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Dear Colleagues:

We are delighted to welcome you on behalf of the Euromedica Organizing Committee. Let us remind the definition of health given by World Health Organisation, which says: «health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”.

A changing environment and more and more complicated issues poses new challenges for doctors. These challenges might be resolved only by a highly qualified specialist, who has to be constantly aware of new accomplishments and fit for current developments in his field. This puts forward new tasks for the modern system of graduate and postgraduate studies for medical doctors.

This very problem is facilitated by the medical events conducted by European Scientific Society and European School for Postgraduate Studies in Medicine. Leading experts are invited to cover in detail their know-how, to give new proficiency, impulses and insights that might be incorporated in everyday practice.

Despite the fact that medicine tends to be highly specialized, the meetings and exchange among different specialists from different countries in order to discuss information and find solutions are even more actual and fruitful. Needless to say that patients and health care will benefit from the new competence.

The health care and medicine are unconceivable without many other scientific and social fields of human activities and, obviously, without economics. That is why politicians, economists, engineers, psychologists, biologists, physicists, chemists and representatives of other disciplines tend to attend medical forums.

Lately all over the world there has been a growing dissatisfaction of the population and doctors with the system of public health, which in most European countries is aggravated by a complicated demographic situation, falling birth rates and population ageing, which results in a growing number of elderly people which increases the financial burden on the health care. Therefore there is a strong demand on developments of methods for treatment and rehabilitation not only for chronic diseases but also for correction programs targeted on preventing, health-improving and optimising health potential in children and adults with premorbid conditions.

We are grateful to this edition for the possibility to acknowledge our participants and authors for their contributions.

Sincerely,
Georgy Tyminsky
Editor

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**BIORESONANCE INTERACTION DURING INFLUENCE OF
ABIEM DEVICE**

Eger, Hungary; www.abie-m.com

The present report discusses characteristic and some distinctive biophysical features of views the biophysical and medical effects that appears during Dr. Igor Akszjonovics "ABIEM" device's interaction with water and patients.

Since the present device belongs to the so called bioenergetics and bio-resonance transformer, the objective study of the phenomena which originate from these interactions are relevant and presents scientific and practical interest.

These relevant and scientific conception on the mentioned processes are convincingly presented in the bioresonance theory of Prof. Alexander Dubrov (1980) and in the theory of interaction of biophysical fields and bioresonance by Dr. Ignat Ignatov (2005). That testifies that these phenomena are the topic of intent scientific and practical studies and discussions.

Material and methods. The "ABIEM" device (International Patent WO/2006/070213 DR. Akszjonovics Igor DEVICE TO TRANSFER BIOLOGICAL ENERGY INTO BIOMECHANICAL ENERGY) is a generator of bioenergetics and bioresonance effects. The mentioned device belongs to the so called bioenergetics generator and has a complicated, space geometrical shape and possesses some original features of its construction and application (know-how).

The device can be set to periodical or constant rotation or other kind of motion and can use additional methods that allows to modify the impact of the energetic effect. In the Scientific Research Centre of Medical Biophysics (Sofia, Bulgaria) together with Dr. Ignatov where the measurements of the "ABIEM" device's influence to the water were conducted using the method of differential non-equilibrium energetic spectrum DNES (I. Ignatov, A. Antonov, T. Galabova 1998). The research is performed with device of Prof. Anton Antonov. The mentioned method enables measuring structural alterations of water due to the device. The further study of the process was carried out by using the improved Kirlianov method of transparent electrode.

In the XXII Medical Diagnostical and Consultative Centre (Sofia, Bulgaria) together with Dr. Vassil Maronov the effect of the "ABIEM" device was studied on a patient (named A.I., aged 15) by using the method of thermo-visual diagnostic DITI.

Results and conclusions. During examination of water samples, which were processed with the "ABIEM" device only once by the method of DNES the shadow effect of the surrounding fields was statistically shown. The medical effect is relaxing.

During the thermo-visual diagnosis of a healthy patient, which was made once before and after exposure to the device, there were following results: 1. hypertermical facial reaction - zone of the oral cavity 0,5, tone of the nose 0,9, cervical zone 1,15. It is

interesting to see the hypothermic reaction of the vertebral column that was on the level of Th3-Th5, and the patient had a scoliotic deformation of 5-7 degree. The hypothermal reaction on this level was within the limits of -0,35. This fact has a great importance for the development of a new approach to the study of pathogenesis, preventive diagnostics and medical treatment of the osteoarticular organs, especially of the scoliotic diseases.

The Kirlianov's method of color spectrum analysis developed by Dr. Ignatov (2007) proved statistically reliable results of the device single influence on the patient. Extension of the patient's (named S.V., aged 50) bioelectrical aura is observed. Before the exposure the aura had: 30% of red color, 15% of blue, and 55% of violet color. The average photon emission is 2,6 V. After the exposure the aura was: 10% of red colour, 5% of blue-green, 20% of blue, and 65% of violet color. The average photon emission was 2,8 V. It should be mentioned that the aura's contours after the device effect had a more sharp and steady contour. These results allows us to speak about the possibility to achieve positive medical as well as screen results on the basis of biophysical effects of the "ABIEM" device.

G.L. Apanasenko

NEW CONCEPTION FOR PREVENTION OF ISCHEMIC HEART DISEASE

National Medical Academy of Postgraduate, Kiev, Ukraine

Ischemic heart disease (IHD) remains a leading reason of death in the developed countries. Conception of risk factors is stopped up in basis of its prophylaxis. At the same time quite often during conduction of a complex of measures against the factors of risk, the indexes of death rate not only fail to go down, but on the opposite substantially exceed them in the control group. In other cases the individual efficiency of the prophylactic programs is so low, that it is hard to not talk about success.

Most scientific conceptions in the western science are based on induction method (from private to general). The discussed conception was created the same way: all new factors of risk of IHD come to light every year, and their general amount arrives at 400 already. We employ an opposite methodological principle for our conception of IHD prophylaxis – deductive one (from general to private). The conception is based on the second law of thermodynamics: the higher is the energopotential of the biosystem, the steadier. Its reduction results in growth of entropy and degradation of the system. Energopotential can be attributed to maximal aerobic possibilities of a patient – maximal consumption of oxygen (MCO). This index, in fact, characterizes efficiency of function of mitochondria. The scientific literature confirms that MCO reflects stability of organism to the great number of factors of external and internal environment – from a hypoxia and loss of blood to the penetrable radiation. This information was laid down for identification of MCO with the «quantity» of physical health. We developed a simple set of tests, available

for nursing personnel, not requiring complicated equipment and having a high coefficient of correlation with MCO (0,806). Five physical health levels are singled out. It is set in scale researches (more than 2000 brows.): what below health level, the anymore expressed and prevalence of endogenous factors of risk, and also manifestations of pathological process.

Wide approbation of the method allowed describing the phenomenon of a “safety” health level – a reserve of aerobic energopotential, impeding forming of endogenous factors for incidence of diseases and their manifestation, described quantitatively. When the «safety area» of health is left behind, a pathological process launches without the change of force of operating factor. Its mechanisms are defined. A concept is formulated about a «preventive rehabilitation», which is understood as returning in the “safety” area of health by means of accumulation of aerobic energopotential. Thus the individual health can be managed, which let lay down the primary prophylaxis of IHD (and, possibly, and other chronic non-infectious diseases) on strictly scientific basis.

We described a phenomenon of «safety» health level, which enables detecting actual causes for the epidemic of chronic non-infectious diseases displayed in the second half of the last century. The reason is a decline of maximal aerobic energopotential at population level requested by life standards of modern man.

M.I. Ashkamakina

**SCHOOL OF INVESTIGATION OF THE METHODS FOR
COMPLEX RESTORATION OF HUMAN HEALTH**

Municipal Polyclinic Nr. 21, Novosibirsk, Russia

Unique methods leading to a positive transformation in the personality and society as a whole, was developed by doctor of philosophy and medicine Nirmala Shrivastava.

For her contribution in the cause of for peace and spiritual renovation Nirmala Shrivastava was awarded by the United Nations with the Medal of Peace in 1989, and in 1997 she was enlisted into the list of the Greatest people of the planet by United International Fund.

Her methods are used more than in 90 countries. In Russia it has been practiced since 1989, in Novosibirsk since 1990. In 2003 it is officially included in branch program “Protection and strengthening of the health of healthy persons on 2003-2010” of the Russian scientific center of reducing medicine of the Ministry of Public Health RF.

Since April 2007 the practice of this methods for the complex restoration of human health has been set up on the basis of a school of health for bronchial asthma patients at the premises of polyclinic #21 in Novosibirsk .

Purposes of the school:

1. Making a person responsible for his health.
2. Education on a healthy way of life.
3. Learning to gain control over one’s health and to reduce effects of stress.

Tasks of the school:

1. Rendering psychotherapeutic services to sick and healthy people, wishing to improve their emotional state and to improve their working abilities.
2. Conducting various educational classes, in conjunction with the basic principles of saving health and productivity.

Materials:

21 people, among them:

4 men, 17 women at the age 50 - 60 years, of them:

with bronchial asthma 14, with the hypertonic disease – 5, healthy – 2.

Methods of study:

1. A and pulse measurements before and after the classes.
2. Testing of control over asthma (AST).
3. Teaching of theoretical basis of self-knowledge, its basic methods.
4. Video-audio relaxation programs.

Results:

1. Systolic AP (SAP) in the cohort with a medical checkup reliability was reduced after the classes, respectively 132,3 and 128,4 mm of the mercury column ($p < 0,05$) on the average to 3%, diastolic AP (DAP) and pulse had a tendency toward a decrease, respectively 84,6 and 78,9 mm of the mercury column and 79,1 and 69,5 impacts/min. ($p > 0,05$). SAP in men was reduced to 4,5%, in women – to 3%, DAP – 7,9% and 7,1%, the pulse 8% and 13%, respectively. After smoking before the sessions AP raised in men from 126/80 to 132/69, in women from 130/90 to 137/81.
2. The patients with asthma reported positive dynamics (ACT) (test on the control over asthma) – in the men improvement rated from 4 to 6 points, in the women – from 6 to 13 points, on the average it came to 8,4 points.
3. Subjectively all patients noticed an improvement in the sleep quality, decrease of asthma attacks, better self-confidence, a conscious refuse from unhealthy habits.
4. All patients confirmed working out of a skill of self-control in conflict situations (at home, outside, at work).
5. In the majority of patients who had to struggle alone with the illness, the feelings of hopelessness and loneliness diminished.

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NONPHARMACOLOGICAL TREATMENT FOR GASTRO-ESOPHAGEAL REFLUX DISEASE

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Key words: GERD, osteopathy, osteopathic manipulative therapy, OMT

Purpose: to determine the role of OMT in treatment of GERD

Materials and Methods: investigation was performed on children with GERD, inclusion criterion is GER 3 grade on x-ray investigation. Exclusion criterion is diaphragm hernia of 3 grade on x-ray.

Main group – 34 patients, received OMT without any pharmaceutical support during 6 month, collected during period 2006-2008. Control group – 32 patients, collected among patients of surgical department since 2003 to 2008, were put on typical gastroenterological treatment including antacid, antisecretory medication and prokinetics. Dietary recommendations and life style modifications were prescribed to both groups. Instrumental investigations included esophagogastroduodenoscopy (EGD), 1 hour ph-monitoring, and X-ray with barium swallow.

Results: Groups are statistically identical based on age and severity of illness. Mean age 13.41 ± 0.63 years in the main group and 12.36 ± 0.92 years in the control group.

During the last year previous to investigation 23 (67.64%) in main group and 26 (81.25%) in control group were on drug therapy due to GERD. These patients underwent control investigation and conservative treatment, as preoperative evaluation. In control group 10 (31.25%) underwent surgery due to ineffective medical treatment, in main group there were none of that type of outcome ($p < 0.001$).

Clinical symptoms: pain (retrosternal or epigastric), heartburn, regurgitation – ceased in 75% of patients in main group and in 24% of patients in control group ($p < 0.01$).

Esophagogastroduodenoscopy: incidence of mucous erosions decreased through treatment from 25.00% to 18.52% in main group, and was 8.33% in controls without any changes through treatment. Catarrhal process in main group decreased from 42.86% to 11.11%, and in controls from 62.5% to 43.48%. Normal mucous in main group was in 32.14% and changed to 70.37% after treatment, while in controls it was 29.17% and 43.48% correspondingly ($p < 0.05$). In average there was a similar dynamic with the condition of mucous membrane in stomach. Statistical difference between groups on every measured index was on $p < 0.05$ level.

X-ray: reduction of the GER level after treatment took place in 87.5% of patients in the main group and 36% in the control group ($p < 0.01$).

pH-monitoring – in 83.33% of patients in the main group and in 25.00% in controls frequency of GER episodes came two times less after treatment ($p < 0.001$), in 48.71% in the main group and in 7.89% in controls there was a cessation of duodenogastric reflux ($p < 0.05$).

Conclusion:

1. OMT in children with intense levels of GER gives positive results in 75% based on clinical picture, in 76% based on EGD evaluation, in 87.5% based on x-ray and in 83.3% with pH-monitoring.

