially in the stage of critical ischemia, can not be considered quite satisfactory, since the frequency of early adverse results is 5.8-16.5%, and large amputations are 8.8-20.4 %. The functional state of the endothelium is largely determined by changes in blood flow characteristics. Due to numerous receptors for various biologically active substances, endothelial cells are able to perceive and respond to hemorheological disturbances. The variety of vascular endothelial functions can be considered as a metabolically active tissue conventionally called "the largest endocrine gland of a person."

**Materials and methods.** At the Kharkiv Regional Hospital at the period 2017-2018 53 patients with CCLI with distal form of vascular lesion were treated. Etiological factors of the disease in patients with atherosclerosis, atherosclerosis with diabetes mellitus. obliterating endarteritis and post-thrombotic occlusion. All patients were treated according to the indications.

**Results.** It was found that the average level of ET-1 at the baseline level had an unlikely difference in comparison with the stage of ischemia, regardless of the treatment method. Patients with the third stage of ischemia had a probable difference in terms of 6 months and 12 months compared with the baseline ( $p < 0.05$ ). At the same time, the levels of ET-1 in patients with open surgical treatment in terms of 6 months and 12 months compared to the baseline data were unlikely to differ. Meanwhile, in patients with IV stage of ischemia, which used only conservative therapy, the level of ET-1 was 6 and 12 months respectively by 13% and 6.8% lower than the baseline, but this difference was statistically unreliable. The following dynamics was observed in the group with endovascular interventions: in terms of 6 and 12 months, ET-1 levels were 21.3% and 27.5% lower than baseline. In patients with IV stage of ischemia, which was performed endovascular interventions, the average level of ET-1 in terms of 6 and 12 months in comparison with the baseline data was 14.4% and 31.6%, respectively, lower than the baseline.

**Conclusion.** The results showed that the levels of ET-1 in CCLI patients correlated with the type of treatment and are objective indicators of the effectiveness of treatment.



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## **OPTIMIZATION OF REHABILITATION MEASURES IN PATIENTS OPERATED ON BENIGN DISEASES OF BREAST**

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**Introduction.** Sectral resection of the breast is one of the most common interventions in surgery, oncology and gynecology. The most common indications for the operation are nodal forms of dyshormonal fibrocystic mastopathy (FCM), fibroadenoma, intra-flow papilloma (IFP).

The purpose of the study is to develop a complex of rehabilitation measures for patients operated on benign diseases of breast.

**Matherials and methods.** A retrospective study of the quality of life of 48 patients aged 18-54 years, during the period from 2014 to 2016, operated in the surgical department of the «Regional Clinical Hospital - Emergency Medicine Center and Disaster Medicine», Kharkiv. All patients were performed: ultrasound examination (ultrasound) of breast, mammography (at age 40 and older), general-clinical examination of blood, urine; gynecological examination (including ultrasound), thyroid ultrasound, hormonal examination: determination of levels of prolactin (PRL), estradiol, progesterone, luteinizing hormone, follicle stimulating hormone, testosterone, thyroid hormone, consultation of adjacent specialists (endocrinologist, gastroenterologist by indications) and questionnaires.

**Results.** From the 48 patients in 22, there was a dyshormonal FCM, 24 - fibroadenoma, 2 -IFP. The characteristics of the reproductive history in women were malformations in the development of menstrual function in 46%, the number of medical abortions more than three in 12%, the absence of parturition 8%, spontaneous abortion in 3%, lactational function disorder, including episodes of unrealized lactation in 2%, in 84% of patients there were associated diseases of the reproductive sphere. After conducting the whole complex of examinations and consultations of adjacent specialists for each patient, an individual rehabilitation plan was developed according to the revealed pathology of the reproductive sphere. The complex of medical and preventive measures included (by indications): anti-inflammatory therapy, correction of hormonal disorders. So, locally applied ointments "Prozhezhodel", "Progestin". In addition, with increased levels of PRL, agonists of dopamine receptors ("Bromkriptine", "Dostinets") were appointed according to the scheme: the initial dose of the drug 1.25 mg before bedtime, after 2-3 days the dose was increased to 2.5 mg, followed by an increase every 2-3 days by 1.25 mg until a dose of 2.5 mg 2 times a day is reached. For preventive purposes, the patient was prescribed "Mastodinon" for 1 tablet 2 times a day for three months with repeated courses. Dynamic observation of patients was performed once every 6 months, with the study of the hormonal mirror and the implementation of ultrasound examination of breast.



Using similar tactics of patient management, in the remoteness of the time were re-operated 3 patients with relapses of FCM.

**Conclusion.** In the treatment of patients with benign breast diseases, a series of measures aimed at both surgical treatment and rehabilitation measures, which include hormonal correction and dynamic follow-up in the postoperative period, should be used. This tactic avoids dyshormonal, psychological disorders, and relapses of the disease.

*Hroma Y.*

## **COMPARATIVE CHARACTERISTICS OF BIODEGRADABLE STENTS AND METAL STENTS WITH SIROLIMUS**

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**Introduction.** Introduction of minimally invasive surgical interventions into clinical practice requires careful study of topographic and anatomical features of organs and systems, which makes it possible to determine optimal access to the affected area. Ischemic heart disease (IHD) is one of the leading causes of death in the modern world. Endovascular operations (stenting) are one of the main methods of treatment of IHD. A stent is a special construction, made in the form of a cylindrical frame, which is placed in the lumen of the vessel and provides an extension of the area narrowed by the pathological process. The first stenting of the coronary arteries in humans was carried out in 1986 by J. Puel. However, in 25-30% of cases the vessel narrowed again. Therefore, in 2003, 45 patients were implanted with the first stents that released sirolimus (a drug inhibiting the cycle of cell division), but the issue of increased thrombosis associated with a metal framework was not fully resolved, which required a long-term use of antiplatelet drugs. The next breakthrough in the endovascular treatment of IHD was the invention in 2015 of biodegradable stents made from biopolymers impregnated with a new generation of "Limus". These stents completely dissolve within 3 years and thus not only inhibit the development of excess tissue, but also contribute to the restoration of the normal structure of the endothelium of the vessel. The absence of a metal framework reduces the risk of thrombosis.

**Aim.** Review the literature on the results of studies on the use of metal and biodegradable stents and compare the risks of long-term complications.

**Materials and methods.** The literature review included about 150 articles in the PubMed, Scopus and Google Scholar databases. Of these, 14 corresponded to the profile of the study.

**Results.** According to the data obtained, after 2 years of follow-up, cardiac lethality was 3.2% in the group of biodegradable stents and 4.0% in the group of metal stents coated with sirolimus; the



incidence of myocardial infarction was 6.4% and 5.8%; the frequency of reocclusion was 6.6% and 7.3%, respectively. In addition, in some studies, the frequency of stent thrombosis was compared in patients who refused antiplatelet therapy one year after stenting. In the group with biodegradable stents, no such episodes were observed, whereas in the control group this indicator was 4.8%.

**Conclusion.** The literature review did not reveal significant differences in the frequency of long-term complications with the use of biodegradable stents and metal stents with sirolimus, but the absence of thrombosis with biodegradable stents in patients who refused to receive antiplatelet drugs suggests some advantages of these stents.

