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Programm Abstracts



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RESULTS OF SURGICAL CORRECTION OF HIRSCHSPRUNG'S DISEASE IN CHILDREN

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Prevalence. Hirschsprung's disease is a fairly common disease in children. Disease incidence has varied from one in 4400 to one in 7000 live births in recent years. Boys suffer four-five times more often than girls.

A variety of techniques and modifications of surgical intervention have been proposed, diagnostic methods have been developed, complications of each of the methods of surgical treatment have been analyzed, yet not all the problems associated with this pathology have been solved.

Purpose. To examine the results of surgical correction of Hirschsprung's disease in children.

Results. In the Scientific Center of Pediatrics and Pediatric Surgery (SCPPS), during the period from 1997 to 2015, 228 children aged from 24 days to 15 years were operated on. Of them, 165 (72,4%) were boys, 63 (27,6%) were girls. Rectal form was diagnosed in 6 patients (2,6%), rectosigmoid, in 191 (83,8%), subtotal, in 19 (8,3%), total, in 12 (5,3%) - of them, 4 children including terminal ileum.

The main complaints of the clinical manifestations of the disease were constipation, flatulence, and poor weight gain. We applied X-ray, ultrasound, histology, anorectal manometry and, when insufficient, computed tomography as most informative and reliable diagnostic methods. Combined form of Hirschsprung's disease was diagnosed in 35 children. Down syndrome was found in 6 (2,6%) children, congenital heart disease, in 7 (3,1%), neuroblastoma, in 2 (0,9%), vertebral anomalies, in 5 (2,2%), cerebral palsy, in 1 (0,4%), inguinal hernia, in 14 (6,1%) children.

All the children were operated on. Abdominoperineal proctoplasty by Duhamel was performed in 4 (1,7%) patients, abdominal-perineal proctoplasty by Soave, in 29 (12,7%), abdominal-perineal proctoplasty by Soave-Boley, in 42 (18,4%), abdominal-perineal proctoplasty by Soave with SCPPS modification, in 46 (20,2%), transanal endorectal proctoplasty by De la Torre-Mondragon, in 98 (43%), surgery by Georgeson K., in 9 (4%) children.

Long-term results were studied in 216 children six-twelve months and two years after the surgery. Complications in the form of postoperative encopresis were observed after abdominoperineal proctoplasty by Soave in 21 (72,4%) of the children, after by Soave-Boley, in 20 (47,6%) patients, after by Soave with modification, in 12 (26,1%) patients, and after transanal endorectal proctoplasty by De la Torre-Mondragon, in 17 (17,3%) children. Relapse of constipation was observed after abdominal-perineal proctoplasty by Soave in 2 (6,9%) children, after by Soave-Boley, in 1 (2,4%), after by Soave with

modification, in 2 (4,3%) and after the transanal endorectal proctoplasty by De la Torre-Mondragon, in 2 (2%) patients. Postoperative Hirschsprung-associated enterocolitis after abdominal-perineal proctoplasty by Soave was observed in 4 (13,8%) children, after by Soave-Boley, in 5 (11,9%) patients, after by Soave with modification, in 5 (10,9%) and after transanal endorectal proctoplasty by De la Torre-Mondragon, in 6 (6,1%) patients. Two children died.

Conclusions. Thus, our results of surgical treatment of Hirschsprung's disease in children suggest that early diagnosis and early surgical correction contribute to the rapid restoration of motility of the gastrointestinal tract, and the method of choice is the transanal endorectal proctoplasty by De la Torre-Mondragon, which has established itself as an effective and gentle method of surgical correction of this pathology. The correct choice of surgical treatment prevents a variety of postoperative complications.

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PSYCHOLOGICAL ADAPTATION OF PATIENTS, RECIPIENTS OF SOLID ORGANS

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At present there exists a sufficient amount of empirically established proof of the fact that psychological factors may considerably raise the quality of life of patients who had undergone an organ transplantation operation. The most important of these factors is the psychological adaptation of patients, recipients of solid organs.

We see psychological adaptation of the organ recipients as an ability to perceive their body as one whole and their adequate reaction to the transplantation of the donor organ. This is made possible due to a) the patient's own decision that the operation is necessary; b) the patient's conscious attitude to all the preparatory stages prior to the transplantation, including the surgery proper, the post-operative period and the possible outcome in the future.

Transplantation of organs leads to the formation of "a new psychological reality", to which the patient has still to adapt, together with the restoration of his anatomical and physiological functions. At this, the "peculiar" situation in which the patients find themselves makes it necessary for the patient not only to actualize all his personal resources to cope with the critical situations, but also to master new behavioral mechanisms that would help him undertake more complicated tasks.

The empirical research was carried out in the Sverdlovsk Regional Clinical Hospital No. 1. It included 112 solid organ recipients, 69 men (61.6%) and 43 women (38.4%), who, in the period from 2008 to 2012 had undergone transplantation operations of donor kidney, liver and heart.

The results of the clinical and psychological research showed that more than half the

patients, that is 64 (57.1%; mainly patients with kidney and liver ailments), demonstrated disorders of adaptation caused by the operation situation. It was shown in the lowering of the level of psychological functioning (inadequate methods of psychological defense), body image distortions (including a lowering of sexual attraction), an affective disburdening with life seen as “a tragedy”, seeing oneself as an invalid, inability to cope with negative affects, a feeling that life is not worth living, and a feeling of imminent physical danger. The decisive role here is played by a positive motivation to receive the donor organ that would lead to a high level of psychological adaptation, the formation of a “new” image of the body, adequately high self-estimation and a stable emotional condition.

This shows the need for preoperative psychological support of patients waiting for organ transplants, which makes a significant contribution to clinical results (adaptation to the use of anti-rejection drugs, reducing post-operative effects, etc.). In patients who received a ‘foreign’ body part the formation of the following factors was identified: adequate perception of new personal status, bodily integrity, body image, positive self-esteem. In general, results proved the need for specialized clinical psychological service centers in transplantation and organ donation.

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CHRONIC KIDNEY DISEASE AND GUT MICROBIOTA

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Introduction. Today chronic kidney disease (CKD) depending on the glomerular filtration rate and microalbuminuria can be found in 6-10% of the adult population in the different countries. The annual coverage of end-stage renal disease (ESRD) in Russia is more than 50 patients per 1 million of population. The treatment of ESRD is to receive renal replacement therapy (RRT) - dialysis and the kidney transplantation. Peritoneal dialysis (PD) is the most physiological method of the adequate replacement of renal function becoming lately more common. Today RRT is received more than 38 thousand patients in Russia. There is the developing of the approaches to the renoprotective therapy which allows to brake the progression of CKD and to stabilize the residual function of kidneys. One of these ways is the use of medicines modulating the intestinal microbiota. It changes in the conditions of uremia by increasing luminal and fecal pH, which changing, in turn, due to high levels of ammonia, formed as the result of urea hydrolysis, carried out by the intestinal microflora.

The Aim of the Study. The aim of the study was to assess the state of intestinal microbiota in patients with ESRD receiving PD, and its influence on the state and progression of CKD.

Materials and methods. We collected 20 patients with PD, 13 women and 7 men, average age was 43.8 ± 11.2 years old. Exclusion criteria were infections of the acute

inflammatory stage, renal transplant, diabetes, cancer, autoimmune diseases, viral hepatitis, HIV, tuberculosis, the consumption of antibiotics or yogurt within 30 days prior to sample collection. We assessed the gastroenteric symptoms and investigated fecal samples by polymerase chain reaction in real time (PCR-RT) with fluorescence detection for determining qualitative and quantitative composition of the intestinal microbiota.

Results. Abdominal pain was not related to a peritoneal catheter and observed in 25% cases, flatulence - in 50% cases, the feeling of stomach's heaviness and belching were in 40% cases. 20% of patients had stool frequency more than 2 times a day. 50% of patients had the fourth type of stool's shape according to Bristol scale and 30% of patients had the third type of stool's shape. The increase of the total bacterial mass more than 10^{12} ($x=3,9 \times 10^{12}$) was in 60% cases. The deficit of *Lactobacillus* spp. ($x=1,85 \times 10^6$) and *Bifidobacterium* spp. ($x=7,4 \times 10^7$) was in 25% cases. The deficiency of *Escherichia coli* ($x=2,5 \times 10^8$) was in 35% cases. 95% of patients had high amounts of *Escherichia coli* enteropathogenic ($x=2,7 \times 10^7$) above 10^4 . The presence of *Enterobacter* and *Citrobacter* ($x=6,6 \times 10^9$) was in 80% cases. 65% of patients had the anaerobic imbalance i.e. the number of *Bacteroides* is more higher than the number of *F.prauniztii* ($x = 11434$). The lack of *Bacteroides* was in 30% cases. 25% of patients had *Fusobacterium*. The identified changes of the intestinal microbiota were clinically manifested by the flatulence in 50% cases ($r = 0,5$). This symptom can lead to the dislocation of the peritoneal catheter and, as a consequence, to the repeat operation for setting of the peritoneal catheter, as well as to the temporary treatment of the patient on hemodialysis.

Conclusions. Thus, the disorders of the intestinal microbiota were detected in all PD patients, leading to anaerobic imbalance, the deficit of *Lactobacillus* spp. and *Bifidobacterium* spp., the increased level of *Escherichia coli* enteropathogenic and *Enterobacteriaceae* and clinically manifested by flatulence. These changes are an unfavorable factor for the treatment by PD and require medical correction.

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QUANTITATION OF EVEROLIMUS IN WHOLE-BLOOD SAMPLES BY LC-MS/MS

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Everolimus is an immunosuppressant widely used in clinical practice to prevent rejection of organ transplants in adult recipients. The narrow therapeutic range of concentrations and a high variability of the pharmacokinetic parameters of the drug require constant monitoring of its concentration in blood.

The purpose of the study was to develop reliable, selective, sensitive and reproducible

technique for determining everolimus in human whole blood by high performance liquid chromatography (HPLC) method with mass spectrometric detection.

Materials and methods. The study was performed using a high performance liquid chromatograph "LC 1260 Infinity" (Agilent, USA) with mass spectrometric detector "TripleQuard 6460" and the ionization system "Agilen Jet Stream - electrospray" using pharmacological substances "Everolimus" and "Everolimus - d4". Calibration and control samples at 1; 3; 5; 7; 9; 11; 13; 15 ng / ml were prepared from whole blood of healthy donors by adding equal volumes of concentrated solutions of everolimus in methanol and Everolimus - d4 as internal standard, to the intact blood.

Results. At the stage of development of technique the sample preparation and implementation of the study protocol was picked up.

Chromatographic separation: the amount of input - 5 mcl; mobile phase: A - 100 mM ammonium formate solution in water containing 0.1% formic acid; B - 100 mM solution of ammonium formate in methanol containing 0.1% formic acid; isocratic - elution mode; flow rate - 0.4 ml / min.

Ass spectrometry Settings: Scan mode - MRM (monitoring given ion reactions), MRM transition"everolimus" - (975.6 - 908.5); MRM transition"everolimus - d4" - (979.6- 912.5).

Data processing: software - Agilent Technologies Mass Hunter B 07.00.

Validation of analytical methods is performed. To evaluate the selectivity of the method we analyzed intact blood sample not containing the analyte of 6 different sources. Sample preparation and sample analysis were performed in the conditions described above.

The inspection results are satisfactory, as the mass chromatograms had no peaks at specified crossings masses with signal / noise ratio greater than 3:1.

Evaluation of reproducibility is made basing on the results of model blood samples analysis at three concentration levels of 10 repetitions (reps required - not less than five). The coefficient of variation (RSD) for the lower limit concentration was - 9.2%; RSD for the average level of concentration was - 3.7%; RSD for a high level of concentration - 2.1%.

The sensitivity of the method was 0.3 ng / mL. The linear range of the method was 1-15 ng / mL, MSE> 0.999. The lower limit of detection - 1 ng / ml. Reproducibility, precision and accuracy is achieved over the entire range of concentrations. Concentration determination method is the method of internal standard.

The results of checking the correctness of the data have been declared admissible, since the measurement error was less than 15% and or the lower limit of quantification was not higher than 20%.

Thus, the characteristics of the technique correspond to the eligibility criteria of the validated bioanalytical method.

This technique has been successfully applied for determination of everolimus in 50 whole blood samples obtained from 10 patients.

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TREATMENT OF PAIN IN PATIENTS WITH OSTEOARTHRITIS

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Objective: Examine the efficacy and safety of Etodolac in patients with osteoarthritis (OA).

Materials and methods

Open clinical study included 30 patients (23 women and 7 men) aged 34-68 years with knee osteoarthritis (radiographic stage II-III), who received Etodolac as an analgesic drug. The diagnosis was made after a comprehensive clinical, instrumental examination based on ACR criteria. The average duration of disease was $4,5 \pm 0,2$ years, duration of pain before hospitalization - $1,3 \pm 0,2$ weeks. The level of pain was assessed using a visual analog pain scale (VAS). The study included patients with VAS scores greater than 4 cm (alone and/or walking). For the relief of pain Etodolac 800 mg/day in two divided doses was prescribed to all patients. The study excluded patients with gastric ulcer and duodenal ulcer, dyspepsia, acute coronary syndrome. In cases of peptic ulcer omeprazole 20 mg/day was additionally given orally.

Safety in use of the drug was studied on the basis of clinical data, indices of dynamics blood count (hemoglobin, erythrocytes), the state of liver function (AST, ALT, bilirubin), kidneys (creatinine) at the start of observations and after 2 weeks.

Results

During the treatment period (2 weeks) all patients had an analgesic effect, since 3 days. 5-6 hours was a decrease in joint swelling in 74% of patients, the severity of pain on VAS decreased by 23 ± 10 mm ($p < 0,05$), the restriction of mobility of VAS decreased by 22 ± 9 mm ($p < 0,05$).

Within a week since the start of treatment with Etodolac 16 (53%) the dose reduced to 400 mg/day due to subjectively improve of the patients. By the end of the 2nd week, number of these patients increased to 24 (80%). The remaining 6 (20%) patients continued to take the drug in the initially prescribed dose.

This fact indicates that the selection of doses and duration of drug intake must be individualized taking into account its efficacy and tolerability.

In a survey of patients, 3,8% of them had mild side effects, such as dyspepsia (heartburn - 2 patients, nausea - 1 patient, epigastric pain - 1 patient).

Conclusions

1. Evaluation of the Etodolac clinical promises has shown positive effects on arthrologic status of patients with OA. The drug has a good analgesic and anti-inflammatory effect in acute OA, which improves the quality of life criteria EuroQol-5D.

2. On clinical grounds revealed no serious side effects of the drug Etodolac on the cardiovascular system and gastrointestinal tract over a 2-week course of treatment.
3. Elderly patients and patients with comorbidity require some caution during prescription: the initial dose should be 200 mg/day and the duration of treatment should not exceed 2 weeks.

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THE NATURE OF THE CLINICAL AND GENETIC FEATURES OF OSTEOARTHRITIS IN PATIENTS WITH CONNECTIVE TISSUE DYSPLASIA SYNDROME

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The study of polymorphisms rs1799750 (MMP1), rs35068180 (MMP3), rs2252070 (MMP13), rs63118460 and rs2276455 (COL2A1), rs143383 (GDF5), rs1544410, rs7975232, rs731236 and rs2228570 (VDR) was held in women with primary osteoarthritis (OA) and connective tissue dysplasia (CTD). We used DNA samples from 333 women aged from 18 to 61 years, mean age $48,4 \pm 4,7$ years. OA was diagnosed according to the criteria of the American Association of Rheumatology (1995). Availability of CTD was evaluated using phenotypic classification by Kadurina TI (2008).

Allele *T of polymorphic variant rs 63118460 COL2A1 gene is associated with increased risk of hip OA ($\chi^2 = 6,38$, $p = 0,011$; OR = 1,95, 95% CI 1,01-3,70). The risk of developing polyosteoarthritis increased in carriers of genotype *C*C locus rs143383 GDF5 gene ($\chi^2 = 6,38$, $p = 0,011$; OR = 1,95, 95% CI 1,01-3,70), allele *G ($\chi^2 = 7,16$, $p = 0,007$; OR = 2,25, 95% CI 1,2-4,32) and genotype *G*G ($\chi^2 = 5,25$, $p = 0,021$; OR = 3,02, 95% CI 1,19-7,68) of locus rs1544410 VDR gene.

Allele *G polymorphic variant rs1544410 VDR gene is a marker of the risk of the formation of the CTD as a whole ($\chi^2 = 9,36$, $p = 0,002$; OR = 1,77, 95% CI 1,22-2,56), genotype *G*G increases ($\chi^2 = 5,97$, $p = 0,01$; OR = 2,76, 95% CI 1,19-6,39), and genotype *G*A reduces the risk of developing severe CTD ($\chi^2 = 5,65$, $p = 0,01$; OR = 0,30, 95% CI 0,1-0,84). Carriers of genotype *T*T polymorphic variant rs7975232 VDR gene reduced the risk of the formation of the CTD as a whole ($\chi^2 = 4,44$, $p = 0,035$; OR = 0,50, 95% CI 0,29-0,96).

In order to combine clinical and molecular genetic predictors of the risk of OA we developed predictive models using the method of multivariate logistic regression.

Models for diagnostics Knee osteoarthritis and Generalized osteoarthritis included such criteria as "CTD as a whole", while the model for the Hip Osteoarthritis did not contain this criterion. The most predictive model for solvency possessed diagnostic

Generalized osteoarthritis, Models for the diagnosis of Knee osteoarthritis and Hip Osteoarthritis were also statistically significant, but their predictive value was lower.

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THE MORPHOLOGY OF THE REPRODUCTIVE AGE WOMEN CERVICAL EPITHELIUM UNDER HYPOTHYROIDISM

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The investigation hypothesis: between estrogen (ER) and thyroid hormones (TR) isoforms there are homology to competing links of DNA sequence. Hypothyroidism decreases the clearance of estrogens, P450 aromatase and integrin-fibronectin. ER and TR dependent receptors belong to the same group of receptors with high homology ER and TR in relation to the central domain. Multiple aspects of hypothyroidism correlating effects on endocervical mucosa due to this homology.

Purpose of the study.

- Identification of morphological effects of hypothyroidism on the cervical epithelium.

- a comparison the endocervical mucosa changes with the level of TSH, T_3 , T_4 in plasm, on the one hand, and with growth factors VEGF, EGFR and TSH receptors expression activity, on the other hand.

Study material: I – relative database of 2030 patients, 1524 operated for clinically verified hypothyroidism (75,07%), among them 538 patients (28,4%) – with cervical pathology, average - $37,2 \pm 4,8$ year. Cohort group: I - hypothyroidism + L-thyroxine continuously for 3 years ($n=180$), II - hypothyroidism without replacement hormonal therapy ($n=168$). In this cases with breast pathology – 97 patients from 348 (35,9%) - among them: fibro-cystic disease – 48, adenomiosis – 18, diffuse fibro-lipid involution – 31. II – assisment of TSH, T_3 and T_4 concentration in the blood plasm, III - surgical thyroid samples, IV – cervical mucosa samples after diagnostic-treatment “abrazios” of the same patients, I group – 103, II – 109 respectively.

Study methods: 1) stain by hematoxylin and eosin.

2) immunohistochemistry of VEGF, EGFR and TSH receptor binding activity – in thyroid (as control) and cervical tissue samples.

3) statistical processing of material - SPSS-22,0; MICROSOFT EXCEL XP.

Study Results: I group with hormonotherapy by L-thyroxine – results did not differ from euthyroid type of follicular epithelium.

In cervical samples it's have done: at high concentration of TSH background high EGFR and low VEGF expression revealed: a) simple hyperplasia without atypia – 31,9%.

b) active sites of adenomiosis, edematous stroma in 19,3% cases, g) inactive focuses of adenomiosis or dystrophic-atrophic changes less than 5% cases.

In II group of patients without L-thyroxine replacement hormonal therapy with it's have done TSH, T_3 , T_4 and low hypoplastic follicular epithelium. Consequently in cervical epithelium were detected: a) focuses of active adenomiosis, with increased volume of cytogenic stroma, without atypia – 38% cases, stratification and pseudostratification of glandular epithelium, atypia and “pillows” like protrusions of epithelial cells in glandular domain; b) simple glandular hyperplasia with soft stroma and small fibroblastlike cells; c) inactive adenomiosis with sclero-atrophic changes – in 8,33% cases.

Frequency of active foci of growing glandular hiperplasia without L-thyroxine have shown in 38%. On the background of L-thyroxine - 19,3%. Under euthyreosis - 7,3%. Confidence level of Spearman coefficient in I, II and control group, according to TSH, $T_3=0,00003$, indicating on the direct correlation between TSH and plasm T_3 level and adenomiosis frequency under hypothyroidismus.