2. In case of failure with medications in treatment of GERD we should perform an OMT.

3. Treatment of GERD patients should be performed with OMT without medication support.

4. In case of failure of OMT that is performed during 6 month we should determine indications for surgical treatment.

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**BIOCONVERSION OF VEGETABLE RAW MATERIAL WASTES
BY MEDICINAL MUSHROOMS**

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The world economic crisis intensified the problem of food quality and worsening of the structure in the Ukrainian population. Due to financial problems, contamination of soil with radio-active and toxic substances (heavy metals, chemical weed- and pest-killers, nitrates) and, as a result, of food quality this problem has been actual for more than 20 years.

Growth of allergic, cardio-vascular and oncologic diseases, increase in number of genetic malformations and disorders in ontogenesis are marked in Ukraine. Inevitable sequence is low life-span and high death rate.

One of the effective methods in correction of such situation is active introduction of functional products in the modern structure of feed, enriched with biologically active matters (BAM): antioxidants, vitamins, irreplaceable polyunsaturated fat acids etc. Vegetable raw material is, above all, the source of BAM.

Such highly potential raw material, as medicinal mushrooms, 100 species of which found wide application during 2000 years in medicine of South-East Asia countries – China, Korea, Vietnam, Japan, is practically not used in our country.

Besides wood, husk of sunflower, wastes of tea production are known to be a substratum for growing of mushrooms.

Waste of amaranth carbon dioxide extraction caught our attention because the amaranth is an unique plant with the ideal protein content rich in such amino acid, as lizin, triptofan, arginin, metionin and fenilalanin, among all known corn and bean cultures.

Waste of amaranth extraction preserves unique composition of amino acids and is attractive as substratum, allowing to use whole complex “mushroom – substrat” for creation of components of functional products.

The following species of medicinal mushrooms were the objects of our research: *Pleurotus ostreatus*, *Ganoderma lucidum*, *Schizophyllum commune*, *Coriolus versicolor*, *Cordyceps sinensis*, *Flammulina velutipes*, *Lentinus edodes*, *Volvariella volvacea*, *Grifola frondosa*, *Inonotus obliquus*, *Hericium erinaceus*, *Phellinus igniarius*, *Coprinus comatus*, *Piptoporus betulinus*. Mushrooms were cultivated on sterile moistened waste of amaranth extraction and liquid nutrient medium which basis was the flour from waste of amaranth extraction. Conditions of cultivation were temperature 26-28° C during 14-28 days.

Our results are indicative of four mushroom species, which overgrow waste of amaranth extraction most quickly (during 20-27 days): *Pleurotus ostreatus*, *Coriolus versicolor*, *Schizophyllum commune*. Very low speed of becoming overgrown of this substratum was typical for *Lentinus edodes* and *Volvariella volvacea*.

Concerning the influence of flour from waste of amaranth extraction concentration in a liquid nutrient medium on the accumulation of biomass of *Schizophyllum commune* we received following results. The most active growth of mushrooms in the first three days takes place in the medium containing 7% flour from waste of amaranth extraction. On the tenth day of biomass growth, accumulated on a nutrient medium with 2% from waste of amaranth extraction, differs insignificantly from biomass grown in medium with a higher concentration of flour (4, 6 or 7 %).

Results of our experiments on liquid nutrient medium containing the flour from waste of amaranth showed that such mushroom species as *Pleurotus ostreatus*, *Grifola frondosa*, *Flammulina velutipes*, *Ganoderma lucidum* and *Schizophyllum commune* synthesized the sufficient amount of biomass within 10-14 days, and are of interest as perspective objects for the receiving new functional products.

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**THE DISTURBANCE OF CIRCADIAN RHYTHMS
HEMODYNAMICS IN PREGNANT WOMEN WITH ECLAMPSIA
AND NORMAL LEVEL OF BLOOD PRESSURE**

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The purpose: to study the character of disturbances of hemodynamic parameters of circadian rhythms in pregnant women with eclampsia and normal level of blood pressure.

Methods: 24-hours monitoring of blood pressure (BP) and heart rate (HR) was carried out in pregnant women by device MnSDP-2, BPLab (Russia). The apparatus was tested according to the International Protocol ESH 2001. Hemodynamics parameters for each measurement: stroke volume (SV), minute volume of heart (MV) and peripheral vascular resistance was calculated with Brenzer-Ranke formula.

For an estimation of hemodynamics's circadian rhythms we calculated a 24-hours index for SV, MV, vascular resistance and HR by analogy to a 24-hours index for systolic BP (SBP) and diastolic BP (DBP).

Results: For examination a group of 30 pregnant women at the age from 18 to 41 years was taken (28 ± 7.1 years). The SBP level for 24-hours in this group was 115 ± 5 mm Hg; DBP – 66 ± 5 mm Hg.; Mean BP (MBP) – 92 mm Hg. 8 women without extra genital pathology were “dippers” on SBP (mean 24-hours index of SBP 13,9) and on DBP (24-hours index of DBP 16,7). In this case 24-hours index of HR 17,1, SV 3,9, MV 20,1, vascular resistance - 1,1. In other patients (72%) the disturbance of circadian rhythms on SBP and/or DBP was noted. 52,4 % of them suffered eclampsia of various

severity, and 47,6% was taken as a control group. Mainly, among pregnant women with the disturbance of 24-hours index “non-dippers” – 14 women (65%) have been found. In this case 24-hours index SBP 6.17, DPB 12.23, HR 13.21, SV 13.26, MV 3.47, vascular resistance 7.14. In pregnant women with the data that are characteristic for “over-dippers” - 5 women (25%) - the next values of hemodynamic profile are noted: 24-hours index of SBP 13.2, DBP 22.37, HR 11.98, SV 8.9, MV 3.47, vascular resistance 15.63. 3 patients (10%) comprised a subgroup “night-peakers”. In this case 24-hours index of SBP 0.57, DBP 4.13, HR 11.96, SV 8.89, MV 4.23, vascular resistance 1.03.

Conclusion:

The disturbance of hemodynamic parameters of circadian rhythms in pregnant women with eclampsia and normal blood pressure level was noted, that can be explained by peripheral vasospasm, hypovolemia and by decrease in blood circulation. At night a reduction of vascular resistance was expressed by augmentation of SV and HR reduction in lesser degree than hemodynamic variations in the control group.

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POSSIBILITY OF PREVENTING GASTRODUODENAL BLEEDINGS BY ERADICATION THERAPY

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Urgency: acute ulcerations of gastrointestinal tract upper divisions complicate more frequently the course of polytrauma, postoperative period in patients after enlarged operative interferences and also they are the frequent component of polyorganic insufficiency syndrome in patients with severe chronic therapeutic pathology.

Objectives of the investigation: to solve a problem about possible influence of HP-infection on the rate and intensity of erosive-ulcer bleedings development and efficacy of eradication therapy.

Materials & methods: a total of 120 intensive care patients with erosive-ulcer damages aged from 18 to 72 years (50 females and 70 males) of various surgical and therapeutic severity. They were divided into 3 groups due to the schemes of pharmacotherapy. Unlike the first 2 groups treated with eradication therapy, the third group was administered to one of the 7-day 3-component schemes of eradication (according to Maastricht consensus III recommendations) from the first day after revealing HP-infection. Besides common clinical examination HP-infection in the gastric mucous membrane was detected with the use of non-invasive urease respiratory Helic-test, and also Helpil-test with bioptates from mucous membrane of gastric antral division and body, obtained on endoscopic study or intraoperatively, histological study (according to Romanovskiy-Gimze method of staining) of bioptate from gastric mucous membrane and duodenum, obtained during fiberoesophagogastroduodenoscopy by intraoperative taking material and on autopsy; several

FEGDS for controlling dynamics of erosions, ulcers healing and for assessing results of eradication therapy.

Results: HP- infection was revealed in 80 (66%) patients with erosive-ulcer damages of gastro-intestinal tract proximal division, complicated by bleedings. In 30 (37,5%) patients with recurrent bleedings HP- infection was revealed. On carrying out both Helpil-test and histological study of biopates from gastric mucous membrane and duodenum HP-infection was revealed in 30 (37,5%) of 40 patients with bleedings, while in 10 (25%) ones the tests for HP- infection were negative.

All patients treated at the in-patient departments underwent an examination of the mouth by method of urease respiratory Helic-test, which enabled to determine that among the patients of the first-second groups the degree of infection rate remained at the same level, although in the third group HP- infection was not found in 92% of cases.

Conclusions: in 93% of cases of erosive-ulcer damages in gastro-intestinal tract proximal division there was revealed the development of morphological alterations with colonization of gastric mucous membrane and duodenum by *Helicobacter pylori* microorganism and also presence of HP- infection in gastric mucous membrane in patients of the critical care. Eradication therapy contributes to eradicating HP- infection in 92% of patients and prevents the development of bleedings due to erosive-ulcer damages of gastro-intestinal tract mucosa with the following scarring. The follow-up results of examination of patients for month HP- infection after treatment are the evidence of eradication therapy efficacy.

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**MODULATOR DER APOPTOSE SFAS-ANTIGEN,
INTERZELLULARE ADHÄSIVE MOLLEKÜLEN (ICAM-1) BEI
BEHANDLUNG DER INFARKTKRANKEN**

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Myokardapoptose, arterielle Immunentzündung und Endotheldysfunktion spielen wichtige Rolle in Atherosklerose, IKH, Herzinfarkt und ihre Komplikationen. Nehmen wir an ,die Lösung dieser Probleme eröffnet neue Möglichkeiten für die Behandlung der Infarktkranken, Komplikationen und Prophylaxe.

Das Ziel dieser Arbeit ist die Erforschung der Rolle der auflösfähigen regulatoren Proteinen beim Herzinfarkt. Das lösbares Protein sFas, sICAM-1, der Marker der intravaskulären Entzündung , der Transendothelen Zellenmigration in das Gefässintim stimuliert und der nachfolgenden Aktivierung der Sauerstoffradikale, mit der Verletzung des Endothels der Gefäße und Apoptogenese.

Die Methoden der Erforschung und Materialvolumen.

Der Prozess der Apoptose bei den Infarktkranken wurde nach dem Niveau im Blut der sFas-Protein-Marker eingeschätzt. Das Niveau der Interzellulären Adhäsionen (sICAM-1;ICAM-3) wurde mit Hilfe der ELISA-Methode durch Anwendung der monoklonalen Antikörper bestimmt, die empfindlich gegen Antigene der erforschten Proteine waren. Die untersuchten Kranken wurden an drei ersten Tagen der Erkrankung behandelt, nach der Durchführung der notwendigen Diagnostik. Die Untersuchungen wurden noch zweimal wiederholt: nach 10 Tagen und Anfang 3. Dekade. Das erlaubt über die Dynamik der Behandlung zu beurteilen.

84 Kranke an akuten Infarkt darunter 54 Männer und 30 Frauen wurden untersucht. Der Durchschnittsalter -65 Jahren; 56 Personen (64%) Q-bildender Infarktkranken, 18 Personen - nicht Q-Infarkt. 26 Patienten hatten auch verschiedene Krankheiten z.B. Herzinsuffizienz, arterielle Hypertension, Lungenkrankheiten, Diabetes mellitus usw.

Forschungsergebnisse

Aus der Erforschung ergab sich dass sFas-Niveau bei den Infarktkranken seit den ersten Tagen der Erkrankung erhöht ist.. Es sei hohe Dispersion und Datenstreuung. An der nächsten Tagen wurde die Steigerung des Niveaus der proapoptosen sFas festgestellt (das war wahre Statistik) Zur dritten Dekade - die Senkung, obwohl auch zu dieser Zeit das Niveau von sFas-höher als normal war. Die Stärke des Infarkts hat grosse Bedeutung: Blutkonzentration von sFas war höher bei den Kranken , die Q-Infarkt hatten. Bei den Kranken mit kleinem nicht-Q Infarkt war das Niveau fast normal und sich nicht wesentlich von der Norm unterschied.

Interzelluläre lösbarer Adhäsion des Blutes (ICAM-1) an ersten Tagen des Infarkts war erhöht. Im Laufe der 10 Tagen stieg die Konzentration um 25% und danach sank, aber war höher als normal. Der andere Adhäsion- ICAM-3- war an ersten Tagen normal. An nächste Dekade stieg die Konzentration in der Gruppe des Q-Infarkts und danach sank, niedriger als normal. Bei den nicht-Q-Infarktkranken beobachteten wir keine wesentliche Veränderungen der Konzentration der ICAM-3.

Angaben

So zeigen unsere Angaben die Aktivierung der Apoptose bei den Infarktkranken und ihre Weiterentwicklung, die im Laufe der 3 Wochen registriert wurde. Bei dem Infarkt werden auch adhäsive Prozesse aktiviert, der transendotheliale Transport der Immunozyten in die Tunica intima stimulieren und Gefäßentzündung verursacht.

Die Grösse der Nekrose beeinflusst den Prozess der Apoptose. Das bestimmt die Suche nach einem Mittel, das Miokardapoptose bremst, die Schädigungen des Endothels und Zellinvasion in Gefäße vermindern und Prognose der Krankheit verbessern kann.