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## **INNOVATIVE METHOD OF INTRAOPERATIVE MONITORING OF INTRAPERITONEAL PRESSURE**

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**Introduction.** The main cause of the onset and development of abdominal hernia is a violation of internal abdominal pressure. Intraperitoneal pressure (IPP) is a pressure that is constantly maintained in the abdominal cavity. Normally, value is about 5 mm Hg (6.8 cm. Water pressure). The value of IPP is relative and depends on many factors: the degree of obesity, age and pathological changes of the anterior abdominal wall, diseases of the organs of the chest and abdominal cavity. Reduced IPP causes prolapse of the abdominal cavity. With loss of internal pressure, the walls of the abdominal cavity are not able to compensate for this difference in pressure, and the body begins to deform. That is why one of the most important factors that effects on the general condition of the patient after the plastic is the method chosen for measuring IPP. **Aim:** Definition of the effect of the method of measuring IPP during hernioplasty on the postoperative state of the patient with abdominal hernia.

**Materials and methods.** The plastic method is proposed taking into account the stage of development of hernia, which is established in the patient's upright position and the measurement of IPP using direct and indirect methods. The results of treatment of 50 patients with deformations of the abdomen, which were divided into two groups, were studied. The main group - 35 patients, who performed an indirect method of measuring IPP. The control group consisted of 15 patients, who used a direct method of measuring IPP. Indirect methods for determining IPP are based on measurement of pressure in hollow organs (in the stomach cavity, bladder), which are proportional to the intraperitoneal and correlate with its changes. As for the direct method of measuring IPP, this method of measurement includes intraoperative implantation of a balloon from an elastic material into a free



abdominal cavity. The technical result is precision, simplicity, the possibility of multiple measurements.

**Results.** Comparison of the methods of measuring IPP between themselves revealed that when using the indirect method in – 14.3% of patients revealed inflammation of the wall of the bladder, due to the permanent location of the catheter in the cavity; 2.85% - development of ascending urinary tract infection; 2.85% - the inability to use the method due to bladder trauma. In the group of patients who used a direct measurement method, complications were not detected. The new method of measuring IPP allows to reduce the negative influence of the measuring apparatus on the urinary system and to reduce the number of bed days of the patient in the hospital.

**Conclusion.** Analyzing the results of researches of patients with abdominal hernia in the postoperative period, it was discovered that the method proposed for measuring IPP allows to avoid the complications that are characteristic for these methods.

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***ACUTE CHOLANGITIS IN PATIENTS WITH BEGING OBSTRUCTIVE JAUNDICE***

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**Introduction.** Acute cholangitis is common and potentially life-threatening complication of gallstone disease.

**Materials and methods.** 184 patients with benign obstructive jaundice were included. Men – 68 (37 %), women 116 (63 %). The average age was 64,1 ± 1,0 years, ranged from 31 to 88. Cardiovascular diseases were the most common comorbidity. All patients underwent surgical treatment.

**Results.** Acute cholangitis diagnosed in 62 (33,7 %) patients. All patients classified according Tokyo Guidelines 2013 – grade I – 53.3 %, II – 41.9 % and III (severe) – 4.8 %. Recovery of bile duct leads to fast normalization of bilirubin levels, but the activity of AST and ALT remains high. Such changes correlate with morphological findings. With increasing in the duration of jaundice from 7 to 30 days, amount of connective tissue increases from  $5.05 \pm 0.96$  to  $11.4 \pm 1.39$ , size of hepatocytes decreases from  $66.55 \pm 2.07$  to  $59.55 \pm 2.15$  that lead to increase of parenchyma-to-stroma ratio from  $0.37 \pm 0.009$  to  $0.5 \pm 0.012$  ( $p < 0.05$ ). Postoperative complications were observed in 16 (15,2%) patients with cholangitis. Grade 1–2 (Clavien-Dindo) – in 13 (12,38 %) patients, Grade 3b – in 3 (2,85 %). Acute pancreatitis and bleeding were the most common complications. *E. coli*, *P. aeruginosa*, *K. pneumoniae* isolated from bile in patients with mild or severe cholangitis.



**Conclusion.** Cholangitis leads to significant changes in peripheral blood, disturbances of the liver function, which persist after the bile flow reparation, subcompensation or decompensation of at least one body system occurs in 46.7 % of patients.

*Klymenko V.*

***IMPROVING THE SURGICAL METHOD OF INTRAOCULAR LENS  
FIXATION IN CHILDREN WITH MARFAN'S SYNDROME***

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**Introduction.** The prevalence of Marfan syndrome is about 1 in 5,000 people. If you extrapolate this data to the population of Ukraine it will be about 8,500 patients. The pathognomonic symptom of Marfan's syndrome is lens displacement in the upper temporal direction, which is observed in 60% of patients. There are several surgical methods of intraocular lens (IOL) fixation after phacoemulsification of crystalline lens - scleral and iris fixation. Each of the techniques has its advantages and disadvantages, so it became the basis for finding improvements.

**Aim.** The aim of scientific work is to improve the method of IOL centration and fixation in children with lens subluxation in Marfan's syndrome.

**Materials and methods.** 4 patients aged from 7 to 9 years with Marfan syndrome were under the observation. The visual acuity of all eyes were 0,09 [0,05; 0,1]. The intraocular pressure was within the normal limits. Biomicroscopy: lenses were displaced upward in the temporal direction. Ophthalmoscopy and B-scans of the eyes did not reveal the pathology of the posterior segment. Diagnoses were established for all patients: congenital lens subluxation of both eyes. Phacoemulsification with IOL by scleral fixation was recommended. For the centration and fixation of the IOL US Optics intracapsular implant IIK-10 has been chosen. The results were processed using the Microsoft Excel non-parametric statistics methods on PC Pentium IV.

**Results.** Surgical interventions were performed under general anesthesia. Phacoemulsification of the lens with implantation of the capsular ring and IOL in the lens capsule was performed. Fixation of the complex "capsule bag-ring-IOL" to the sclera in the flat part of the ciliary body without damage to the capsule was made by IIK-10. The fixation of the IOL was in the lower-nasal quadrant. There were not complications in postoperative period. Biomicroscopy revealed normal anterior segment, IOL were centered. Median of visual acuity was 0,6 [0,5;0,7].

Fixation by IIK-10 is better than iris-fixation due to absence of violation of the architecture of the iris, reducing the risk of synechiae formation, storage of the function of pupil enlargement. IIK-10 allowed to simplify the process of scleral fixation of the IOL and to shorten the time of surgical





intervention. A lot of attention should be paid to the choice of suture material for fixation of IOL in children because some studies have found that polypropylene 10.0 can provide reliable fixation for approximately 7-8 years, which is not enough. Alternatively polypropylene 9.0 can be used.

**Conclusion.** Intracapsular implant IIC-10 with scleral fixation has some advantages and can be introduced in clinical practice for treatment lens dislocation in children with Marfan syndrome.

*Kruglyak V.*

## **TREATMENT OPTIMIZATION OF ORGANIC TYPE OF RETROGRADE EJACULATION AFTER TRANSURETHRAL PROSTATIC RESECTION**

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**Introduction.** After radical surgical treatment of benign prostatic hypertrophy (BPH) with the help of transurethral prostatic resection (TURP) method, ejaculation disorders occur in 100% of cases - retrograde ejaculation (RE). RE after TURP in patients with BPH occurs as a result of incomplete compression of the prostate posterior part due to anatomical defects after surgery, that's why, due to the incompetence of the closure apparatus in the neck of bladder, the ejaculate enters the bladder, causing the impossibility of conception in a natural way. The main goal of this study is to optimize and compare the treatment of RE in patients with BPH after TURP by unique minimally invasive injectable technique comparing to traditional therapy using sympathomimetics with physiotherapy.