Conclusion. Cervical epithelium immunohistochemical activity against different growth markers shows following results:

The high rate of inactive sites of adenomiosis observed with the tendency towards sclerosis and atrophy compared with the group receiving L-thyroxine (14,5%) ($p < 0,05$) also deserves consideration. Spearman's rank correlation coefficient in comparative groups (I-II) corresponded to 0,685 according to the levels of TSH and T_3 , which, considering a high level of confidence for Spearman's coefficient (0,00003), evidences about the direct interdependence between the forms of AM and the serum levels of TSH and T_3 in hypothyroidismus setting. The receptive status of the cervical mucosa studied earlier by us in hypo- and euthyroidism indicates on the activation of neoangiogenesis (VEGF), increased sensitivity to TSH in the sites of AM and high expression of EGFR in epithelial cells and stroma, representing one of the indices of loosing sensitivity to estrogene and progesterone

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SOME RESULTS OF MORPHOLOGICAL INVESTIGATION OF SPLEEN OF JUVENILE DOGS IN A TERMINAL STATE OF TRAUMATIC SHOCK

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It should be noted that the question of the functional role of the spleen for the reversibility of severe shock and blood loss to this day has been insufficiently studied. Spleen in modern morphological nomenclatures included in the lymphoid system as a secondary lymphoid organ. The literature indicates the active and specific role of the spleen in the general mechanism of the formation of protective and adaptive responses

of the body in experimental hemorrhage. Despite this, some authors in experiments with severe blood loss have established the independence of the result of the presence of the spleen.

The purpose of the present paper was to study the morphological changes in the spleen of juvenile dogs in traumatic shock with blood loss and without it and to identify similarities and differences in the changes in these two processes.

Experiments were carried out on 6-8 month outbred juvenile unanesthetized dogs of both sexes (9 dogs). The shock was caused by the method W.Cannon. In the first series of experiments on the soft tissues of the thigh of the dog blows in the quantity necessary for permanent decrease in systemic arterial pressure to the level of 40-50 mm Hg were struck. In the second series of experiments on the soft tissues of a thigh of a dog blows were struck until systemic arterial pressure was decreased to the level of 80-90 mm Hg; directly after this the bleeding from a femoral artery reducing arterial pressure to the level of 40-50 mm Hg in addition was caused. All experimental animals before the trauma, as well as control dogs before taking of spleen tissue for examination, were fixed on the operating table in the supine position. Under local anesthesia with 0, 5% solution of novocaine was allocated the right carotid artery, then it was cannulated and connected with U - shaped mercury manometer Louis for recording of arterial pressure; left femoral artery and a vein were also cannulated. Spleen tissue was taken at the time of reducing the systemic blood pressure of 25-30 mm Hg by surgical biopsy. The duration of the shock at the time of reducing the systemic blood pressure of 25-30 mm Hg in the dogs of first series of experiments was 23 to 30 minutes, and in dogs of the second series - 27 - 40 minutes. Pieces of spleen were fixed in Carnoy's fluid. Up to 5 milimikron paraffin sections were stained with haematoxylin and eosin, as well as by Van Gieson's method. For morphometric evaluation of the spleen was applied ocular gride "VC-4". Were measured mean volume and standart deviation of splenic lymphoid nodules, as well as number of these nodules per constant area of grid in 10 visual field, which was randomly choosen. Differences were considered significant at p values less than 0.05. Experiments complied with local regulations concerning the use of animals for research purposes.

Morphometric study has revealed that mean volume of splenic lymphoid nodules is statistically significantly decreased only in traumatic shock without blood loss in comparison with the control (control – $30.3 \pm 1.8\%$, I series of experiments - $26 \pm 1.6\%$); the comparision of measured values of mean volume of these nodules in traumatic shock with blood loss and without it, did not show any statisticaly significant differences. No statisticaly significant differences were found between the first and second series of experiments in the number of splenic lymphoid nodules per constant area of grid in 10 visual field, as well as - between the control and experiments (control – 8.7 ± 2.1 , I series - 7.3 ± 1.3 , II series – 8.7 ± 1.3).

Histological study has shown that the traumatic shock with blood loss and without

it in the spleen of juvenile dogs causes the similar changes like microcirculatory disturbances and dystrophic-necrotic changes of cellular elements of white and red pulp of spleen, expression degree of those differ each other : more profound changes in the spleen observed in traumatic shock without blood loss. That is difficult to explain; may only be suggested that this is the role of the fact that the spleen is richly provided with adrenergic nerves and that it is a reservoir of blood that is capable in certain conditions, to throw it into the bloodstream.

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PONSETI METHOD. WHICH TYPE OF PAIN RELIEF ARE BETTER FOR INFANTS DURING THE ACHILLOTOMY? THE SECOND RESEARCH (BILATERAL CLUBFOOT)

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The most patients who received the primary care for clubfoot are newborns infants. Hyperalgesia at early period of life can change the program of pain reaction in future and lead to «pain answer» for «no-pain case». Due to our latest research now we can find out the best way of pain relieving. Today we are present the comparison of more comfortable types of pain relief during the achillotomy procedures in patients first year of life with idiopathic congenital bilateral clubfoot.

This is our second joint outpatient research of orthopaedists and aenesthesiologists, which includes 30 patients in last two years. For achillotomy we have use 2 different types of pain relieving. We selected 2 groups, persons in each: 1) local injection 0,5 ml of 1% Lidocain (L) + Ibuprofen(I) suppositorium + EMLA cream(E); 2) EMLA cream (E) + Ibuprofen E+I. To evaluate the effectiveness of pain relieving we used FLACC and DAN scales. This scales are based on the analysis of the behavior, facial gesture and limbs movement of infant. Test were performed four time during the procedure: first incision, second incision, and two dorsal flections during the casting.

Children in E+I+L group (FLACC-16, DAN-20) group got a minimal score. Highest score (26, 28) was observed in Ibuprofen and EMLA application group, where the children felt maximal discomfort.

Based on our experience we consider that usage of local injection of Lidocain, Ibuprofen supp. and EMLA application is enough for effective pain relieving. Effect of usage of NSAD and local injection of Lidocain in children with bilateral clubfoot (two achillotomy procedures) not correlated with only injection of anesthetic.

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MORPHOMETRIC PARAMETERS OF DENTAL ARCHES DETERMINING HYPERBRACHYGNATHIA

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The study involved 16 patients with physiological occlusion of permanent teeth and hyperbrachygnathic dentofacial arches.

The shape of the dental arches was judged based on the proposed arch index calculated as the ratio of the dental arch depth to its width measured between the second permanent molars. The said index of less than 0.65 was interpreted as an indicator of hyperbrachygnathic shape of dental arches. As for the depth of the dental arch, it was measured from the midpoint located between the medial incisors on the vestibular surface of the occlusal contour of the crowns in the median line of the jaw to the spot where the latter intersects the line that connected the points determining the width of the dental arch. The width of the dental arch was measured between the points situated on the convex part of the vestibular contour of the vestibular distal odontomer being in the occlusal norm.

The outcomes show that in the people with hyperbrachygnathic shape of dental arches the average sum of mesial-distal sizes of 14 upper teeth was 118.15 ± 1.96 mm. The sum of medial-distal antagonists' sizes was 109.07 ± 2.12 mm.

The sum of the 6 front teeth crown width was 48.2 ± 1.45 mm while in the lower ones it was 37.92 ± 1.34 mm. Bolton's ratio was 78.64. The sum of mesial-distal diameters of the 12 teeth of the upper jaw measured at 98.9 ± 1.64 mm, the same indicator measuring 89.3 ± 1.88 mm in the lower one. Total Bolton's ratio was 90.29 ± 1.97 thus testifying the match between the upper and lower teeth.

The transversal dimensions in the area of the second upper molars (W_{7-7}) measured an average of 71.34 ± 1.99 mm; as for the canines (W_{3-3}) – 40.6 ± 1.37 mm. The average transversal dimensions in the area of the lower second molars (W_{7-7}) were 65.82 ± 2.08 mm, while in the canine area (W_{3-3}) the index was 31.31 ± 1.74 mm.

The depth of the dental arch (D_{1-7}) in patients with hyperbrachygnathic shape of dental arches, in the upper jaw was 43.19 ± 0.92 mm, and 38.46 ± 1.32 mm – in the lower jaw.

In the upper jaw, the ratio of the dental arch depth to its width was 0.62 ± 0.02 (dental arch index). The similar factor for the lower jaw was 0.58 ± 0.05 . These parameters were typical of hyperbrachygnathic dental arches.

Facial measurements showed that the width between the tragion points was 170.36 ± 2.93

mm, while the diagonal, measured between the trignon points in the subnasal region was 146.23 ± 2.02 mm. The ratio of face width to the width of the dental arches in the area of the upper second molars was 2.39. The ratio of the face diagonal to the front-distal diagonal was 2.61. The findings suggest a correlation between the face sizes and the parameters of the dental arches.

The outcomes of the study described above revealed the dental arch index at hyperbrachygnathic type of dental arches, which was below 0.65. The transversal dimensions in the area of second permanent molars were significantly larger than that of people with brachygnathic shape of dental arches.

Therefore, hyperbrachygnathic dental arches require arch patterns subject to the proposed parameters, which is of importance in terms of treating patients employing the edgewise orthodontic technique.

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COMPLICATIONS OF ORTHODONTIC TOOTH MOVEMENT INTO POST-EXTRACTION AREA

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The study involved 47 patients in their early adulthood who, for certain orthodontic reasons, had some of their teeth removed. The post-extraction area was filled through dislocating the adjacent teeth, which served as the border of the dentition defect. Orthodontic treatment was carried out using advanced permanent arc equipment (edgewise orthodontic technique).

To assess the status of the bone tissue in the area of post-extraction dentition defect, we decided to employ the defect-checking method on plaster models of jaws in the vertical and vestibular-lingual direction. We evaluated the loss of the bone tissue in the buccal and lingual surfaces in relation to the reference plane connecting the projections of cervical parts of the teeth roots, limiting the defect. The vertical bone loss was evaluated in relation to the plane connecting the necks in the interproximal surfaces of the teeth, limiting the defect.

The proposed method for determining the angle of teeth roots divergence implied that the orthopantomograms were given a conditional median tooth vertical. The angle measured was at the merge of the conditional median tooth verticals of the teeth located in the post-extraction space.

The state of the mucous membrane in the post-extraction region was assessed clinically.

The outcomes indicate that most patients had had their first premolars removed. As a rule, orthodontic treatment was carried out one month after the tooth extraction. A study of the post-extraction region revealed that the loss of the alveolar ridge in the vertical direction was 2.95 ± 0.15 mm, on the vestibular side – 1.11 ± 0.23 mm, and on the lingual side – 2.05 ± 0.26 mm.

The results of the edgewise-based orthodontic treatment showed that the patients more than a few times had complications associated with bone tissue deficiency. Noticed were such things as exposure of the interproximal surfaces of the teeth limiting the defect and absence (or resorption) of the interradiacal septae.

One of the complications of bone deficiency was a symptom of post-extraction vertical fold, a typical feature of that being a vertical fold of the gingival mucosa in the central part of the defect.

Mucosal infringement often impeded or totally prevented teeth movement into the post-extraction region thus requiring extra surgical interventions.

Given the above-mentioned, in order to prevent complications of orthodontic treatment at extraction of permanent teeth it is a rational strategy to employ the method of post-extraction space forming in the alveolar process of the maxilla and alveolar part of the mandible. The augmentation method is more efficient when applied simultaneously with teeth extraction on orthodontic grounds, or in case of severe loss of alveolar ridge in the post-extraction area.

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THE RESULTS OF HIP ARTHROPLASTY FOR TUMORS OF THE PROXIMAL FEMUR

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Introduction

Tumors of the proximal femur account for 15-25% of the tumor lesions of bones that form joints. Currently, surgery remains the main method of treatment for most patients with malignant tumors of the proximal femur. The main method of organ-saving treatment for patients with malignant bone tumors is arthroplasty. Endoprosthesis allows you to save not only the life of the patient, but also a functioning limb.

Purpose of the study

To show the effectiveness of hip arthroplasty in cases of bone tumors as a stage of surgical treatment in combined treatment of this disease.

Materials and methods

Hip arthroplasty performed in 21 patients with primary and metastatic tumors of the proximal femur that were treated in the clinical department of "Institute of Traumatology

and Orthopedics of NAMS Ukraine” from 2009 to 2015. Primary bone tumors were observed in 12 patients (chondrosarcoma - 7, osteogenic sarcoma – 3, giant cell tumor - 2), metastatic tumors - 9 (metastasis of breast cancer - 4, metastatic cancer of the kidney – 3, metastasis of prostate cancer – 1, myeloma - 1). “Inmed” implants were applied in 18 patients, “Stryker” - 2, “V.Link” - 1. In cases of osteogenic sarcoma and metastatic tumors of patients, the preoperative and postoperative chemotherapy courses were applied. In addition to metastatic tumors courses of chemotherapy patients preoperatively performed radiation therapy of 40 Gray on the lesion in the bone. Functional evaluation of the operated limb was carried out on a scale MSTs. Assessment of pain before and after arthroplasty performed on a scale R.G. Watkins. The quality of life of patients defined in points according to the questionnaire EORTIC QLQ- C30.

Results

Postoperative complications detected in 5 (23,8%) patients (aseptic loosening of the implant legs – 1, paraprosthesis infection - 1, broken bones in place of arthroplasty - 1, dislocation of the implant metal-plastic head of the cup - 1). Relapses of tumors found in 1 (4,76%) patient. Restored functionality of limb occurred in 21 patients. Functional outcome after limb arthroplasty was 72,4%. In comparative evaluation of pain before and after arthroplasty vast majority of patients 18 (85,7%) had a moderate pain (2-3 points on a scale R.G. Watkins). In 2 (9,5%) patients remained constant severe pain (4 points on a scale R.G. Watkins). In 1 (4,8%) patient pain was minimal (0-1 score on a scale R.G. Watkins).

In the postoperative period, 2 (9,5%) patients had minimal pain (1 point on a scale R.G. Watkins). 19 (90,5%) patients had no pain. Quality of life (according to the questionnaire EORTQ-QLQ-C30) improved from 40 points preoperatively to 80 points after the arthroplasty. The three-year overall survival of patients was 68,6±0,78.

Conclusions

The use of techniques of hip replacement in the combined and complex treatment of patients with tumors of the proximal femur can restore functionality of limb, reduce pain and therefore improve the quality of life of these patients.

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DIAGNOSIS OF INFLAMMATION AT NON-ALCOHOLIC FATTY LIVER DISEASE

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Non-alcoholic fatty liver disease (NAFLD) is represented in different forms: fatty liver disease (FLD) Non-alcoholic steatohepatitis (NASH) and cirrhosis (LC). Identification of inflammation that differs fatty liver disease from NAFLD is difficult and often only possible with a histological assessment.

The aim of the study was to compare diagnostic value of traditional markers of inflammation and the level of cytokine – tumor necrosis factor alpha (TNF α) in blood of patients with fatty liver disease and non-alcoholic steatohepatitis.

Materials and methods. We have examined 101 patients with NAFLD: 25 – FLD and 76 – NASH: 42 – with weak activity (WA), 20 – with moderate activity (MA) and 14 – with strong activity (SA). The diagnosis was verified by estimation of liver tests (ALT, AST, bilirubin, alkaline phosphatase (ALP), markers of inflammation (of the level of C-reactive protein (CRP), Gamma globulins (GG), Erythrocyte sedimentation rate (ESR); results of ultrasonography with assessment of liver size and echogenicity, some patients underwent CT on liver density and blind percutaneous needle liver biopsy with assessment of activity and fibrosis (Brunt). In all patients viral, alcohol, drug-induced and autoimmune causes of liver injury were excluded. The content of TNF α in blood of the patients was tested by the enzyme-linked immunosorbent assay ELISA with the use of test-systems «Human TNF α Platinum ELISA» («Bioscience», Austria). Statistic processing of the data was conducted with the use of software «Statistica7» with application of Mann–Whitney U test and with Spearman's rank correlation coefficient. Statistical significance was assumed at $p < 0,05$.

Results. Traditional markers of the inflammatory process increased evidently only at NASH -HA: GG, CRP, ESR and fibrinogen. It showed a low sensitivity of these inflammatory markers in most NAFLD patients on early stages of its development. The activity of ALT and ALP increased at NASH but these results cannot be considered as direct markers of inflammation since they may increase due to lipodystrophy of hepatocytes. The level of bilirubin did not exceed the norm at FLD and NASH regardless of their activity.

Quite different situation was observed with TNF α : its level evidently increased at FLD as compared to a healthy group and came to $6,92 \pm 0,03$ ng/ml (in healthy group – $4,77 \pm 0,46$ ng/ml, $p < 0,05$), however at NASH its level did not increase – $6,42 \pm 0,4$ ng/ml, and was independent of NASH activity when WA – $6,7 \pm 0,56$ ng/ml, at MA – $6,51 \pm 0,48$ ng/ml and at SA – $6,39 \pm 0,3$ ng/ml. It is known that TNF α has anti-inflammatory and cytotoxic properties as well as various biological effects including metabolic, inflammatory, proliferic and necrotic ones. It is secreted by macrophages with infiltration into visceral adipose tissue and by hepatocytes, Kupffer cells also contribute to the development of insulin resistance. It stimulates lipase and escape of free lipid acids from visceral fat and acts as a mediator of apoptosis. Therefore TNF α is a key factor of NAFLD progressing from FLD to LC.

Conclusion. Tumor necrosis factor alpha displays itself as the earliest marker of inflammation at NAFLD in comparison to traditional laboratory data of inflammation increasing evidently with FLD.

Equally increased level of TNF α at NASH irrespective of its activity reveals a low level chronic inflammation associated with NAFLD.

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MICROBIAL SPECTRUM OF GUNSHOT WOUNDS RECEIVED IN THE AREA OF LOCAL MILITARY CONFLICT

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Post-operational diapedesis of gunshot wounds remains a severe complication despite a wide range of common antiseptic drugs. A wide use of antibiotics has led to the change of both their ingredient structure and properties of antimicrobial flora, which resulted in the decrease of efficiency of antibacterial therapy, appearance of antibiotic-resistant strains.

60 patients with septic gunshot wounds, who were delivered from the area of local military conflict by different mobile medical groups and placed for treatment in Vinnitsa medical centre of the Armed Forces of Ukraine were examined. The material has been collected from 30 patients during the primary surgical treatment of wound at evacuation. All the detected strains had typical morphological, tinctorial, cultural and biochemical properties. Later the sensibility of microorganisms to germicides was studied by the traditional method of serial double specimen breeding in a liquid favourable medium. The comparative assessment of microorganisms' resistance to the medication in question was performed according to the score of minimal bactericide concentration MBC. From the wound surfaces of 30 patients during post-surgical treatment gram-positive (*S. pyogenes*, *E. faecium*) and gram-negative (*P. aeruginosa*, *A. Baumannii*, *E. coli*, *E. cloacae*) microorganisms were singled out. Unlike the common belief, that in all the affected wounds there prevail *S. aureus* and *S. epidermidis*, among causative agents of complications, in particular, prevailed *Acinetobacter* spp. (21,8–26,7%), *P. aeruginosa* (20–22%), *Staphylococcus* spp. (14,2–16,6%), *Klebsiella* spp. (0,7–5,9%). The results of assessing the resistance of the singled out strains to antiseptics Dekasan and Miramistin showed high sensitivity of pathogenic microorganisms to the antiseptics under research. However, the sensitivity of some kinds to each of these antiseptics differed remarkably. *S. aureus* died at the dosage of 4,68 mkg/ml of Dekasan. To kill this kind of microorganism, the concentration of Miramistin 3,5 times higher than that is needed. The effect of Dekasan on epidermal *Staphylococcus* was 11,1 times higher than that of Miramistin. Gram-negative microorganisms proved to be 2,1–3,5 times more resistant to Miramistin than to Dekasan. The strains of *Pseudomonadaceae* under consideration were far more resistant to antiseptics than *Staphylococcus* and enterobacteria. These microorganisms presented low sensitivity to Miramistin (MBC 78,13+46,88 mkg/ml). We also failed to identify the bactericidal effect of this medication on some strains, while a minimal destructive dosage of Dekasan to pseudomonades was 75 mkg/ml. Washing with Dekasan was performed on a daily basis for the local treatment for septic wounds. Before use, Dekasan was heated to the temperature of 37–38°C and applied to clean wounds on their uncovering, sanitation and draining of abscess. After washing with Dekasan, an aseptic dressing was

put on the wound. The use of this medication enabled to accelerate the process of wound purification from purulent necrotic substances and removing the onset of inflammations. The duration of hydration phase of the wound process reduced to 5,7 days in comparison with 8,4 days in the patients whose wounds were treated with Miramistin. The period of complete wound healing reduced by 2,5 days. The period of patients' hospitalization shortened from 14,97 to 10,8 days.

Gram-negative microorganism are domineering causative agents in gun-shot wounds. According to the total indicators, the antiseptic drug Dekasan showed high antimicrobial properties, namely to current wound-pyogenic pathogens, and is worth applying in complex treatment for wound diapedesis in such patients. The analysis of the treatment results of this pathology showed faster wound purification and healing when treated with Dekasan, and eventually the reduction of the treatment duration on average by 3-4 days, no need for long-lasting antibacterial therapy.