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“ONCOTEST-2”. PROGNOSTIC VALUE IN ONCOPATHOLOGY

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Actuality. The problem of the spread of oncopathology is very actual. WHO specialists think that in 2009 cases of cancer diseases comes to approx. 12 mln., with lethal prognosis of about 7 mln. Also, specialists forecast an increase of cancer diseases and deaths by 1 %, however in 2010 oncopathology will be the first disease after heart-vascular diseases. According to American specialists, in 2010 cancer will be a leading reason of death in the world, exceeding heart diseases, HIV, malaria and TB. Also cancer is moving now from developing countries to developed countries. According to WHO expert's conclusion, in 2030 the amount of cancer deaths might double and WHO doctors call up to undertake measures against that problem. One of the grounds for quick spread of that pathology is lack of its early diagnosis and dispensary networks. Specialists noticed that the tumor diagnostics at 1-2 stages of its development significantly improves therapy results. Namely, in acute lymphoblastic leukemia - up to 80%, lymphogranulomatosis -up to 95%, lymphomas - up to 65% and more, adenomyosarcoma - 90%. In this connection one of the perspective directions against cancer is conduction of laboratory tests, which allows detecting the incidence of malignant tumor in the body.

Objects. 457 patients with oncopathology of different localization underwent a serum research by V. Vladimirov method – “Oncotest-2”. The control group comprised 37 almost healthy patients.

Method. Method “Oncotest-2” (Patent Nr. 77549, 15.12.2006, Ukraine; Patent LV13577 28.08.2007, Latvia) is based on biochemical identification of calcium-protein complex (CPC), which level raises at the first signs of cell malignization. Lately “oncotest-2” has been introduced at Kiev Surgery and Rehabilitation Center for Pathology of Thyroid gland; Ukrainian Neurosurgery Institute; Kiev State Cancer Hospital; Central Immunological Institute (Russian Federation, Moscow); National Institute of Clinical Research (USA, California). According to the hypothesis the tumor antigens (AG) settle on top of red blood cells, while content of ion-calcium in their structures is common for both, the AG are the same as CPC. The test gives opportunity to detect tumor at an early stage of its incidence, which means at the stage where tumor volume is not higher than 10(4)-10(5) cells.

Results. The obtained results detect a high sensitivity of the test (75-93%) of the cases and specify in 80-94% of the cases. According to the combined results with the author the diagnostic sensitivity of the test in Ca gl. Mammae is 96.2%, Ca prostate – 80%, Ca ventriculi – 96-98%. Among almost healthy people with cancer in family registries, the test was positive in 4 patients. In 3 of them chronic prostatitis was detected

and one case of mastopathy. Further medical examination confirmed Ca prostate and Ca gl. Mammae. The shortcomings of test: the research does not allow finding tumor localization, supplemental research methods of cancer diagnostic are needed. The results of offered screening programs of groups with increased oncology risk and "Oncotest-2" method enables to increase the oncology detection in 1.3 times, which is more effective than conventional diagnostic methods. Preliminary calculation showed that Screening Program of early diagnosis and prevention of oncology with the use "Oncotest-2" allows preventing untimely death in 30-40% cases. Groups with higher oncology risk reveal 2.5 times more cases of diffuse carcinoma of stomach and colon cancer; more than in 4 times – metrorrhoea, ovarian cancer, breast cancer and in 4 times carcinoma of lung. This data gives ground to reasonable and systematical examination of higher risk groups.

Conclusions. "Oncotest-2" is recommended to use in patients with oncological risk to detect cancer on early stages and also for differential diagnostic of benign and malignant tumors. Thus, the solution of the problem of accelerated spread of oncopathology should be found in complex: aiming not only on developing new effective therapies, but focusing on introduction of Screening-Program for early diagnosis, which leads to more effective clinical outcome.

E.V. Bosenko

**EXPERIENCE OF APPLICATION OF COMPUTER TECHNOLOGY
«COLORPSYCHOSOMATIK» IN PROFESSIONALS INVOLVED
IN MILITARY ACTIONS**

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Objectives: detection of initial signs of psychic disadaptation and worsening performance in professionals involved in military actions, study of personal characteristics and choice of individual correction programs.

Tasks: conducting of comparative analysis of the results of complex medical-psychological examination, the data of medical records, results of psychodynamic examination in dynamic and after correction.

A statically relevant correlation between the duration of involvement in military actions and disorders of somatic status. Two groups were compared:

- Subjects, which followed the recommendation of the specialists and underwent the course of colorcorrection (67 men)
- The subjects that were not treated with colorcorrection (67 men)

To verify the detected pathologies, analysis of medical records and psychological-psychiatric examinations were carried out.

The obtained data showed that the program in question enabled making early diagnosis prior to clinical manifestations.

The respondents were administered to a course of colorcorrection with account of the detected pathologies and individual characteristics.

The analysis of the results showed that the subjects that did not undergo the colorcorrection, demonstrated decrease in indexes of personal characteristics and their stability, whilst the “colorcorrection” subjects reported increase of various degrees in the indexes of all personal characteristics, which resulted in a higher stress resistance and productivity.

Psychocorrection with the help of «Colorpsychosomatik» reduced the time of readaptation, improved an individual performance. The diagnosis carried out with the help of «Colorpsychosomatics» singled out the men subjected to alcoholization and psychosomatization at the pre-nosological stage. This method of correction can be added with any therapy method, although it does not require special complementation.

The program «Colorpsychosomatics» enabled to diagnose individual peculiarities of the respondents, to detect interpersonal conflicts, a current psycho-emotional condition and readiness to perform responsibilities in extreme situations, to make a psychological portrait of each subject. Moreover, we managed to detect individual problems followed up with consequent consulting and correction programs. As the advantage we should mention absence of side effects, simplicity of use despite a strictly scheduled day and a significant deficit of time and consideration of individual preferences.

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MEDICINAL PLANTS OF THE CENTRAL RUSSIA AND THEIR RATIONAL USE

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The purpose of carrying out our research was a pharmacognostic study of representatives of families Asteraceae, Rosaceae, Lamiaceae, Rubiaceae, Scrophulariaceae, Boraginaceae and introduction them into practice as ecologically pure raw materials and phytopreparations.

The objects of the research were the plants of the species Centaurea, Chamomilla, Xanthium, Galium, Pulmonaria, Salvia, Veronica, Viola, Hyssopus, Filipendula, Potentilla.

We focused basically on the allocation and studying of phenolic substances and polysaccharides. The allocation of the specified classes of substances was carried out by extraction with spirit ethyl, aether, acetone, water. To obtain from the number of substances necessary components we used the methods of selective extraction, fractional crystallization, preparative paper and column chromatography, HPLH.

The allocated phenolic substances are represented by flavonoids, phenolcarbolic acids, coumarins, tannins.

In the structure of phenolcarbolic acids we have found out phenolic acids: gallic, ellagic, oxybenzoic, salicylic and oxycinnamic acids: chlorogenic, caffeic, cichoric, ferulic, rosmarinic, cinnamic. Coumarins are presented by oxy- and metoxy- derivatives: umbelliferone, aesculetin, scopoletin. Among flavonoid classes flavanone, flavone, flavonol are presented which occur in the kind of aglycones and their O- and C-glycosides. By the character of replacement in the B-ring the structure of flavones varies from 4'-oxyderivatives (type apigenin) to 3',4'-replaced (type luteoline). At additional replacement in these types of flavones oxy- and metoxy- groups form numbers of derivatives scutellarein (6-oxyapigenin), nornepetin (6-oxyluteolin). Among flavonol a number of replacements in the B-ring from 4'-replaced (type kempferol) to 3',4'-replaced (type quercetin) and 3',4',5'-replaced (type miricetin) is noted. At additional replacement in these types of connections at C-6 in plants of the species *Centaurea* a complicated complex of derivatives 6-oxykempferol and 6-oxyquercetin is synthesized. Glycoside forms of studied flavonoids are presented by mono-, bi- and diglycosides, differing by the nature of sugars and their position in aglycone. Flavones glycosides basically are presented by 7-O-monoglycosides, and 7-O-apioglycosides (apiin, graveobioside). 3-O-glycosides and 7-O-glycosides are characteristic for flavonoles, for example, quercetin. Among C-glycosides monoglycosides of apigenin and luteoline and diglycosides apigenin are common.

Considering a complex use of already known medicinal raw material, and also for the purpose of revealing of new sources of raw material polysaccharides, plants of the specified sorts were allocated and studied. The raw material leftovers after abstraction of polyphenolic substances, polysaccharides were consequently obtained by fractions: water-soluble polysaccharide complexes, pectin substances, hemicelluloses A and hemicelluloses B.

In all kinds of the fractions water-soluble polysaccharides complexes and pectin substances are prevailing. The maximum quantity of water-soluble polysaccharides complexes is found in the leaves of *Pulmonaria angustifolia* L. (9,45%), the herb of *Viola tanaitica* Grosset (12,50%), the flowers of *Centaurea cyanus* L. (9,60%), *Centaurea scabiosa* L. (12,4%), the herb of *Xanthium riparium* Itz. et Hertsch. (14,24%), the herb of *Salvia verticillata* L. (10,00%), pectin substances – at the herb of *Viola odorata* L. (23,00%), the herb of *Veronica teucrium* L. (20,16%), the herb of *Veronica spicata* L. (20,50%).

Qualitative and quantitative monosaccharide composition of polysaccharide complexes of the investigated plants has been studied.

As a result of the conducted research the sources of polyphenolic compounds and polysaccharides with versatile biological activity are offered: expectorant, diuretic, anti-inflammatory and others.

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STANDARDIZATION OF MEDICINAL RAW MATERIAL

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Nowadays many kinds of raw material have the standard documentation (SD) that does not correspond to modern requirements. The existing SD contains raw material standardization only on such indicators as a moisture, ashes, the maintenance of impurity, but the methods of qualitative and quantitative definition of the basic groups of biologically active substances are absent, so it does not allow to estimate objective of the quality of raw material. Therefore we have carried out research for the purpose of system engineering of the estimation of quality of medicinal raw material.

The purpose of our research was working out techniques of standardization of medicinal raw material (Chamomilla, Salvia, Potentilla, Viola), with the subsequent inclusion in SD, and also working out SD.

For qualitative detection of biologically active substances in investigated species we used the method of chromatography in a thin layer of a sorbent. In our work plates "Silufol UV-254", "Sorbfil" were used. As a result we developed the techniques of qualitative detection of biologically active substances, such as flavonoids in the herb of Violet threecoloured, Violet field, the flowers of Chamomile and tannin substances in the rhizomes of Tormentil.

The flavonoid substances are one of groups of active substances of flowers Chamomile, herb of a Violet, leaves of a Sage. For the quantitative estimation of the contents of the sum of flavonoids we used the differential spectrophotometric method based on the reaction of complex formation with aluminum chloride solution.

At selection of extracting agent it was found that the optimum solvent providing the maximum outcome of the sum of flavonoids from raw material for all species of plants is 70%-spirit ethyl. For the isolation of flavonoids extraction was attained till equilibrium.

It was established that the maximum yield of flavonoids is reached in 45 minutes for the Violet herb, the flowers of Chamomile, the Sage leaves.

The sum definition of flavonoids was conducted to areas of 395-425 nanometers which is removed for enough from the spectrum of absorption of accompanying phenolic and other organic substances that are contained in extracts of raw material. As a part of flavonoids in the studied plants the derivates of quercetin, kaempferol as mono- and biosids are contained, therefore as the standard sample we used the samples of rutin, cynaroside.

For the standardization of the rhizomes of Tormentil the technique of quantitative definition of the sum of tannins was developed; it is based on the ability of sedimentation of tannins by salts of heavy metals. The definition of optimum conditions of tannin extraction has shown that optimum solvent is 40-50% spirit ethyl, the balance of concentration of the sum of tannins in a solution occurs in 45 minutes at the ratio of raw material and solvent 2:250.

For the quantitative definition of water-soluble polysaccharides in the Violet herb, the Chamomile flowers the gravimetric method was used based on the extraction of the sum of polysaccharides from raw material by water with their subsequent sedimentation by 96%- spirit ethyl. We studied the stages of the extraction of the sum of polysaccharides and the sedimentation conditions.

It has been established that the maximum extraction is reached at the degree of crushing 1-2 mm, using 2-4-times extraction by water, the ratio of raw material-to water 1:10 and sedimentation of polysaccharides by 4-fold quantity of 96%-spirit ethyl. Our research has allowed us to define the optimum conditions of extraction and sedimentation of water-soluble polysaccharide complexes.

Thus, on this basic of the conducted research the techniques of qualitative detection and quantitative definition of the basic group of biologically active substances which are included in modern SD were developed.

A. Budweg

VITAMIN D - DAS NEUE MULTITALENT

Internistische Praxis "Dr.med.Budweg", Hannover, Deutschland

Rachitis und Lebertran, Osteoporose und Calcium mit Vitamin D machten für den Laien und die behandelnde Ärzte seit 50 Jahren das Vitamin D zum Vitamin für gesunde Knochen.

Erst seit knapp 10 Jahren erwachte neues Interesse am Vitamin D. Man entdeckte viele neue hochinteressante evolutionsbiologische, epidemiologische und funktionsbiologische Zusammenhänge. So etwa sind die durch die westliche Welt laufenden Grippewellen überwiegend zurückzuführen auf den schweren Vitamin D Mangel von Dezember bis Februar. Ursächlich ist der im Winter nördlich des 40 Breitengrades auftretende Lichtmangel.

Das Auffinden von Vitamin D - Rezeptoren in fast allen Organen deckt plötzlich die Zusammenhänge auf zwischen Vitamin D Mangel und Tumorerkrankungen, Autoimmunerkrankungen, Herzerkrankungen, Darmerkrankungen und vieles andere mehr.

Die offiziell empfohlenen Tagesdosierungen von 200 IE (= 5 µg) Vitamin D sind im Licht dieser neuen Befunde extrem unterdosiert.