**Materials and methods.** On the basis of the KhRCCUN named by V.I. Shapoval was made comprehensive examination of 288 patients at the age of 40 to 85 years suffering from BPH and their treatment was performed by TURP operation. 58 of them have desired for further treatment from the RE, as a 100% consequence of the TURP operation. In the 1st group, 22 patients underwent a minimally invasive procedure to correct the organic RE - a slowly absorbable gel of hyaluronic acid "Juviderm" was introduced into the submucosa of the prostatic urethra back layer to close 1/3 of the clearance of the bladder neck. In the 2nd group, 36 patients were canceled alpha-adrenoblockers (tamsulosin), which was the basis of their therapy for BPH, and set sympathomimetic midodrin (Gutron) 2.5 mg\*2p/d. with physiotherapy (magnetotherapy on the suprapubic region and electrical stimulation on the subpubical area).

**Results.** The gel injection into the prostatic part of the urethra resulted in normal physiological antegrade ejaculation, the appearance of pregnancies in previously infertile families, the normalization of sexual life and the stopping of retrograde ejaculation in 20 (91%) of 22 patients in group 1. In the 2nd group of 36 patients our therapy gave a result in 21 (60%), furthermore, in 15 (40%) physiotherapy with sympathomimetic did not produce the result.



**Conclusion.** 1. Physioprocedures with sympathomimetic are ineffective in the organic RE (60%) because of an anatomical defect after TURP, so it is not the functional RE, at which the effectiveness of this treatment would be higher. 2. Endoscopic minimally invasive correction of the bladder neck with the use of hyaluronic acid gel is highly effective (91%) in organic RE as a treatment method, as a condition after TURP operation because of BPH, so resorbable gel of hyaluronic acid into the submucous layer of the posterior part of the prostatic part of urethra is shown to inject.

*Lesnay A.*

## **MODERN ASPECTS OF DIAGNOSTICS AND TREATMENT OF PURULENT ILEOPOSOIT**

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**Introduction.** Ileopsoit (IP) one from rare and difficult to diagnose surgical diseases. Aim: to evaluate the use of modern instrumental diagnostic methods for IP: ultrasound, multispiral computed tomography (MSCT), and the effectiveness of minimally invasive methods for the surgical treatment of IP.

**Materials and methods.** In surgical departments 35 patients with IP were observed from 2000 — 2017. The average age of the patients is  $39,2 \pm 4,5$  years. Of these men — 21 (61%), women — 14 (39%). Primary IP was diagnosed in 12 (34,3%), secondary — in 23 (65,7%) patients. The examination included a review of the radiography of the abdominal cavity organs, pelvic bones, lumbar spine, ultrasound, MSCT, bacteriological examination of wound detachable. Assessment of the severity of patients was carried out on the integral scale Apache II (from 0 to 18 points).

**Results.** Acute PI was detected in all 35 (100%) patients. Of these, 5 (14,3%) — marked the infiltration stage, in 30 (85,7%) — potent PI. According to the classification of V.P. Bryukhanov (1992), the upper PI was diagnosed in 11 (31,4%), the lower one in 18 (51,4%), total m. iliopsoas — 6 (17,2%). The average period of hospitalization from the onset of the disease is  $4,1 \pm 1,7$  days. In 26 (74,2%) patients, the condition was assessed as moderate, in 7 (20%) — severe, in 2 (5,8%) — extremely severe. All patients received antibacterial therapy in the form of protected penicillins or cephalosporins of the third generation in combination with anti-anaerobic drugs, detoxification and infusion therapy. In 2 (5,8%) with infiltrative lesion m. iliopsoas conservative treatment was effective. In 3 (8,5%) patients with infiltrative forms of lesion and inefficient conservative treatment, a puncture-drainage method was used under the control of MSCT. In 14 (40%) patients with fluid congestion, a minimally invasive treatment was performed in the form of a trocar puncture with installation of drainage up to 10 mm under ultrasound control followed by sanitation of a purulent



focus. In 16 (45.7%) an open drainage of the purulent-septic focus was made in an emergency order. As an operational access, extraperitoneal access was used for Pirogov N.I. The surgical intervention consisted of a wide opening of the focus, sanitation with «Dekasan» solution. No lethal cases were noted. The average bed-day was  $13,5 \pm 1,1$  days.

**Conclusion.** MSCT is an effective method for diagnosing IP in 100% of cases. In cases of diagnosis of the detection of abscesses, the use of minimally invasive methods of surgical intervention under the supervision of ultrasound and MSCT is effective.

*Lesnay A.*

## CLINICAL FEATURES OF THE OPERATIVE TREATMENT OF CHRONIC ODONTOGENIC MAXILLARY SINUSITIS

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**Introduction.** Chronic odontogenic maxillary sinusitis (COMS) is diagnosed in 26 to 40% of all inflammatory diseases of the maxillary sinus [Hoskison E., 2012]. The nature of pathological changes in the mucous membrane of the maxillary sinus (MS) depends on the duration of the course of the inflammatory process, the nature and composition of the foreign body (filling material, dental implants). Difficulties in timely diagnosis of COMS are due to late detection of the first clinical signs of the disease [Gulyuk A.G., 2014].

**Aim:** analyze the features of the flow and indications for surgical treatment of patients with COMS.

**Materials and methods.** The work is based on a retrospective analysis of 46 stationary maps, patients in hospital at the otorhinolaryngology clinic of KhNMU for 2017. Out of 372 patients with chronic maxillary sinusitis hospitalized, 46 (12,3%) had an COMS (filling material, dental implants). There were 16 men (34,7%), women — 30 (65,3%). To verify the diagnosis, a standard physical examination, a rhinoscopy, an X-ray study and a spiral computed tomography of the paranasal sinuses were performed. All patients were divided into two clinical groups, equivalent in gender and age.

**Results.** At the time of hospitalization, patients complained of pain, the presence of an education in MS, nasal congestion, purulent discharge, swelling of the soft tissues of the lower eyelid. Depending on the location of the foreign body and changes in the mucous membrane of the MS, patients underwent classical or endoscopic maxillary sinusotomy. Patients of group I 28 (60,8%) underwent operative intervention in the volume of classic gaymorotomy according to Rudakov. Patients of group II 18 (39,2%) — endoscopic sinusotomy. All patients were prescribed antibacterial therapy, vasoconstrictive drugs, detoxification therapy. The average length of treatment in hospital in patients of group I was  $9,45 \pm 1,5$  days, group II was  $7,5 \pm 1,5$  days.



**Conclusion.** Methods of surgical intervention used in clinical groups, allow to extract foreign bodies of MS. Endoscopic maxillary sinusotomy is more physiological, as it is less traumatic and promotes the preservation of mucociliary clearance in the nasal cavity.

*Lisova Y.*

## **ENDOVENOUS LASER ABLATION AS A MODERN METHOD OF VARICOSE EXTENSION TREATMENT**

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**Introduction.** The question of choosing a method for treating varicose veins of the lower extremities is extremely urgent, since this disease occurs among the population of different countries with a frequency of 20-50%. Existing to date, endovasal technologies have been widely used because there is no need for hospitalization, fast execution, a short recovery period after surgery and a high cosmetic effect.

**Aim.** To study the technique and potential of Endovenous Laser Ablation (EVLA) procedure.

**Materials and methods.** EVLA is actively used in phlebosurgery as one of the most common minimally invasive techniques as an alternative to surgical intervention. EVLA is based on intravascular coagulation under the influence of the thermal action of a high-energy laser, and there is no need for a cut.

