ABSTRACT&REFERENCES

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THE STRATEGY OF IMPROVING ANESTHESIA IN SEPTOPLASTY BY THE USE OF NEW ADJUVANTS

p. 4-8

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The aim *of the study was to find methods for optimizing perioperative analgesia, stabilizing hemodynamics, improving control of intraoperative bleeding in septoplasty in conditions of combined anesthesia.*

Materials and methods*: The study included 53 patients, divided into 2 groups: primary (n=28) and control (n=25). In the main group, infusion of dexmedetomidine and intravenous form of paracetamol was carried out. The hemodynamic parameters, the general blood test, the coagulogram, the volume of blood loss, the duration of anesthesia and surgical intervention, the dose of anesthetics and analgesics, the pain level according to the VAS were investigated.*

Results*: In the "P+D" group mean arterial pressure, heart rate and systolic index during induction of anesthesia, intubation, surgical intervention and after awakening of patients are significantly lower than in the control ($p<0.001$). The level of ANI at all stages of observation is significantly higher in the group "P+D" ($p<0.001$). The level of haemoglobin, hematocrit and erythrocytes in the postoperative period is lower in the "K" group than in the "P+D" group ($p<0.001$). In the "P+D" group, the blood loss is significantly less than in the control group ($p<0.001$). In the "P+D" group, the duration of surgery and anesthesia, the dose of anaesthetics and narcotic analgesics is significantly lower than in the control ($p<0.001$). In the "P+D" group, Duke bleeding time and Lee-White coagulation time ($p<0.001$) is significantly shorter. Responses of patients are higher in the "P+D" group. The quality of visualization of the operating field is better in the group "P+D" ($p<0.001$). In the future, it is planned to conduct BIS studies to identify correlation with ANI and other indicators and compare ANI scores with such methods of objectifying the intraoperative level of pain as assessment of skin conductivity, determination of papillary response, measurement of pulse wave amplitude and the like.*

However, this study is limited in renal, hepatic insufficiency and unstable hemodynamics. ANI is not interpreted in the following situations: atrial fibrillation, absence of breathing, respiratory rate less than 9 per 1 minute, presence of a pacemaker, use of atropine, adrenaline.

The intravenous form of paracetamol and dexmedetomidine can be recommended for use in practical activities in nasal surgery to optimize anaesthetic maintenance.

Conclusion: *Combination of dexmedetomidine and paracetamol with septoplasty allows to provide a reliable analgesia in the perioperative period. The introduction of dexmedetomidine and paracetamol correlates with the stabilization of hemodynamics in the perioperative period. Infusion of dexmedetomidine and paracetamol helps to reduce intraoperative blood loss and improve the visualization of the operating field*

Keywords*: combined anesthesia, dexmedetomidine, paracetamol, ANI, septoplasty, hemodynamics, multimodal analgesia, haemostasis*

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PHARMACOLOGICAL PROSPECTS OF TREATMENT OF SPINAL CORD INJURY IN ACUTE AND EARLY PERIODS

p. 9-12

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Glutamatergic excitotoxicity is the main factor affecting the formation of edema, ischemia with a spinal cord injury. In our clinical studies, we analyzed the effectiveness of standard complex treatment - surgical and medicamentous with the use of riluzole as an inhibitor of glutamate release.

*The **aim** of the study was to investigate the clinical efficacy of riluzole in patients with spinal and spinal cord injury in acute and early periods.*

***Materials and methods.** On treatment in KU "Dnepropetrovsk Regional Clinical Hospital named after I. I. Mechnikov", from January 2013 to January 2017 there were 15 patients with complicated spinal cord injury of the cervical spine, which in the complex standard therapy used riluzole. The age of the patients was 18–70 years. The degree of severity of neurological disorders of patients on the ASIA scale corresponded to A-D. The use of riluzole started as early as possible, but no later than 7 days, at a dose of 50 mg every 12 hours for 3 weeks per os.*

***Results.** In a group of patients with ASIA-A neurological disorders (6 patients), a neurological improvement in the ASIA scale was noted in one patient. In patients with ASIA-B (5 patients), in 2 cases a transition to group "C" was noted. The evaluation was carried out for 21 days. Movement in the key muscle groups corresponded to 1–2 points. Neurogenic shock was absent in all cases.*

In 3 observations with violation of ASIA-C on day 21, movements were restored to 4 points in 2 patients. In 1 patient on the ASIA scale, the disorders corresponded to level "D". When examined after 3 weeks, there was no convincing difference in muscle strength.

Conclusions:

1. The use of riluzole limits the development of secondary changes in the spinal cord in the acute and early periods of spinal cord injury.