Um die international empfohlenen Blutspiegelkonzentrationen von ca 30-70 ng/ml (= 50 -170 nmol/l) sind Tageszufuhren oral oder über Sonnenlicht in der Haut gebildet von mindestens 1000 - 2000 IE (teilweise noch höher) Vitamin D (teilweise noch höher) erforderlich. Beim Gesunden sind keine Nebenwirkungen bei einer langfristigen täglichen Zufuhr von unter 10000 IE Vitamin D zu erwarten.

A.P. Chuprikov
I.V. Tarschinov
A.N. Dsjuba
V.D. Mischiev
A.G. Nikolajev
A.V. Kolodashnaja
E.G. Chuprikova

BEHANDLUNG DER KINDERHYPERAKTIVITÄT MIT HILFE DER PNEUMOMASSAGE

Nationale medizinische P.L.Schupik-Akademie für Fort- und Weiterbildung, Kiew, Ukraine
Medizinisches Zentrum "Bioregulator", Kiew, Ukraine

Das Syndrom der fehlenden Aufmerksamkeit und der Hyperaktivität (SfAH) kann man sowohl bei Kindern mit normalem Intellekt, als auch bei Kindern mit Autismus, geistiger Unterentwicklung, zerebraler Kinderlähmung und anderen Krankheiten beobachten. Die wichtigsten Behandlungsmethoden sind die Amphetamin-Derivaten und Thymoleptika. Die Kinder vertragen solche Behandlung nicht immer gut, manchmal gibt es Nebenwirkungen.

Als eine nicht-medikamentöse Behandlungsmethode bei 18 Kindern mit SfAH in der Altersgruppe von 2 bis 10 Jahren haben wir Pneumomassage (Pneumopressing nach I.V.Tarschinov) verwendet. Bevor wurde solche Anwendung des Apparates für Pneumomassage in der Literatur nicht vorhanden.

Die Manschetten für Pneumomassage wurden der Reihe nach den Rücken und den Bauch entlang, quer über dem oberen Rückenteil und dem Schultergürtel platziert; auf dem Kopf wurde eine spezielle Pneumomütze verwendet. Insgesamt konnte die Prozedur von 30 bis 60 Minuten dauern.

Viele Kinder reagierten während der ersten 1-2 Prozeduren auf die ungewöhnliche Situation mit Weinen und Protestreaktionen. Als beste Beruhigungsmethode erwies sich, dass, nach unserer Bitte, die Mutter sich neben dem Kind auf pneumatische Manschetten hinlegt. In der Regel beruhigte sich das Kind und schlief öfters ein. In meisten Fällen (bei 15 Kindern) wurde bereits nach der dritten Behandlung eine motorische Beruhigung beobachtet, der Aufmerksamkeitsvolumen stieg an, es erweckte sich das Interesse an kompliziertere Spiele, die Ausdauer wuchs an. Bei Schulkindern sind die Hausaufgabenleistungen gestiegen, das Benehmen in der Schule mehr geordnet wurde. Die mit SfAH komorbiden Symptome erwiesen auch einen Verbesserungstrend.

Es empfiehlt sich, sämtlich 10 bis 12 Behandlungen vorzunehmen. Wiederholte Behandlungskursen kann man einmal pro drei bzw. sechs Monate durchführen.

Positive Verhaltensänderungen bei Kindern mit Sah lassen sich auf folgende Weise erklären: Wahrscheinlich verursacht der unmittelbare mechanische Druck auf Gewebe und Organe die Nerven- und Reflexreaktionen sowie Förderung von Mikrozirkulation sowohl in somatischen Organen, als auch unmittelbar im Gehirn, was andererseits den funktionalen Zustand der Neuronen verbessert und Hemmungsprozesse verstärkt; davon werden sich Aufnahmefähigkeit, Gedächtnis und Aufmerksamkeit verbessern. Bei manchen Fällen sei eine potenzierende Einwirkung der Pneumomassage auf die verwendete Psychopharma nicht auszuschließen.

A.P. Chuprikov
N.Ju. Vassilevskaja
B.P. Popovskij
A.L. Duschka
M.Ju. Sorokin
N.M. Markanov
S.V.Keljuschok
M.A. Chuprikova

DELPHINTHERAPIE IN DER KINDERPSYCHONEUROLOGIE

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Delphinarium, Odessa, Ukraine*

Verwendung von Tieren für therapeutische Zwecke (Animalotherapie) gewann in letzten Jahren an einer unerwarteten Popularität. Dies sei damit verbunden, dass neuropsychotrope Medikamente nicht immer zu positiven Ergebnissen bringen und in einigen Fällen überwiegen die Nebenwirkungen die Heileinwirkungen. Manchmal sind aber die Stimmen von Delphinotherapie-Gegnern zu hören.

In unserer Behandlung waren 210 Kinder vorwiegend in Altersgruppe von 2 bis 5 Jahre, welche unter der Sprachentwicklungshemmung, Kinderautismus, geistiger Unterentwicklung und zerebrale Kinderlähmung leiden. Die Zahl von Schwimmprozeduren mit Delphinen schwank von 5 bis 10. An der Arbeit mit den Kindern nahmen Psychologe und Delphin-Trainer teil.

Bei manchen Kindern wurde die erste Begegnung mit Delphinen von Angst, Weinen und dem Wunsch, aus dem Schwimmbad wegzulaufen, und auf das Spiel zu verzichten, wahrgenommen. Besonders krass wiesen dies die Kinder mit Autismus auf. Aber während weitere Prozeduren kontaktierten die Kinder die Delphinen in der Regel sehr gern und kamen zu Prozeduren mit Interesse und Freude.

Unabhängig von nosologischer Zugehörigkeit der Erkrankungen geschahen bei den Kindern allgemeine für alle Veränderungen im Verhalten und Psyche. Dies waren: Stabilisierung des emotionalen Zustandes, Reduzierung der situationsbezogenen und persönlichen Unsicherheit, verbesserte Fähigkeit, eigenes Verhalten und eigene Reaktionen auf umgebende Ereignisse im Schach zu halten. Gleichzeitig wurden der Mittags- und Nachtschlaf besser geworden, Appetit hat sich auch verbessert. Es wurde eine Verminderung der Episoden von aggressivem Verhalten, Milderung von Negativismus sowie Steigerung von Erkenntnisfähigkeiten und Wissbegierde beobachtet. Die Kinder wurden sicherer und selbständiger geworden sowohl bei dem Umgang mit Delphinen als auch später, in Alltagssituationen. Überraschend waren die Änderungen in dem kommunikativen Bereich: die Kinder sind öffener geworden, unterhaltungsfähiger, ein besseres Verhältnis zu Altersgenossen und Verwandten wurde aufgebaut.

Für die sämtliche Auswahl sind folgende Daten erhalten: deutliche positive Änderungen in emotionalem Bereich wurden bei 76% Kindern, im kommunikativen Bereich – bei 41%, im Verhaltensbereich – bei 34% Behandelten beobachtet. Es wurden sind auch positive Änderungen in somatischem Bereich festgestellt.

Die Aufführungen in einem Delphinarium haben positive Auswirkungen für die Zuschauer. 2008 haben circa 20000 Kinder aus Rehabilitationszentren, Kinderheimen und Schulen kostenfreie Vorstellungen im Delphinarium Odessa besucht.

Also, ein Kontakt der kranken Kinder mit Delphinen führt zu Ergebnissen, welche sich schwierig mit Auswirkungen von einer Arznei vergleichen lassen. Solche Auswirkungen sind viel mannigfaltiger und erfassen unterschiedliche Bereiche der Psyche, des Gehirns und des Organismus, sie bringen die Psyche in Harmonie und fördern ihrer Entwicklung. Dies ist das wichtigste Argument zu Gunsten von Weiterexistenz und Weiterentwicklung der Delphintherapie.

Angelegenheiten der Delphintherapie werden im Delphinarium Odessa im April 2010 diskutieren werden, da dort die Internationale Konferenz stattfinden wird.

E.V. Donchenko

ECOLOGICAL HUMAN MEDICINE IN THE TREATMENT OF INTOXICATION SYNDROME IN CASE OF MALIGNANT TUMOR

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Ecological human medicine is a new direction in medicine, in which man is investigated as an integral system with all peculiarities of interaction between the systems in the organism, the connection of development of the disease with psychological disorders is taken into account. The disease is considered as an attempt of the organism to restore the disturbed balance. The activation of own regeneration mechanisms is in the base of health recovery principle. For this the natural therapeutic methods are used: endoecological rehabilitation program, visceral massage, immunomodulating, antioxidant therapy, psychotherapy, hirudotherapy, phytotherapy, osteopathy, homeopathy, organotherapy, isopathic vaccine-like therapy, antihomotoxicology etc.

The problem of treatment of malignant neoplasms remains urgent today in spite of all successes of modern medicine. And what is more, 90 percent of the patients suffering from tumors die because of complications of radiation therapy, chemotherapy, surgical treatment.

As to its urgency, the development of methods for prevention of complications in the treatment of tumor diseases occupies one of the first places. In connection with this, we have treated 62 patients with tumors of different localization (15 subjects with malignant tumors of the mammary glands, 4 subjects with tumors of the stomach, 8 subjects with tumors of the prostate, 5 subjects with tumors of the thyroid, 10 subjects with tumors of the ovaries, 6 subjects with tumors of the uterus, 5 subjects with tumors of the lungs, Hodgkin's lymphoma is 4 cases, skin melanoma in 5 cases).

The age varied from 20 to 92 years. Eighty percent of the patients had the IV stage of disease with disseminated metastases, 20 percent of subjects had the III stage. All patients received special treatment of tumors for the long time, one third of the patients was operated

earlier. All patients showed pronounced symptoms of intoxication syndrome. The base of the administered treatment is formed by endoecological rehabilitation program, the main stage of which is hyperthermic intestinal dialysis method, patented by Ph.D. Elena Donchenko, (patent No. 2078555 of 13.06.93), visceral massage, immunomodulating, antioxidant therapy, antihomotoxicology, organotherapy, isopathic sanum-therapy, psychotherapy, osteopathy.

The effectiveness of the treatment was expressed in disappearance of symptoms of intoxication syndrome, resolution of remote metastases in the soft tissues during one month and recovery: disappearance of indications of tumor growth in 71 percent of cases.

Psychological orientation of a person, his/her desire to live play an important role in health recovery. Duration of the treatment is 6-12 months. Duration of follow-up of the patients is from 8 months to 10 years. The effectiveness of the suggested approach is evidence of the need of further work in this direction, and safety, absence of side effects, intolerance make it possible to recommend this technology for more wide use.

S.D. Dorochov
J. Aschoff

REGENERATIVE CRYOTHERAPY ACCORDING TO DOROCHOV® FOR SNORING, TONSILLITIS, PHARYNGITIS, RHINITIS AND OTHER DISEASES STIMULATION OF THE IMMUNE SYSTEM

KryoPraxis Dorochov, Viersen (Düsseldorf), Germany.

<http://www.kryopraxis.de>

Praxis Aschoff, Wuppertal, Germany <http://www.aschoff-praxis.de>

Classification. Cryotherapy can be classified on the basis of its clinical effect and as a function of the temperature parameters which affect the impact of the cold factor on tissue.

Cryotherapy: 1. Regenerative, 2. Destructive, 3. Cryosurgery (extirpative cryotherapy)

Regenerative Cryotherapy according to Dorochov® consists of the brief administration of dosed cold treatment to tissues and organs at temperatures close to the cold-resistance threshold of the tissue. The aim of this type of cryotherapy is to bring about regeneration and functional reactivation at the treatment site. Regenerative cryotherapy causes a reaction in the organism which is linked to local tissue irritation and manifests itself in an elimination of the pathogenic factors, regeneration of tissue, and restoration of functional competence. Monitoring of the cooling parameters in the tissues is a very important point during regenerative cryotherapy since the therapeutic effect is directly linked to these parameters.

Treatment of diseases / complaints in my practice (www.kryopraxis.de) with Regenerative Cryotherapy:

- Snoring and Sleep Apnoea
- Chronic Tonsillitis and chronic pharyngitis
- Chronic Rhinitis of Vasomotor and Atrophic Origin

Regenerative Cryotherapy according to Dorochov is an effective treatment method via which a stable therapeutic effect can be achieved.

It can be employed to:

1. stop snoring and sleep apnoea
2. restore nasal breathing
3. reinstate the protective function of the lymphoid tissue in the tonsils and Waldeyer's throat ring
4. stimulate immune processes
5. eradicate chronic foci of infection in the tonsils, pharynx and nose, thereby preventing complications or sequelae of these infections. These include systemic and rheumatoid diseases of the heart (i.e. endo-, myo- and pericarditis), the blood vessels (e.g. vasculitis), the joints (e.g. polyarthritis), the kidneys (e.g. glomerulonephritis), the internal and external sex organs (e.g. disturbances of potency), the nervous system (e.g. chorea) and the skin (e.g. scleroderma, psoriasis, pustulosis and lupus erythematosus), infectious allergic diseases (e.g. bronchial asthma, atopic and allergic dermatitis, etc.) and immunodeficiency disorders.

If everyone (but especially children) would undergo prophylactic treatment of the lymphoid tissue of the tonsils, pharynx and nasal mucosa using the method of regenerative cryotherapy, we would observe the following positive effects (especially in children):

- improvement of the protective functions of the organism
- stimulation of the immune system.