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THE PERICYTES' FACTOR IN THE DEVELOPMENT OF LIVER FIBROSIS IN CHILDREN WITH HEPATITIS C (ELECTRON MICROSCOPIC EXAMINATION)

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During the growth of blood vessels, the role of endothelium is limited only to building the endothelial lining and its basal membrane (basilemma). All other structures of their parities are built with the help of transformed pluripotential cells lying periendothelially (pericytes) into fibroblasts and smooth myocytes involving the cells of extracellular matrix. Some scientists noted tight connection between mitotic dividing endotheliocytes and pericytes, that regulate angiogenesis process towards vessels differentiation. Their appearance in the paries means the completion of the process of growth of new vessels and their extracellular matrix. For the last 10 years, we have not noticed remarkable changes in the opinions on the interrelation of endotheliocytes (when in norm and dysfunction) and the cells of extracellular matrix. We have learn the whole range of cytokines, which according to many authors, play a significant role in the growth of vessels in the inflammation area, under reparative (plastic) angiogenesis. On the basis of this knowledge we interpreted the morphological condition of liver structure of children with Hepatitis C. In the frames of the agreement on international cooperation between Vinnitsa national medical university named after N.I. Pirogov and Russian state medical university named after N.I. Pirogov, a morphological electronic microscopic research of liver bioptates of children under treatment in Moscow city clinical hospital Nr. 13 (the children surgical and orthopedic department) was conducted into Hepatitis C. The received bioptates

(biopsy samples) were fixed in glutaraldehyde and the blocks were prepared according to the common methods. Half-thin sections were made and after targeted reconditioning of the blocks, ultrathin sections were prepared on the ultratom LKB III, this was attached to nets, dyed and examined in the electronic microscope Hitachi-HU-12E. Endothelium dysfunction was found in all 14 children by detecting the VEGF concentration with the help of the set Biosource (the USA), the amount of DEC (dysfunction of endothelial cells) in blood plasma was counted by the method of Hladovec, 78. The indices () were slightly higher.

In electronograms, in the first place, we noted the presence of distinct clusters of their macrophage, fibroblasts and tissue basophils. The capillaries themselves were visible in the shape of pipe restricted to one or two endothelial cells of a synthetic type, the basal membrane of which included the cells of the 2-range – weakly identified pericytes which in fact attract a cascade of cells of extracellular matrix. Within the group the cells are interconnected by adherence junctions, i.e. closely lying cell membranes without any specialized structures. It is the area of the above described clusters, located in the immediate proximity to pericytic layer, that we detected especial activity of fibroblasts with elements of connective fibres coming through the cell membrane. The further from the pericytes the extracellular triad was, the less active the ECM (extracellular matrix) cells were. In our opinion, the presence of pericytes in basal layer (plate) does not hinder the growth of vessels, but thanks to the set of EKM creates a connecting “lining” for the targeted growth of endothelial cells, both in normal and pathological conditions. The dysfunction of endothelial cells, caused by the impact of Hepatitis C, creates the conditions in the tissue, when the production of the connective tissue by fibroblasts under the impact of compromised pericytes is coming out of control.

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THE STATE OF THE LOCAL PROTECTION IN INTESTINAL DYSBACTERIOSIS

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The violation of the intestinal microbial balance (dysbacteriosis) is a common condition. Recent research proved that the degree of well-being of the human body is closely related to the condition of the colon microbiocenosis, making timely detection of dysbiotic violations very important. It is believed that the main feature of dysbacteriosis is the increased number of opportunistic pathogens (OP) in the intestinal microflora. The presence of the OP can be both a factor causing local inflammation or bear a transient character. Modern diagnostic methods (bacteriological, biochemical, determining metabolites of OP) do not determine the degree of OP's participation in the pathogenesis of dysbacteriosis. However, the degree of dysbiotic changes in humans varies considerably

and largely depends on the state of epithelioid cells of the intestine (Mayansky A.N., 2004) that allows to consider dysbacteriosis as a disease of microbial -tissue complex, which plays a leading role in the development of multiple organ pathology. A comparison of the composition of the intestinal microbiocenosis with indicators of local nonspecific resistance, defined in coprofiltrates of 2000 people with intestinal dysbacteriosis, has allowed to establish criteria determining the dependence of the dysbiotic violations on the state of local antioxidant defense and the local immune status. To do this, we defined a local antioxidant index (LAI), equal to the ratio of the activity of superoxide dismutase and catalase to malonic dialdehyde; the number of interferon-gamma (γ -IFN) and the amount of cytokine index (CI) equal to the correlation of amount of the pro- and anti-inflammatory cytokines. The results of the research showed that LAI equal to or above 20 cu corresponds the first degree of dysbacteriosis (compensated), the average number of γ -IFN - 3.97 pg/ml, CI - less than 1. To the second degree of dysbacteriosis (subcompensated) corresponds LAI from 14 to 20, the average number of γ -IFN - 48.9 pg/ml and CI from 1 to 10 cu. The third degree of dysbacteriosis (decompensated) is accompanied by the development of pronounced local inflammation, as evidenced by the high average concentration of γ -IFN, making 422,9 pg/ml at CI more than 10 cu and LAI from 14 to (-).

Thus, the method of determining the LAI, CI and γ -IFN in coprofiltrates may be a way to further diagnosis of dysbacteriosis of the colon, allowing to determine the degree of dysbiotic violations without a bacteriological analysis and evaluate the changes in the state of the microflora in the process of its correction and treatment of the underlying basic disease.

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IMMUNOHISTOCHEMICAL FEATURES OF HASHIMOTO THYROIDITIS

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It is well evidenced that hypothyroidism, specially, due to the Hashimoto autoimmune thyroiditis, leads to the increased risk of both reproductive (conception, pregnancy) dysfunctions, as well as to the greater risk of thyroid gland, breast and cervical oncological disorders.

Significant changes in terms of clinical – morphological and molecular-biological profile of thyroid gland disorders are observed throughout the regions of Georgia. Hypothyroidism in the regions of Georgia is associated with demographic, social and medical-geographic issues, specifically:

1. The occurrence of proliferative variants of nodular disorders with increased expression of different class factors was observed to rise in young adults (up to 25 years age).
2. The occurrence of hypothyroidism in a shape of multinodular goiter was increased at the background of diminished incidence of diffuse-toxic goiter in adults, which, by modern understanding, is associated with obligatory risk of cancer.
3. The rise of Hürtle cell population in the structure of nodular (multinodular) goiter is observed (>40%), which is the predictor of:
 - a) Tendency to hypothyroidism,
 - b) Cellular dysplasia in thyroid gland tissue,
 - c) Disorganization of the organ architectonics

The authors previous study was shown that on the microvascular density and hyperemia background, Hürtle cell hyperplasia is most useful prognostication sign of cellular dysplasia and hypothyroidism. The frequent presence of Hürtle cells (HC) in nonneoplastic pathology, particularly in Hashimoto thyroiditis, displays as nests like hyperplasia or adenomatous growth in parafollicular spaces.

It was suggested that in all thyroid dysfunction Hürtle cells number and activity increased in parafollicular spaces, coherently, S-100 protein and TTF-1 expression displays, especially into adenomatous and infiltrative foci. It's important that all above described changes determine the dysplasia and architectonic disorganisation of thyroid parenchyma.

These findings show direct correlation between Hürtle specific S-100 protein and TTF-1 receptor activities and anti-ATPO antibodies titre.

The study objective: Molecular-biological proposal and role of Hürtle cells in Hashimoto thyroiditis parenchyma modification.

Study subject – collected from surgery (thyroidectomy) for molecular (receptor) diagnosis of Hürtle cells activities using routine histological and immunohistochemical samples.

Materials and methods: 89 cases of surgically resected thyroid during the period 2014-2016 years., were selected in Hashimoto thyroiditis diagnosis and Hashimoto with the Hürtle cells proliferative activity. Formalin fixed paraffin-embedded thyroid tissue sections were used for immunohistochemical analysis on the: 1) TSH receptor, (Biogenex), 2) S-100 protein (clone RTU-S 100q, Biogenex), 3) TTF-1 (clone SPT 24, Novocastra). Control groups include 10 cases of simple nodular goiter, and 5 cases of Riedel's thyroiditis (Riedel's struma). Data of the reaction were measured quantitatively in 100 areas from each recording group from "0" to 4 scores. Statistical speciality was performed using Microsoft Excel 7,0.

Results:

- 1) Hashimoto's parenchyma is comprised by Hürtle cell tumors modulation in 70% from all Hashimoto's cases. These are composed of S-100 positive oncocytes in adenomatous growth areas, TTF-1 positive similar foci of nuclei expression and TSH receptor negative reaction, while Riedel's struma has shown no positive S-100

protein and TTF-1 transforming activities, except - TSH receptors positivity in subcapsular zones. Histopathology has revealed large branched areas of fibrosis and sclerosis accompanying of follicular structure replacement. Nodular goiter simples represent negative or low expression on the all studed substances.

- 2) Hürtle cells transformation associated with Hashimoto thyroiditis, also demonstrate Hürtle adenoma with well defined, non-invasive encapsulated variant which hight S-100 positive stained parenchyma, surrounding by severe lymphoplasmocytic infiltration areas,
- 3) TTF-1 expression in Hürtle cells adenoma represents clusters and sheets of oxyphil cells nuclei, version of negative reaction Riedel's struma prominent bundles of fibrous tissue, incertained into, intra-and extrafollicular domains.

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MODERN ALGORITHMS OF ACNE TREATMENT

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Actualy. Different people may have acne at different ages. It's a skin disease which is characterized by obstructions and inflammations of hair follicles with an emergence of cosmetic defects. This disease is actual for doctors of various specialties because of the variety of occurrences and clinical manifestations of acne. Infections, genetic, endocrine and immune system disorders and digestive and neuropsychiatric disorders (which contribute to the hypersecretion of sebum) play an important role in acne occurrence. This process occurs under the influence of several internal and external factors that create a favorable ground for acne. The disease shows that acne occurrence depends on health conditions. Individual and integrated approaches can solve the problem of acne. Our research is devoted to the study of acne occurrence.

Materials and methods. We have examined 78 patients (37 men and 41 women) at the age of 32 ± 11.3 with mild and moderate degrees of papulo-pustular forms of acne. All the patients were treated according to our algorithm, using a combination of different substances. Firstly, the mask with antibiotic and antiseptic was offered. Secondly, a mechanical cleaning of the skin was done. The third step was an application of the mask with some stuff. Then the patients had Jacquet massage to improve blood circulation of skin. In addition, all the patients took antibiotic drugs and dietary fiber (Mucofalk) to normalize a microbiocenosis of intestine. The duration of the treatment was four months. The masks and two mechanical cleanings were made during first 10 days. Then the mechanical cleanings were performed once a week during the entire course.

The results and discussions. All the patients reported that the treatment was comfortable. The subjective color and turgor of the skin improved, too. 69 patients (88,5%) had a really

good skin pathological process improvements and 6 patients (7,7%) patients had just a good one. Furthermore, 3 patients (8,6%) with an average severity of acne had only single papular on both cheeks.

Conclusions: We have developed our algorithm and treatment due to individual and complex approaches of acne treatment. Our treatment is highly effective and can be recommended to dermatologists and cosmeticians.

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THE LYMPH NODE AS A LYMPHOTROPIC TARGET OF COMBINED OZONE- AND PHYTOTHERAPY IN THE LATE STAGE OF ONTOGENESIS

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The immune system has a leading role in the formation of nonspecific resistance of the organism. The immune system presents lymphoid structures and in particular lymph nodes. Aging lymphoid tissue occurs with age and the inevitable decline of nonspecific resistance of the organism, especially in old age periods of life. A search of means and methods is a priority when you need to adjust the immune status and increase the body's resistance. Ozone- and phytotherapy have the greatest interest among other treatment methods. They are used in endoecological rehabilitation on the basis of existing modern concepts of protective systems (Konenkov V.I. et al., 2012) and phytolymphonutritiology (Gorchakov V.N. et al., 2002).

The purpose of the study was to evaluate the effect of combined ozone- and phytotherapy on the structure and function of the lymph node, which had undergone age-related changes.

Materials and methods. The experiment was conducted with 160 white rats male Wistar with conventionally selected age groups: young animals at the age of 3-5 months (control group) and old animals aged 1,5–2 years (comparison group) taking into account the ratio of life expectancy of rats and humans. Original herbal collection used in a daily dose of 0,1-0,2 g/kg during one month in these animals of different ages. A herbal combination including *Bergenia*, *Rhodiola rosea*, *Hedysarum*, *Rosa majalis*, *Thymus*, blueberry, cowberry, currant leaves and dietary fiber. Application of ozonized olive oil was carried out on the region of inguinal lymph nodes during 15-20 minutes every other day (total 14 procedures). Inguinal lymph nodes were investigated with histological method and morphometric analysis (Avtandilov G.G., 1990; Beljanin V.L. et al., 1999) The study used the statistical program StatPlus Pro 2009, AnalystSoft Inc.

Results. It is shown that with age lymph nodes start suffering from functional load for

involution in the presence of the morphological equivalents of compensation. The size of structural and functional zones changes and the lymph node structure becomes non-homogeneous. At late stage of ontogeny is manifested by increase in 1,4 times of capsules ($1,62 \pm 0,07\%$ compared with $1,16 \pm 0,09\%$ in the control), in 1.6 times of the cortical plateau ($1,90 \pm 0,08\%$ compared with $1,20 \pm 0,09\%$ in the control), in 1,3 times of paracortex ($8,94 \pm 0,49\%$ compared with $7,14 \pm 0,67\%$ in the control), in 2,3 times of lymphatic sinus ($2,94 \pm 0,20\%$ compared with $1,30 \pm 0,12\%$ in the control) on the background of the decrease in 1,2 times of lymphoid nodules with germinal center ($1,37 \pm 0,12\%$ compared with $1,61 \pm 0,17\%$ in the control). The observed changes of the lymph node compartments are a reflection of the decrease of lymphoproliferation, sclerosis, involution of lymphoid tissue and antagonism of humoral and cellular elements of the immune system. All this leads to decreased immune function at a late stage of ontogenesis.

The combined ozone- and phytotherapy influences the structural organization of lymph nodes that underwent age-related changes. There is a reduction in 1,3 times areas of the cortical plateau ($1,45 \pm 0,19\%$ compared with $1,90 \pm 0,08\%$ without correction), paracortex ($7,17 \pm 0,31\%$ compared with $8,94 \pm 0,42\%$ without correction) and lymphatic sinus ($1,61 \pm 0,11\%$ compared with $2,94 \pm 0,20\%$ without correction). There is increased in 1,8 times the area of lymphoid nodules with germinal center ($2,48 \pm 0,25\%$ compared with $1,37 \pm 0,12\%$ without correction), in 1,2 times the area of medullar cords ($6,04 \pm 0,48\%$ compared with $5,02 \pm 0,34\%$ without correction). We have established the effect of neolymphogenesis for ozone and phytotherapy. Ozone and phytotherapy enhances lymphoproliferation and leads to the accumulation of lymphocytes and the formation of lymphoid nodules (follicles) outside the lymph node. There is hyperplasia of the individual structural and functional areas, and the fragmentation of lymph node due to the separation of parts of the cortex. Small lymphoid nodules often found in the tissue around inguinal lymph nodes. The formation of new lymphoid structures located outside of the lymph node is the result of changes of lymphatic drainage after ozone and phytotherapy. Ozone- and phytotherapy contributes to the preservation of lymphoid tissue and enhances immune potential of lymph nodes to the increase in proliferation and migration of lymphoid cells and optimize the size of sinus system at a late stage of ontogenesis.

Conclusion. At the late stage of ontogenesis, the structure of lymph nodes is reorganized, which reflects the general process of ageing. We implemented the idea of enhancing nonspecific resistance by ozone and phytocorrection of the structure and function of the lymph node, which has undergone age-related changes. Positive effect was achieved through changing the size of the lymph node compartments, preservation of lymphoid nodules. The combined ozone- and phytotherapy has a modulating effect on structural and functional zones accompanied by an increasing proliferation of lymphoid cells and intense neolymphogenesis. The result is of practical importance to enhance the nonspecific resistance of the organism and efficiency of the endoecological rehabilitation in elderly and senile age.

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SOME THOUGHTS ON MEDICAL ETHICS

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1. There have ever been dreams and aspirations of the mankind wishing that man should never know pain, diseases and death. Modern medicine has been developing so rapidly and employs state-of-the-art technologies that it seems that these dreams may come true someday.
2. Acknowledging the role of medicine as the science and practice attributed to movement and development of civilization we should not diminish the man's struggle for himself and his body and soul.
3. Medicine addresses man and his health, stands above all difference of races, cultures, languages, religions, professions and other formalities. The status of a patient refers to anyone who is ill or have a medical condition irrespective of his social, political and cultural status.
4. Universality of medicine, its absoluteness has a great value. Its humanistic nature embraces the mankind uniting all people dealing solely with a man and humanity and not ethnical, political or social issues.
5. Medicine gives hope, empowers man's willpower to survive and to recover, enables adaptation of physically challenged people. Medicine is capable of challenging nature by means of correcting congenital and cosmetic defects, changing gender. Medicine and doctors save people during the wars and military conflicts.
6. Medicine can be seen as most universal phenomenon of human spirit acting in the name of man and his life.
7. Medicine in the age of globalisation is entitled not only to treat patients but to protect and promote health of the mankind. Humanity bears a responsibility for fostering the development of the global medicine. It is available to everybody and one of the basic human rights is the right to health.

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EFFICACY OF DIFFERENT TREATMENT METHODS FOR PERI-IMPLANTITIS

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Dental implants have become an indispensable established therapy in dentistry in order to replace missing teeth in different clinical situations. Despite the high success rates of osseointegrated implants, increasingly frequent biological complications related to implants often result in implant loss. Peri-implantitis is a biological complication that occurs in dental

implant patients and comprises a range of destructive inflammatory processes affecting surrounding soft and hard tissues for which there is no current gold-standard treatment. The peri-implantitis is characterized by an inflammatory reaction and presents in two forms: peri-mucositis and peri-implantitis. Peri-mucositis has been described as a disease where the presence of inflammation is confined to the soft tissues, with no loss of the supporting bone around the dental implant. In contrast, peri-implantitis is characterized as an inflammatory reaction that affects the hard and soft tissue, which results in loss of supporting bone and pocket formation surrounding the functioning osseointegrated implant (McCrea 2014). Peri-implantitis has been put under three categories depending on the pocket depth and bone loss: early peri-implantitis - bone loss <25% of the implant length, moderate- bone loss <25–50% of the implant length, severe- bone loss >50% of the implant length (Froum and Rosen 2012). There are many approaches suggested by various authors for the treatment of peri-implant diseases, but there is no “ideal peri-implant therapy” that has been described in the literature.

Purpose: To evaluate the success of treatments of peri-implantitis at different stages.

Materials and Methods: In 23 partially edentulous patients, 31 implants diagnosed with peri-implantitis were treated. The participants were examined clinically and radiographically. The diagnostic parameters used for assessing peri-implantitis include clinical indices, peri-implant probing using a rigid plastic probe, bleeding on probing (BOP), suppuration, mobility, peri-implant radiography. One of the main aims of peri-implant therapy is to detoxify the contaminated implant surface. In the presence of peri-implant mucositis, non-surgical methods are appropriate and sufficient for detoxification. These include mechanical implant cleaning with titanium or plastic-curettes, ultrasonics or air polishing. Moreover, laser photodynamic therapy as well as local antiseptic medication (chlorhexidin glukonate, hydrogen peroxide,) may support the antimicrobial therapy (doxycycline, ornidazole, amoxicillin, metronidazole, minocycline hydrochloride, ciprofloxacin). Surgical therapy is aimed at removing any residual subgingival deposits and additionally reducing the peri-implant pockets depth (using bone grafts “Bio-Oss”, membranes “Bio-Gide”).

Results. In cases with advanced peri-implantitis surgical therapies are more effective than conservative approaches. Surgical therapy of peri-implantitis is indicated when nonsurgical therapy fails to control the inflammatory changes. Conservative treatments methods are effective in the treatment of mucositis and early peri-implantitis. When periimplantitis category moderate and severe effective surgical treatment combined conservative therapy. Surgical degranulation combined with mechanical and chemical detoxification of the implant and local antibiotic therapy seems to be a reliable method for stopping and controlling peri-implantitis. In some cases, implant removal is the only treatment option. Osteotomy and osteoplasty (xenogenic bone substitute and collagen membrane) combined with implantoplasty represent an effective therapy to reduce or even stop peri-implantitis progression. The ideal management of peri-implant infections should focus both on infection control of the lesion, detoxification of the implant surface, and regeneration of lost support. Prevention is the most important instrument based on appropriate treatment

planning, an atraumatic approach for implant insertion and continuous check-up intervals with professional teeth and implant cleaning. Prevention of peri-implant disease starts with a sufficient and structured planning including individual evaluation and minimization of risk factors (smoking, compliance, oral hygiene, periodontal disease, systemic diseases).

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NEW APPROACH TO SURGICAL TREATMENT OF HYDROCELE TESTIS IN CHILDREN

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Introduction. Hydrocele testis is fairly common in children. Physiological hydrocele testis, as a rule, does not require treatment and resolves spontaneously when a child reaches 2 years of age. Qualitative and effective surgeries in children is considered the most significant goal for children surgery. To date there are a great number of techniques to deal with hydrocele testis in children among them Winkelman's, Bergmann's, Rossi's technique in modification of A.T.Pulatov and V.d. Ten and others. However all these techniques have their disadvantages and complications. Winkelman's and von Bergmann's method due to it traumatic and non-physiological nature are not applied by many surgeons especially in children. Rossi's operation is most frequently performed in children, however the remained incised edges of the processus vaginalis can clue may cause recurrence of the disease. Rossi's operation modified by A.T.Pulatov and V.D. Ten seem to be perfect considering the fact that incised edges of the processus vaginalis are sewn to the subcutaneous tissue which prevent clueing thus removing the cause of recurrence. Nevertheless it should be mentioned that fixation of the processus vaginalis may disrupt the mobility of testis. That is why searching a new method of surgical treatment of hydrocele testis still remains actual.