2. The medicine reduces the manifestation of muscle spasticity in the early period of trauma.

3. Neurogenic shock when taking riluzole is less prolonged.

4. The complex approach in treatment with the use of riluzole opens significant prospects in the treatment of this pathology

***Keywords:** glutamatergic excitotoxicity, spinal cord injury, riluzole, MRI*

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FUNCTIONAL RESULTS OF SEPTOPLASTY CONDUCTED WITH THE EVALUATION OF AERODYNAMIC CHARACTERISTICS AND ANATOMICAL FEATURES OF THE NOSE REGION

p. 13-23

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The nasal breathing disorders is leading problem in otolaryngological practice. Despite the modern development of diagnostic methods of nasal breathing disorders and septum surgery, there are a number of patients who have violations of nasal breathing in the late period. The development of rhinomanometry methods and tomographic studies allow to improve the functional results of septoplasty.

The aim of the study: *Based on the data of anterior active rhinomanometry with a complex of functional samples, as well as data analysis of the anatomical correlation of the nasal cavity, to determine the main principles in planning and performing remodeling of the nasal septum, to evaluate their effectiveness.*

Materials and methods: *In the results of a study of 64 patients who were previously questioned on the NOSE scale were examined in the article, they were examined rhinomanometrically (anterior active rhinomanometry in combination with functional samples) and an in-depth analysis of the correlation between the anatomical structures of the nasal cavity was carried out. Later, at the time of 2 months, 6 months and 12 months after surgical treatment, taking into account the survey data and the geometric analysis, they were re-examined.*

Results: *In a primary rhinomanometric study, there are 38 (59.38 %) patients with structural anatomical disorders accounted, 12 (18.75 %) patients with edematous mucosal, 14 (21.88 %) patients with a combination of structural and oedematous mucosal disorders accounted. A further study of rhinomanometric and anatomical correlation showed that, depending on the localization of the area of pathological nasal resistance, the front sections of the nasal cavity and the anterior nose valve region prevail making 37 (71.15 %) people. Localization of pathological nasal resistance in the posterior sections of the nasal cavity 4 (7.69 %), a combination of the anterior and posterior parts was noted in 11 (21.15 %) people. At repeated examination at the time of 12 months, the number of unsatisfactory functional results was observed in 6.1 % of cases.*

Conclusion: *Anatomical correlation in the nasal cavity are key in ensuring normal aerodynamic processes in the nasal cavity. A comparative analysis of the indices of unsatisfactory functional results in terms of 12 months show, determined that after carrying out septoplasty, taking into account the rhinomanometry with functional tests in combination with the above analysis of the anatomical formations of the nasal cavity, this indicator is 6.1 % and 8 % if in the planning stage of surgery the results of these studies are not taken into account*

Keywords: *septoplasty, nasal breathing function, NOSE, rhinomanometry, functional results, computer tomography*

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THE USE OF COMBINED METHOD IN SKIN TUMORS TREATMENT

p. 23-30

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We propose to consider a combined method of removing skin tumors, based on a combination of radio wave method and cryodestruction. We have studied the effectiveness of its use in the treatment of individual tumors of the skin. The results were analyzed at 3, 6 and 12 months after the removal of tumors. The aim of the work was to compare radio-wave and surgical methods with a combined method of removing skin tumors and their long-term results.

Materials and methods. *For the study, patients with previous diagnoses of melanocytic naevus (MN), seborrheic keratosis (SK), skin cancer (SC) and melanoma of the skin (MS) were selected. All patients, depending on the indications, were recommended to conduct a diagnostic biopsy. During the diagnostic biopsy, the following methods were used: radio wave, combined (radio wave method with cryodestruction of the basis), surgical.*

Results. *According to the results of the review at 3, 6, 12 months after removal, the presence of relapse of tumors,*

formation of hypertrophic, keloid, normotrophic scars was evaluated. After the removal of tumors, the combined method of recurrence of tumors was observed at 3.3 %. The formation of keloid scars after the combined removal method was 3.4 % during 12 months of observation compared with the radio wave method (7.7 %) and surgical (11.4 %). Hypertrophic scars were observed in 3.4 % after the combined method and 7.4 % after radio wavelength removal. The highest number of normotrophic scarring was observed after the combined removal method (89.9 %) compared with radio wave (76.9 %) and surgical methods (88.9 %).