We can assume, moreover, that the general risk of contracting systemic, rheumatoid, infectious allergic and oncological diseases, immune deficiency states, snoring and sleep apnoea syndrome - would be distinctly reduced.

Monitoring of the cooling parameters is an important point to be observed during regenerative cryotherapy since achievement of the desired therapeutic effect depends directly on these parameters. On the basis of my extensive experience with cryotherapy, I have designed and patented (German Patent Office in Munich 1993) a mobile cryotherapy unit suitable for use in medical practices. With the aid of this unit, it is possible to keep tissue cooling under control, especially in the ears, nose and throat regions.

With its regenerative effects, cryotherapy opens up vistas for an alternative direction in medicine, namely regenerative medicine.

R.T. Dzhumasheva

CONDITION OF LIPID PEROXYGENATION IN ANIMALS EXPOSED TO URANIUM ORE DUST

The Kazakh National Medical University named after S.D.Asfendijarov, Almaty, Kazakhstan

Objective of this research was studying the condition of lipid peroxygenation (LP) in animals exposed to various concentrations of uranium ore dust (DUO).

The materials and research methods

Experiments were conducted in 120 nonlinear rats. Inhalational influence by uranium ore dust was carried out in vitro, in special exposure chambers UIZ-1. Experimental animals were divided into two testing groups. In the first group the animals were exposed to chronic inhalational of DUO in a dose of 5 maximum concentration limits (MCL) (10,7 mg/m³ U); in the second - in a dose of 10 MCL (20,5 mg/m³ U). Controlling for each testing group were the animals which were kept in identical exposure chambers, but were not exposed to DUO. DUO inhalation was carried out during 5 days a week, for 4 hours per day continuously throughout 120 days. The condition of the LP was estimated according to concentration of malondialdehyde (MDA) and superoxide dismutase (SOD) in lungs after 1, 2, 3, and 4 months from the beginning of the research.

Research results

Results of the conducted series of research showed that at DUO influence on animals in a dose of 5 MCL, the level of MDA formation after 1 month from the influence beginning increased in comparison with the control group by 83.2 %. During the next 2 months signs of MDA accumulation in lungs remain, but its accumulation was lower than on the 30th day of the observation. A sharp excess above normal values was discovered upon the exposure by the end of 4th month – on 242.6 %. Hence, dosage dependence exerts upon a long, over 3 months, influence at daily inhalation of DUO in a dose of 5 MCL.

At influence of DUO by a dose equal to 10 MCL the similar picture of changes of MDA concentration indicators revealed in all terms of the observation. Similar to the previous series of the observation, the steady effect of increase in MDA formation occurs after 4 months from the beginning of influences and specifies that the time threshold of priming in 3 and 4 months of influences is critical.

The main mechanism of protection of an organism from free radicals is enzyme of SOD. Finding the SOD activity in lungs at influence of DUO in doses of 5 and 10 MCL showed that essential changes of activity of antioxidant SOD enzyme were marked in the rats' lung tissue. At that the expressiveness of this indicator depended on duration of influence of DUO. At the tested animals decrease in activity of enzyme in all terms of experiment was observed, but the most considerable it was by the end 4 months of observation on 83.2 % at influence of DUO by a dose of 5 MCL and on 71.3 % at a dose of 10 MCL.

Thus, the conducted researches testify that influence by the dust of uranium ore leads to an exhaustion of antioxidant systems, especially aggravated upon duration of the exposure.

E.P. Filimonova
N.N. Klepikov

ANALYSIS OF CONCEPTS OF PSYCHOANALYTIC PSYCHOSOMATICS

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Today the meanings “psychosomatics” and “psychosomatic medicine” are associated with numerous research directions that are not homogenous and not coordinated with each other in selection of approaches and methods of researches. The modern psychosomatic medicine developed dramatically in the latest fifty years is not conceivable without psychoanalysis. It owes psychoanalysis the stimulus for systematical study of psychosomatic interrelations in the disease process, a number of fundamental conceptions for theory and practice, which still remain the postulate and the ground of psychosomatics. At the same time the attitude of psychoanalysis towards the problem of psychosomatic diseases is not certain; quoting Freud «it is an uninvestigated borderline realm».

Actuality. The available literature on psychoanalytical psychosomatics does not provide summarized systematized investigations of theoretical conceptions of psychoanalytical psychosomatics. Therefore, the absence of systematical investigations in this field and importance of the problem for psychoanalytical psychotherapy determined the theme of the present work.

Innovation of the research. The present work is a first attempt so far to summarize rather few publications of domestic and foreign authors on psychosomatics.

Object of the research is a complex of theoretical aspects of psychoanalytical psychosomatics.

The aim of the research is assessment of different psychoanalytical conceptions of psychoanalytical psychosomatics.

The following tasks were put forward:

- To trace down the main directions and approaches of domestic and foreign authors to the problem of psychosomatics and to compare them on the basis of historical consideration;

- To revise psychoanalytic theories of psychosomatics by S. Freud;

- To revise psychosomatic theories and models of S. Freud's early followers;

- To investigate modern conceptions of psychoanalytic psychosomatics.

Methodological postulates of the work are theories and conceptions of leading psychoanalysts: S. Freud, F. Alexander, G. Ammon, O. Kernberg, H.J. Freyberger and others; and also leading foreign and domestic psychiatrists: V. Broitigam, P. Kristian, M. Rad, B. Luban-Plozza, V. Pöldinger, F. Krieger, K. Pederak-Hoffman, V. Podkorytov, A. Smulevich, V. Gindikin, Ya. Obuhov and others.

Methods of the research are theoretical study, comparison, systematization of classical and modern psychoanalytical and medical literature.

Practical significance of the work. The research deals with practical tasks on improvement

of understanding of psychological mechanisms of psychosomatic disorders, which enables obtaining new connections and meaning in the psychoanalytic interaction, as well as reaching a new conclusion – that psychosomatics came to existence a century ago but has always been a practical instrument for genuine doctors. And today it has the right to become a fundamental science dealing complexly with etiopathic processes, which occur in the patient and hence the treatment should be multifaceted, with consideration of pathogenesis and aetiology of the disease and individual peculiarities of the patient. This approach for assessment and analysis of analytic conceptions and modern theories enabled to come to an important statement that psychosomatic diseases are determined by a fixation in the pre-odipal stage of development with predomination of borderline level of the development of the psyche. The understanding of patient's psyche level is crucial for the choice of the technique for psychoanalytic psychotherapy.

H.M. Galimzyanov
V.V. Vasilkova
A.H. Ahmineeva

MODERN TACTICS IN TREATMENT OF THE ASTRAKHAN FEVER RICKETTSIAE

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The Astrakhan fever rickettsiae (AFR) is an acute infectious disease of rickettsial etiology, sporadic cases of which have been registered on the territory of Astrakhanian Region since the middle of 70-s. At present we observe the growth of morbidity and expansion of its territorial borders.

The treatment of such patients must be complex. The analysis of a complex therapy showed a higher effectiveness when the treatment was started at early stages. The etiotropic therapy implies an intake of Tetracycline antibiotics in advisable doses within three days after the elevated temperature was lowered. The pathogenetic therapy is aimed at reducing intoxication and its manifestations. Desintoxication therapy is carried out intravenously by drops in volumes from 400 ml to 1,5 – 2 l depending on the severity of the disease. In case of an expressed hemorrhagic syndrome and presence of thrombocytopenia the preparations, such as ascorutin, vicasol and ascorbic acid should be indicated. A symptomatic therapy is indicated to all patients to relieve pain, improve sleep, correct hemodynamics.

Doxycycline is the most recommended medication for initial treatment of AFR in medium and severe cases. Clinical experimental data of AFR pathogenetic study show the T-lymphocyte deficit, immune status depression, interferon, in conditions of hyperthermia. In this connection during the last years we observe constant optimization of standard doxycyclinotherapy in patients with ARF. In clinical practice of ARF treatment the effectiveness of interferon was demonstrated in combination with doxycycline and complexly with immunotropic preparations and combination of standard treatment

with inductors of interferon.

In treatment of ARF patients we used genetic engineering preparations of interferon – alpha 2 realdiron + gamma – pheron in dosage 2,5, * 10⁵ ME +0,25 * 10⁵ and 1-1,5*10⁵ ME+1,5*10⁵ ME during 6-8 days.

The combined action of doxycycline and interferon preparations resulted in restoration of normal homeostasis. Clinically, diminishing of prolonged ARF symptoms such as weakness, myalgia, arthralgia, tachycardia, eczantema was manifested, and consequently, reduction of disease duration and a shorter hospitalization of such patients was achieved.

But more essential positive dynamics we observed in combination of usage of doxycycline with inductors of endogenous interferon – amixin and cycloferon. Amixin was indicated according to the scheme: 1 and 2 days by 0,25 g/d in 48 hours by 0,125 g/d during the first week. Cycloferon was used by 0,3 g on 1,2,4,6,8 days once a day. In the result of indicated combined therapy there were discovered that the usage of complex therapy of ARF of interferron inductors with doxycycline may shorten the duration of clinical symptoms of this disease: fever, intoxication symptoms, may facilitate a sooner resolution of rash. Such therapy leads to normalization of indicators of humoral-cellular immunity, phagocytosis, increases the concentration of immunoglobulins.

Investigation of immune status of patients with ARF revealed an immunodeficiency condition. In this connection we decided to use the preparation which had correcting action to the immune system of human being, that was imunofan, for complex treatment of ARF. Imunofan was given according to the scheme: 1 day – 2 ml intramuscular; 2 day and other days – by 1 ml. The treatment showed a positive effect of imunofan, enabling to reduce the duration of intoxication symptoms in AFR patients. Imunofan possesses anti-inflammatory, desintoxicational and immunomodulating effects. The usage of imunofan in clinic gave the possibility to prove its desintoxicational and hepatoprotective action.

In patients with severe AFR with prolong hyperthermia we observed expressed symptoms of intoxication. Such symptoms as pain in muscles and joints might persist even after temperature normalization. Almost every fifth patient due to expressed arthralgia and myalgia experienced walking difficulties – unstable walking. In this connection during the convalescence, after normalization of temperature and rash regression the patients with AFR received the treatment of LILR. The usage of lazertherapy accelerated diminishing of weakness, headache, and eczantema. Even more positive dynamics was registered in duration of myalgia and arthralgia. On the background of using LILR the duration of these symptoms was shortened twofold.

In conclusion, the treatment of patients with AFR should be complex and be aimed at the disease agent – rickettsia and restoration of disturbed indicators of homeostasis. The use of such therapy promotes an earlier recovery and shorter hospital stay.

E.A. Glikman

A NEW APPROACH TO THE TREATMENT OF JOINT DISEASES

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Objective. The objective is to define the approach to the treatment of joint diseases from the point of view of Oriental medicine.

Methods: clinical observation of the patients, diagnostics using the methods of traditional Chinese medicine, Korean Sutcz-Chimsur therapy, methods of functional diagnostics and laboratory methods.

Results: A new approach to diagnostics, prophylaxis and treatment of articulation diseases from the point of view of Oriental medicine was created.

Articulation diseases are one of the most common human illnesses. The causes of most of them are still not found out. At present scientists associate the incidence of the disease with sex, age, environment, metabolism, immunity factor and the way of life of the patient. Unfortunately the conventional treatment is followed by side effects and mostly causes only temporary improvement leaving the problem unsolved for many years.

We treated a significant amount of patients with various joint diseases of inflammational and infectious genesis and articulation diseases associated with metabolic processes – arthritis, gout etc.

In Chinese medicine arthritis and other joint diseases are defined as stagnation condition; the symptoms are: location and intensity of pain, extent of inflammation, size of the edema and extent of the organ dysfunction.

There are inner (organism condition) and outer (environment) factors which cause the joint diseases.

Outer predisposing factors:

- Windy weather;
- Cold and high humidity which cause edema;
- stagnation;
- numbness and pain in joints and surrounding tissues.

Inner causes:

- stress;
- anxiety;
- depressions and other factors which weaken immunity and vitality.

This leads to a disorder of regeneration processes and metabolism in osseous tissue, tendon and cartilaginous tissues.

Our methods are based on studying the intensity of the pain syndrome by the duct of the channels around the joints.

Around each big joint from each side there are six channels. For example, around the hands joints there are lungs, colon, heart, small intestine, pericardium and three body parts

channels.

Around the feet articulations there are spleen, pancreas, stomach, kidneys, urinary bladder, liver and gall bladder channels.

All the channels surround the joint and pain mostly begins in the location of the channel.

Our treatment takes into consideration the cause and pathogenesis of the joints and channels duct, determines Ying or Yang type by the syndromes (outer-inner, heat-cold, excess-shortage) and the main organism syndromes. The found pathology determines the treatment.

For example, if the pain in the knee joint spreads in the outer surface of the leg we can assume that the cause is in the stomach channel, if it spreads in the inner side – spleen and pancreas channel. It goes the same regarding other joints.

It often happens that the patient does not feel pain in an organ or system and the pain in the legs joints can signify a disorder in the stomach channel system.

It combines with one of the Hering's laws, which states that in order to cure the organism tries to bring the pain to the surface, away from the important organs to the less important ones, from the stomach to the bones and joints.

The important role in treatment of such syndromes play acupuncture, Korean Sutzi-Chimsur therapy, homoeopathy, herbal medicine and Ayurvedic treatment. In severe cases correction with conventional medications is recommended.