The purpose of our work has been improvement of techniques for surgical treatment of hydrocele testis in children.

In our clinic 350 children aged from 2 till 10 years old diagnosed with hydrocele testis were operated for the period from 1997 – 2013. 150 patients had a right side localisation, 90 patients – left side and 10 children - two side localisation. Among all patients physiological hydrocele was observed in 7 new-borns and 5 infants, strained hydrocele testis – in 6 patients. Acute emerging hydrocele in testis and spermatic cord were identified in 3 children. The following surgeries were performed: by Rossi's technique - 64, Rossi's modified by A.T.Pulatov and T.V.Ten – 56 and 230 Rossi's surgeries modified by our technique were performed. In all cases the diagnosis was bases on complaints, anamnesis, clinical manifestations of the diseases and the data of ultrasonography. Dopplegraphy of the vessels of spermatic cord and testis, blood flow was carried out.

Considering the above mentioned we have developed a technique for treatment of

hydrocele testis by forming a window on the remains of processus vaginalis of the peritoneum and membranous sac. The method is performed in the following way: the proximal part of the processus vaginalis of the peritoneum is marked up to external inguinal ring where it is initially bound and later cut off. Distal part of the processus vaginalis of the peritoneum is cut along by 1,5-2 sm embracing the testis membrane. The edges of processus vaginalis of the peritoneum are folded outside as a roll and are sewn with three capron suture (5/0); two suture on the sides, one is on the posterior surface. Later on the created window remain constantly open and at the same time the edges of the wound are not coming together. The fluid accumulated from the testis membrane flows into the subcutaneous tissue.

Result and discussion. Therefore after performing this technique forming of an isolated cyst or recurrence of hydrocele testis is excluded.

All patients with 2 side localisation underwent a one-time surgery. In all children the abdominal peritoneum was open. Accumulation of serous fluid in the testis membrane and spermatic cord was occurring along the unobliterated processus vaginalis of the peritoneum. There were no complications during the nearest post-surgery period.

Remote results were studied during 5-15 years in 190 from 250 patients. During the study such factors as the recurrence of the disease, age-related condition of testicles, its consistency and mobility. Only in 2 patients underdevelopment of testicles was reported, which was associated with acquired influenza and respiratory infections. Otherwise the results of the surgery were highly estimated.

Conclusions

In the process of surgery on hydrocele testis and spermatic cord it is recommended to bind and cut off the proximal part of processus vaginalis behind the superficial inguinal ring as deeply as possible.

Rossi's technique modified by the team of our clinic has established itself as minimal traumatic and non-recurrent.

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OSTEOSYNTHESIS IN METASTATIC LESIONS OF BONES

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Introduction

The pain and other complications caused by metastatic lesions of the skeleton may significantly limit limb function and lead to bone fractures. Surgical intervention in the case of metastatic bone lesions is aimed at improving the quality of life, the ability to restore the function of the affected limb as soon as possible and the continuation of specific treatment.

The purpose of the study

Improving the quality of life of patients with metastatic lesions of bones.

Materials and methods

During the period from 2009 to 2014 surgical treatment for bone metastases of a limb was carried out in 47 patients. Primary sources of metastatic tumors: kidney – 18, breast – 14, lung – 8, myeloma – 4, intestine – 1, thyroid – 1, prostate – 1. Localization of tumor femur – 33, shoulder – 12, tibial – 1, radiation – 1. Reinforced metal osteosynthesis used in 25 patients, transosseous extrafocal osteosynthesis – 22. After surgical stage patients received combined treatment of chemotherapy, hormone therapy, immunotherapy, bisphosphonates, radiotherapy. Functional outcome of the operated limb was calculated on MSTs scale. Assessment of pain at the site of metastatic lesions before and after treatment was performed on R.G. Watkins scale. Assessment of quality of life of patients before and after surgery was performed on the system EORTC QLQ – C30. The survival rate of patients was determined by Kaplan-Meier method.

Results and discussion

Postoperative complications were found in 2 (4,3%) patients, relapses metastatic tumors were observed in 4 (8,5%) patients. Functional outcome after the operated limb reinforced metal osteosynthesis was 78% after transosseous extrafocal osteosynthesis – 70,2%.

The degree of pain after transosseous extrafocal osteosynthesis decreased from 100% to 20% after reinforced metal osteosynthesis – from 86% to 20%.

Quality of life of patients after reinforced metal osteosynthesis improved from 40 to 72 points after transosseous extrafocal osteosynthesis from 30 to 66 points.

Three-year overall survival of patients: $48,6 \pm 0,54\%$, five-year: $32,4 \pm 0,78\%$.

The use of surgical treatments for metastatic lesions of long bones leads to improvement in functional outcome of the operated limb, decrease in pain and improvement of quality of life of patients.

Conclusions

Reinforced metal osteosynthesis and transosseous extrafocal osteosynthesis – surgical treatment methods that can be used in treatment of bones at metastatic lesions of bones.

Mira Iskakova
Klara Smatova
Gulmira Bakirova
Bahitzhan Anarmetov

MANIFESTATIONS OF ANXIETY IN CHILDREN AT KAZAKH NATIONAL SCHOOL

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Taraz State Pedagogical Institute; Taraz, Kazakhstan;

Kazakhstan Engineering and Pedagogical University of Peoples

Friendship, Shymkent, Kazakhstan

The aim of our work was to study the psychological features of display of emotions in the form of personal and situational (reactive) anxiety in pupils of the fourth classes of the national school.

We have detected the facts manifestations of anxiety in children characterized by anxiety during the education process and suggest that the alarm function is important for pupils and mobilizes their actions.

Review of anxiety in academically successful children shows, however, that success is achieved by unnecessarily excessive high labor and time costs. This often occurs at the expense of children's health: in such pupils rapidly deteriorating health condition during the school year was reported. At alarm the pupils were significantly more likely than other children to find themselves as failures in unusual situations. Success - the purpose of adaptation to the achievements of knowledge. Our model shows that the mobilization of mental activity of pupils enables to achieve the required internal needs.

When the situation is new, non-standard and requirements exceed the capacity of the pupils, this leads to severe states of anxiety. In its turn this result in disruption of activities and behavior.

Elvira Ivanova
Natalia Vorobyova

COMPARATIVE CHARACTERISTICS OF THE EFFECTIVENESS PHOSPHAZIDE AND ABACAVIR IN HIV THERAPY

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Along with existing antiretroviral drugs in Russia drugs are used with a good performance in the absence of mitochondrial toxicity, which are studied as most promising to date.

Purpose of the study

Efficacy of Phosphazide (at optimal dose, proven by previous clinical studies) compared to the drug abacavir in standard first-line regimen in HIV-infected patients who have not received treatment.

Materials and methods

In 2014-2015 a study on the effectiveness of Phosphazide in antiretroviral therapy (ART) for HIV infection on the basis of the regional center for the prevention and control of AIDS in Perm (Russia) was conducted. The study included 79 "naïve" HIV-positive people who were treated for 48 weeks on one of the regimens according to the national protocol treatment of HIV infection in adults: 1st group of 38 people received Phosphazide + Efavirenz + efavirenz; 2nd - the comparison group - 41 people - ABC + Efavirenz + EFV. Phosphazide drug (NRTI class) produced by "AZT Pharma KB" - phosphorylated derivative of AZT, applied per os in the form of tablets of 0,4g twice a day. Abacavir, Efavirenz and efavirenz were used in standard doses. Treatment efficacy was assessed by clinical, immunological and virological criteria. Counting the number of CD4 cells in the blood plasma was performed by flow cytometry on the device «FA CSCalibur» HP, with

monoclonal antibodies Simultest IMK Plus (“Beston Dickenson”, USA), and determining the concentration of HIV RNA was performed by real-time PCR using the test systems “AmpliSens RNK HIV monitor FRT” company InterLabService (□ sensitivity of 50 copies / ml) in the periods: before prescribing treatment and at 4-12-24-36-48 weeks of therapy.

Results

The use of both schemes drugs has reduced the viral load in patients to 1,7-2,0 log10, starting at 4 weeks of treatment. In the following 48 weeks, the rate was □ 50 copies / mL in 88% of patients of the 1st group and 95% of the second, indicating virologic efficacy. Prior to initiation of therapy, the average CD4 count was 178 cells / uL, with 4-12 weeks there was a trend to an increase in CD4 count to 209-309 cells / l in patients receiving Phosphaside. At week 36, the figure became statistically significant - 412 cells / mm (p <0,05), indicating recovery of the immune status. In HIV-infected control group increase CD4 cell count was from 183 to 349 cells / ml by week 48 ART (p <0,05). The clinical progression of HIV infection was not reported in a single patient during the observation.

Discussion

These results suggest ART regimen involving Phosphaside, one of the most promising in the antiretroviral treatment of HIV-1 infection.

Conclusions

After 48 weeks of treatment, suppression of HIV replication in the first group reached 95% of patients of the 1st group and 88% - the second, indicating a high efficiency ART regimens used. Increasing the level of CD4 cells by more than 100 cells / microliter of blood plasma indicates the positive effect of these regimens on the immune status of HIV-infected. Installed Phosphazide therapeutic efficacy in ART regimen allows us to consider it as one of the most promising drugs in the treatment of HIV infection.

J.A. Jakasheva

ANALYSIS OF DATA OF CHILDREN'S SURGICAL DEPARTMENT OF KYZYLORDA REGIONAL MEDICAL CENTER

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Kyzylorda Regional Medical Center is implementing and adapting new technologies and methods, and methods of treatment of sick children at the stage of the modernization of the health system in Kazakhstan. The development of primary health care is the main priority of public health department. Joint and several liability of the state, the employer and the employee for his health is the main principle of the entire health services.

Kyzylorda oblast is one of the categories of regions of Kazakhstan with adverse environmental indicator for the health of the population. This increases risky incidence of disease rate among our patient population.

Children's surgery department receives routine and emergency patients, holds consultation in clinics, and receives the heavy transfers of patients from regional hospitals. A huge role in the treatment and assistance is rested on aero-medical aircraft. It gets to hospital seriously ill patients from rural areas as soon as possible or, on the contrary, gets the doctors to the complex, three-dimensional operation there. It is used actively telemedicine, new technology, which in severe cases allows to consult with colleagues from other cities and countries. The consultations become a necessary attribute of modern medicine. Children's department has 35 beds, 2 of which are functional and 1 burn recovery bed "Klinatron". Patients with clinical diagnosis like acute disorder of the gastrointestinal tract; neurosurgery, pulmonology, trauma, orthopedic, urology, proctology, purulent-septic, parasitic diseases, with tumors and congenital anomalies are admitted to hospital.

Overall there were received 3958 sick children from January 2013 to December 2015. The age of patients was from 0 to 14 years.

In 2013 there were 1457 patients (36.8% of the total in three years): 1073 patients (73.6%) were emergency and 384 of them were (26.4%) planned. The average stay of children in hospital was from 8 to 1 days. Operative treatment was carried out 865 (59.37%) children, and....children were treated conservatively.

In 2014, it were received 1307 children (33.0% of the total in three years), which is 10.3% lower than data of 2013. Among them 956 (73.1%) were hospitalized urgently and 351 were (26.9%) planned. The average stay of patients in hospital is 0.5 less than last year and it amounted to 7, 6 bed-days. Operations were carried out 863 patients (66%) and 444 (34%) patients were treated conservatively. During 2014 in the department was 3 (0.23%) cases of death:

It was hospitalized 1194 children (30.2% of the total in three years), which is 18.1% less than data of 2013. Among them 898 children (75.2%) were acute and 296 children (24.8%) were planned. On average, 7.4 bed-days, which is less than the previous 2 years 841 (70.4%) patients were operated and 353 patients (29.6%) were treated conservatively. During 2014 in the department were 2 (0.17%) cases of death:

Timely and systematic training of doctors, coordinated work with health centers and clinics and the introduction of modern technologies of treatment and the care of ill patients act to raise the positive performance of the Kyzylorda Medical Center.

G.H. Khachatryan
A.A. Martirosyan
K.V. Khondkaryan
A.G. Karapetyan

«SECRETS OF RENOGAM» OR INTERPRETATION CHALLENGES OF DYNAMIC NEPHROSCINTIGRAPHY

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Radionuclide diagnosis refers to the most outstanding achievements of the second half of the 20th century. Resulting from introduction of a number of scientific discoveries

into clinical practice, it opens up alternativeless research possibilities of the finest organ functions. All above mentioned can be in fully attributed in order to study the functions of kidneys especially at the stage of glomerular filtration.

The absence of alternatives is explained by the fact that radiopharmaceuticals applied during the study of renal function at different stages serve as analogues of native substrates which either being secreted by this organ or being filtered. Dynamic nephroscintigraphy (dynamics and statics) is extraordinary important and demanded due to its three possible modes of assessment: quantitate and qualitative data, type of renogram, pictures of the whole process at vascular, parenchymal and load phases.

Each form of providing the information (numeral data, life curve, pictures during the whole process of the test (from 20 to 35 minutes) contains specific properties and has clear methodical and methodological estimation approaches based on IAEA software packages used internationally and in Armenia as well.

Technetium 99-m+DTPA, as a radiopharmaceutical, and the imaging technique SPECT-camera were applied.

At least 20 parameters characterising each kidney are analysed, about 60-80 images in vascular and parenchymal phases as well as 5-10 varieties of renogram curves are generated and determine the accumulation and half-life of a radiopharmaceutical in each kidney. It is most challenging to analyse renograms in the following clinical situations: a manifested obstruction on different levels (the level of obstruction is of special importance), congenital anomalies, multiple mixed high refluxes, hemodynamic disorders up to renal arteries (the central circulatory system).

There are following main direct quantitative parameters of filtration: renal plasma flow, effective renal plasma flow, total filtration fraction, shared filtration fraction.

Besides, these very parameters (Table 1) play a decisive role in treatment planning especially in regard to congenital anomalies and organ-saving surgery.

Table 1.

Degree of evidence for different parameters of dynamic nephroscintigraphy ((Student's $P < 0,05$)

Glomerular filtration rate and blood supply to the kidneys (nephroscintigraphy)	t	p
Blood flow to the kidneys (%)	5,48	< 0,001
Relative function (%)	9,82	< 0,001
Index of filtration (ml/min/l)	1,083	> 0,05
Filtration fraction	4,16	< 0,001

Therefore, the “secrets” how to interpret the data of dynamic nephroscintigraphy might be seen in searching cause-effect pathophysiological mechanisms under newly created conditions of the nephron's work.

S.V. Kolbasnikov
E.N. Matvievskaya

CHANGES IN THE EYE FUNDUS VESSELS, LEFT VENTRICULAR MYOCARDIUM AND VASCULAR STIFFNESS IN HYPERTENSIVE PATIENTS WITH HYPERURICEMIA

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Background. Hyperuricemia is one of the conditions associated with metabolic syndrome. It is revealed in 25-50% of hypertensive patients and viewed as a factor for its progression.

The objective of the study was to examine and assess the vessels of the eye fundus, left ventricular myocardium and vascular stiffness in hypertensive patients with hyperuricemia.

Material and methods. We clinically examined 80 patients (17 men, 63 women, mean age 62 ± 1.3 years) with Stage II arterial hypertension (AH), who were randomly divided into 2 groups depending on the uric acid (UA) rates. Group I (The Control Group) comprised 48 patients (10 men, 38 women, mean age 62 ± 1.2 years) with normal UA rates. Group II (the Study Group) comprised 32 patients (7 men, 25 women, mean age 62 ± 1.5 years) with hyperuricemia (>360 $\mu\text{mol/L}$). We assessed the body mass indices (BMI) of the subjects, sufficient / insufficient physical activity (PA) with the International Physical Activity Questionnaire. Insufficient physical activity is scored lower than 14 points for middle-aged participants and lower than 7 points for the elderly. The patients underwent 12-lead ECGs. Fundus examination was performed by direct ophthalmoscopy with the fiber optic ophthalmoscope; the results were assessed using the classification suggested by M.L. Krasnov. Based on the photoplethysmogram (PPG) contour analysis (AngioScan-01, Russia), we assessed: the stiffness index (SI, m/sec), the reflection index (RI, %), the augmentation index (Alp 75, %), occlusion index by pulse wave amplitude (OIA, %), the phase shift (PS, ms). Levels of blood serum glucose, UA and cholesterol were measured with test system EasyTouch® GCU.

Results. In Group I, 27 subjects (55%) were normal-weight and 21 subjects (45%) were overweight; the mean BMI was $27.97 \pm 0.7 \text{ kg/m}^2$; the mean waist circumference (WC) was $80 \pm 4.6 \text{ cm}$ in male subjects and $85 \pm 2.7 \text{ cm}$ in female subjects. Hypercholesterolemia was observed in 34 subjects (70%), insufficient PA – in 40 subjects (85%). The UA rates were $325.6 \pm 7.7 \mu\text{mol/L}$ according to the data received with EasyTouch® GCU. ECG revealed left ventricular hypertrophy in 14 subjects (31%); the Sokolow-Lyon index was $35.6 \pm 0.61 \text{ mm}$. We observed the signs of hypertensive retinal angiopathy in 17 patients (37.5%) and hypertensive angiosclerosis in 31 subjects (62.5%). According to the PPT contour analysis: SI - $8.0 \pm 0.15 \text{ m/sec}$; RI - $36.6 \pm 3.36\%$; Alp75 - $16.5 \pm 2.11\%$. The parameters of OIA were $1.6 \pm 0.11\%$, the PS was $7.27 \pm 1.36 \text{ ms}$.

In Group 2, 6 subjects (20%) were overweight individuals, 24 subjects (75%) presented 1st degree obesity, 2 subjects (5%) – 2nd degree obesity; the mean BMI was 32.74 ± 1.34

kg/m² ($p < 0.001$); the mean waist circumference was 105.0 ± 14.1 cm ($p < 0.001$) in male subjects and 85 ± 2.7 cm ($p < 0.001$) in female subjects. Insufficient PA was observed in 28 subjects (90%), hypercholesterolemia – in 24 subjects (75%). The UA rates were 381.2 ± 4.95 mcmol/L according to the data received with EasyTouch® GCU, and 384.83 ± 4.68 mcmol/L ($p < 0.001$) by Biochemistry test. ECG revealed left ventricular hypertrophy in 27 subjects (86%); the Sokolow-Lyon index was 39.0 ± 0.45 mm ($p < 0.001$). Hypertensive retinal angiopathy was revealed in 2 subjects (6.5%); hypertensive angiosclerosis – in 28 subjects (87%); hypertensive retinopathy – in 2 subjects (6.5%).

According to the PPT contour analysis, SI was 7.66 ± 0.15 m/sec; RI was $32.21 \pm 3.51\%$ ($p < 0.05$); AIp75 was $14.51 \pm 1.79\%$ ($p < 0.05$). The parameters of OIA were $1.6 \pm 0.17\%$, the PS was 5.93 ± 1.15 ms, which is associated with increased vascular stiffness and endothelial dysfunction.

The study revealed positive moderate correlation between the parameters of WC, BMI, the Sokolow-Lyon index and the uric acid rates ($r = 0.46$, $r = 0.43$, $r = 0.45$ respectively).

Conclusions. In hypertensive patients, hyperuricemia is characterized by co-occurrence of several other signs of metabolic syndrome (obesity, hypercholesterolemia, insufficient physical activity) and associated with distinct changes in the vessels of the eye fundus, increased left ventricular hypertrophy, severe endothelial dysfunction and impaired vascular elasticity. All these factors should be taken into consideration during regular checkups and treatment of hypertensive patients with hyperuricemia.

G.A. Komarov
S.G. Komarov

MEDIZINISCHE PROBLEME DER MIGRATION

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Europa und ins besondere Deutschland, die in den letzten Jahren von einer großen Migrationswelle erfasst wurden, erleiden große Schwierigkeiten, darunter auch im Bereich des Gesundheitswesens. Ähnliche, aber noch größere Schwierigkeiten hat Russland. Die Zahl der Arbeitsmigranten steigt stetig an. Laut den veröffentlichten Daten des Rates beim Präsidenten der Russischen Föderation, die eine Vorstellung über die Zahlen der Migration nach Russland geben, betrug die Zahl der innerhalb von 9 Monaten in 2013 nach Moskau und das Moskauer Umland eingewanderter Menschen 3.300.000, und in Sankt Petersburg und sein Umland 2.500.000 Personen. Überwiegend waren es Bürger der ehemaligen sowjetischen Republiken: aus Armenien 19,5% von der Gesamtanzahl der Population des Landes, aus Moldawien 15,8%, aus Tadschikistan 12,5%, aus Kirgisistan 9,6%, aus Usbekistan 6,1% und andere.

Ökonomische, soziale, ethnisch-kulturelle, religiöse und wohnbedingte Probleme, sind, außer Frage, sehr groß und schwierig, aber nicht weniger wichtig sind medizinische und biologische Probleme, welche zur Zeit nicht genügend Aufmerksamkeit, Erforschung

und Lösungen finden. Und die Frage liegt nicht nur in dem, wie man den legal und illegal eingereisten Menschen aus unterschiedlichen Ländern medizinische Hilfe garantieren kann. Damit ist das System des staatlichen Gesundheitswesens mehr oder weniger zurecht gekommen. Mehr als das, in manchen Fällen verbessert die Migration sogar manche Werte, unter anderem bei den Geburtenraten. Da in Familien der Migranten aus den bereits genannten Ländern traditionell viele Kinder üblich sind (4-7 und mehr), während in Russland der Geburtenkoeffizient (Anzahl der Kinder auf eine Frau im fertilem Alter) bei 1,7 liegt und 65% der Familien nur ein Kind haben.