**Results.** The effect of EVLA based on the absorption of the vascular wall by the radiation of the light guide, on the coagulation of the vessel, its exclusion from the common blood flow and change to connective tissue. The laser should have a wavelength corresponding to the absorption spectrum of hemoglobin, able to penetrate to a certain depth and to affect slowly without damaging the skin. The surrounding tissues are also heated by the laser, so it is considered advisable to introduce a cooling saline solution around the vein. It is important to perform this procedure under ultrasound control, since the surgeon can see all the movements of the light guide along the vessel, excluding possible errors. Also, it is extremely important to monitor the mode and power of laser coagulation. The great importance of EVLA is the excellent cosmetic effect, the absence of scars after surgery, because it is performed with punctures. A significant reduction in the traumatic nature of the intervention contributes to the most rapid progression of the postoperative phase due to the reduction of pain syndrome, the frequency of complications and the absence of hematomas. One of the advantages should be considered a quick return to normal work activity. Laser coagulation effectively cauterizes all tissues and virtually eliminates bleeding. The operation is performed under local



anesthesia; its duration is an hour, which allows you to operate patients on an outpatient basis or within a "one-day hospital".

**Conclusion.** EVLA can be combined with other methods of treating varicose veins of the lower limbs, which leads to even higher functional and aesthetic results. Despite the high effectiveness and safety of the method, EVLA requires precise collection of analyzes, examination and additional duplex scanning of the vessels of the lower limb. Only based on the results of the studies determine the method of treatment for each individual patient.

*Lunina A., Yermola A.*

***FEATURTS OF MICROBIAL VIEW DEPENDING ON ETIOLOGICAL  
FACTOR OF PERITONITIS***

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**Introduction.** The problem of peritonitis is caused by the continuing high rate mortality, severity, unpredictability of the process and formidable complications.

The Aim is to analyze the features of microbial view in patients with diffuse purulent peritonitis, depending on the nosological reason.

**Materials and methods.** The work is based on the analysis of the results of treatment of 48 patients, hospitalized urgently, in terms of more than 12-24 hours from the beginning of disease with the clinic of diffuse peritonitis. Men 38 (79%), 10 women (21%). According to the nosological reason for peritonitis, patients were divided into three clinical groups, depending on the level of damage of gastrointestinal tract (GIT). The first group consisted of patients with acute cholecystitis – 15 patients and perforated gastroduodenal ulcer – 19 patients (I grade of GIT). The cause of peritonitis in the second group was the acute intestinal obstruction with necrosis of the small intestine site – 19 patients, interstitial abscess revealed in the abdominal cavity – 10 patients, gangrenous-perforated ileum diverticulitis (diverticulum of Meckel) – 5 patients (II grade of GIT). The third group included patients with acute appendicitis – 20 patients, sigmoid intestinal diverticulitis complicated perforation – 12 patients (III grade of GIT). In aseptic conditions, a peritoneal exudate was taken intraoperatively. Bacteriological research of the material was carried out according to the generally accepted method. The identification of the strains was carried out with the help of the automated system VITEK 2.

**Results.** Results and its discussion. In patients with pathology of the I grade of GTI, all inoculations gave rise to the pathogenic mixed microflora. The results of the analysis showed that strains of gram-negative microorganisms dominate: *E. coli* – 57%, *K. pneumoniae* – 17.3%, *Acinetobacter* spp. – 7.5%, in single inoculations there were observed *P. fluorescens*, *B. cerebia*. In patients with pathology



of II grade of GTI, there were observed prevailed aerobic–anaerobic associations of microorganisms consisting of *E. coli* – 59.4%, *P. aeruginosa* –19.6%, *Acinetobacter* spp. – 13.45%, *E. aerogenes* – 7.55%. In patients with pathology of the III grade of GTI, 75 inoculations were produced, in 100% of cases, the growth of microflora was noted. In the studied samples of peritoneal exudate, 37 strains of microorganisms were isolated: *E. coli* – 53.5%, *E. cloacae* – 11.5%, *E. aerogenes* – 9.5%, *E. faecalis* – 9.8%, *Acinetobacter* spp. – 9.5%, *S. pyogenes* – 6.2%.

**Conclusion.** In patients with diffuse peritonitis, in time, more than 24 hours after the beginning of the disease, in all inoculations of peritoneal exudate, the pathogenic microflora is noted to grow, the leadership belongs to associations with different strains of *Escherichia coli* and does not depend on the nosological cause of peritonitis.

*Nahiiieva A.*

***DETERMINATION OF THE EFFICIENCY OF PURULENT WOUNDS' TREATMENT  
USING SORPTION DRAINAGE DEVICES***

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**Introduction.** Treatment of purulent wounds and soft tissue abscesses is one of the most urgent problems for today, because infection of wounds can lead to the development of heavy complications such as phlegmon, sepsis, gangrene, etc. Especially important is the treatment of purulent wounds in patients with diabetes, chronic venous insufficiency, obliterating vascular diseases and immunodeficiencies.

**Materials and methods.** We analyzed the treatment of 75 patients with purulent wounds of various etiology, volume and localization. For the treatment we used drainage of wounds by wet-drying gauze tampons, sorption drainage devices (SDD, patent of the BY № 7187) and sorption-active drainage systems (SADS, patent of the BY № 9616).

All patients were divided into 3 groups. 1 group consist of 25 patients with abscesses of soft tissues. The purulent cavity volume did not exceed 40 cm<sup>3</sup>. Their wounds were drained by wet-drying gauze tampons with a 0.05% aqueous solution of chlorhexidine bigluconate. Group 2 consist of 25 patients with soft tissue abscesses with purulent cavity volume up to 40 cm<sup>3</sup>. For their treatment were used SDD, which diameter varied from 5 to 25 mm. Group 3 is 25 patients with purulent wounds too, but for their treatment we used SADS. This group include patients with purulent cavity volume more than 40 cm<sup>3</sup>. All patients received analgesics, antibiotic and detoxification therapy. The efficiency of treatment was assessed after 3 and 7 days. It was based on the degree of patients' wound cleaning.





**Results.** In group 1 there was a significant decrease of purulent discharge only at 7th day (in 50% of patients). In the 2nd group there was a decrease of purulent discharge (less than 15 ml) in 75% of patients with further positive dynamics of treatment already at 3d day. In group 3 there was only 15% of patients which has scant purulent discharge at 3d day, and 5% patients which has purulent discharge at 7th day.

**Conclusion.** It was found that the most effective method of purulent wounds' treatment among all the studied in this research is the using of SADS, and the least efficient is the drainage of wounds by wet-drying gauze tampons.

*Nazarov D.*

## **THE TREATMENT OF GASTRIC CANCER AT THE PRESENT STAGE**

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**Introduction.** Gastric cancer (GC) is an aggressive neoplasm that has daunting effect on global health. Despite an overall decline in incidence over the last several decades, GC ranks the fourth most common type of cancer and is the second leading cause of cancer-related death worldwide. The majority of cases is registered in Eastern Asia, Eastern Europe and South America. In Ukraine the number of age-standardized incidence is 20.4 per 100000 people and worldwide this number is 12.3 per 100000. In Ukraine standardized mortality from GC is 15.2 per 100000, while worldwide this number is 9.2 per 100000.

**Materials and methods.** Analysis and summing up of European Society of Medical Oncology(ESMO), National Comprehensive Cancer Network (NCCN) and National Library of USA Medicine literature of last 5 years.

**Results.** Summing up the NCCN and the ESMO guidelines endoscopic ultra sound (EUS), PET-CT, MRI, esophagogastrosocopy, staging laparoscopy and peritoneal cytology can be distinguished as the most effective diagnosis methods. According to National Cancer Registry cancer in Ukraine is diagnosed at the I-II stages in 34.3% of cases, at the III stage- 22.6%, at IV – 36,3. Worldwide the five-year survival rate as follows 1A-94%, 1B-88%, 2A-82%, 2B- 68%, 3A-54%, 3B-36%, 3C- 18%. Analyzes of clinical trials shows that treatment of GC can be more effective when adjuvant and neoadjuvant chemotherapy and radiotherapy complement surgery. Percentage of local recurrence can be reduced by choosing D2 lymph node dissection and by postoperative chemoradiotherapy.