Only combination of all treatment and prevention methods can lead to positive results.

- Conclusion: for treatment joint diseases it is necessary to account the channels duct irrespective of etiology and pathogenesis. Knowing only the location of pain and the channels duct we can detect the organ or system pathology and indicate the treatment.

T. Gordeeva
G. Rutenburg
V. Bezhenar
T. Zhemchuzhina.

SIMULTANEOUS LAPAROSCOPE OPERATIONS IN WOMEN WITH COMBINED ILLNESS OF RETROPERITONEUM ORGANS AND SMALL PELVIS

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Elizavetinskaya Hospital City Centre of Endovideosurgery, Saint Petersburg, Russia

Scientific Research Institute for Obstetrics and Gynecology named after D.O.Otta, RAMN, Saint Petersburg, Russia

Actuality. The advantages of simultaneous operations such as reduction of traumatic intervention, intraoperative and postoperative complications, less hospital stay and temporary disability and postoperative lethality are continuously proved. Nevertheless the number of simultaneous operations with laparoscope methods remains as insignificant as

before their introduction.

Objective: To assess the possibilities of laparoscope surgery in women with gynecological disorders and renal cyst, to optimize the approaches of planned simultaneous laparoscope operations in gynecology.

Materials and Methods. 74 women underwent laparoscope surgery of renal cyst and 21 women underwent laparoscopic renal cyst excision. Average age of patients was $37,5 \pm 4,6$ years.

Results. The indications for simultaneous operations were following gynecological disorders: in 6 cases (28,6 %) – symptomatic uterus myoma and adenomyosis, in 7 cases (33,3%) – external genital endometriosis (EGE), detected in the course of the operation, in 5 cases (23,%) – cystous changes and ovary cystadenoma, in 3 cases (14,3 %) – tube-peritoneal sterility (TPS). It is necessary to note, that the total laparoscope hysterectomy (TLH) was accomplished in 3 patients with uterus myoma, subtotal pan hysterectomy (STLH) – 1 patient with uterus myoma and 1 with ovary cystadenoma during postmenopause. 5 patients of reproductive age with subserous and intramural- subserous localization myomatosis nodes had myomectomy, 3 of them in combination with coagulation focus of external genital endometriosis. Cystodenomectomy was performed in 3 cases in 4 patients with ovary cystadenomas. The operations in TPS patients distributed in the following way: in 2 cases there was neosalpingostomy with duplex salpingoovariolysis and to 1 patient – tubectomy, in view of sactosalpinx presence. Coagulation of endometriosis focus was accomplished to 8 patients with external genital endometriosis I-II stages, which was diagnosed in the course of diagnostic laparoscopy (7 patients with isolated form and 1 in TPS combination. In patients with simultaneous operations the preference was given to transperitoneal approach to kidney (71,4 %), application of which enables simultaneous intervention without additional trocar openings. It was necessary to resort to retroperitoneal approach only in 6 cases (28,6 %), in view of cyst localization on the back kidney surface, moreover, for gynecological operation stage realization was used transeperitoneal approach in addition, typical for surgeon-gynecologist.

Comparative estimation of aggressivity index of endovideosurgical operation in groups under study

index	Quarantined operation (n=74)	Malingering operation (n=21)
Duration of operation (min)	53,3 ± 13	81 ± 21
Duration of anesthesia (min)	62,4 ± 14,6	94 ± 20
Hemorrhage volume (ml)	55,7 ± 11,3	76 ± 37
necessity of hemotransfusion	0	2 (9,5 %)*

$p < 0,05$

Duration of endovideosurgical operation, which implement quarantine or malingering as comparable as duration of anesthesia. No display any significant distinctions in these indexes. Fluctuation of operations duration was in considerable limits, which depended on

concrete anatomical situation, stage methods assimilation and also that during malingering gynecological stages the operations of high difficulty score were carried out in 9 cases (42,8%) – TLH (2 patients), STLH ((2 patients), conservative myomectomy (5 patients). Two patients (9,5%) needed intraoperative introduction of blood preparation during malingering operation due to initial anaemia associated with the gynecological pathology (uterus myoma).

There were not any complications in postoperative period, it was typical. No lethal outcome. No difference between average period of hospital treatment (malingering operations) and hospital treatment cause of laparoscopic hysterectomy or adnexectomy.

Conclusions. Therefore, we can note that application (case: renal cyst) of auxiliary simultant stages of surgical treatment of gynecologic pathology does not increase complication frequencies. If compared endovideosurgical quarantined and malingering operation results it is shown that in the first case relative quantity of complication is less because of small numbers of patients who undergo such malingering operation ($p > 0,05$).

Performance of andovideosurgical malingering treatment in cases of gynecologic pathology has a number of features, connected with the choice of access. For cysts localization in back surfaces or in lower kidney pole it is preferably to use retroperitoneoscopic access, and for cysts which situated on front surfaces or in upper pole and also parapelvic cysts localization - transperitonealic.

Therefore, in patients with indication for malingering surgical treatments of with renal cysts in combination with gynecologic pathology we recommend to use transperitonealic access. Retroperitoneoscopic access might be justified only in cases when malingering diagnostic laparoscopy is needed.

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USE OF HERBAL MEDICATIONS IN TREATMENT OF OCCUPATIONAL DISEASES

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In modern economic situation in Russia the incidence of occupational diseases has remained at a high level. Despite of great interest of scientists, the state and industry to the problems of prevention, treatment and rehabilitation in patients with occupational diseases, the use phytopreparations is still insignificant. Therefore the aim of our work was to investigate a factual use of herbal medications in treatment and rehabilitation of vibration disease and chronic silicosis.

Content-analysis of medical and sanatorium records of the patients with vibration and chronic silicosis showed that phytopreparations are used on the stage of resort rehabilitation. Most of the patients were treated with phytotherapy in herbal lounges at rehabilitation centers. The phytotherapy expenses ranged from 15,57 to 23,3% of the total budget

on treatment and medications. Phytotherapy was administered to 52% of the patients, which underwent rehabilitation on chronic silicosis of occupational etiology and 67,74% of the patients that - on vibration disease. This imply that the use of herbal infusions (98% of all phytopreparations), their water solutions were made according to the package recommendations. All infusions were made by local manufacturers. 89,5% of the infusions had filter bags. The patients with vibration disease were treated to infusions with following effects: sedative (44,68%), expectorant (4,26%), vitamins (2,13%), cholagogue (4,26%), renal (2,13%). The patients with chronic silicosis received expectorant infusions (44%), sedative ones - 8%, laxative, renal and cholagoque infusions received 4% of the patients and sleeping pills were given to 4% of the patients.

The analysis of the consumer preferences among patients with occupational diseases conducted by means of questionnaires showed that 55,17% of the respondents prefer herbal medicines. Only 6,9% of the respondents spoke in favour of conventional medications. 37,93% of the patients do not see any difference between phytopreparations and conventional medicines. Among working respondents 49% spoke for phytopreparations, 4,7%, were for conventional medicines, the ones who did not see any difference - 46,3%. It was stated that most of the respondents purchase herbal raw materials at the pharmacy: 82,76% of the patients and 93,7% of the working subjects. Questioning of the occupational doctors revealed that 40% of the physicians prescribe herbal medicines, whilst 44,3% of them prefer conventional preparations and 15,7% are flexible in their prescriptions.

Thus, the investigation in factual application of phytopreparations confirmed its inadequate use especially at the stages of prevention and treatment of occupational diseases. However the consumer preferences among the patients and doctors demonstrated interest to phytopreparations. The results of the conducted investigation as well as advantages of herbal medicines (a low toxicity, their mildness and multifaceted effect) require further researches of rational application of phytopreparations for occupational diseases.

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SOCIAL AND BEHAVIOURAL FACTORS ASSOCIATED WITH HIGH MORTALITY AMONG WORKING-AGE MEN IN RUSSIA

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The current serious demographic situation in Russia has been characterized since the early 1990s by the total number of deaths being greater than the total number of births in the majority of geographic regions. This has led to a substantial reduction in the population of the country. Compared to other industrialised countries, over the past 20 years, mortality has been particularly high among working-age men, resulting in a

low life expectancy at birth among men. If mortality rates in the future among men remain the same as they are today, only half of young men aged 20 will survive until age 60 years.

Since 2002 we have carried out a series of investigations of the high mortality among working-age men in a typical Russian city to the West of the Ural mountains. This included both analysis of official statistics as well as epidemiological and sociological interview studies of live men and those dying in the period 2003-5.

In interviews with 1750 live men of working age (aged 25-54 years) we have found that strong alcohol drinks (spirits) are the most common alcoholic beverage drunk (consumed by 80% men), with one in 5 men drinking spirits daily or almost daily. Overall, 12% of men drank sufficiently heavily to have frequent hangovers or have some other characteristic of being a problem drinker. Smoking was common, with 63% of men being smokers and 14% former smokers.

The factors associated with problem drinking among men in our study were closely related to socioeconomic circumstances. Low educational level, being divorced and lack of full-time paid employment were particularly strongly linked to heavy drinking.

Men classed as problem drinkers, or who drank non-surrogate alcohols (8% of men), had a risk of mortality that was 6 times greater than men who did not consume alcohol or consumed usual alcohol drinks. From this we have estimated that 43% of deaths among men aged 25-54 years could be attributed to hazardous alcohol consumption. . If these data could be applied to Russian Federation, this amount suggests that up to 175000 excess deaths could be avoided if hazardous alcohol consumption was eliminated.

Based on data from forensic autopsies (which were undertaken on almost all deaths in this age group), medical experts and pathologists established that the most common category of cause of death was injuries, poisoning and violence; cardiovascular diseases was the next most common. Other death causes were rare in occurrence. Alcohol in blood was found in 46% of dead men and diseases connected with alcohol were identified in almost 60% of men.

Thus, our research shows that high mortality in working-age men is associated in many cases with heavy alcohol drinking, and suggests that the adverse effects of alcohol could be diminished with education, availability of permanent job and family. Smoking is also an important contributor to the very high mortality seen among working age men. It is necessary to develop and implement coordinated policies to reduce risk factors for serious ill health and death seen in the working age population in Russia. These would include steps to reduce alcohol consumption as a whole and to reduce smoking. Steps also need to be taken to improve treatments for those with alcohol problems. Most importantly, steps need to be taken to minimise the transmission of these dangerous behaviours to the next generation of Russian citizens.

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DITRETIOPHENYL A NEW WATER-SOLUBLE ANTIOXIDANT WITH IMMUNODEPRESSIVE ACTIVITY

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Sulphur derivatives of the spatially-difficult phenols present great interest among water-soluble antioxidants, characteristic feature of which is their expressed antioxidant activity. Ditrethiophenyl (3-(3, 5 di-tert-butyl-4-hydroxyphenyl)propylthiosulphonate sodium) is crystal powder of white colour, with a specific smell and a bitterish taste. In the UV-spectrum there is one maximum of absorption at 277 nm. Ditrethiophenyl possesses hydro properties: it is easily dissolved in water, dissolved in spirits and very little in chloroform and benzene.

Ditrethiophenyl in water solutions under the influence of acids and the bases form at once a disulphide, or through a stage of formation in the intermediate product – thiole, on the hydrolysis process influence: percentage of acid in the reaction environment, temperature and duration of reaction.

The critical toxicology of ditrethiophenyl in peritoneum by mice is 175mg/kg (LD50). On the model of Cu^{2+} - induction of oxidation methyl oleate at 60°C in water - emulsion to environment (calculate the induction period), and on the model Cu^{2+} - (5mM CuSO_4) and Fe^{2+} - induction (25mM FeSO_4) oxidation of LNP at 37°C in a current of 30 minute (by a fluorescent method measured accumulation reacting with thiobarbiturate acid of products), the expressed antioxidant activity ditrethiophenyl is established in comparison with structural analogues and known antioxidants: ionol and phenoxan potassium.

A research on immunotropic properties of the ditrethiophenyl was carried out in two doses 20 mg/kg/ml and 200 mg/kg/ml for the spontaneous and ConA, PWM, LPS mitogen - stimulated proliferation of the cells of spleen in the culture in vitro. It is discovered, that the ditrethiophenyl dose-dependent suppress the proliferation of immunocompetent cells by over 70%. The result of experiments in vivo on studying of as much as possible transferable dose ditrethiophenyl (35 mg/kg) in peritoneum introduction during 7 days at mice showed, that ditrethiophenyl possesses an immunodepressive activity, the lower level nucleus contain cells of peripheral blood more than on 20 %. Ditrethiophenyl in a dose of 10 mg/kg the influence on primary humoral the immune answer (IgM) in vivo - by absolute and relative quantity antibody cells in a spleen, show authentic results in absolute quantity IgM on 40 % and 29 %, and relative quantity IgM on 27 % and 23 %. These immunodepression activities have been tested on experimental model immunocomplex glomerulonephritis. Ditrethiophenyl in a dose of 35mg/kg in peritoneum every other day

authentically reduces cardinal number the albumen into the urine that testifies to an anti-inflammatory activity.

Research radioprotection activity are shown that at low concentration ditrethiofenyl in doses of 2 mg/kg and 10 mg/kg entered in peritoneum in volume of 0,5 ml daily in a current of four days, insignificantly increases the life expectancy of mice after a lethal irradiation (in a dose 850R), however not exceeding maximal of 10 days. At increase in a dose of 20 mg/kg the proof rise to 90% of survival rate of the animals to a sharp lethal irradiation is observed.