Conclusions. *After the use of combined method, healing of wound lasted the longest in comparison with the radio wave method and surgical. The formation of pathological types of scarring was observed less frequently after the combined method of removal than after radio waves and surgical methods. Relapses of the SC after the combined withdrawal method were observed less frequently, compared with the literature data about other methods of removal*

Keywords: *treatment of tumors of the skin, combined method, radio wave method, surgical method*

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RESULTS OF SURGICAL TREATMENT OF PERICARDIAL EFFUSION USING MINIMALLY INVASIVE INTERVENTIONS

p. 31-35

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Pericardial effusion is the most common pathology of the pericardium and has a diverse etiology. In case of ineffective conservative therapy and recurrent disease, surgical treatment became the method of choice. Many interventions have been proposed for the treatment of pericardial effusion, but there is no systematic approach to the choice and capacity of the surgical treatment, that can improve the effectiveness of treatment and reduce the rehabilitation period.

Aim of the study. *Evaluate the results of surgical treatment of pericardial effusion using minimally invasive interventions and compare it with others proposed for now.*

Materials and methods. *We present the results of surgical treatment of 171 patients with pericardial effusion, treated at the ST "Zaycev V. T. Institute of General and Urgent Surgery AMS of Ukraine" from 2000 to 2017. The immediate and long-term results and the duration of the rehabilitation period are estimated.*

Results. *In the period of using the systemic and differentiated approach to surgical treatment, 77 patients were operated. The level of postoperative complications was 2.60 % – acute right ventricular failure in 1 (1.30 %) patient, pneumothorax on the side of intervention in 1 (1.30 %) patient. The level of postoperative mortality was 1.30 % (1 patient with acute right ventricular failure in the early postoperative period). The average number of total bed-days was 9.2±2.3 days, postoperative days-days – 5.3± ±2.0 days. The statistical difference in the number of recurrent cases, depending on the type and extent of the intervention, was not established.*

Conclusions. *Using a differentiated approach to the choice of tactics and the capacity of surgical interventions can reliably reduce the number of postoperative complications and level of mortality. The use of mini-invasive interventions reduces the duration of the period of treatment and rehabilitation.*

Keywords: *pericarditis, pericardial effusion, pericardiotomy, thoracoscopy, pericardioscopy, minimally invasive, surgical treatment*

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PREVALENCE AND CORRELATIVE-STATISTICAL INTERRELATION OF THE DYSFUNCTION OF THE INTESTINAL MUCOSAL BARRIER IN CHILDREN WITH SYMPTOMS OF THE FOOD HYPERSENSITIVITY

p. 36-39

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Food intolerance (FI) in children is one of the most common manifestations of allergy in early childhood, which is confirmed by the results of many epidemiological studies. Studies have shown that the degree of permeability of the intestinal wall is an important link not only in the pathogenesis of FI, but also in the formation of processes of immune tolerance and maturation of immunity.

The aim of the study *was to research the prevalence and correlation-statistical relationships of dysfunction of the intestinal barrier in children with symptoms of FI on the skin.*

Materials and methods. *The primary medical documentation of 154 patients (boys – 76 (49.4 %), girls – 78 (50.6 %)) with symptoms of food allergy on the skin, age 27.56 [12.98; 56.08] months.*

Results. *The number of patients with a positive urine test result for permeability of the intestinal barrier for lactulose was 64.3% (n = 99). Every two children out of three (76.5 %, n=26) with symptoms of FI on the skin before the age of 1 year had signs of increased intercellular transport in the intestinal epithelium, which was manifested by the absorption of lactulose. The normal function of the intestinal barrier had less than half of patients under 3 years old. Out of them, 26.3 % (n=26) are children under the age of 1 year, 48.48 % are from 1 year to 3 years old. The permeability of the intestine for the lactulose molecule tended to increase in boys (55.6 % vs. 44.4 %, χ^2=2.67, p=0.10) in early childhood. Among schoolchildren, on the contrary, girls prevailed 57.1 % against 42.9% (χ^2=0.29, p=0.59). Correlation analysis revealed a reliable relationship between the presence of skin barrier permeability and the age of patients and the age of debut of FI symptoms on the skin (r=–0.25, p<0.05 and r=–0.25, p<0.05), but the lactulose level was not associated with sex and duration of the disease. The level of lactulose was not significantly different in children of different age groups (χ^2=5.83, df=4, p=0.21).*

Conclusions. *Increased intestinal permeability was detected in 64.3 % of children with symptoms of FI on the skin, 74 % of these patients belong to the age group up to 4 years. The level of lactulose in the urine is not associated with sex, duration of the disease. The feedback of weak connection with age of children and the age of debut of symptoms was revealed*

Keywords: *food intolerance, children, permeability, mucosal barrier, intestinal barrier dysfunction, urine lactulose*