Das Problem liegt in der Tatsache, dass Immigranten viele Erregerstämme von Infektionskrankheiten mit nach Russland bringen, die sich von den russischen unterscheiden. Für diese Erreger ist keine bestimmte genetische Standfestigkeit (Populationsimmunität) gebildet worden, während die von ihnen hervorgerufenen Krankheiten einen besonderen Krankheitsverlauf haben. Das erhöht die Werte der Infektionserkrankungen der Bevölkerung oder lässt sie zumindest nicht verkleinern.

Ein anderes Problem ist, dass sich bei Immigranten in neuen ökologischen und sozialen Lebensbedingungen unterschiedliche Anpassungsprobleme entstehen, welche auch zur Erhöhung ihrer Erkrankungen führt, was bewirkt, dass der "schlafende" Infektionsherd aktiviert wird und damit auch die statistischen Werte verschlechtert werden. Die Wahrscheinlichkeit steigt wesentlich für das Aufkommen von massenhaften Infektionskrankheiten, die epidemiologische Situation verschlechtert sich, sodass eine Epidemie nicht ausgeschlossen ist. Ein ebenfalls nicht geringes Problem stellen die Zoonosen und parasitäre Krankheiten da. Während die Unordnung im Alltag und dem familiären Leben einen Nährboden für die Verbreitung von Geschlechtskrankheiten darunter auch AIDS bildet.

Und das war nur ein Teil der medizinischen Probleme im Zusammenhang mit den aktuellen Migrationsprozessen, die uns dazu animiert haben im November 2015 an der XXVI Pirogoff-Ärztetagung die Frage aufzugreifen, eine medizinische Migrationsdienststelle ins Leben zu rufen. Zu den Projekten, der von uns 2013 ins Leben gerufen Euroasiatischen Medizinunion, gehört mit kooperativen Bemühungen die Wiederherstellung des gemeinsamen medizinischen Raums der Länder der Eurasische Wirtschaftsunion. Mit dem Ausbau effektiver internationaler Zusammenarbeit, einschließlich der nicht zur Union gehörenden Länder, ist die Entwicklung eines gemeinsamen medizinischen Informationsraums möglich, sowie die Gründung eines internationalen Bildungssystems, das neue innovative Technologien für ein elektronisches Fernstudium verwenden. Und es sind nicht nur Projekte; das Institut für Fortbildung der Qualifikation FMBA Russland hat in Zusammenarbeit mit Kollegen aus Kirgistan den Lehrstuhl für internationales Medizinmanagement geschaffen und ein internationales medizinisches Zentrum für bildende Technologien ist bereits in Arbeit. Wir können weder den Migrationsprozess aufhalten, noch die Anzahl der Immigranten verkleinern, jedoch können wir auf die mit Migration verbundene medizinische Probleme Einfluss nehmen.

**DER KOMBINIERT EINSATZ VON AKUPUNKTUR
UND KÖRPERORIENTIERTER THERAPIE
BEI DER BEHANDLUNG VON CHRONISCHEM STRESS**

Nationale Medizinische Gorky-Universität, Donetsk

Laut Hans Selye ist Stress eine unspezifische Reaktion des Körpers auf jede Forderung gegen ihn (eine Reaktion auf das starke Gefühl oder Empfindung).

Der Körper (als Einheit von vielen Organen und Systemen) wird als biologisches System betrachtet. In dieser Hinsicht ist die Integrität ein wichtiges Kriterium, um den Zustand des Organismus zu bewerten, was den Fluss der Lebensprozesse und die Fähigkeit ermöglicht, den ständig ändernden Umweltbedingungen aufgrund der Arbeit der Psycho-Neuro-Immun-endokrinen Regulation anzupassen.

Der ganzheitliche Ansatz zur Gesundheit wurde in der Ära des Gelben Kaisers Huang-Ti bestimmt, und als das therapeutische und prophylaktische System formuliert, das aus Akupunktur, Kräutermedizin, Massage, Atemübungen und Diät-Therapie besteht. Die Hauptursache der Krankheit im Sinne der ganzheitlichen Medizin ist der Mangel an Harmonie von Körper und Geist.

Der bekannte und respektierte Arzt im Bereich der ganzheitlichen Medizin Roy Martin, der die Chirurgie verlassen hat, sagte, dass "auf der Grundlage des ganzheitlichen Ansatzes die Erhöhung der Kapazität der Gesundheit des Patienten liegt. Dies ist die effektivste Methode der Heilung. Sehr gefragt ist die Hilfe von Fachleuten auf dem Gebiet der Chiropraktik und Akupunktur aufgrund der Tatsache, dass diese Techniken viele schwere Krankheiten heilen können, dabei werden aber Komplikationen vermieden, zu denen die Verwendung von Arzneimitteln führen könnte."

Um Verhältnis zwischen äußeren und inneren Ursachen der Stressbildung in Betracht zu ziehen, wurde die Möglichkeit der Kombination von therapeutischer Wirkung der Akupunktur und Praktiken von Dr. M. Feldenkrais behandelt.

Die Wahl einer solchen Kombination von medizinischen Systemen basiert auf der Fähigkeit der komplexen Wirkung auf den Körper mit der Aufnahme der körperlichen und geistigen Komponenten.

Der Einsatz von Akupunktur ermöglichte die Verwendung von lokalen, segmentalen und suprasegmentalen Mechanismen in Übereinstimmung mit den biologisch aktiven Punkten.

Die Verwendung des Verfahrens von körperorientierter Therapie von M. Feldenkrais ermöglichte die Realisierung der Fähigkeit des Körpers sich zu bewegen, mit minimalem Aufwand und maximaler Effizienz. In diesem Prozess wurde die Verbindung zwischen motorischen Arealen der Hirnrinde und verspannten Muskeln realisiert, die als Ergebnis von externen Faktoren (primär) und internen Ereignissen (sekundär) betrachtet wird.

Die Arbeit wurde mit Patienten im Alter von 36 bis 38 durchgeführt. Bei der

Beurteilung des Zustands der Patienten stand im Vordergrund nervöse und körperliche Erschöpfung, die durch starke Abschwächung des gesamten Organismus verursacht worden war. Krankheitszustände waren Folge von chronischem Stress (in Verbindung mit der Länge des Aufenthalts in Notsituationen und dementsprechend Einschränkungen der Lebenstätigkeit). Im Verhalten der Patienten dominierten die Taktik des syntaktischen Verhaltens (in Bezug auf die Umwelt) und die Manifestation der Frustration.

Beide Behandlungen (Akupunktur und Bewegungspraxis) wurden in einer einzigen Behandlung kombiniert (zuerst Akupunktur, weiter Kinesiotherapie). Die Behandlungsdauer betrug 3 Gänge mit 10 Applikationen mit Intervall von 21 Tagen (die Dauer einer Behandlung - 90 Minuten unter Berücksichtigung des Intervalls zwischen den Behandlungen und Übungen). Nach der Behandlung wurde den Patienten eine Empfehlung über die selbständige Durchführung der Kraftübungen unter regelmäßiger medizinischer Überwachung jede 14 Tage gegeben.

Die Betrachtung von Körper und Geist als Ganzes (als permanenter psycho-physischer Prozess) ermöglicht die Korrektur möglicher Änderungen auf jeder Ebene und effektive Kombination von verschiedenen ganzheitlichen Systemen.

Petra Kümpel
Nadine Möhlenbrock
Sonja Kachel
Dijana Folk-Zubovic

**MIKRODURCHBLUTUNG – HAUPTSTRASSE
DER GESUNDHEIT - PHYSIKALISCHE GEFÄSSTHERAPIE
BEMER**

Bemer Partner, Oldenburg, Deutschland

Basis für Gesundheit und Leistungsfähigkeit!

Für die Erhaltung bzw. Wiederherstellung der Gesundheit sowie für Heilungs- und Regenerationsprozesse im menschlichen Körper ist eine gute Durchblutung des Organismus Grundvoraussetzung. Denn über das Blut finden die Versorgung mit Nährstoffen und Sauerstoff sowie der Abtransport von Stoffwechselendprodukten und Toxinen statt.

Etwa 74% der Durchblutung spielt sich im Bereich der kleinsten Blutgefäße ab. Innerhalb dieser sogenannten „Mikrozirkulation“ transportieren die Arteriolen, Kapillaren und Venolen das Blut. Durch die naturgegebene rhythmische Veränderung ihrer Querschnitte (Vasomotion) wird die Verteilung des Blutes im gigantischen Netzwerk des Kapillargebiets gesteuert. Bei einem gesunden Menschen findet die Vasomotionsbewegung ca. 3 mal pro Minute statt, bei kranken oder angegriffenen lediglich nur noch 1 mal pro 10 Minuten. Diese zu niedrige „Taktung“ muss nun wie durch einen „Mikrogefäßschrittmacher“ stimuliert bzw. normalisiert werden.

BEMER-THERAPIE

Gesundheit schützen. Heilung unterstützen.

Eines der zurzeit wirksamsten und modernsten Behandlungskonzepte im Bereich der

Prävention sowie zur Unterstützung von Genesungsprozessen ist die BEMER-Therapie.

Hierbei handelt es sich um eine physikalische Therapie, die eine eingeschränkte bzw. gestörte Mikrozirkulation gezielt stimuliert und damit eine wesentliche Grundlage für die Wiederherstellung und Erhaltung von Gesundheit darstellt. Auf Basis neuester Forschungsergebnisse arbeitet die aktuelle BEMER-Gerätegeneration mit einer weltweit einzigartigen Signalkonfiguration sowie darauf basierenden Behandlungsprogrammen für die Tag- und Schlafphase.

BEMER-THERAPIE: ZUR PRÄVENTION UND ERGÄNZENDEN THERAPIE VON KRANKHEITEN UND BESCHWERDEN

INDIKATIONSBEREICHE

- chron. degenerative Erkrankungen Muskel-Skelettsystem
- chron. Müdigkeit (z.B. bei chron. Belastung / MS)
- chron. Stoffwechselerkrankungen (z.B. Diabetes, Fettstoffwechsel)
- chron. Wundheilungsstörungen
- akute und chronische Schmerzen
- Leiden mit eingeschränkter Lebensqualität
- Organinsuffizienz (z.B. Leber, multiple Organdysfunktion)
- Periphere arterielle Verschlusskrankheiten
- Polyneuropathie infolge von Diabetes bzw. nach Krebsbehandlung

A.K. Kuzibaev
N.K. Kuzibaeva

NEW IN TREATMENT AND PREVENTION OF DIABETIC NEPHROPATHY

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Purpose of the study. Study and development of effective methods of treatment and prevention of diabetic nephropathy in patients with diabetes as type 1 and 2.

Material and methods. The study involved 186 patients with diabetes, 38 of which were diagnosed with type 1 diabetes (30.2%) and 88 - type 2 diabetes (69.8%), all were inpatients of Endocrinology Department (for children and adults) at State Medical Centre. The age of patients ranged from 14 to 68 years. All the patients underwent complete clinical, laboratory and instrumental studies.

In the process of examination of diabetic nephropathy was detected in 15 (39.4%) of patients with type 1 diabetes and in 13 (14.8%) of patients with type 2 diabetes. Associated kidney and urinary tract disease were detected in 12 (30.1%) of patients with type 1 diabetes and in 54 (61.3%) patients had type 2 disease. In the group of patients with diabetes type 1 diabetic nephropathy initial stage was installed in 8 (21.1%) patients, the stage of proteinuria in 20 (52.6%), and in 6 (15.1%) of patients was detected the chronic stage renal failure. Among patients with diabetes type 2 diabetic nephropathy initial stage defined in

29 (32.9%) patients, proteinuria in 36 (40.9%) and chronic renal failure was detected in 3 patients.

We have developed the scheme of treatment of patients with diabetic nephropathy considering of the type of diabetes and the stage of diabetic nephropathy. The main condition for therapy as in types 1 and 2 of diabetes was to achieve compensation. This was achieved in the group of patients with type 1 diabetes at the initial stage, who applied of insulin, intensified insulin therapy in time, mostly human insulin, with the additional inclusion of ACE angiotensin-converting enzyme inhibitor drugs (enalopril). At the stage of proteinuria for patients we recommended diet therapy, mainly restriction from animal protein, were appointed as the first stage, the scheme intensified insulin therapy and enalapril under the control of blood pressure not exceeding the level of 130 \ 80 mm Hg. A separate group of patients given the drug was recommended Vessel DUE F 600 LE in \ m for 2 weeks, followed by 500 LE in the form of capsules, 2 times per day for 2 months. This treatment was carried out 2 times per year. We used the positive effect of the drug on the state of the glomerular apparatus of the kidneys and decrease urinary albumin excretion, as well as lipid-lowering effect of it.

Treatment of diabetes patients with type 1 at the chronic stage of renal failure include diet therapy with restriction of animal protein 0.6 g \ kg body weight and salt 3 g per day, the appointment of insulin therapy, ACE inhibitors (enalopril), cardioselective B-blockers (atenolol), calcium channel blockers (verapamil), diuretics (furosemide). Treatment of patients with diabetic nephropathy in diabetes type 2 was characterized by the same principles, but in a group of patients with primary and 50% of patients with nephrotic stage of the pathological process used drug glyurenorm, 50% of patients were transferred to insulin therapy. Three patients from both groups diagnosed with end-stage chronic renal failure have been applied extracorporeal blood purification techniques at the National Kidney Center.

Conclusions. Thus, the measures of prevention of diabetic nephropathy in patients with diabetes type 1 and 2 were focused to timely diagnosis of diabetes, high quality of treatment, early detection of kidney disease, especially from the stage of microalbuminuria and timely prescription of ACE inhibitors.

N.K. Kuzibaeva

THE STRUCTURE OF INTRAUTERINE INFECTIONS IN INFANTS WITH CONGENITAL HEART DISEASE

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Purpose of the study. To identify the infection structure of intrauterine infections in children with congenital heart disease.

Materials and methods. The study involved 50 children with congenital heart disease at

the age from 2 months to 2 years old, hospitalized in cardio-rheumatological department NMC RT from 2012 to 2015. Inclusion criteria were: congenital heart disease, lack of somatic pathology. The children underwent instrumental (ECG, echocardiography, thoracic organs radiography) and laboratory (blood count, urinalysis, chemistry analysis blood), serology (enzyme immunoassay), molecular biology (polymerase chain reaction) methods. All respondents were divided into 3 groups: patients with ventricular septal defect (WSD), with atrial septal defect (ASD), with tetralogy of Fallot.

Results of the study. The analysis of anamneses of the children showed that all patients had a severe neonatal period. All children were born with low birth weight, with evidence of intrauterine infection, suffered intrauterine and postnatal pneumonia, prolonged duration of neonatal jaundice. Analysis of the studies revealed that all the children present the response of the organism to the effects of intrauterine infections. Ig G antibodies to CMV were detected in 35 children. There were 15 children in the first group, 10 children in the second group and 10 children in the third group. Ig G to herpes simplex virus HSV was detected in 10 patients of the 1st group, in 5 patients of the 2nd group and in 10 patients of the 3rd group. Ig G to rubella virus were detected in 2 infants of the 1st group, 1 child of the 2nd group and in 2 patients of the 3rd group. Ig G to toxoplasma gondii were detected in 3 children of the 1st group, in 3 children of the 2nd groups and in 4 children of the 3rd groups. It should be noted that in all groups combinations of intrauterine infections were detected. The most frequently encountered combination of CMV + HSV + toxoplasmosis. Monoinfection was founded only by the presence of antibodies to rubella virus. The presence of comorbidities malformations of other organs was observed in 10 children. They were mostly children with Down syndrome - 5, microcephaly-1 with oral pathology "rabbit lip + palate" - 4 patients.

Conclusions. Thus, Ig G antibodies to cytomegalovirus and herpes simplex virus occur in children from all groups, indicating that a growing number of child population is affected by these infections. These children are at risk of adverse course of CHD and other related diseases. Combination infections are more common in children with congenital heart disease. It is necessary to improve the diagnosis of intrauterine infections in mothers, in order to prevent the formation of congenital heart defects in children.

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POTENTIALITIES OF THE TCM IN THE TREATMENT OF SOME RENAL PROBLEMS

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Kidney pathology is at the centre of many specialists' attention, both in the East and in the West. Kidneys play a central role in the theories of the Five Elements, Yin-Yang, the Qi

and the Jing. According to The Innerness of the Yellow Emperor (Huang Di Nei Jing) kidneys promote the flow of the hereditary energy (yuan qi) throughout the body. Kidney problems disturb this energy and its circulation. That is why kidneys are called the root of life.

Kidneys are essential for the normal functioning of the whole body.

Syndromes of kidney disorders are multiple. They may include urogenital disorders, hearing impairment, joint illnesses, hypertension, oedema, diabetes, thyroid disorders and others.

The water of the kidney goes up to irrigate the heart, the fire of the heart comes down to warm the kidney. When this balanced relationship breaks down, a number of symptoms such as fidgetiness, palpitation and insomnia may occur.

Our results are encouraging for the use of the TCM for treating such common kidney problems as urinary stones and renal cysts.

We would like to present two cases of successful treatments of these widespread pathologies.

Renal cysts

We are going to start with a renal cyst.

A 50-year-old woman was diagnosed with a renal cyst during an ultrasound examination. The intra-renal cyst was distinguished in the area of the lower pole of the left kidney. The size of the cyst was 9x10 mm.

The patient was examined with the TCM diagnostic methods. Her pulse was rapid, her tongue was pale pink and coated. The patient complained of an ache in the lumber and the kidney area and tiredness.

We applied complex TCM therapy including Sujok, classic and auricular acupuncture, moxibustion and Yamamoto scalp acupuncture.

We applied Sujok to expel Cold and to clear Dampness.

The most important classic points were shen shu (V 23), min men (VG 4) and tai xi (R 5). The auricular points were 22 - internal secretion glands, 55 - shen men, 95 - kidney. We applied moxibustion on zu san li (E 36) and Yamamoto scalp acupuncture in the kidney area on the head.

The ultrasound examination performed after a course of this complex therapy showed a positive result: the cyst disappeared. The backache stopped. The patient's general condition improved.

Kidney stones

We are now going to consider kidney stones.

We are going to look at a case that shows that the TCM methods can promote stone passage and have an analgesic effect.

A 45-year-old woman had suffered from urinary stones for a long time. There was a "silent" stone in the calyx of the right kidney. The size of the stone was 9x15.

When the patient had colic, the stone was in the renal pelvis. The treatment began with a session of auricular acupuncture that helped to relieve pain. The main points were 55 - shen men, 51 - antispasmodic, 95 - kidney, 92 - bladder.

The next day the patient had colic again. She had another ultrasound examination. The stone was in the ureter near the pelvis of the right kidney. We applied Sujok to tonify Heat.

The ultrasound made on the third day showed that the stone went down a little more in the ureter near the pelvis of the right kidney. The third session included Sujok therapy. This time the aim was to expel Cold and to tonify Wind.

On the fourth day the stone was near the orifice of the right ureter. The treatment included classic acupuncture on shen shu.

On the fifth day the stone was in the bladder. We applied Yamomoto scalp acupuncture in the area of the kidney and moxibustion on zu san li.

On the sixth day the stone went out.

We can come to the conclusion that

1. Acupuncture is an efficient organ-friendly approach to the treatment of such common kidney problems as cysts and stones.
2. The complex therapy including Sujok, classic and auricular acupuncture, moxibustion and Yamomoto scalp acupuncture can help to remove a renal cyst. Its key objectives are to expel Cold and to clear Dampness.
3. Due to their analgesic effect, the TCM methods can quickly relieve pain and promote the passage of a stone while a renal colic.
4. Using acupuncture is safe. We didn't find out any acupuncture contraindications.
5. The TCM helps to improve the patient's general well-being. It can contribute to the treatment and prevention of other diseases caused by kidney problems.

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HYPERHOMOCYSTEINEMIA IN LIVER CIRRHOSIS

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Cirrhosis of the liver (CL) is a chronic disease with progressive fibrosis and remodelling of the parenchyma structure and the vascular system. The degree of progression of CL is determined by ultrasonic criteria of fibrosis of the hepatic tissue. The leading factor in the development of necrosis in virus- and alcohol-associated liver pathology is oxidative stress of hepatocytes. Hyperhomocysteinemia (HHC) is associated with progressive hepatic-cell failure. The genesis as well as diagnostic and prognostic value of this phenomenon has been incompletely studied. The identification of indicators for the risk of CL development at an early stage related to the defect of amino acid transmethylolation would allow us to detect the mechanism of development of hepatocellular failure and would influence the degree of progradient disease. 70 patients with CL from 31 to 69 years of age ($47,3 \pm 12,8$ years), have examined. 36 (51,4%) out of them were males and 34 (48,6%) were females. 30 (42,9%) cases with hepatitis B, 21 cases (30,0%) with hepatitis C and 19 (27,1%) cases with chronic alcoholism were registered in the case histories.