Thus, ditrethiofenyl the water-soluble compounds, showing in experimental models in vitro and in vivo expressed antioxidant, anti-inflammatory and radioprotection activities, can find application as a nontoxic immunodepressant.

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ADAPTIVE REACTIONS IN CHILDREN WITH RECURRENT BRONCHITIS AT THE STAGE OF REHABILITATION ON THE HEALTH RESORT

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For registration of the stages of adaptative reactions and control during the process of rehabilitation treatment simple indexes (leucocytic formula) are used. On the different amount of irritant an organism answers with different quality of adaptative reactions. In response to weak irritants general nonspecific reaction of training develops. The irritants of moderate force cause development of reaction of activating. It is characterized by the raise of protective and regulatory systems of the organism. Reduction of the laboratory examinations of patients to the common numerical value by means of the use of adaptative reactions not only allows to establish direction of dynamics of pathological process but also to differentiate the changes of indexes of "norm" in the child.

The purpose of our research was to develop the expert medical system, intended for the control and differential diagnostics of common nonspecific adaptative reactions of the organism in children with recurrent bronchitis (RB), with the purpose of optimization of treatment under conditions of health resort.

Methods. For decision of the set problem the analysis of adaptative reactions (AR) was carried out by the signal indexes of leucocytic formula with the estimation of common levels of reactivity (LR) according to L.H.Garkavi with co-authors 1978 in 136 children from 7 to 14 years old, patients with RB at health resort. All children got traditional sanatorium-and-resort treatment with the use of climatic therapy, thalassotherapy, mud therapy and complex of preformation physical factors. For all children procedures of low intensity (low frequency physiotherapy, aeronotherapy), moderate intensity (laser irradiation) and procedures with strong effect (circular douche, sodium chloride baths)

were included in the complex of rehabilitation measures taking into account rehabilitative reactions on admission.

Control of common nonspecific adaptative reactions of children with RB in dynamics and estimation of efficiency of therapy was carried out with the help of the developed by us system ADAPT Analyser 1.3 Lite.

Discussion. On admission in sanatorium in 63,89% of children with RB there was marked a tense reaction of training, in 30,43% - reaction of training with the low level of reactivity, that allowed us to consider their state as pre-disease, in 19,44% - a quiet reaction with tension, in 13,89% - stress, that was clinically manifested as ACD (in the first three days of stay in sanatorium), in 2,78% of children there was revealed a quiet activation without tension. It was earlier shown by us, that administration to patients with the reaction of training with the low level of reactivity, strong procedures results in the failure of adaptation and development of acute respirator disease (ARD) in 37% of cases. Administration of therapy taking into account adaptative reactions allowed to find out on discharge a tense reaction of training in 38,89% of children, a quiet activation with tension - in 58,33%, a quiet activation without tension - in 2,78%. No one of the children showed a reaction- stress. In other words against a background of treatment in children with RB a quiet activation with tense began to occur 3 times as much more frequently, that was clinically manifested by the reduction of exacerbation of bronchitis 1,8 times less for subsequent 6 months.

Conclusions. Introduction of the program product - ADAPT Analyser 1.3 Lite, on the base of sanatorium allowed: to reveal children with the prenosologic states (predisease) on admission in sanatorium; to carry out sanatorium-and-resort treatment of children taking into account their adaptative – compensatory possibilities; to develop individually the complex of rehabilitation measures; to reduce morbidity of children with acute bronchitis.

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ZUR DIAGNOSTIK DES HYPERVENTILATIONSSYNDROMS

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Das Hyperventilationssyndrom (HVS) oder Da-Costa-Syndrom kommt häufig in der therapeutischen Praxis vor.

Seine klinischen Symptome sind Veränderungen der Atemfrequenz, Atemnot-Beschwerden im Ruhezustand, das Gefühl von «Luftmangel», „Klumpen in der Kehle“, Unzufriedenheit bezüglich Qualität der Atmung.

In unserer Praxis verwenden wir folgende Methoden: Impedanz-Plethysmographie nach M.I. Tishchenko und die Analyse des vegetativen Nervensystems nach Baevsky.

Als instrumentaler Marker des HVS betrachten wir den Reserve-Koeffizient (RK), der als individuelles HMV durch das Verhältnis des aktuell vorliegenden Herzminutenvolumens (HMV) zur Normalen beschrieben wird. Die Norm ist 1.0, die Atemnot der mittleren Schwere-1.15-1.3, starke Atemnot – 1.3-1.5, sehr starke Atemnot - mehr als 1.5.

Von uns wurden 33 Patienten mit HVS beobachtet, die im Alter von 16 bis 82 Jahren sind, das Gewicht von 42 bis 105 kg und die Größe 166-188 cm haben. In all diesen Fällen entwickelte sich HVS auf Grund von phobischen und obsessiven Störungen. Die vorherrschende Emotion dieses Zustandes war die Besorgnis bei der Erwartung der künftigen positiven Veränderungen: (z. B.: Erwartung auf die Ankunft der erwünschten Menschen). Bei den Patientinnen wurden die Erkrankungen des Atmungssystems nicht diagnostiziert.

Die Patienten haben Anaprilin 60-30 mg\pro Tag oder Atenolol 50 mg\pro Tag, Tocopherol 300 mg\pro Tag, Amitriptylin 5 - 12,5 mg vor dem Nachtschlaf, Sonopacs 20 – 50 mg\pro Tag eingenommen und eine intravenöse Lasertherapie (Laser 632.8 nm mit Ausgangskapazität am Ende des Lichtwellenleiters 0,2-0,5 MW und der Dauer 15-30 min.) als Hintergrundtherapie bekommen haben. Die Patienten wurden ambulant behandelt. Arbeits- und Haushaltstätigkeiten für die Patienten wurden nicht ausgeschlossen.

Die Verbesserung sowohl des subjektiven als auch objektiven Zustandes kam nach dem ersten Behandlungstag. Zum neunten Tag intensivierten die Patienten ihre Tätigkeit, machten die Versuche ihre psychische Konfliktsituation, die sie zu diesem Zustand gebracht hat, zu lösen. All dies wurde auch in den Forschungen widerspiegelt.

Veränderungen der Kennziffern der zentralen Hämodynamik im Laufe der Behandlung								
KAV	RK	KHV	KTS	HMV	HI	AT	KAS	
2,27	2,12	90,44	15,32	12,85	6,31	24,34	59,58	Ausgangszu-stand
1,43	1,1	70,9	2,63	6,04	3,22	22,21	31,86	3 Tag
1,82	1,26	104,78	1,32	6,96	3,65	19,29	25,89	9 Tag
1,54	1,14	70,79	1,32	6,48	3,24	22,45	35,14	3 Woche
1,13-1,30	0,9-1,1	80-120	1,03-1,13		2,4-3,8	<20	<26,5	Norm
0,35	0,18	13,51	7	1,63	0,62	2,41	16,04	
0,07	0,13	13,47	1,5	0,72	0,38	1,95	3,19	
0,62	0,2	32,08	0,09	0,84	0,54	3,23	3,69	
0,23	0,17	19,16	0,04	0,95	0,56	3,29	8,73	

Die Abkürzungen: KAV - Koeffizient der Atmungsveränderungen, RK - Reserve-Koeffizient, HMV – Herzminutenvolumens, KHV - Kennziffer der hämodynamischen

Versorgung, KTS - Kennziffer der Tonusstabilität, HI – Herzindex, AT – Atmungsfrequenz, KAS - Kennziffer der Atmungsspannung

Schlussfolgerungen:

1. Die Anwendung der tetrapolaren Impedanz-Rheoplethysmographie nach M.I. Tishchenko optimiert die Ergebnisse der Diagnostik und lässt zu, den Behandlungsverlauf des Hyperventilationssyndroms zu kontrollieren.
2. Die Anwendung bei der HVVS-Behandlung der medikamentösen und nicht medikamentösen (Lichttherapie) Methoden lässt zu, die Effekte der beiden Methoden zu kombinieren und eine Senkung der Medikamentendosen und Physio-Gemmotherapie zu erzielen.
3. Beseitigung oder Linderung eines der Symptome sind einer der Wege der Krankheitsbehandlung.

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LETHALITY ASSESSMENT IN PATIENTS WITH DIABETES MELLITUS TYPE 2 AND ACUTE MYOCARDIAL INFARCTION

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Urgency. Diabetes Mellitus (DM) remains one of the urgent problems of medicine, for the last years it has become the significant one. WHO considers it to be a non-infectious epidemic of the 20th century. Diabetes mellitus of type 2 is known to occur in 90-92% of cases.

In such patients a painless form of myocardial infarction (MI) prevailed resulted from presence of autonomous diabetic neuropathy, as well as transmural or macrofocal myocardium affection.

Objectives. To study the extent of stenoses due to atherosclerotic process.

Materials and methods. 784 clinical case-histories of patients, which died from MI in 2007 and 2008 years were analyzed.

Results and discussion. Over the last 2 years in Almaty municipal clinical hospital 784 patients died from MI, in 153 patients DM was observed that accounted for 19.5%, besides all of them had DM of type 2, in 22 subjects the disease was detected for the 1st time (14,1%). 124 (81%)- females aged from 49 to 92, average age 63,0 + 1,32 years prevailed. Lethal outcome occurred at different terms, frequently from 2 to 5 days -71%.

Primary MI (61%) prevailed, recurrent one was observed in 39% of patients. Among complications cardiogenic shock (92%) and edema of lungs (78%) were reported more frequently.

Arrhythmia of the heart was in 63% of patients, transmural MI occurred in 83% of cases. Mostly MI was located on anterior lateral walls, septum and apex (87%).

On autopsy in all died patients the spread of myocardium necrosis accounted from 40% to 90%, besides 90% of myocardium damage was noted in circularatory MI and at the age of 84-92 years. Heart mass was from 400 to 700 gr., at the average 524 + 1,05 gr. A wall of the left ventricle was hypertrophied, its sickness ranged from 1,5cm to 2,3cm at the average 1,7+ 0,67 cm. The degree of right and left arteries stenoses was different.

631 patients died from MI and disorders of carbohydrate metabolism were not detected. Significant differences on clinical, instrumental (ECG) parameters (MI spread, localization, complications) and autopsy data (spread of myocardium necrosis focus, stenoses of right and left coronary arteries, heart mass, thickness of left ventricle wall) were not marked at analysis of clinical case- histories of the died patients.

Conclusions:

1. Miocardial infarction was observed in patients with DM in 19,5% of cases.
2. Diabetes was firstly diagnosed in 14,1% of cases.
3. Transmural MI was registered in 83% of patients.
4. Stenoses of the left coronary artery prevailed over the right one.
5. Significant differences during MI in patients with DM and in patients without disorders of carbohydrate metabolism were not revealed.

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THE PROBLEM OF TOXOPLASMA

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Depending on various reasons medicine does not pay enough attention to the role of infectious- parasitary problems in etiology of diseases. One of the leading places in development of diseases occupies toxoplasma gondii, whose spread is overwhelming. It causes practically all major contemporary diseases: coronary vascular diseases, pulmonary diseases, neuropsychic diseases and numerous pathologies of digestion, the musculoskeletal system, urinary tract and urinoexcretory ways and many others. Atherosclerosis is very common and until now the medicine has attributed cholesterol to its cause. Despite of this no single patient in the world has been healed from atherosclerosis and other coronary vascular pathology. However over the last decade a virus nature of this pathology has been broadly debated. Then why does antitoxoplasma treatment prevent the progression of the atherosclerosis? Why the medications that work against toxoplasma are even by the conventional medicine are called antiarrhythmics. How to explain that antiparasitary preparations reverse the development of pathology,

restore the correct heart rhythm although the blame is laid on cholesterol and viruses which are not sensitive to these preparations? This might be applied to other spheres and in particular to neuropsychic diseases. As an example, schizophrenia is cured with antitoxoplasma preparations whilst it is not acknowledged as its cause. It seems that it will not be possible to ignore the problem of toxoplasma in future. Professor Flegel from

Karlovy University in Prague testified that toxoplasma so negatively affects car drivers that they are in 2,7 times more susceptible to accidents. The researches including Americans Gloria Mender, Kevin Lafferti showed that due to toxoplasma exposure the characters of nations change. Fuller Torrey, The Stanley Institute of Medical researches, Maryland, USA proved that toxoplasma is directly associated with schizophrenia. Ultimately Prof. Glenn Makkonki, University of Leeds demonstrated at a biochemical level the process of the development of schizophrenia through neurotransmitter dopamine. The spread of toxoplasma is aggressive and there is no reliable diagnosis. Antibody tests and PCR detect only 40% of the parasite. There are no preparations that meet the necessary requirements. The existing medications enlist a couple of preparations to which toxoplasma promptly adapts. This makes the situation even more serious considering the fact that the parasite prevails in an encysted form.

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MEDICAL EFFECTS OF GENERAL MAGNETOTHERAPY

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We have accumulated substantial positive experience of preventive and treatment effect of the use of general magnetotherapy (GMT) carried out with the low-frequency magneto-therapeutical apparatus «ALMA». As the performance results there are five patents, five defended theses, two monographs. The group of scientists became laureates of the Prize established by the Administration of Altai Region in the field of science and technique.

GMT is referred to the methods with a wide scope of therapeutical activities: immunomodulating, hypotensive, regenerative, analgesic, anti-inflammatory, antioxidant, bacteriostatic, sedative, and adaptive ones. GMT produces vigorating effect, improves mental and physical productivity, quickly replenishes the body after physical and nervous strain and raises functional reserves.