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TAU-PROTEIN CONTENT IN BLOOD SERUM IN PROGREDIENT TYPES OF MULTIPLE SCLEROSIS COURSES

p. 40-44

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***Aim**. To identify the quantitative diagnostic indexes of tau protein for prognosis of progressive courses (PC) of multiple sclerosis.*

***Method**. The value of tau protein in blood serum had been detecting within three groups. These groups included 75 patients with different courses of MS course: the 1st group – 30 patients (20 women and 10 men) with secondary progressive course; the 2nd group – 15 patients (6 women and 9 men) with primary progressive course; the 3d group (control group) included 30 patients (24 women and 6 men) with relapsing course of multiple sclerosis.*

The index of tau protein was calculated in a laboratory of neurophysiology, immunology and biochemistry of SI "INPN NAMS of Ukraine" by immunofluorescence method.

This method makes it possible to identify the subcellular component by a specific immunological reaction. It has high specificity and sensitivity. We have used the standard kits of "Sigma" production (USA). This method allows both a qualitative visual description of the distribution of optical density of tau protein in each patient and the quantitative determination of tau protein level in the blood serum.

***Results**. We have conducted the comparative assessment of tau protein value depending on the type of course, the gender differences, the patient's age at the time of study, the patient's age at the onset of the disease (clinical onset), the duration of the disease, the severity of neurological deficiency according to the EDSS scale, and also searched for a predictive quantitative diagnostic index.*

Studies have shown that the level of tau protein in the blood serum depends on the type of multiple sclerosis' course and it predominates in progressive course compared to the comparison group of patients with remitting course. The influence of the gender on the value of tau protein in different types of multiple sclerosis was selective and predominant only in women with a primary-progressive course. A complex relationship between the level of tau protein, the age of onset, the duration of disease and the type of multiple sclerosis' course was determined.

***Conclusions**:*

1. The study shows that tau protein participates in the mechanisms of degenerative process' formation in progressive courses of multiple sclerosis.

2. We have obtained the data on possible application of this criterion in a complex of prognosis for progressive courses of multiple sclerosis

***Keywords**: tau protein, multiple sclerosis, courses, progressive, relapsing, gender differences, prognosis*

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PSYCHOHYGIENIC CHARACTERISTICS OF THE PRENOSOLOGICAL PSYCHODIAGNOSTICS OF PUPILS WITH VISION PATHOLOGY

p. 44-48

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The aim. *The article represents the results of the study of criterial psychophysiological functions of adolescents with visual impairment. The interconnections of the visual analyzer with other analyzers and central nervous system, their participation in creating of visual-spatial representations, as well as the importance of the influence of adaptive factors on the development of the organism of such adolescents to the environment and, above all, to the educational process. These adolescents have a high risk for the development of the maladaptation states. That is why the purpose of the study was to solve one of the modern problems of preventive medicine – the problems of health promotion and adaptation to the environment of such adolescents, because they require special measures for social and professional adaptation in connection with the health features. In addition, to establish the criterion role of the function of short-term memory in the psychodiagnosis of functional state and prediction of adaptive abilities of adolescents with pathology of the organ of vision.*

Materials and methods. *Based on the objectives of our research were used universally adapted methods: "psycho diagnostic questionnaire of the high school student", based on an assessment of the functional state of the central nervous system, its criterion physiological functions and assessment of the mechanical memory volume by the method of "complete reproduction of numerical series" with the expectation indicator – the amount of short-term memory (STM).*

Results. *Consequently, the results of the study on the psychophysiological state of the students of all the studied groups indicate the influence of a complex of external factors, primarily related to the school environment. After all, the learning process is accompanied by stressful loads that create conditions for the active manifestation of latent disease processes. The results of such influence are reflected in the success of certain activities, including the training process and the peculiarities of pupils' behavior.*

Conclusions. *In order to optimize the process of psychohygienic psychophysiological adaptation of students with visual impairments, it is proposed: improving the mental condition, correction of emotional-volitional and cognitive areas receiving help in socialization. The educational process must be carried out taking into account the peculiarities of mental and physical development in terms of the content, forms and methods of teaching, the corresponding regime of the day, which ensures the system of teaching and educational, medical and preventive work, rehabilitation measures. In general, the educational process in these institutions should have a vector for correction and development of the adolescent*

Keywords: *visual impairment, psychodiagnostics, prenosological state, mechanical memory, disadaptation, psychohygiene, psychoprophylaxis*