**Conclusion.** Today the main problems of GC treatment in Ukraine are - high influence of risk factors (H. pylori, Epstein-Barr virus, tobacco, alcohol and other environmental and lifestyle risks), - low



efficiency of diagnostics (III and IV stage is diagnosed in 58,9% of cases), - there is no reimbursement from government for treatment.

*Oluronbi O.*

## **MICROSURGICAL PROCEDURES FOR MALE INFERTILITY**

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**Introduction.** Male infertility refers to a male's inability to cause pregnancy in a fertile female. It accounts for 40–50% of infertility. It affects approximately 17% of all men. Male infertility is commonly due to deficiencies in the semen, and semen quality is used as a surrogate measure of male fecundity, causes which can be congenital, acquired or iatrogenic, and impairment of sperm production associated with karyotypic or Y-chromosomal abnormalities, testicular pathology or the presence of varicocele, pre testicular (drugs, obesity, hypogonadism, et.c) and Microsurgery refers to an intricate surgery performed using miniaturized instruments and a microscope.

**Materials and methods.** With reference to the K.N.M.U Urology, Nephrology and Andrology department, over the course of a year (January 2017 to January 2018) 283 patients were admitted with criteria of male infertility (including, but not limited to ; Varicocele), patients range from age 18-45 years and no result or improvement of infertility by psychiatric, sexual and pharmacological therapy, Microsurgical treatment (Marmar operation) was prescribed.

**Results.** Post-opp showed improved semen quality and pregnancy outcome after surgery. Patients who showed up with cases of varicocele after undergoing surgery were relieved first of its characteristic pain. In cases of erectile dysfunction, dysfunction was improved, premature ejaculators have shown increased intravaginal ejaculation latency time. These cases have shown conception with as early as three to four months post-opp.

**Conclusion.** Microsurgical treatment, though considered as a last resort or in some cases, an unwanted treatment of male infertility connected with varicocele, has improved the quality of life of patients who suffer from infertility both sexually and psychologically. Studies show, that microsurgery is superior to non-microsurgical procedures in relation to postoperative complications It is hereby regarded as the ‘gold standard’.



*Ostapenko D., Khalimov E.*

***DECOMPRESSION OF BILE PASSAGES IN PATIENT WITH MECHANICAL JAUNDICE***

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**Introduction.** One of the priority ways in improving results of treatment patients with mechanical jaundice tumoral or non - tumoral genesis is miniinvasive decompressive interventions.

**Aim:** Research efficiency of miniinvasive decompressive interventions.

**Materials and methods.** Retrospectively we analyzed 32 medical history of patients with mechanical jaundice tumoral or non - tumoral genesis which were treated in surgical department of Kharkov regional clinical hospital from 2017 till 2018 in age 32 – 83 years old. Our researching group is consist of 7 (22%) men and 25 (78%) women. Time limit of mechanical jaundice was from 5 days till month and more. As a diagnostic minimum patients had clinical and laboratory tests, ultrasound the abdomen, duodenoscopy, the E.R.C.P. and the abdominal C.T. The main causes of obstructive jaundice were cancer of the head pancreas – 13 (40,6%), cancer of the major duodenal papilla – 1 (3,1%), cancer of the liver – 1 (3,1%), cholelithiasis. Chronic cholecystitis and choledocholithiasis – 13(40,6%), postcholecystectomy syndrome – 3 (9,5%), constrictive papillitis – 1 (3,1%).

**Results.** Accordint to E.R.C.P. we revealed next levels obstruction of biliary diversion: in pancreatic duct – 16 (50%), in distal part of choledochous duct – 15 (46,9%), in common hepatic duct – 1 (3,1%). All patients had endoscopic papillosphincterotomy (EPST). 13 patients (40,6%) with cancer of the head pancreas and 1 (3,1%) patient with cancer of the liver had EPST and stenting of choledochous duct. Stenting of one patient (3,1%) was not successful. 13 (40,6%) patients with chronic cholecystitis and choledocholithiasis and 3 (9,5%) patients with postcholecystectomy syndrome had EPST, lithotripsy, lithoextraction. 1 (3,1%) patient with cancer of the large duodenal papilla had laparotomy and draining of choledochous duct by Vishnevskiy. After EPST from choledochous duct received muddy bile. After EPST we detected decreasing level of bilirubin in the blood and improvements in the condition of the patients.

**Conclusion.** The data obtained demonstrate that endoscopic papillosphincterotomy is very effective and rather safe method in treatment of patients with mechanical jaundice.



Polikov H.

## ***DRAINAGE METHODS IN PATIENTS WITH WOUNDS IN THE NECK***

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**Introduction.** The number of patients with wounds in the neck do not decrease because of unfavorable criminal conditions and the presence of local military conflicts. According to the literature, the incidence of neck injuries ranges from 5 -10% of all wounds in peacetime and 0.5-3% of wartime. The overall mortality with deep the wound in the neck is about 11%. Up to 34% with the wound in the neck in peacetime die at the scene.

**Materials and methods.** The study is based on the analysis of 50 patients with wounds in the neck. Patients were divided into two groups. The main (first) group is 25 patients (14 men, 11 women) in patients whose neck surgery ended with drainage of neck cellular spaces with two-channel silicone tubes with an internal diameter of 6 and 8 mm. Age ranged from 25 to 58 years old (the average age is  $35 \pm 2$  years). To the second (control) group included 20 (12 men, 8 women) patients, in which the drainage of neck cellular spaces was carried out using other methods: flat strips of rubber gloves - 9 (45.0%) patients, one study tube - 11 (55.0%) patients. Age ranged from 28 to 47 years (average age -  $32 \pm 3$  years).

**Results.** After operation, the patients in the main group were in the department of resuscitation averaged  $6.2 \pm 2.4$  days, the comparison group -  $7.2 \pm 2.3$  days. In patients of the group, the comparison of the formation of residual cavities was noted for 6-8 days, even if active drainage was performed, and in patients of the main group as a whole, this complication was not noted. In the main group managed to perform the first plastic surgery for 5 days. At the same time, in patients of the second group, surgical interventions for the purpose of the final closure of the mediastinal cavity and wound suturing were performed 10-15 days after the last operation. In general terms the closure of the mediastinal cavity ranged from 8 to 29 days. The mortality in the main group was 1 patient (6.6%), in the control group - 2 patients (13.3%).

**Conclusion.** It has been found that the rational use of the drainage method, active surgical tactics with careful revision of damaged tissues is absolutely justified. The tactic that allows you to improve the treatment results, reduce the number of repeated surgical interventions and reduce the mortality rate.



*Radionova D., Veremey D., Moroz A.*

## **ONE-STAGE AMPUTATION OF TWO LOWER EXTREMITIES IN PATIENTS WITH LERICHE'S SYNDROME**

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**Introduction.** Leriche's syndrome an occlusive affection of aorto-iliac segment is one of the most wide-spread diseases of lower extremities and it made 30% and more of all vascular pathologies. The number of high amputations is about 10-20%, mortality-15%.

**Materials and methods.** The results of one-stage amputation of two lower extremities on the level of the hip of 7 patients with bilateral gangrene were analyzed. Men - 5 (71,4%), women - 2 (28,6%). From the concomitant pathology 4 (57,1%) patients had observed hypertension and obesity, in 2 (28,6%) patients had heart rhythm disturbance and heart insufficiency II B - III degree and in 1 (14,3%) patient had observed His bundle branch block. In the anamnesis: the aorto-femoral replacement was performed in 2 (28,6%) patients; in 3 (42,9%) patients - Garangzo operation.