The severity of hepatic encephalopathy (0, I, II, III degree) was determined by semi-quantitative West Haven scale. Homocysteine (HC) in the serum was determined by enzyme immunoassay with the use of Homocysteine FS* kit manufacturer by DiaSys Diagnostic Systems GmbH, Germany. The control group included 65 healthy individuals of from 31 to 69 years of age. These subjects had no markers of viral hepatitis, did not consume alcohol and were not registered at the expert in narcology. Statistical processing of the material was performed using the software package Microsoft Excel 2007, Statistica of 6.1. The criterion of Student was calculated on its basis. Difference between the indicators was considered significant at $p < 0.05$. 16 cases (22,9%) with grade A and 26 cases (37,1%) with grade B and 28 (40%) cases with grade C were detected. The values determined according to Child scoring in patients with sub- and decompensated liver function was found to be higher than those with compensated function ($p < 0,01$ and $p < 0,001$ respectively). The reliability of differences between groups B and C was insignificant ($p > 0.05$). In control subjects HC concentration in blood was of 7.03 ± 1.02 $\mu\text{mol/l}$. In this regard, plasma homocysteinemia equal to $7,86$ $\mu\text{mol/l}$ was determined as a boundary value. The level of HC above the boundary index was considered a risk factor of progradient. The concentration of HC in patients with liver Cirrhosis is higher compared to the values of HC in healthy individuals ($r = 0,55$; $p < 0.001$). This finding was detected in 73.4% of patients with grade A CL, in 87.5% of grade B and in 100% cases with grade C. The highest levels of HC were determined in decompensation of liver function (50% percentile of median $-18,75$ $\mu\text{mol/l}$). The tendency to the increase of HC level in blood ($p < 0,77$) has been already observed at an early stage of CL (grade A)/ Under sub- and decompensation stage homocysteinemia increases ($p < 0,05$ and $p < 0,02$ respectively), hyperbilirubinemia ($p < 0.001$) and hyperenzymemia ($p < 0.001$) have been revealed respectively. Among patients with grade B and C instrumentally verified ascites has been diagnosed in 32 cases (45,7%), in 20 cases (28,57%) it proved to be resistant to treatment. In patients with ascitic effusion HC level in the blood was higher than that in patients without ascites ($p < 0.01$). At the same time in two thirds of the examined subjects with grade A, bilirubinemia and enzymemia have been registered in all groups including the group with grade A compared to the control indicators.

Thus, a progressive increase in the synthesis of HC has been revealed in cases with cirrhosis of the liver. Its level in plasma is in direct relation with bilirubinemia, enzymemia and the progression of the severity of hepatocellular failure detected according to Child-Pugh scale. At the same time no direct dependence of homocysteinemia with Child-Pugh scoring indicators was observed at the stage of decompensation in spite of high levels of bilirubinemia and enzymemia. HHC is already determined at an early stage of cirrhosis of the liver without any signs of hepatocellular insufficiency and then it further progresses to the stage of sub- and decompensation.

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THE INCIDENCE OF HEPATIC STEATOSIS IN THE PATIENTS AFTER CHOLECYSTECTOMY ON THE BACKGROUND OF CHOLELITHIASIS IN THE POSTOPERATIVE PERIOD

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Actuality. Cholelithiasis (GSD) is one of the most common pathologies of gastrointestinal tract. The incidence of this disease is 5-20% in Russia that is why 500000 cholecystectomies (HAE) are made every year. There is an opinion that after HAE the patients do not need any further therapy of cholelithiasis. As a rule, 40% of the patients who underwent HAE have a postcholecystectomy syndrome characterized by the development of pain and dyspeptic syndromes, reflux gastritis, pancreatitis, SEBG, etc.

The aim of the study is to analyze the incidence of hepatic steatosis in patients after cholecystectomy on the background of cholelithiasis during a postoperative period.

Materials and methods. We have analyzed 40 medical histories of the patients at the aged of $42 \pm 11,2$ (women 57%, men 43%) who had HAE because of GSD in 2011. There were analyzed only the cases with favorable postoperative periods in the patients without serious pathologies. Before a surgical intervention all the patients (according to ultrasound) didn't have the signs of hepatic steatosis. All the patients were divided into two groups depending on their complaints. The first group consisted of the patients who had some discomfort in the right hypochondrium in four years after the operation. They complained on bitter taste in the mouth, heaviness in the stomach after eating, bloating, unstable stool, nausea and reduced efficiency. The second group consisted of the patients without any complains.

The results and discussions. Seventeen of forty patients (42,5%) had the signs of hepatic steatosis according to ultrasound in 4 years. Three patients (7,5%) had an activity of liver enzymes. The patients from the first group had steatosis and steatohepatitis signs (60% and 10%). The liver changes (according to ultrasound) were found only in 5 patients (25%) of the second group and only one person (5%) had an increased activity of hepatic enzymes .

Conclusions. 42,5% of the patients have hepatic steatosis during four years after HAE. It usually happened with the patients who had complaints after the operations. It is obvious that the patients after HAE must be under a medical supervision. It is necessary to find efficient methods of the therapy to prevent complications, including liver steatosis after HAE on the background of cholelithiasis.

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MODERNE METHODEN DER PSYCHOPHYSIOLOGISCHEN REHABILITATION DER MITGLIEDER VON RETTUNGSMANNSCHAFTEN

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Die Hauptprobleme der Gesundheit nach WHO-Angaben 2015 sind mit Notfallsituationen verbunden, die durch Naturkatastrophen und militärische Konflikte hervorgerufen wurden. Eine der wichtigsten Kompetenzen für den zukünftigen Arzt ist die Fähig- und Fertigkeit, die erste medizinische Hilfe in einem Brennpunkt zu leisten, Heilungs- und Evakuationsmaßnahmen in Notfällen durchzuführen. Für den Aufbau dieser Kompetenz am Lehrstuhl für Katastrophenmedizin und Sicherheit der Lebensführung gebraucht man personorientierte Ausbildung, Modulausbildung, Problemlösungslernen, Brainstorming-Technik, Projekt- und Kontextunterricht. Im Verlauf der wissenschaftlichen Forschungsarbeit mit den zukünftigen Ärzten wird die posttraumatische Persönlichkeitsstörungserkennende Arbeit mit den Mitgliedern einer Rettungsmannschaft durchgeführt. Bei der Untersuchung der Notdienstfachleute werden folgende Untersuchungsmethoden angewendet: Luscher-Test, standardisierende vielfaktorige Personuntersuchungsmethode (MMPI), Spielberg-Hanin-Test, Fragebogen über traumatische Belastung nach Korten, psychophysiologische Methode. Nach Ergebnissen der Untersuchung erlebten die Rettungsmannschaftmitglieder traumatische Ereignisse mit Angst- und Hilflosigkeitsgefühl. Ein Teil der Fachleute fühlte Schwierigkeiten bei der Sozial- und Berufs Anpassung im Laufe von den ersten drei Wochen nach dem Trauma. Bei einem anderen Teil wurden nur einzelne Symptome der posttraumatischen Stressstörungen erkannt. Mit diesen Gruppen wurden Reduktionsmaßnahmen durch transkranielle Elektrostimulation mit Strömen der kleinen Amplitude mit Hilfe vom Alfarija-Apparat (reguliert die Tätigkeit des neurochemischen Gehirnsystems) und Farbrelaxation durch ASIR-Apparat durchgeführt, der für rhythmische Farbrelaxationstherapie durch elektromagnetische Strahlung im Bereich der scheinbaren Leuchte mit Zweck der Therapie und Rehabilitation der Zustände, Prophylaxe, für emotionale Entspannung vorbestimmt wird. Die gesamte funktionale Verbesserung wurde in 56,3% der Fälle festgestellt. In der Gruppe mit stark sinkender Funktionsreserve wurde gründliche medizinische Untersuchung und stationäre oder ambulante Nachbehandlung durchgeführt. Bei der statistischen Auswertung im Programm BioStat 2009 Professional 5.8.4. wurde statistisch zuverlässige Information über Wirksamkeit der transkranielle Elektrostimulation mit Verwendung von Alfarija-Apparat und visuelle farbpulsive Stimulation am Apparat ACIR erhalten.

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THE EMOTIONAL STATE AND INDICATORS OF THE VASCULAR WALL STIFFNESS IN HYPERTENSIVE PATIENTS DEPENDING ON THE BODY WEIGHT

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Introduction: currently hypertension remains one of the most common diseases. Excessive body weight and obesity are among the leading known risk factors directly associated with hypertension. In recent years, more and more evidence has been accumulated suggesting that anxiety and some other psycho-pathological conditions are additional factors, worsening the course of hypertension. However, the functional relationships of rigidity of the vascular walls and psychosomatic status, in patients with hypertension and obesity are not well understood.

Objective: to analyze the relationship of cerebral, hemodynamic, and psycho-emotional disorders in hypertensive patients with excessive body weight and obesity.

Materials and Methods: the study involved 133 patients with arterial hypertension stage II, who were followed up by a general practitioner. They were evaluated, depending on the body mass index, severity of cerebral disorders, anxiety and depressive disorders and the rigidity of the vascular walls(the SI, m/s - stiffness index), endothelial dysfunction (SF, ms - the phase shift between channels). **Results:** it was found that in 15 hypertensive patients with normal body weight blood pressure level was $128,4 \pm 3,6 / 78,6 \pm 3,0$ mm Hg. The modifiable risk factors that predominate are smoking 6 (40%), increased use of salt of 5 (33.3%), alcohol abuse, 2 (13.3%), which are combined with the deterioration of the elasto-tonic properties of a vascular wall (SI - $7,8 \pm 0,1$ m/s) and a violation of endothelial function in blood vessels of the channel (SF - minus $9,1 \pm 3,1$ ms). According to the HADS scale anxiety level was $7,5 \pm 1,1$ points, the level of depression – $4,9 \pm 0,8$ points.

In 118 hypertensive patients with overweight and obesity, blood pressure level was $140,1 \pm 1,4$ (p <0,001) / $84,6 \pm 1,0$ (p <0.001) mm Hg. The modifiable risk factors that were more frequent are physical inactivity 26 (22%), hypercholesterolemia 63 (53.4%) and hyperglycemia 13 (11%), increased frequency of cerebral disorders, growth of symptomatic anxiety and depressive disorders (anxiety level was $7,1 \pm 0,3$ points, depression - $5,7 \pm 0,3$ points; p <0.001) and persistent deterioration in elasto-tonic properties of vascular walls (SI - $8,6 \pm 0,5$ m/s) and marked endothelial dysfunction (SF - minus $5,7 \pm 0,4$ ms).

Conclusions: the presence of multiple modifiable risk factors, and increase of cerebral hemodynamic disturbances in hypertensive patients with excessive body weight and obesity is accompanied by severe anxiety and depressive disorders.

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CLINICAL CHARACTERISTICS OF PATIENTS WITH HEART FAILURE AND ATRIAL FIBRILLATION

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Objective: to determine clinical characteristics of patients with heart failure (HF) and atrial fibrillation (AF) and to evaluate the prescription of anticoagulants.

Materials and methods: we examined 47 patients (20 men, 27 women) with HF and AF. **Results:** among the surveyed in-patient treatment was 24 (51,1%), outpatient treatment, 23 (48,9%) of the patients, paroxysmal AF was 27 (57,4%) patients, permanent AF - in 20 (41,6 %) patients. The average age of 57,2±1,8 years. Among cardiovascular diseases were more frequent: hypertension in 41 (87,2%); ischemic heart disease: postinfarction cardiosclerosis and 19 (40,4%) , angina I-IV FC – 27 (57,4%); myocardial revascularization – in 1 (2,1%); diabetes mellitus type 2 in 7 (14,9 %) patients, HF – 47 (100 %). Obesity varying severity was 25 (53,1 percent). The body mass index was 32,7±2,1 kg/m². The average heart rate amounted to 84,5±14,7 beats per minute. The average systolic blood pressure - 143,3±15,2 mm Hg. St, diastolic - 93,3±10,4 mm, that was consistent with hypertension of 1-2 degrees. The creatinine level of blood plasma - 141±8,4 mmol/l, urea of 11,4±5,5 mmol/l, AST 4,6±1,2 mmol/l, ALT 2,07±0,5 mmol/l, level of cholesterol was 5,2±1,2 mmol/l, level of triglycerides was 1,4±0,6 mmol/L. Risk assessment of thrombotic complications on a scale CHADS₂VASc showed that 2 or more points was 38 (80,8 %) patients, less than 2 points – 9 (19,1%). Assessment of the risk of bleeding showed that the scale HAS-BLED scores greater than 3 had 7 people (14,8 per cent), less than 3 points 40 (85,1%). New oral anticoagulants (rivaroxaban) received 5 (10,6 %), the vitamin K antagonists (warfarin) - 23 (48,9 %), acetylsalicylic acid (aspirin) - 11 (23,4 %), was not treated - 8 (17,0 %) patients. **Conclusions:** 80% of patients with HF and AF needed in the conduct of anticoagulant therapy, however, obtained only 28 (59,5 %) and it requires detailed analysis of the reasons for the absence of the appointment of anticoagulant therapy in this group of patients.

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POSSIBILITIES OF OSTEOPATHIC INFLUENCE ON THE PATIENTS WITH THE FIRST STAGE OF CHOLELITHIASIS

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Actuality. It is believed that the patients with the first stage of gallstone disease (GSD) – the stage of biliary sludge (BS) and without clinical manifestations, do not

require any treatment and medical supervision. At the same time it is found that the patients with a long asymptomatic period of the BS suffer from the stones and there are clinical manifestations. Still, there isn't a single approach in treatment of the patients with BS. As a rule, the therapy is focused on the pathogenetic links of its formation and the treatment is determined by the characteristics of clinical manifestations.

The aim of the study is to examine the patients with biliary sludge and to know the effect of osteopathic influence on the function of their gallbladders. Materials and methods. We have examined 20 patients with the first stage of cholelithiasis, biliary sludge and a deformity of the gallbladder. Ultrasonography (USG) was done with a help of "Sonoline Prima LC" firm "Siemens" (Germany), working in real time and using a sector transducer of 3.5 MHz according to a standard method with an evaluation of the size, the structure and the presence of ultrasonic indications of gall bladder and liver changes before and after the osteopathic impact. All patients had the osteopathic diagnosis (from 5 to 7 sessions). The osteopathic diagnosis included the following tests: fascial listening (global, local), the definition of cranio – sacred synchronicity, the definition of a mobility at the level of the cervical, thoracic and lumbar spine, sacrum, the definition of the mobility of the thoracic and pelvic diaphragms, the definition of the mobility and the mailnote of: the liver, gallbladder, stomach, duodenum, small and large intestines; the presence of a liver stress and/or pain at the Oddi sphincter, pyloric stomach, duodeno-jejunal sphincter, an ileocecal valve of the gallbladder in the bile duct.

The algorithm of the osteopathic impact. When we treated the patients (with the 1st stage of GSD) we used different osteopathic correction techniques: soft tissue, fascial, articular, visceral, cranial. Almost all the patients had a restoration of mobility at the level C0/C1 of a thoracic diaphragm, a correction of the liver and the biliary tract dysfunctions, a mobilization of a small intestine.

The discussion of the results. During the study it was found that the patients were defined the violation of the colloidal stability of the bile in the biliary suspension in a form of a slurry in the gallbladder – the biliary sludge while the body bend. The original size of the gallbladder before the osteopathic impact was 6.4 ± 2.4 cm in length and 3.1 ± 0.8 cm in width with the biliary suspension in a cavity and neck of the gallbladder. All the patients were observed positive dynamics of a contractile function of the gall bladder: a decrease of the length up to 4.2 ± 1.8 cm and of the width up to 1.9 ± 0.5 cm after the osteopathic treatment. The patients needed 6 medical procedures.

Conclusions. Osteopathic effect helps to increase the contractile function of the gallbladder and to reduce the congestion and resolution of the biliary sludge, which is comparable to the litholytic therapy.

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THE POSSIBILITIES OF REGENERATIVE THERAPY IN THE TREATMENT OF PATIENTS WITH CHRONIC HEPATITIS

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Actuality. Chronical hepatitis (HCG) is a very common disease that has a tremendous social value. According to various estimates, more than 5% of the adult population in developed countries is affected. HCG takes a significant place in the structure of the digestive system diseases and it can cause disability and mortality. Despite the recent achievements in the study of the etiology and pathogenesis of HG, problems concerning the search and introduction into practice of health care of new effective methods of diagnostic, treatment and prevention of hepatitis have not been solved yet. So, that is the aim of our work.

Materials and methods. We have examined 60 patients with chronical hepatitis of different etiology with the degree of fibrosis from 2 to 4. All patients were conducted fibromaks and telomere tests and a clinical examination with the assessment of humoral and cellular immunity before and after the treatment. Instrumental methods of examination included ultrasonography (USG) of abdomen, needle biopsy of the liver with the histological and immunohistochemical examination of the biopsy specimens. The patients were randomized into 2 groups of 30 people depending on the received treatment. The first group received a standard therapy of HCG. The patients of the second group, in addition to the primary therapy, received 4 intravenous injection of the mononuclear cells fraction in a dose of $140-160 \times 10^6$, with an interval of 3-4 days. The control of the treatment was carried out in 6 months.

The results and discussions. There was a positive dynamic in both groups but the results of the second group were more significant. The activity indexes of syndrome of cytolysis and cholestasis improved significantly. There was a tendency to normalize the size of the liver according to the ultrasound of the hepatobiliary system. In addition, there was the regression of fatty infiltration and fibrosis, which proves the hepatoprotective effect of the method. According to fibromaks-test we revealed a reduction of fibrosis symptoms, hepatitis activity and the component of the fatty infiltration of the liver. After the evaluation of the histological picture of the liver there was noticed the regression of lymphoid infiltrates, (consisting predominantly of CD-8 positive T-lymphocytes). Furthermore, there was found the decrease in the levels of fibrosis with the restoration of the reticular framework of the liver, which was characterized by the appearance of reticular fibers in liver stroma. It demonstrates us antifibrotic effect. After the treatment in comparison with the primary material there are the signs of liver regeneration in the form of enlarged hyperchromatic nuclei of hepatocytes, dual liver cells and the formation

of simplasty in all control samples. Using the Immunohistochemical study the amount of CD-3, CD-8 and positive T-lymphocytes decreased in control samples and the number of CD-68 positive stellate macrophages (Kupffer cells) increased. So, anti-inflammatory and immunoregulatory effects were revealed. After the repeated telomeric test in 6 months there was determined an increase in the number of nucleotide pairs in the end portions of chromosomes. It shows us the increase in the possibility of cells division and the potential of tissue regeneration.

Conclusions. The obtained results testify in favor of applying mononuclear cells as a regenerative therapy.

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DESMOPLASTIC FIBROMA, TREATMENT OUTCOMES

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Introduction

Desmoplastic fibroma - tumor consisting of aponeurotic and fascial structures, in which occurs the proliferation of fibroblastic cells with a unique arrangement of collagen fibers resembling a tendon. Desmoplastic fibroma (desmoid) in the group of benign and malignant soft tissue tumors make up about 3%. Most often desmoid found on the forearm, shoulder, shoulder girdle, brush on the lower leg (tibia, femur, foot), the gluteal region and the chest wall.

Purpose of the study

Improvement of methods of complex treatment of desmoplastic fibroma.

Materials and methods

During the period from 2009 to 2015 received comprehensive treatment of 19 patients with desmoplastic fibroma soft tissues of different localization (shoulder - 5, thigh - 4, shin - 3, chest wall - 3, forearm - 3, foot - 1). Men amounted 6 women - 13. The first group of 14 patients received the combination treatment. Treatment of 14 patients consisted of radiation therapy (total focal dose - 60 Gray), which was carried out in 2 stages and prolonged with six-month course of intravenous chemotherapy (vinblastine - 10 mg of methotrexate - 25 mg) and oral anti-estrogen therapy (zoladex or tamoxifen). After the combined treatment 14 patients underwent surgery to remove the tumor. In the second group of 5 patients with desmoplastic fibroma only surgical treatment was carried out. For all patients after treatment were carried out follow-up studies using computer tomography or magnetic resonance imaging.

Results and its discussion

Tumor recurrence in a group of 14 patients undergoing combined treatment, was detected in 2 (14,3%) patients. In a group of 5 patients undergoing surgery alone,

tumor recurrences were found in 4 (80%) patients. Full recovery occurred in 12 (63,2%) patients, 7 (36,8%) patients continued treatment. Comprehensive treatment of patients with desmoplastic fibroma, which includes radiation therapy, combination chemotherapy, antiestrogen therapy and surgical treatment of the tumor can reduce the number of relapses as compared with the group of patients who underwent surgery only.

Conclusion

Complex method of treatment of patients with desmoplastic fibroma showed effectiveness not only in the treatment of primary patients, but also patients with recurrent tumor after repeated surgery.

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ROLE OF PLASTIC AND RECONSTRUCTIVE SURGERY AT THE ORGAN-PRESERVING TREATMENT OF PATIENTS WITH SOFT TISSUE TUMORS AND SKIN

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Introduction

With the development of plastic surgery and the widespread introduction of its techniques in oncology, greatly expanded the possibility of the radical organ-saving and reconstructive operations. A new stage in the development of plastic surgery began with the discovery of a new type of circulatory systems tissue. The ensuing investigation of angioarchitectonics of a different areas of the body stimulated the rapid development of the new version of the non-free plastic - transplantation of islet grafts to peripheral vascular pedicle. The development of microsurgical techniques has allowed free use of complex systems of tissues such as autografts.