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ADJUSTMENT DISORDERS OF CHILDREN PATIENTS FROM INTERNALLY DISPLACED FAMILIES

p. 48-52

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*This paper presents findings of the survey into studying the adjustment of children from internally displaced families (IDP). The **aim** of the present research was to identify clinical peculiarities of adjustment disorders in children from IDP families.*

***Materials and methods.** The survey examined 66 children with AD signs from IDP families aged 7–18, the average age was 10.32±0.09 years old. The research was focused on studying children's personality traits using the "Adjusted Modified Variant of R.B. Cattell's Children's Personality Questionnaire (CPQ) (adjusted by E. M. Aleksandrovska, I. N. Giliasheva, 1993),anxiety values were registered by Spilberg-Khanin Anxiety Scale (2007), aggression and autoaggression levels were identified by Buss-Durkee Hostility Inventory (BDHI) (adjusted by O. Osnytskyi, 2008).*

***Results**. The obtained data testify to the complexity and diversity of the clinical picture of adaptation disorders in this category of patients. The violations of emotional-volitional, value-motivational and cognitive spheres are identified in the form of isolation, coldness, rigidity and alienation, and cruelty. It is stated that the activity of establishing and storing contacts with others is low. Found high rates of anxiety, resulting in the presence of anxiety, neurotic conflicts, emotional and neurotic breakdowns, psychosomatic disorders and diseases. Also, the tendency to aggression and autoaggression, the tendency to use physical force and aggressiveness to others, and the tendency to use physical violence and rudeness were revealed. Proved dependent formation of a high level of aggressiveness on the presence of children from families with RA IDPs physical, verbal and indirect aggression, high index of manifestations of hostility and resentment*

of suspicion, motivated aggressive activity from physical and verbal aggression and irritation.

Conclusions. *Adaptation disorders in paediatric patients from families of IDPs are an acute problem of modern psychiatric science. The findings bring us to the conclusion that there is a need for a more detailed study of adjustment disorders to elaborate clinical peculiarities of diagnostic criteria and targets in psychotherapeutic correction of the abovementioned disorders*

Keywords: *adjustment disorders, clinical picture, internally displaced persons, children, personality, anxiety, aggression*

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PROGNOSTIC ASSESSMENT OF CRYOSENSITIVITY LEVEL FOR UMBILICAL CORD BLOOD HEMOPOIETIC TISSUE WITH THE HELP OF MARKERS OF PROOXIDANT ACTIVITY PROCESSES

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Aim. *To investigate the connection between the levels of human umbilical cord blood hemopoietic tissue (UCB HT) cryosensitivity (using of the granulocyte-macrophage progenitors (GMPs) percentage loss) and activity of prooxidant processes in whole blood before the beginning of its cryopreservation.*

Methods of research. *Cryopreservation of UCB nuclear cell fraction was carried out by slow freezing under protection of the dimethyl sulfoxide in 5 % final concentration (v/v). The loss of GMPs was determined by the difference in the total content of colonies and clusters prior to cryopreservation and after thawing the sample in a short-term tissue culture. The activity of prooxidant processes in UCB was studied by biochemical markers of lipid peroxidation products (LPO) using a spectrophotometric method for determining the concentrations of such products as substrates for lipid peroxidation (isolated double bonds – IDB), intermediate (conjugated dienes (CD), conjugated trienes (CT), conjugated oxodienes (COD)) and final LPO products such as Schiff bases (ShB) for neutral lipids and phospholipids. Data analysis performed on models of analytical groups, regression analysis, mutual conjugation.*

Results. *It has been demonstrated that the level of UCB HT cryosensitivity (due to loss of GMPs) has direct correlation with LPO activity indices (from medium to high significance level). The relative risk (RR) of loss of GMPs is significantly increased under the condition of high levels of LPO phospholipid peroxidation in UCB before beginning cryopreservation. In particular, in the case of phospholipid peroxidation, it is: for IDB – RR=5.29; 95 % CI: 2.69–10.38; p <0.001; CD – RR=5.73; 95 % CI: 2.88–11.40; p<0.001; CT and COD – RR=2.81; 95 % CI: 1.72–4.60; p<0.001; ShB – RR=1,92, 95 % CI: 1.16–3.18, p<0.01, respectively.*

Conclusions. *Evaluation of the activity level of prooxidant processes in UCB using the biochemical markers before the start of the freezing procedure is valuable because of the possibility of creating an early prediction of the HT cryosensitivity, which can be useful in choosing cryopreservation tactics*

Keywords: *umbilical cord blood hemopoietic tissue, cryosensitivity, lipid peroxidation, granulocyte-macrophage hemopoietic progenitor cells, low-temperature cord blood banks*

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