**Results.** For all patients after comprehensive examination were established to absolute indications for bilateral amputation of the lower extremities on the level of the hips. An appropriate preoperative preparation with correction of concomitant somatic pathology was conducted. The patients were operated by two brigades of surgeons within 1-2 days. The purpose of synchronous amputation was to eliminate the source of intoxication with the maximum reduction in the duration of surgery. Also, to minimize intraoperative blood loss after the formation of two skin and subcutaneous fascial blades, was perform processing of the vascular-nerve tract followed by careful hemostasis, the intervention was completed by drainage of the surgical wound. The intraoperative blood loss was not more than 100-150ml. During the postoperative period, all patients continued multi-component intensive treatment in the conditions of the Chamber of intensive care with correction of thromboembolic, cardio-pulmonary, cerebral and other complications, and early activation of patients was being done. In the end of the treatment in a satisfactory condition 5 (71,4%) patients were discharged from the hospital. 2 (28,6%) patients died: 1 - about acute myocardial infarction on the 5th day, 1 - about the massive pulmonary artery thromboembolism on the 9th day.

**Conclusion.** This pathology is found in elderly and senile age patients with a variety of concomitant pathology in the stage of sub- and decompensation. One-stage amputations should be performed by absolute indications and after appropriate preoperative preparation in conditions of maximum hemostasis.



*Rusanov O., Kryuchkova I.*

## **ORGAN-SAVING OPERATIONS ON ADRENAL GLANDS**

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**Introduction.** Nowadays, adrenal tumors are easily diagnosed (approximately in 100% of cases). Their detection is provided by modern research methods. Endovideosurgical adrenalectomy is one of the most common operations used to treat neoplasms of adrenal glands, but it is not always appropriate. There is a number of features of the development of the tumor process, in which there is a need of organ-saving surgical interventions (e.g. hypoplasia of the adrenal glands, peripheral tumor localization or hormone-active neoplasms). Adrenalectomy belongs to organ-saving operations.

**Materials and methods.** We learned and analyzed literary data on different types of surgical operations due to benign neoplasms.

**Results.** As anesthesia, in most cases, endotracheal narcosis is used. Surgical access is carried out transabdominally from the side using a laparoscope. The ligation is applied to the vessels of the tumor, and bleeding is finally stopped, using coagulator. If tumor malignancy is suspected or there is detection of additional neoplasms, the laparoscope is removed and the operation is performed openly. Due to the morphological features of the right central adrenal vein, which is usually short and wide, hemostatic clips or clamps are used to prevent excessive bleeding. Ligation of vessels, suppling healthy tissues do not impose in order to maintain normal blood flow. The removal of the tumor with a part of the adrenal gland is performed on the side of its localization. The neoplasm is pressed and removed using an electrosurgical scalpel to ensure reliable hemostasis. After performing the operation, the ligatures are removed and the stitches are put. The removed neoplasm is immersed in a container with formalin and is given to a pathomorphological study to confirm or deny goodness. Postoperative therapy usually includes medical treatment, occasionally hormonal therapy, monitoring of biochemical analyzes of blood and urine. Computer tomography and angiography of the kidneys and adrenal gland are recommended.

**Conclusion.** Laparoscopic subtotal adrenalectomy is an effective surgical intervention for single benign neoplasms of the adrenal glands. With prolonged follow-up after this operation, there is no relapse. Besides, one of the main advantages of laparoscopic subtotal adrenalectomy over the total one is the partial preservation of the functional activity of the adrenal glands due to the preservation of their part, relative safety, efficiency and low traumatism, as well as a comparably short-term postoperative period.





*Saburova A., Ovsyannikova O., Zamoreva D.*

## **MECHANICAL INJURIES OF URETHRA DURING SURGICAL INTERVENTIONS**

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**Introduction.** Communication of the bladder with the external environment occurs through the urethra. The frequency of damaging of this tubular organ depends on the level of professionalism of the surgeon and the technique chosen by him. Most of the damages occur when the bladder catheterization is ineffective. However, there are a number of other surgical interventions leading to the occurrence of various complications. Results of these injuries are pain and discomfort of patients, as well as they some difficulties in the course of the postoperative period.

**Materials and methods.** We have studied and analyzed various literature sources about the consequences and complications of urological operations on the urethra.

**Results.** Pathological narrowing of the urethra is one of the main complications after performing urological manipulations. This complication, as a rule, arises as a result of improper catheterization of the bladder or the installation of a catheter for a long time. Strictures can also be provoked by operations on the prostate, which are carried out through the urethral canal (e.g. transurethral resection of the prostate, the elimination of prostate adenoma and its stones, etc.). To iatrogenic lesions of the urethra can also be attributed the formation of fistulas of 2 types. The first are the channels connecting its cavity with the cavity of the rectum while using the radiotherapy for the treatment of malignant neoplasms of the prostate. The second type includes the channels connecting the urethra and the vagina, resulting from gynecological manipulations. Other urethral injuries, such as ruptures, occur in the treatment of patients with uterine prolapse, as well as in operations on the anterior wall of the vagina.

**Conclusion.** Damaging of the urethra arising from surgical interventions on the pelvic organs and abdominal cavity causes severe complications in patients` treatment. They can be avoided by carrying out operations with the help of highly qualified specialists under the control of urethroscopy and / or retrograde urethrography. These diagnostic methods have high accuracy. When they are used rationally, they lead to the best results.



Stoyan A.

## INVESTIGATION OF THE AORTOCORONARY OPERATION TECHNIQUE

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**Introduction.** Coronary artery bypass grafting operation (CABG) on the heart is one of the most effective treatment methods of patients with coronary heart disease (CHD) in the 21st century. CABG is aimed at restoring normal circulation by creating a revascularization of the myocardium. This time mortality from coronary artery disease in Ukraine is increasing annually. Therefore, CABG surgery is an indispensable method for restoring the physiological work of the heart. Aim. To study the different techniques of CABG. Give a comparative description of the different operation techniques. Make statistical analysis of obtained data.

**Materials and methods.** CABG is a microsurgical operation that is performed using surgical binocular loops, microsurgical instruments and atraumatic threads. There are 2 techniques for a CABG operation in present time: performing an operation with an artificial circulation apparatus (ACA) and on a working heart (without an ACA). The advantages of CABG surgery with an ACA include a temporary replacement of the heart and lungs, ensuring the blood circulation of the body during cardiac arrest, maintaining optimal blood temperature. The shortcomings of this technique include brain damage, kidney failure, inflammatory processes, disorders of the blood coagulation system, pulmonary edema, hypoxia of vital organs, hematologic complications. The advantages of CABG surgery on the working heart include full value independent work of the heart and lungs, using of a coronary shunt to eliminate hypoxia, reduce the risk of postoperative complications and cognitive impairment, the absence of massive blood transfusions and inflammatory immune responses. Today this technique does not contain negative aspects, so it is optimal for people over 75 years old.

**Results.** According to the statistics of the American Association of Cardiology for 2015, 435,000 CABG operations on a working heart were performed in the United States and Israel. The study showed that the survival of patients after this CABG technique is on a high level. A one year survive after the operation was 95%, after 5 years - 88%, after 15 years - 60%.

**Conclusion.** The study of CABG technique allows to give objective estimation for all advantages of the technique without using of the ACA. Survival of patients with using of this technique is increasing. The study of statistical data shows that CABG surgery contributes to an increase in life expectancy, reduces the risk of heart diseases and pathologies developing and is a means of improving the quality of life.



Suchkova N.