Purpose of the study

Evaluation of the immediate results of treatment of patients with soft tissue tumors of the skin using plastic reconstructive surgery techniques.

Material and methods

From 2009 to 2015, reconstructive plastic surgery performed in 27 patients, soft tissue sarcoma - 24, skin tumors - 3. Men amounted 17, women - 10 in age from 12 to 74 years. Flap type is selected depending on the size and nature of the defect. In case of closure of the defect thoracodorsal flap was used as a displaced flap in 1 patient, scapular flap at 1, and in one case moved radial flap. During the reconstruction of a free flap on microvascular anastomoses the most commonly were also used thoracodorsal flap in 18 patients, scapular flap - 5, the radial flap - 1. All patients underwent surgery as a stage of combined or complex treatment, depending on the morphological type of the tumor.

Results

In all cases, the performance of the plastic surgery stage was the only alternative to amputation. When using skin and muscle flaps on vascular pedicle in 1 (3,7%) cases, there was an edge of the flap necrosis displaced. In 96,3% of cases received good and satisfactory functional and cosmetic results.

Conclusions

The present level of development of plastic surgery allows to carry out organ-saving and reconstructive surgery for extensive defects of tissues, including skin, subcutaneous fat, muscles and bones, with the help of complicated tissue complexes with axial type of blood circulation, which greatly improves the medical rehabilitation of cancer patients as possible.

Using the techniques of plastic reconstructive surgery in the treatment of patients with soft tissue defects after removal of tumors provides a good and satisfactory functional and cosmetic results.

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METHODS OF TREATMENT IN PATIENTS WITH BURNS

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Introduction Burns are one of the most urgent problems of modern medicine. In recent years, there is an increase in the proportion of patients with deep burns from 37.5% to 41.4%. A similar pattern is noted in the Primorie Region. The results of the treatment and recovery of hard-baked are directly dependent on the timing of the recovery of the lost skin. Pathogenetically justified is early surgical necrectomy with simultaneous or delayed autodermoplasty (ADP). However, the possibility of using this method is limited with extensive burns, as the shortage of donor surface does not allow a complete cover wound surfaces in optimal time. The least researched issue in the treatment of burn patients is the development of histological criteria to predict the effectiveness of active surgical treatment in the early stages after thermal injury.

Aim of study Therefore, the aim of our research is to improve the results of surgical treatment of active deep burns, determining the optimal timing autodermoplasty, shortening hospital treatment of victims.

Materials and methods The study was carried out with consideration of the Helsinki Declaration (2000) and was approved by the Ethic Committee of Far-Eastern Federal University. Surgical necrectomy was performed in 21 (33.8%) of the victim, necrolytic necrectomy - in 8 (12.9%) patients, independent scab rejection occurred in 33 (53.3%) burnt. The study was conducted after staining with hematoxylin-eosin and Gomori to detect alkaline phosphatase activity capillaries immunohistochemical identification of Ki-67 gene expression was carried out by a standard set of methods. Identification of immune cells (dendritic, macrophage, CD-4/CD-8) was conducted by the same scheme, in spite of different antigen localization in cellular structures: membrane, lysosomes, nucleus, Golgi complex.

Results The processes of damaged tissue regeneration begins with the activation of angiogenesis. We found that after the burn covers the density of the capillary network surrounding the burn wound, increases rapidly, reaching a maximum in 7-8-th day after the injury, and after the 14th day there is a decrease of this indicator. Morphological study of the first and second day after burn in loose connective tissue underlying the wound surface and wound epidermis surrounding tissues found increased number of blood vessels, and inflammatory diffuse predominantly lymphocytic infiltration. The density of capillaries in the functioning graft, calculated for 1 mm² cut dermis becomes the maximum 7-8 days after grafting and drastically reduced to 3-4 weeks, which is a general law for all affected groups. However, the density of the capillary network is more pronounced in the group where the total concealment of wounds was performed 7-8 days after injury. These morphological studies suggest that autodermplasty made in time before the 9th day after burn injury, has a significant advantage over the operational shelter wounds, made at a later date. This is manifested in full engraftment of the transplanted skin its normal vascularization, the predominance of regenerative processes over destructive. This preserves the viability of all the structures of the dermis, which is essential for the functioning of the skin, as the body. Obtained morphological criteria to objectively determine the readiness of the burn wound to autodermotransplantat and predict the results.

Conclusions The main reason for the unsatisfactory results of skin grafts should be considered a violation of vascularization of the graft. Found a direct correlation between the density of functioning capillaries and results autodermplasty. It is shown that engraftment autodermotransplantat processes are dependent on angiogenesis activity and the number of functioning blood vessels in the area of burn wounds as well as on its boundary with healthy skin. Status regenerative potential of tissue structures in the affected zone, and on the border with burn injury as measured by the expression of Ki67 gene allows conclusively predict the outcome of skin plasty. The optimum ratio of immune CD4/CD8, CD68, CD163 in burn wound and on its border with intact skin is also a criterion that allows to establish a willingness to conduct a burn wound autodermplasty.

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CARCINOGENESIS IN BRAIN

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Introduction. The paper by immunohistochemistry material analyzed 67 biopsies obtained at the Department of Neurosurgery, Medical Center FSAEI HPE Far Eastern Federal University taken from patients during surgery for removal of brain tumors of various localization. The resulting archive of material showed age and gender characteristics of cancer pathology of the brain in patients Primorsky region. It was showed the activity of a gene Ki67, p53 and p63 to detect ratios of proliferation levels in neural tissue and malignization and apoptosis structural elements. With detection GFAP- acidic fibrillary protein - set degree of malignancy of the process and the level of brain damage in patients. It is concluded that under the general laws and nervous tissue malignancy compared to other tissues. Unlike bulky modern classification of brain tumors suggested a classification based on the criterion of ability to differentiate cells maligniziruyuschihsy: lack of differentiation, partial differentiation, partial differentiation, corresponding to the pathogenesis and etiology of carcinogenesis.

Methods We have used immunohistochemical techniques to assess histopathologic unification processes observed during tumorigenesis in the CNS. We also studied the gene activity of Ki67, p53 and p63 in the classic protocols for light microscopy to detect the ratio of the level of proliferation and apoptosis of structural elements in malignize nervous tissue. Analysis of the results was conducted using OlympusBX51 microscope, illustrations derived from the digital camera DP 25, statistical processing of the material is produced using an Olympus branded computer programs (Japan).

Result. The relevance of studying mechanisms of carcinogenesis is due to the high mortality rate in the world due to cancer. Despite numerous concepts of carcinogenesis, question how the etiology and pathogenesis of cancer has not yet been released finally. Treatment, not based on the pathogenetic mechanisms, without knowledge of etiological principles, is in fact only symptomatic. To a key pathogens to develop cancer in the mucous membranes and skin today include human papillomavirus. But 98% of the cases of spontaneous recovery with this infection to doubt the accuracy of such conclusions. The total for any process of cancer changing defenses allowed to explore local reactions of immune homeostasis of human skin with human papilloma virus in the sample effector immune cells CD68, responsible for antigenpresentation. It is established that the human

papillomavirus infection markers CD68 are identified only in connective tissue of skin, completely disappearing from the epidermis where they sit in normal skin. Concluded that the mechanism of proliferation of connective tissue own plates lining the papillary layer of the dermis is associated with a lack of immune cells in the epithelial CD68 disc, cluster them in adjacent to the basal membrane, connective tissue. This could be the inducer to the imbalance in the system keylones - nekrohormones that is a trigger factor for growth, not only the superficial epithelium, but contiguous to the connective tissue. Perversion of antigen presentation in connective tissue increases the number of fibroblasts producing intercellular substance that leads to unregulated growth of connective tissue. The possibility of contamination of viruses in epithelial layer is dependent on the local immune homeostasis, so one possible way of normalization in the woman-connective-tissue interactions is the induction of the correct distribution of CD68 in relevant structures. Proposed model of authorship oncogenesis, modifying model Correa (1990). The work changes the understanding of the pathogenesis of cancer and gives a new strategy in the search for early diagnosis and patogenetical sound treatment of carcinogenesis.

It is concluded that under the general laws of malignancy and nerve tissue as compared to other tissues. Unlike bulky modern classification of brain tumors the classification based on the criterion of ability to differentiate cells malignization : lack of differentiation, partial differentiation, partial differentiation corresponding pathogenesis and etiology of carcinogenesis.

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THE REACTION OF NEURONS IN THE BRAIN TO CHRONIC ISCHEMIA

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Relevance. Despite numerous researches of a pathogenesis of damage of nervous tissue of a brain, any of them does not correspond to pathogenetic inquiries fully for complete prevention of damage of vessels and nervous tissue of a brain. Increasing the share of

the elderly in society has transformed the study of age-dependent diseases of the vital importance of the problem. Among the diseases associated with aging, the leading place belongs to degenerative diseases of the brain, leading to stroke and dementia - of the pathology, which is becoming a heavy burden for the patient, those around him and society in general. Mortality from cerebrovascular disease in the most economically developed countries in the third position, after heart disease and cancer, accounting for 12-15% of total mortality, which indicates the high relevance of the study of brain ischemia.

The purpose of our research is studying of morphological structural changes of a brain of the person in zones of a chronic ischemia,

Material and methods. Material for pathomorphologic researches is received according to the order of Ministry of Health and the Medical Industry of the Russian Federation of 29.04.94 N 82 "About an order of carrying out pathoanatomical openings". The intake of material was made in a day after clinical death, all 52 biopsies are studied. We use classical histological methods of research for general morphological picture of the human brain neurons. The analysis of material is carried out by means of Olympus microscope – Bx82 and the CDx82 digital camera with company program providing

Results. It is found that under conditions of chronic ischemia nervous cerebral tissue acquires specific morphological traits characterized neuronal apoptosis, reduction ratio neuron / neuroglia, ICR decreasing density per unit area of nervous tissue. In the conditions of a chronic ischemia in the zones remote from a site of sharp ischemic damage metabolic activity of neurones decreases, the lipofuscin collects. It is also noted that violations occur in the structure of the blood-brain barrier, a lack of astroglial system ICR-neuroglia. Selection of atherosclerotic angio-encephalopathy as a self-contained form of ischemic pathology of a brain is caused by the fact that this form has pronounced morphological and clinical features, and that it quite often precedes developing of the larger heart attacks of a brain, which are the cornerstone of a heavy stroke. Studying of clinical morphology of the growing old nervous tissue allows to understand more fully and versatily substance and features of morphology and physiology of neurons, and also allows to define mechanisms of an aging of neurons that can be used for searching of a way to stop this process.

Conclusion. The morphological research techniques of an assessment of a condition of neurons in the zone remote from area of a sharp ischemia opening mechanisms of chronic damage of neurons against an ischemia allow optimizing medical tactics. The received results can form a conceptual basis when developing pathogenesis therapy of pathology of fabrics of nervous system. The results of studying the characteristics of nervous tissue in chronic ischemia, features and character of morphological changes of nerve tissue in the areas of chronic ischemia theoretically justify treatments selection criteria used in clinical therapy and neurological practice, and are aimed at further improvement of provision of medical aid to the population.

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ENHANCED ANGIOGENESIS MUCOUS PROXIMAL GASTROINTESTINAL TRACT IN PATHOLOGY

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Introduction. Myeloma refers to peripheral lymphoproliferative tumors. Multiple myeloma is observed in 1-2 cases on 100 thousand people. Given the severity of the disease inevitably unfavorable outcome, as well as the fact of hitting socially active people, aged 40 to 60 years, the study of pathogenetic mechanisms of multiple myeloma is one of the most important trends in medicine. It is known that plasmacytoma accompanied by marked angiogenesis in tumors, but the question of whether the induction of angiogenesis is a generalized process, at this stage unclear.

Methods. Gingival mucosa of the proximal gastrointestinal tract and tooth implantation zone was taken in clinically indicated cases and with informed consent, in accordance with the provisions of the Helsinki deklratsii and the authorization of the Ethics Committee Palo. Biopsies were fixed in paraffin, then divided in 3 mm thick sections. After stained with hematoxylin-eosin biopsies were studied for morphology of microvasculature. Functionality microvascular gums examined by detecting alkaline phosphatase in the vascular wall, which is a transport enzyme and reflects the degree of maturity of the endothelium. Also, sections were processed for immunohistochemistry detection of CD44, CD138, common for myeloma cells, and CD45-leukocyte, common antigen marker. Made preparations studied with a microscope Olympus.

Results. We found that vascularization of gingival mucosa in a patient with multiple myeloma have higher rates compared with patients in this age group who have a somatic pathology and in patients without baseline disease. Number of capillary density and vascular network was significantly higher than in patients in this age group without myeloma disease ($P < 0.05$). We identified kidney capillary growth. Since the pathogenesis of multiple myeloma, great importance is attached tumor angiogenesis, one can assume that the contents of endothelial growth factors is observed not only in tumors, but also in other structures of the body removed from the tumor by significant distance. Believe that myeloma cells synthesize their own growth factors, vascular endothelial (VEGF-vascular endothelial growth factor) and metalloproteinases (MP), which interact with receptors on stromal cells stimulate the secretion of IL-6 and TNF- α . In experimental studies have shown that VEGF and MP enhance tumor neovascularization process and promote the proliferation of myeloma cells. The presence of angiogenesis in the mucosa

of the gums shows generalization of the process, inappropriate stromal-epithelial-mesenchymal interactions. Immunohistochemistry for detection of CD44, CD138, common to myeloma cells, and CD45-leukocyte common antigen marker showed that the expression of CD45 - leukocyte common antigen in myeloma patients is reduced compared with other dental patients.

Discussion. Enhanced angiogenesis in combination with the increased number of cells with surface receptors for CD45, CD44 and CD138 in the gingival tissues may indicate an increase of myeloma cells proliferation not only in tumors, but also for the development process in areas distant from the tumor. The main immunological marker allowing differentiated tumor and non-tumor plasma cells is antigen CD19, so we continue the investigation of pathological changes in gingival mucosa in the area of dental implantation. Normal plasma cells typically retain the ability of expression of CD19 (one of the earliest B-antigens linear), whereas the majority of myeloma cells lose the ability to express it. Furthermore, on the surface of myeloma cells often detected CD58 (LFA-3) and CD56 (NCAM). These markers are usually not found in normal plasma cells. Expression of CD28 revealed high proliferative activity of myeloma cells, typically for professirovanii and recurrent disease, and absent in normal plasma cells. Our research in this direction will continue.

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TREATMENT OF CERVICAL PATHOLOGY CAUSED BY THE HPV

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Summary. The conducted research established that local application of Chitosan gel incorporated with Tinrostin at 73.4 % of women is conducted to elimination of the human papillomavirus and regression of atypical changes in the mucous vaginal part of the cervix.

Although modern methods of diagnosis and treatment of precancerous cervical disease cervical cancer continues to grow. One of the most important factors in carcinogenesis is persistence of oncogenic types of human papillomavirus (HPV). When cervical dysplasia outlook is favorable, provided the human papilloma virus excretion

from the body (Prilepskaya, Dovletkhanova, 2013).

Objective: to compare the effectiveness of treatment unexpressed atypical changes in cervical squamous (ASCUS (atypical squamous cells of undetermined significance), by Terminology System for Bedesten, 2001), squamous intraepithelial lesions of low grade (LSIL) associated with the papillomavirus infection, Izoprinozine known drug and Chitosan gel incorporated with Tinrostin made of marine aquatic (Besednova, Epstein, 2004).

The material for the study is based on data obtained during the examination and treatment of 42 women in Vladivostok at the age of 25-35 years living with high oncogenic risk HPV.

Standard survey included examination of the cervix and vaginal walls in the mirror under the control of, extended colposcopy, cytology smear from the cervix and HPV testing. The group studied included only those women who, in addition to detection of high risk HPV types were not expressed atypical epithelial changes of the cervix and squamous intraepithelial lesions of low degree (ASCUS and LSIL).

Result. Group I included 18 women treated with immunomodulator Isoprinosine 2 tablets (1000 mg) 3 times a day. Group II consisted of 24 women who underwent local treatment with Chitosan gel incorporated with Tinrostin. Treatment was carried out within 3 months as courses. Overall efficacy was evaluated twice at 3 and 6 months. The clinical effect was observed in the same way in both groups of women (56.7 %). Exocervix defeat was disappeared, colposcopic picture was normalized, advancing regression altered cytologic picture. The elimination of HPV in women's group I was observed in 62.1 % of cases, the elimination of HPV in women's group II was observed in 73.4 % of cases.

Conclusion: local application of Chitosan gel incorporated with Tinrostin is a promising treatment for women with cervical disease associated with the papillomavirus infection caused by high risk HPV.

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SOME MORPHO-LABORATORY DATA AND ITS ANALYSIS IN CASE OF ACUTE CLOZAPINE POISONINGS AND COMBINED CLOZAPINE-ETHANOL POISONINGS

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The number of clozapine ((8-chloro-11-(4-methyl-1-piperazinyl)-5H-dibenzo [b,e]-diazepin) poisonings has increased dramatically recently.

Such intoxications are characterized by severe symptoms and high mortality (from 12% to 18%).

Clozapine is a functional poison. Morphological changes in case of these poisonings are non-specific. They are characterized by dycirculatory disorders and degenerative changes in parenchymatous organs.

The symptoms of combined intoxications caused by clozapine and ethanol are especially severe. The mortality reaches 30%.

Morphological changes in case of these poisonings are non-specific. Morphologically changes in heart in case of acute clozapine poisoning and combined clozapine-ethanol poisoning have not been studied enough.

The aim of the study:

The aim of the study is to estimate the morphological changes in heart in case of acute clozapine and combined clozapine - ethanol poisoning 24 hours after the intoxication and to match the data with the results of chemical analysis (HPLC-MS).

Materials and methods:

We conducted a comparative study of histological slides of the hearts of outbreed male rats weighing 290-400 g. The study group 1 included 5 rats treated with clozapine oral dose (150 mg/kg) and decapitated 24 hours after the intoxication. The study group 2 included 5 rats treated with clozapine and ethanol and decapitated 24 hours after drug administration. The group of comparison included intact rats (5). The concentration of clozapine and its metabolites in heart was measured using HPLC-MS method.

Results:

No pathological changes were observed in the group of comparison.

24 hours after intoxication venous plethora, eosinophilia werei seen in both stidy groups. Fragmentation of myocardium muscle fibers was observed more frequently in the second study group.

2 cases of sludge were detected in the first group while in the second group no cases of sludge were not observed. Blood hyperemia was observed in both groups. Homogenization of cytoplasm was observed in the first group (4 cases out of 5). The corresponding concentrations of clozapine, norclozapine and clozapine-N-oxide were 76,75, 44,68, 0,38 µg/g and 328,34, 87,57, 0,95 µg/g in the first and in the second study group, respectively.

Conclusion:

These morphological changes along with the results of chemical analysis can be used to diagnose the fact of clozapine and clozapine-ethanol poisonings and the cause of death.

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THE ROLE OF INTESTINAL MICROBIOCENOSIS AND EXOMETABOLITES OF MICROBIOTA IN THE DEVELOPMENT, COURSE AND PROGNOSIS OF NON-ALCOHOLIC FATTY LIVER DISEASE

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Actuality. Non-alcoholic fatty liver disease (NAFLD) has become very popular recently. It can be found in 24% of European people (74% - among overweight people, 9% - among the patients with normal weight). The incidence of NAFLD has increased up to 11.2% in 2015 in comparison with the year 2007 in Russia. So it is 37.3% now. An important role among different NAFLD factors is given to a violation of qualitative and quantitative composition of intestinal microflora. The violation of the ratio of composition of intestinal micro flora – dysbiosis has diagnosed in 100% of the patients with chronic liver disease with various degrees of clinical manifestations since 2006. The aim of our study was to determine how intestinal microflora disorder and its metabolites effect the development, course and prognosis of NAFLD.

Materials and methods. We have examined 25 overweight patients with NAFLD at a steatosis stage, aged 45,4±16,2. We used questionings, examinations and an assessment of the quality of life (SF-36), clinical and biochemical blood tests, FibroMaks-test, telomere test, a bacteriological examination of the contents of colon (PCR-RT), metabolome blood analysis, bioimpedance analysis of component composition of the body and liver ultrasound. All the patients received a biologically active additive “Hepaguard Active” containing essential phospholipids, L-carnitine and vitamin E (Eurasian patent No. 019268 in 28.02.14). The patients had 1 capsule 3 times a day during the meal for three months.