**THE USE OF VIDEOLAPAROSCOPY IN THE DIAGNOSIS AND TREATMENT OF  
NONPARASITIC SPLENIC CYSTS**

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**Introduction.** Cystic spleen formations (CSF) account for 0.5% to 2% of all diseases of the spleen. The lack of common diagnostic and tactical criteria that determine the surgical approach in the treatment of patients with nonparasitic splenic cysts (NPSC) indicates the relevance of this problem (Imaev A. B., 2010; Shiryayev A. A., et al., 2012; Vasilchenko M. I., et al.).

**Materials and methods.** We studied the results of treatment of 22 patients with NPSC, who had been treated in the surgical clinics of Kharkiv from 2010 to 2017. The average age of patients was  $35.1 \pm 9.8$  years, of which 7 were men (31.8%), 15 were women (68.2%). The diameter of cysts was up to 5 cm in 1 (4.5%) patient, from 5 to 15 cm in 19 (86.4%) patients, more than 15 cm in 2 (9.1%) patients. Cysts were localized in the upper pole in 12 (54.5%) patients, in the lower pole in 6 (27.3%) patients, in the front part in 4 (18.2%) patients. All the patients had ultrasound examination (US) and multispiral CT angiography (MSCT) of the abdominal organs. Macro specimens of the spleen and walls of the cysts taken during surgery were subjected to morphological study. Besides, for the purpose of laboratory preoperative diagnosis of spleen pathology and postoperative monitoring, full blood count, coagulogram, and biochemical blood test have been used.

**Results.** Absolute indications for surgery were: suppuration — 2 (9.1%) patients, rupture of the cyst with bleeding — 2 (9.1%) patients. The remaining 18 (81.8%) patients were operated on by relative indications. In all patients, the operation was started using videolaparoscopy. Conversion to laparotomy due to bleeding and need for splenectomy was performed in 8 (36.4%) patients. 10 (45.4%) patients had laparoscopic fenestration of the cyst with de-epithelization with argon coagulator made. Laparoscopic splenectomy was performed in 4 (18.2%) patients with the cysts in the spleen gate with a diameter of 10 cm. In 14 (63.6%) patients the cysts were false, in 8 (36.4%) patients — true. There were no fatal outcomes. Autotransplantation of spleen fragments was not performed.

**Conclusion.** 1. Indications for organ-preserving videoendoscopic interventions on the spleen are to be determined on the basis of a comprehensive preoperative examination of patients with determining the size and localization of the cyst. 2. Laparoscopic treatment of NPSCS with the use of argon plasma allows to preserve the spleen, perform low-traumatic surgery with a good cosmetic effect and avoid postoperative complications.



*Sukhodolskaya E., Aralova V., Dyakova M.*

## **MODERN METHODS OF SURGERY SANATION OF THE ABDOMINAL CAVITY IN PERITONITIS**

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**Introduction.** High rates of postoperative mortality in patients with diffuse peritonitis induce the search for new methods for correcting endogenous intoxication. Sanitation of the abdominal cavity is one of the main methods of detoxification of the body, but questions are discussed about the volume, temperature, chemical nature of the sanitizing solutions and ways of treating the peritoneal cavity.

**Aim:** to analyze the role of modern methods of sanitation of the abdominal cavity in the complex treatment of diffuse peritonitis.

**Materials and methods.** Bibliographic and analytical-syntactic methods.

**Results.** Singal R. (2016), based on a double-blind, randomized clinical trial in 240 patients, proved the advantages of superoxidized solutions with neutral pH (hypochlorous acid, sodium hypochlorite) for sanitizing the abdominal cavity in comparison with physiological saline. The effectiveness of sanitizing solutions was evaluated based on microbiological monitoring and the timing of inpatient treatment. The use of a superoxidated hypotonic solution (13 mosm/l) with a low chlorine content ( $<70$  g/l) reduced the bacterial contamination of peritoneal exudate ( $t=2,7$ ,  $p<0,05$ ), which facilitated abdominal drainage removal 1,3 days earlier ( $p<0,001$ ) than in the comparison group, in the main group the body temperature of patients normalized by  $4,92\pm1,08$  day, in the comparison group — by  $5,8\pm1,17$  days ( $p<0,001$ ).

Boyko V.V. (2012) in experimental studies proved the advantages of a 0,02% octenesept solution for peritoneal lavage in comparison with 0,3%  $H_2O_2$  solution on the basis of the revealed wide spectrum of bactericidal action, the absence of a locally irritating reaction to the peritoneal mesothelium. A method of VAC-assisted laparostomy in the treatment of diffuse peritonitis was widely used. Due to the use of closed systems, there is no infection of the laparotomic wound with hospital microflora, the constant aspiration of peritoneal exudate by negative pressure helps reduce endogenous intoxication [Willy C., 2014].

**Conclusion.** Sanitation of the abdominal cavity is a crucial stage in the treatment of diffuse peritonitis. The most effective is the complex application of a modern sanitizing solution (povidone-iodine, octenesept, decasan) with a physical method (ultrasonic cavitation, local negative pressure) of abdominal sanitation.



Sydorova A.

## RESULTS OF VACUUM THERAPY OF PURULENT-NECROTIC WOUNDS IN DIABETES MELLITUS

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**Introduction.** At present, the application of the method of controlled negative pressure in the region of the purulent focus is a popular treatment method (Kozlov Yu. A., Novozhilov V. A., 2014; Morykwas MJ, Argenta L, Shelton-Brown EI, McGuirt W., 1997). It is used in addition to complex therapy to treat chronic and complicated wounds. This method of treatment uses negative pressure to remove exudate from the wound through an occlusive dressing into a container.

**Materials and methods.** We performed the analysis of immediate results of treatment of 105 DM patients with purulent-necrotic wounds treated in the Surgical Department of the clinic from 2007 to 2017. Patients were divided into two groups: the first group (basic) — 35 patients to which the technique of controlled level of negative pressure in the wound was used; the second group (control group) — 70 patients (this method was not used). In the first group 14 (40%) patients had a diabetic foot syndrome (DFS) with purulent wounds, in the second group — 27 (38.6%) patients. Bedsores of the lumbosacral region were present in 1 (2.9%) patient of the first group, in 2 (2.9%) patients — in the second group. Trophic ulcers of the lower leg on the background of chronic venous insufficiency were met in the first group in 3 (8.6%) patients, in the second group — in 5 (7.1%) patients. Purulent-necrotic wounds of the upper extremities were observed in 4 (11.4%) patients in the first group, and in 6 (8.6%) patients — in the second group. Purulent-necrotic wounds of the lower leg, and hips were in 13 (37.1%) patients in the first group, in 30 (42.8%) patients — in the second group. The mean age of patients in both groups was  $53.5 \pm 3.5$  years. Among them there were 56 men (53.3%), and 49 women (46.7%). In both groups, the first stage of treatment was surgical debridement of purulent-necrotic focus (necrectomy) and microbiological examination of the wound contents. After cleansing the wound from non-viable tissues, hemostasis and VT with monitoring of the wound condition were performed every 48 hours in the first group. Depending on the result of the therapy and dynamics of healing, the decision was made on the need to provide stage necrectomy, continuing or terminating the use of VT. The course of treatment with vacuum ranged from 3 to 6 days. A system of vacuum therapy of wounds WaterLily (production company Eurosets, Italy) was used as a source of negative pressure. In the first day of using VT, a constant level of negative pressure of 100–140 mm Hg was used, from the second day the operating mode of the device was variable with 5-minute alternation of level of negative pressure of 65–70 and 120–130 mm Hg.