The results and discussions. A PCR method showed that the majority of the patients had a microbial imbalance - dysbiosis of colon with a substantial decrease in bacteroid proportion (a bacterial group with a highly developed glycobiology). After the therapy there was a significant increase in the proportion of bacteroides from 11.3%±10,6 (mean ± SO) to 47.6%±28,8 of the total number of microorganisms (p<0.0001). It proves that the drug can restore a disturbed microbial balance in colon associated with the risk of systemic metabolic disorders in overweight patients. The increase of bacteroids did not violate an anaerobic representative balance of the intestinal microflora. Firmicutes (*Faecalibacterium prausnitzii*) tended to increase (from 0.9% to 1.7%; the difference is unreliable). This fact

proves a prebiotic effect of the drug (patent RF No. 2571495 in 20.12.2015). Metabolome blood analysis of all the patients revealed 92 individual connections. A significant part of them was identified with the use of bibliotheca NIST08. All the connections were divided into 4 groups. The first group included bottom-amolecular carboxylic acids; the second one included the compounds of high molecular weight carboxylic acids and their NITRILES; the third one included sugar; the fourth one included the connections which were not presented in above groups. There was an increase in the number of metabolites in blood after the treatment due to fatty acids mobilization, from the fat depot, an increase of an oxidation oven-new activity thanks to the activation of lipolysis in adipose tissue. Thus, changes in the level of 3-Hydroxypropionic acid in blood of the patients with NAFLD may be a marker of microbial metabolism changes in colon during the treatment. All the patients lost some weight thanks to the therapy. So, the bioimpedance analysis results of the component composition of the body revealed a significant decrease in a body mass index (BMI) up to 10.7%. The amount of adipose tissue increased up to 20.6%, an active cell mass (ACM) increased up to 8.6%, which shows a metabolic normalization. Studying the number of nucleotide sequences in telomeres before the treatment in the patients with NAFLD there was recorded a decrease in their number in limpid. In the increase in the number of nucleotide sequences in telomeres in 84% of the cases was noticed in 6 months after the treatment. It shows a rise in telomerase activity and an increase of a quantitative capabilities of cells division. A telomere test remained unchanged in 16% of the cases. It is important to notice that the patients who had a smaller telomere length reacted on a hepatotropic therapy much more than the patients with a greater length. There was a positive dynamic of all indicators according to the results of FibroMaks-test with an activity and severity of steatosis and fibrosis assessments. Ultra-sound examination showed a positive liver dynamic due to the normalization of its size in the patients with hepatomegaly and regression-signs of fatty infiltration. All the patients had a positive dynamic of laboratory parameters thanks to the therapy.

Conclusions. "Hepaguard Active" prevents a microbial imbalance in the large intestine associated with an obesity and systemic metabolic disorders. It optimizes qualitative and quantitative composition of metabolites and reduces an excess weight. Furthermore, it improves a liver condition and gives a positive dynamics of NAFLD symptoms. In addition, it helps to improve the quality of life.

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AUGEN-INFRA LICHT MASSAGE

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Das Hauptproblem unserer Zeit sind Kreislauf-Erkrankungen. Bewegungsmangel, Umweltverschmutzung, falsche Ernährung und Stress, tragen zum Wachstum von

Krankheiten bei, die durch Durchblutungsstörungen und verringerter Gewebstrophik verursacht werden (Vor allem werden Augen betroffen). Mit jeder Verschlechterung der Augenperfusion beginnen degenerative Prozesse, die zu Funktionsschäden oder sogar zum Zelltod führen können. Bei den meisten Augenkrankheiten (Glaukom, Katarakt, Kurzsichtigkeit, Optikusatrophie, etc.) tritt eine Verschlechterung sowohl der Trophik, als auch der Durchblutung und des Gewebestoffwechsels ein. Aus diesem Grund ist Massage eine pathogenetisch gerichtete Behandlung.

Wir haben ein neues Gerät in Form von Schwimmbrille entwickelt. Es handelt sich um eine Behandlungsmethode, die Augengewebe mit Hilfe von Lichtstrahlen und wechselnden Luftdruckschwankungen massiert. Mit Hilfe dieses Geräts kann man diverse Augenkrankheiten behandeln.

Die blinkenden Lichtblitze rufen Verengung und Erweiterung der Pupille hervor, womit eine sanfte Massage der inneren Augenmuskeln und folglich Spastiklockerung des Ziliarkörpers erzeugt wird. Pupillenverengung und Pupillenerweiterung ändert die Position der Regenbogenhaut und der Augenlinse, verändert u.a. die Augenvorderkammertiefe. Dieses funktioniert wie eine Scheidenwand, indem sie den Flüssigkeitsaustausch anspornt. Nährstoffreiche Flüssigkeit wird gegen Nährstoffarme ausgetauscht. Hiermit werden Staselemente beseitigt, die Hydro- und Hämodynamik verbessert womit im Endeffekt die Gewebstrophik verbessert wird.

Wechselnde Luftschwingungen werden in unserem Verfahren als zweiter Bestandteil bei der Behandlung von Augenkrankheiten verwendet. Variable Luftvibrationen mit Infraschallfrequenz von 2-8 Hz in Form von Vakuum auf dem Auge (in einer speziellen Kammer), bewirkt Amplitudenschwankungen des Augapfels in der Augenhöhle, wodurch nicht nur die inneren Augenmuskeln, sondern auch das Gewebe um das Auge herum (Augenlider, Tränendrüse) massiert werden. Hiermit wird die Trophik verbessert, Cyclospasm, Schielen und Trockene Augen- Syndrom u.a. beseitigt.

Mit dieser Behandlungsmethode verbessern wie die Effektivität von Behandlungen diverser Augenerkrankungen.

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FEASIBILITY OF ADDITIONAL RESEARCH METHODS FOR ATOPIC DERMATITIS OF TORPID PROGRESSION

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One of the most common disease of children's age is atopic dermatitis (AD). As a phenotype from the etiological point of view it is considered as a heterogeneous medical

condition. Dermatologists acknowledge three main types of defects in AD: 1. defects of barrier function of the epidermis; 2. congenital immune deficiency; 3. defects in immune regulation. According to the literature, in 80% of children with AD there is a complicated family medical history.

The following requirements were offered to the patients prior to study enrollment: a regular medical diagnosis of AD with the spread of affected area, with an unfavourable effect of the therapy lasting 2 months in children under one year of age and 4 months in children older than one year – during 4 months and being on an elimination diet within at least 1 month. There were up to 3-4 flares annually with a progressive duration. The group of patients with a torpid development of AD comprised 470 people. The age of patients varied between several month-old babies to 45 years old.

On the first day the patients were divided into 2 groups: 431 patients with AD and 39 patients (8,3%) with a disease, which has clinical criterion common for AD (ectodermal dysplasia - 16 patients; X-linked ichthyosis – 10 patients; Unna-Thost syndrome – 5 persons; mastocytosis - 5 persons; leiomyoma – 1 person; histiocytosis – 1 person; hypothyroidism - 1 person).

All 479 patients underwent DNA testing on 2282del4 and R501X mutations in the filaggrin gene (FLG). In 14,7 % patients (69 people) a monogenic form of AD was detected.

In 101 AD patients younger than 6 years old a chromatography analysis of urine was carried out. In 84 patients various deviations from the norm due to fermentation deficit and/or metabolic disorders were revealed, for which AD is one of the basic symptoms. An average SCORAD before prescription of a diet was $54,2 \pm 5,4$. They were administered to a diet with exclusion of the products identified in the urine. After prescribing an individual diet the patients were examined in 5-7 weeks with a secondary calculation of SCORAD index in order to evaluate objectively the effect of the diet. During the diet all patients received their treatment. SCORAD index was reduced up to $13,1 \pm 4,6$.

47 AD patients with different polysystemic manifestations underwent cardiovascular examination, in 8 of them various chromosomal rearrangements (17,0 %) were detected.

As the result of the conducted investigation of an algorithm of additional examination of patients with torpid development of AD was elaborated: testing of mutation R501X and 2282del4 in the filaggrin gene (FLG); a chromatography analysis of urine in the patients under 6 years of age, cardiovascular examination in AD patients with different polysystemic manifestations.

Frank Wedlich

**NILAS-MV - EIN REVOLUTIONÄRES SYSTEM
ZUR MESSUNG VON VEGETATIVUM, PSYCHOEMOTION
UND REGULATIONSPROZESSEN**

Wedlich Medizinische Konzepte, Bremen

Unser Herz bildet sich als erstes Organ in der sechsten Schwangerschaftswoche und schlägt für den Rest unseres Lebens. Unser Herzschlag ist nicht regelmäßig. Das Herz muss sich ständig den Umgebungsbedingungen anpassen, z. B. bei Stress oder körperlicher Tätigkeit, aber auch im Schlaf oder in Entspannungsmomenten. Selbst unsere Gedanken und Emotionen beeinflussen unseren Herzschlag, in Echtzeit. Diese Anpassungsprozesse drücken sich in der Herzratenvariabilität bzw. Herzfrequenzvariabilität aus.

Konkret gibt unser Sinusknoten als „Schrittmacher“ des Herzens einen regelmäßigen Herzrhythmus vor. Je nach Bedarf wird dieser jedoch über unser Hormon- bzw. Nervensystem angepasst, d. h. moduliert. Dieser Anpassungsprozess ist lebenswichtig. Eine geringe Herzratenvariabilität deutet auf einen erheblich schlechteren Gesundheitszustand hin als eine hohe (d. h. flexible) Herzratenvariabilität. Eine HRV-Messung gibt deshalb anhand von verschiedenen Auswertungsparametern Aufschluss über die Fähigkeit eines Organismus, den täglichen Anforderungen gerecht zu werden, über die Höhe des Stresslevels, die Gesundheitsprognose uvm..

Im Zusammenhang mit der Herzratenvariabilität (HRV) spricht man auch von der „Regulationsfähigkeit“ eines Organismus. Was man als „Selbstheilungskräfte“ bezeichnet, ist im Grunde Selbstregulation. Ist diese Regulationsfähigkeit gestört, entstehen in einem Drei-Phasen-Modell der Krankheitsentstehung aus den Regulationsstörungen zunächst Funktionsstörungen und dann Krankheiten. Eine HRV-Messung ist daher eine Möglichkeit, Störungen bereits frühzeitig zu erkennen und gegebenenfalls die Regulationsfähigkeit zu unterstützen und so der Entstehung von Krankheiten vorzubeugen.

R.D. Zhaxylykova

**TO THE MATTER OF PANDEMIC OF UNDIAGNOSED
DEMODICOSIS**

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As the WHO states, currently noncommunicable diseases (NCDs) are the major cause of death worldwide, causing more deaths than all other causes combined, and their prevalence has reached epidemic proportions. Despite the efforts of medicine, growth and aggravation of NCDs are not amenable to correction yet. NCDs are slowly progressive and long-running diseases, which include allergic, cardiovascular, endocrine, oncological,

dermatological, gastrointestinal, otolaryngological, mental, ophthalmological, neurological and other ones.

Despite the fact that Demodex was found in the skin of almost all people as far back as in 1841-1843, to date in medicine the existence of Demodectosis remains disputable. As chance would have it, over the last 43 years we have observed Demodectosis among the population in situ. Demodectosis was found by us in 96% of 388 780 persons when inspecting the entire skin integument, and in 98% of 2 million people from various locations around the world when inspecting the skin of exposed parts of the body. Acarological examination of 17,823 affected found: Demodexes in 98.1%, Dermatophagoides in 0.5%, Sarcoptes scabiei in 0.6%, unidentified mites in 0.8%. In 2.4% of the examined were found concurrently Demodexes, Dermatophagoides and Sarcoptes scabiei. Colonies of Demodexes were found in 100% of: in the skin papules of 242 patients with itching diseases, in acne elements of 247, in atheromas of 18, in chalazion of 12 patients. In 18 people with healthy skin all of the available methods of diagnostics failed to detect mites from the skin.

From 42 980 patients seeking medical help, 92% fully recovered after anti-demodectic treatment. Before resorting to us, these patients had been treated unsuccessfully at ophthalmologists (1.4%), rheumatologists (1.2%), oncologists (0.5%), gynecologists (0.4%), endocrinologists (0.4%), surgeons (0.3%), urologists (0.2%), psychiatrists (0.1%) and other physicians (0.4% of patients). The largest number of the admitted patients had allergic (57.7%) and dermatological (37.4%) diagnoses because we provided chargeable services to patients with allergic diseases of the skin.

The complete course of ethiopathogenetic treatment with further observation within more than two years was conducted in 8712 patients. Among them there were 1666 patients with allergy and 3460 patients with allergodermatosis. Before they admitted to us they received treatment for: food or drug allergy – 763 patients, allergic blepharoconjunctivitis – 86, allergic perennial rhinitis – 178, pollinosis – 471, asthmatic bronchitis – 12, exudative diathesis – 712, acute urticaria – 42, chronic recurrent urticaria – 114, eczema – 149, neurodermatitis – 179, generalized dermatitis – 912, focal dermatitis – 972, contact dermatitis – 255, psoriasis – 117, parapsoriasis – 72, discoid lupus erythematosus – 49, photodermatosis – 43 patients. As a result of the ethiopathogenetic treatment 70% patients with allergodermatosis and 95% of patients with allergy were completely recovered. Disease recurrence was not observed within two years. Absence of disease recurrence within more than 10 years was recorded also in series of incidentally traced cases. Details on www.allergy.kz

Thus, according to our actual data Demodex mite definitely causes the disease – Demodectosis. Demodectosis is a primary-chronic infectious associative disease. Clinical manifestations of Demodectosis can vary widely: from subclinical to life-threatening conditions. There is no asymptomatic course of Demodectosis!

The facts set out, when matching with the WHO information, give reason to assert: lack of diagnostics of Demodectosis and its mentioned clinical masks is one of the reasons for

currently rising incidence of NCDs. In a way, the prevalence rate of NCDs circumstantially proves the existence of pandemic Demodectosis. The undisputed evidence of the latter are the actual results of observations of Demodectosis and its clinical masks among the population. This opinion the independent researcher is up to prove by complete cure of patients with various demodectic variants of NCDs on the background of acarological monitoring over time.

P.S. Flis

PEDIATRIC DENTAL PROSTHETICS, THE MOST PROMISING DIRECTION IN THE PREVENTION (PROPHYLAXIS) OF DENTOFACIAL DEFORMATIONS

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Actuality: currently, according to the literature, anomalies and deformations of dentoalveolar apparatus in all of the world have a great spread. For the proper growth and development is influenced by three main factors:

1. biological potency to growth
2. teething
3. mastication function

In case when the teeth of the children are removed for various reasons, in the early stages and disturbed chewing process, the most effective prevention methods of dentoalveolar anomalies and deformations is well-timed pediatric prosthetics. This important issue is given very little attention, as we seen from our experience and literature materials.

Objective: survey of children's groups to identify the frequency and causes of early removal of teeth in children, the frequency and the number of anomalies and deformations of dentoalveolar apparatus.

Materials and methods: specially designed questionnaires were used for clinical examination organized children groups (kindergartens and schools).

Conclusions: Has been observed the high incidence of dentition defects in the temporary and permanent dentition in children. The prevalence of dentition defects in children aged from 3 till 16 years is an average of $23.0 \pm 0.8\%$. In the temporary occlusion of 13%, 52% - in mixed, 16% - in permanent.

The survey of a large number of anomalies and deformations were found dentoalveolar system in children in different periods of bite up to 50%.

Recommendations: In case of the teeth defects and dental arches during temporary and mixed dentition must use pediatric dental prosthetics which designed by us. This prosthetics are simple to manufacture and cheap also they can be removable and non-removable.

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ENDOASCULAR TREATMENT OF AORTIC VALVE STENOSIS IN PATIENTS WITH ACUTE CORONARY SYNDROME AND HIGH RISK OF SURGICAL INTERVENTION ON "OPEN" HEART

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Purpose: improvement of remote results of treatment of patients with combined lesions of the coronary arteries and aortic valve. The development stage of the treatment algorithm of the patients at the Bashkir state medical university clinic.

Key words: aortic valve stenosis, transcatheter aortic valve implantation (TAVI), acute coronary syndrome, ischemic heart disease, coronary stenting, balloon angioplasty.

Introduction. Aortic stenosis (AS) is a common disorder in which a narrowing of the orifice of the aortic valve leads to disruption of the blood output of the left ventricle (LV) in systole. In the General population the prevalence is around 0.5%, but increases dramatically among patients older than 65 years, most of whom are 70 years. It is important to note that AS is accompanied by other comorbid conditions in more than one third of the cases. As in patients over the age of 70 years, as a rule, is associated with age-related calcification, but in younger patients, the mitral valve is the root cause due to lesions of the rheumatic process. Pathological process mediated inflammatory reaction, in the final, which takes place the deposition of the valves damaged inflammation of calcium salts. Progressive Deposit and thickening of the valve leaflets lead to the narrowing of the orifice of the aortic valve (AV). As well as can be accompanied by angina due to the increase of myocardial mass of left ventricle and relative coronary insufficiency. The only effective method of treatment of patients with as is prosthetics AV (PAV). The positive dynamics after PAV is observed even in elderly patients. The survival rate in a population of patients aged 80 years and older is 89% and 69% at 1 and 5 years, respectively. But for those patients who cannot have open heart surgery because of comorbid conditions, an alternative is endovascular prosthesis AV (EPAV).

In accordance with need to gain experience and comparative analysis of the available observations of different hospitals, we considered it appropriate to share the experience of the Department of endovascular diagnosis and treatment of the Bashkir state medical University Clinic at the stage of endovascular treatment of aortic valve stenosis and coronary disease in elderly and old patients with high risk or contraindications to performing operations on open heart. Our experience includes 11 patients with a staged endovascular procedures on coronary arteries and aortic valve. On hospital stage were two fatalities.

Discussion: Nowadays there is no consensus on the feasibility and necessity of performing simultaneous or staged procedures of coronary stenting and TAVI. A number

of authors support the opinion that the simultaneous procedure referring to the fact that the patient is exposed to lesser emotional burden as well as reduced time of hospital stay, reduced drug load. However, we have proposed a three-stage treatment scheme are more acceptable since a number of reasons.

The execution of simultaneous operations impossible for patients with acute coronary syndrome with concomitant pathology of the aortic valve because of the high risk of life of the patient, in consequence of prolonged myocardial ischemia, heart rhythm disorders, high risk of bleeding and thromboembolic complications, psychological unpreparedness of the patient, increased consumption of contrast medium, leading to contrast-induced nephropathy, as well as a great time fluoroscopy, which also has a negative impact on the patient.

In addition, the phasing of treatment in this group of patients, allows to properly assess the risk-benefit ratio of this procedure, the possibility of transition to another kind of surgical treatment or refusal from further surgical treatment.

Also step procedures enable you to leave an imprint in the mind of the patient on carried out complex operations, thanks to the patient after discharge more thoroughly in compliance with the recommendations of the observing doctor, refuse from bad habits and goes on a healthy lifestyle that in the long term increases the quality and duration of life of the patient.

Conclusion. Thus, staged endovascular treatment of aortic valve stenosis and ischemic coronary disease is effective, safe and acceptable for patients with acute coronary syndrome and high risk of surgical intervention on the "open" heart. However, thorough comparative analysis of the results of treatment are necessary for more valid conclusions and recommendations further.

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THE ROLE OF ARTERIAL HYPERTENSION IN DEVELOPMENT OF DISCIRCULAR ENCEPHALOPATHY (ON RESULTS OF FACTOR ANALYSIS)

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Discircular encephalopathy (DEP) is a chronic slowly progressing multifocal or diffuse injury of the brain, which is manifested in neurological and psychic pathologies caused by chronic cerebral circulation insufficiency and/or acute cerebral circulation damages (non-stroke or of a stroke similar course leading to dementia). DEP is based on chronic discrepancy between blood supply to the brain and its metabolic demand, which results in mental and nervous disorders.

The purpose of the present research was to evaluate the role of arterial hypertension

(AH) and its combinations with other pathological processes affecting cerebral flow and leading to development of DEP.

Materials and Methods. As a mathematic model the method of factor analyses was used, which defines most stable inner relations of certain features (symptoms) of the studied systems grouping them into clusters of symptoms (factors). The respondent group comprised of 139 people with confirmed DEP, among them 120 men and 19 women. The average age of the respondents was $47,1 \pm 7,6$ years. In 93 (66,9%) of the cohort a slowly progressing form of the disease was reported, in 46 (33,1%) – a remitting form. According to the DEP stages the patients were distributed as follows: I stage – 77 (55,4%), II stage – 59 (42,5%), III stage – 3 (2,1%). According to the degree of AH: I stage – 73 (52,5%), II stage – 59 (42,5%), III stage – 7 (5%).

Different clinical instrumental methods were applied in the study (computer and magnetic resonance tomography, duplex scanning of head arteries, electroencephalography and rheoencephalography, radiography etc.) and, basing on their results, 105 features were processed. Machine processing of the initial data enabled to single out 14 clusters of symptoms (factors), which describe 51% of the total dispersion of the model, which was sufficient for its characteristics.

Fundamentally meaningful factors from the point of triggering DEP progression (according to the results of factor analysis) presented the factors that united features common in the first line for the condition of the vertebral arteries, intracerebral vessels, anatomic peculiarities of head magistral arteries, which enable to estimate the tone of cerebral arteries, their elasticity, the presence of atherosclerotic plaques within arterial walls. The mentioned factors accounted collectively for 30,4% dispersion of the system. The factor analysis allowed to distinguish the full number of symptoms comprising the metabolic syndrome (3,2%) and to define it as a factor playing an independent role in DEP patients. An attribute of AH both systolic and diastolic took place only in the cluster of symptoms for metabolic syndrome. However inside of this cluster of symptoms it occupies a leading position. Other clusters of symptoms revealing the presence of myocardial dysfunction, the condition of certain vascular beds, neurofunctional manifestations of DEP came to 17,4%.

Therefore, factor analysis has shown that the AH syndrome not always plays a leading role in DEP pathogenesis. However the presence of DEP facilitates a negative impact of already accumulated structural and morphological changes either from the side of brachiocephalic vessels or from the cervical spine on cerebral flow in DEP patients.



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