**Results.** Neither complications nor fatal outcomes were observed in both groups as a result of using VT. “Mature” granulation tissue in the wound appeared on the  $13.5 \pm 0.3$  day in the first group, and



on the  $21,3 \pm 0,5$  day in the second group. In the first group, a decrease of 11% in the size of the lesion and its depth in the first 3 days in average was observed. In the second group, this effect was not observed in this period of time. The patients of the first group stayed in hospital for  $17,5 \pm 3,7$  days in average, of the second group — for  $23,5 \pm 4,7$  days.

**Conclusion.** 1. The use of the method of controlled negative pressure in the complex treatment of purulent-necrotic wounds in patients with diabetes promotes early wound cleansing, and accelerates reparative processes. 2. This method allows to reduce the number of dressings as well as the time of treatment of the first group patients.

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## **PECILIARITIES OF DIAGNOSING ACUTE APPENDICITIS AMONG PREGNANT WOMEN**

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**Introduction.** The most common urgent extragenital pathology among pregnant women is acute appendicitis (AA), occurring in 0,3 – 5,2% of cases [Borst A.R., Stamos M.J., 2009]. The frequency of diagnostic pitfalls in case of AA among pregnant women is 11,9 – 44,0%, and perinatal, maternal lethality reaches 2 – 17% and 0,1 – 2,0%, respectively [Makarenko M.V., Hovseev D.A., 2015].

**Materials and methods.** Bibliographic, analytical-syntactic methods.

**Results.** The data of physical examination of pregnant women with suspected clinical picture of AA lose their diagnostic value due to anatomical and physiological changes in the woman's body (atypical localization, the nature of pains and the ineffective protective tension of the muscles of the anterior abdominal wall due to the enlarged uterus [Taylor D., Perry R., 2016], physiological leukocytosis of pregnant women [Kazemini A., Keramati M.R., 2017]. The role of visualization methods of the appendix for timely diagnosis of AA among pregnant women is different. Reliable ultrasound signs of AA: wall thickness appendix  $> 2$  mm, diameter appendix  $> 6$  mm, pain with dosed compression of the sensor in the appendix projection, but the visualization of the appendix remains extremely low in the I trimester – up to 17,2%, in the II trimester – up to 14,2 %, and in the III one – up to 5,7% [Pedrosa I., Levine D., 2006]. Tsai R., Raptis C. (2016) reported, based on magnetic resonance imaging of the abdominal cavity (MRI) data, that among 233 pregnant women with suspected AA: 14 (6%) patients were diagnosed with a positive result confirmed by a histological method, and 1 patient (0,4%) with a false negative result, which corresponds to the sensitivity of MRI





– 75% and specificity – 100%. The American College of Radiology recommends the use of non-ionizing methods (ultrasound, MRI) as a method of choice for making diagnosis of AA among pregnant women [Hurwitz L.M, Yoshizumi T., 2006]. The main disadvantages of diagnostic laparoscopy are as follows: high risk of damage of an uterus in the course of insertion of the Veresk needle, the first trocar; inferiority of revision of the abdominal cavity due to enlarged uterus; technical difficulties in diagnosing of retroperitoneal forms of AA [Won R.P., Friedlander S., 2017].

**Conclusion.** The peculiarities of diagnosing of AA among pregnant women are justified by the difficulty of distinguishing the signs of the disease from changes associated with pregnancy, as well as atypical localization of appendix, therefore the leading place in the diagnostic algorithm of AA for pregnant women is ultrasound and MRI of the abdominal cavity.

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## **COMPARISON OF SENSITIVITY TO THE ANTIBIOTICS OF SOME PATHOGENIC MICROORGANISMS BY THOSE FIRMS OF MANUFACTURERS AND THE RESULTS OF MICROBIOLOGICAL MONITORING OF SURGERY STATIONARY**

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**Introduction.** at the moment the problem of antibiotic resistance remains relevant, despite the emergence of new classes of antimicrobial drugs. To compare the antimicrobial activity of antibiotic agents declared by the manufacturer with the results of microbiological monitoring of the surgical hospital.

**Matherials and methods.** The antibiotic susceptibility of some clinically relevant pathogens such as *Staphylococcus aureus*, *Escherichia coli*, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa* has been studied on the basis of the surgical hospital of CGBMB No. 17. The results obtained are subjected to analysis and comparison with the data declared by the manufacturers

**Results.** *Staphylococcus aureus* is completely sensitive to 23 drugs, partially sensitive to 12 drugs; absolutely resistant to 7 drugs.

*Escherichia coli* is completely sensitive to 8 drugs, partially sensitive to 28 drugs; is absolutely resistant to 13 drugs.

*Klebsiella pneumoniae* is completely sensitive to 16 drugs, partially resistant to 6 drugs; Absolutely not sensitive to 20 drugs.



*Pseudomonas aeruginosa* is completely sensitive to 7 drugs, partially sensitive to 11 drugs, absolutely resistant to 24 drugs.

**Conclusion.** 1. There is a discrepancy between the manufacturers declared antimicrobial activity of drugs and data of microbiological studies obtained in the conditions of a surgical hospital;  
2. This discrepancy is a consequence of the development of antibiotic resistance, which is specific for each hospital and depends on the frequency of use of certain antimicrobial drugs;  
3. One of the measures for overcoming antibiotic resistance is the development in each hospital of a microbiological passport with the characteristic of intrahospital strains and monitoring of their antibiotic susceptibility.

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## **STUDY OF KNOWLEDGE OF THE FIRST AID AMONG THE POPULATION**

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**Introduction.** Providing the first pre-medical aid (FA) is an extremely important stage in the treatment of traumatic injuries and acute emergency conditions. Timely and qualitative delivery of the FA significantly improves the results of treatment, reduces the mortality and disability rates. According to the Ukrainian State Statistics Committee, in 2016 in Ukraine there were about 1.3% health workers in the population. Obviously, the provision of the first aid is often carried out by people without medical education and proper skills.

**Materials and methods.** The study was conducted using a questionnaire and lasted one month. In the passport section the age of the respondent was indicated, in the main part were placed ten closed questions, each with one correct and two incorrect answers. Questions were about frequently occurring conditions requiring FA (loss of consciousness, external bleeding, limb traumas, epileptic seizures) and the initial stages of FA providing (examination of the victim, call for emergency services). Recommendations of the European Reference Center for First Aid Education (2016) were used as a standard of correct answers. During the survey, people aged from 14 to 35 were chosen as respondents because of their social activities and a higher interest in studying, including the FA. In total, more than 650 people were interviewed. Depending on age, respondents were distributed to the following groups: 14-18, 19-21, 22-25, 26-35 years. According to the number of respondents, the groups were similar (128-183 respondents each). As a control group was taken a group of Ukrainian Red Cross Society volunteers (34 people), all of them have passed the FA training course. The results were processed by Microsoft Excel 2010 for Windows 10.



**Results.** Among the population aged 14 to 35 years, the number of correct answers was  $51.01\% \pm 1.8\%$  ( $p < 0.05$ ), among volunteers –  $92\% \pm 2.1\%$  ( $p < 0.05$ ). Results with age distribution: 14-18 years of age –  $41.54\% \pm 1.02\%$  ( $p < 0.05$ ), 19-21 years –  $50.84\% \pm 1.2\%$  ( $p < 0, 05$ ), 22-25 years –  $51.33\% \pm 1.26\%$  ( $p < 0.05$ ), 26-35 years –  $56.33\% \pm 1.6\%$  ( $p < 0.05$ ).

**Conclusion.** The number of correct answers of respondents increases with their age. The results of a survey are significantly worse than the results in the control group (51% and 92% respectively). It is recommended to conduct a same survey among people over 35 years of age and to conduct a same survey in another city or region. Finally, it is necessary to create more effective mechanisms and ways of teaching the FA skills, especially in persons of younger age groups (up to 22 years).