Complementation a complex treatment of hypertension with GMT renders a proved correction influence on central and cerebral hemodynamics, normalizes vegetative status, and enables cut dose of medications by half. GMT application for secondary prevention of AH allows correcting such risk factors as hypercoagulation and hyperlipidemia. GMT influences positively on AH patients' psychoemotional status, reducing the level of reactive anxiety, facilitates changes of mental patterns.

The use of GMT in a complex treatment of menopausal syndrome results in a manifested clinical effect, which displayed in a qualitative reduction of flushes, sweating, blood pressure stabilization, improved night sleep, decrease of dizziness, positive cerebral hemodynamics, normalization of vegetative and psychoemotional status.

A definite experience on GMT use for a complex treatment and prevention of peptic ulcer disease has been gained. Application of this non-medication therapy enables to obtain

a better reparative and anti-recurrent effects compared to the control group. Taking in account that PUD is related to psychosomatic illnesses we would like to stress the positive influence of GMT on psychoemotional status, which manifested in evident reduction of anxiety, depression and increased vitality and optimism.

A special note required on GMT application in oncological patients. The experience of numerous local oncological centers testifies that the magnetic field produces sanogenic and immunomodulating effects in the organism, and exposes tumor cells to a direct destructive effect. The researches conducted in Altai Oncological Centre reported an improvement of the therapeutical result when GMT is added to chemotherapy, radiation therapy and surgical treatment in patients with breast, lung, stomach and genital cancer.

We carried out clinical researches on GMT influence on involution of myomatous nodes in women of reproductive age. The data of treatment showed reduction of myomatous nodes in 76,7% of the patients averagely by 16,6%, within period of 12 months no further growth of myomatous nodes was noted.

Therefore GMT is a comparatively new direction in physiotherapy, which possesses a multifaceted activity. Clinical researches confirm its beneficial influence on the organism and application feasibility for a number of diseases. No doubt, the method requires further assessment, even more rigorous clinical approbation and introduction in medical practice.

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**FLAVONOIDS AND PHENYLPROPANOIDS IN THE MODERN
PHARMACOGNOSY AND PHYTOTHERAPY**

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The phenolic compounds of medicinal plants are the perspective sources of the adaptogenic, tonic, nootropic, antidepressive, anxiolytic, immunostimulating, antiviral, hepatoprotective, cholagogic and antioxidant pharmaceuticals. As a results of studies the chemical composition of a whole series of medicinal plants were isolated more than 150 substances (simple phenols, phenylpropanoids, coumarins, flavonoids), among which are new 20 compounds. The structural elucidation of isolated compounds was carried out with the use of UV-, NMR-spectroscopy, mass spectrometry, different chemical transformations. On the basis of the study of physical-chemical, spectral properties there was developed the new classification of phenol compounds, which was included in the textbook "Pharmacognosy" (V.A. Kurkin, 2004; 2007). There were established relationships between of the spectral and pharmacological activities of phenylpropanoids, flavonoids and of their chemical structures. It was substantiated the need for introduction into pharmacognosy of phenylpropanoids as the independent class of biologically active

compounds, which was reflected in the textbook "Pharmacognosy" (V.A. Kurkin, 2004; 2007). Besides, in accordingly with new chemical classification of the medicinal plants (V.A. Kurkin, 2002) there were introduced in the pharmacognosy so classes of biologically active phenolic compounds as xanthenes and quinones. The above-mentioned textbook includes the description of a whole series of the new medicinal plants, which contain the phenolic compounds: *Echinacea purpurea* (L.) Moench., *Syringa vulgaris* L., *Arctium lappa* L., *Viscum album* L., *Salix acutifolia* Willd., *Filipendula ulmaria* (L.) Maxim., *Ginkgo biloba* L., *Aerva lanata* Juss., *Lespedeza* sp., *Phaseolus vulgaris* L., *Avena sativa* L., *Hibiscus sabdaraffa* L., *Helichrysum italicum* (Roth.) G. Don., *Fagopyrum sagittatum* Gilib., *Juglans regia* L., *Hedysarum alpinum* L. In the present time the Pharmacopoeia of Russia contains about 30 medicinal plants, which are attributed to the flavonoids as the leader group of biologically active compounds. Besides, in the case of 25 medicinal plants, contained essential oil, saponins and other substances, the flavonoids are interesting as biologically active compounds, namely: *Tanacetum vulgare* L., *Mentha piperita* L., *Betula pubescens* Ehrh., *Melissa officinalis* L., *Artemisia dracunculus* L., *Populus nigra* L., *Salix acutifolia* Willd., *Calendula officinalis* L., *Aesculus hippocastanum* L., *Rhodiola rosea* L. etc.

In the present paper are discussed also the actual aspects of the modern standardization of the drugs and the phytopharmaceuticals. The new possibilities for the development of pharmacognosy gives the use of the thin layer chromatography, the high performance liquid chromatography, UV-, UR-, ¹H-NMR-, ¹³C-NMR-spectroscopy, mass spectrometry and other modern chemical, physical-chemical and spectral methods. The modern standardization must be based on the use of standard samples in the analytical methods for purpose of the identification and quantitative determination of biologically active compounds in the drugs and the phytopharmaceuticals. In the course of our investigations there were proposed the series of standard samples for purpose of the standardization of *Rhodiola rosea* L. rhizomes (rosavin), *Rhodiola rosea* L. tissue cultures (triandrin), *Salix viminalis* L. barks (triandrin), *Eleutherococcus senticosus* (Rupr. et Maxim.) Maxim. rhizomes (syringin or eletheroside B), *Syringa vulgaris* L. barks (syringin), *Silybum marianum* (L.) Gaertn. fruits. (silybin), *Betula pubescens* Ehrh. leaves, *Hypericum perforatum* L. herbs (hyperoside), *Fagopyrum sagittatum* Gilib. herbs (rutin), *Glycyrrhiza glabra* L. roots (licuraside), *Populus nigra* L. buds (pinostrobin), *Salix acutifolia* Willd. barks, *Helichrysum arenarium* (L.) Moench. flowers (isosalipurposide).

Introduction. The phenylpropanoids are perspective biologically active compounds of medicinal plants which are of the great interest as the sources of the tonic, immunostimulating, adaptogenic, antioxidative and hepatoprotective phytopharmaceuticals. The greatest interest are glycosides of cinnamic alcohol, p-coumaric alcohol, sinapic alcohol of *Salix viminalis* L. barks (triandrin), *Rhodiola rosea* L. tissue cultures (triandrin), *Rhodiola rosea* L. rhizomes (rosavin), *Eleutherococcus*

senticosus (Rupr. et Maxim.) Maxim. rhizomes (syringin or eleutheroside B), *Syringa vulgaris* L. barks (syringin), and also flavolignan silybin from *Silybum marianum* (L.) Gaertn. fruits. Besides it should be to consider as perspective medicinal plants, contained the cinnamic acids and its derivatives namely rosmarinic acid (*Melissa officinalis* L.) and cichoric acid (*Echinacea* species), which cause the immunostimulating and antiviral activities of the preparations from the drugs of these plants. The above-mentioned medicinal plants are of the great interest for homoeopathy.

Material and Methods. For our experiments we collected the plant materials of *Rhodiola rosea* (rhizomes), *Syringa vulgaris* (barks), *Silybum marianum* (fruits), *Echinacea purpurea* (L.) Moench. (herbs) and *Melissa officinalis* L. (herbs), cultivated in Samara region. The some drugs were collected from widely distributed plants in Samara region (*Salix viminalis* barks) or in Khabarovsk Krai (*Eleutherococcus senticosus* rhizomes). There was studied also the biomass of *Rhodiola rosea* L. tissue cultures. The structural elucidation of the isolated phenylpropanoids was carried out by means of the UV-, ¹H-NMR-spectroscopy, mass spectrometry and several chemical transformations (acetylation, methylation, acid and enzymatic hydrolysis). Methods of identification of drugs and preparations of mentioned plants were developed with the use of TLC and HPLC. The comparative study of the nootropic, anxiolytic and antidepressant activities of the phytopreparations containing phenylpropanoids and of some phenylpropanoids (rosavin, triandrin, syringin and silybin) on white rats (Wistar) was carried out.

Results und Discussion. It was shown that triandrin (9-0- -D-glucopyranoside of p-coumaric alcohol), rosavin (vicianoside of cinnamic alcohol), syringin (4-0- -D-glucopyranoside of sinapic alcohol) and silybin are diagnostic and dominant biologically active compounds of corresponding drugs and preparations. The standard samples of triandrin (*R. rosea* tissue cultures, *S. viminalis* barks), rosavin (*R. rosea* rhizomes), syringin (*E. senticosus* rhizomes, *S. vulgaris* barks), and silybin (*S. marianum* fruits) are proposed to be used for standardization (TLC-, HPLC-analysis and UV-spectroscopy) of the mentioned medicinal plants and of their preparations. There was shown, that *Rhodiola rosea* L. tinctures and *Echinacea purpurea* tinctures are perspective nootropic phytopharmaceuticals. The greatest anxiolytic activities there were shown for the *Rhodiola rosea* tinctures, *Melissa officinalis* tinctures, *Syringa vulgaris* tinctures. Phytopreparations *Melissa officinalis* tinctures, *Eleutherococcus senticosus* fluid extracts and *Syringa vulgaris* tinctures are interesting as antidepressant preparations. There were established the relationships between the chemical structures of phenylpropanoids (rosavin, triandrin, syringin and silybin) and of their spectral properties and biologically activities. There was determined the greatest anxiolytic effect for phenylpropanoids syringin (from *Eleutherococcus senticosus* rhizomes, *Syringa vulgaris* barks) and rosavin (from *Rhodiola rosea* rhizomes). The nootropic activities of phenylpropanoids are decreased in the range of rosavin > triandrin > syringin > silybin.

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THE BIODIVERSITY OF LACTOBACILLUS SPP BY THE METHOD OF MOLECULAR GENETIC ANALYSIS

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The purpose of this work is to study the cultures of *Lactobacillus* spp, circulating in different geographical regions of Kazakhstan with the use of molecular biological techniques.

Based on the analysis morphological-cultural and physiological-biochemical parameters, 74 *Lactobacillus* spp isolates were divided into 3 main groups: *Lb.acidophilus* - 16 isolates, *Lb.fermentum* - 21 isolate, *Lb.casei* - 37 iolyatov. All three groups are evenly distributed across all regions of Kazakhstan.

Analysis of restriction fragment length polymorphism of 16S rDNA and interspacer region of 16 - 23 S rDNA revealed: 25 cultures showed a picture of hydrolysis, typical for *Lb.casei*, 12 isolates showed similar results for *Lb.casei*, *Lb.rhamnosus*, *Lb.plantarum*, 8 isolates - similar to the species of *Lactobacillus acidophilus* and *Lactobacillus delbrueckii*, 18 cultures similar to *Lb.fermentum*. A direct nucleotide sequence analysis of 16S rDNA was carried out. The result was confirmed with 27 cultures of *Lactobacillus casei/Lactobacillus paracasei*, 10 cultures of *Lb.acidophilus*, 23 cultures of *Lb.fermentum*. remaining cultures were attributed to the species of *Lactobacillus plantarum/Lactobacillus pentosus* and *Lactobacillus delbrueckii*. Correlation analysis of phenotypic and phylogenetic identification of 16S rDNA revealed incorrect identification of 14 isolates.

Random amplification of polymorphic DNA (RAPD PCR) using two primers allowed dividing a group of *Lactobacillus casei / Lactobacillus paracasei* to 8 groups, differing from one another by patterns.

For further analysis MLST typing for 18 isolates of *L. casei* was conducted. Under investigation were sets of alleles of elongation factor EF-2 (*fusA*), isoleucyl tRNA synthetase (*ileS*), GTP-binding protein *LepA* (*lepA*), leucyl-tRNA synthetase (*leuS*), CTP synthetase (*pyrG*), recombinase A (*recA*), ATP-dependent DNA helicase (*recG*). In the course of this work there were found new alleles *fusA* (option 1), *ileS* - Two new allele, *lepA* - Two new allele, *leuS* - one new allele, *recG* - one new allele. The combination of new alleles allowed dividing isolates of *L. casei* on five sequence-type: first group(I) form the sequence type of isolates submitted from all regions of Kazakhstan, the second group (II) consists of isolates Akmola and southern regions of Kazakhstan; III, IV and V form the isolates from northern regions of Kazakhstan.

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ANALYSIS OF GENE EXPRESSION RESPONSIBLE FOR ACIDIFYING ACTIVITY OF LACTOBACILLUS CASEI

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The process of gene expression involves several steps: transcription, RNA processing, translation and assembly of protein complexes. In each of these steps it is possible to take control over gene expression, both on the part of the genome, and from the abioogenous factors. Formation of lactic acid bacteria is of practical importance, as a part of the antimicrobial mechanism. Study of mechanisms of acid production is actual for biochemical use, as well as for genetic methods, which give us the opportunity to manage the processes of acid production. The aim of our research is to study the mechanisms of gene expression responsible for the production of lactic acid.

As the object of studies strains of *Lactobacillus casei* were used, which characterize by common for this type of morphological, cultural and biochemical properties. Bacterial strains are isolated from different sources in different regions of Kazakhstan, typing by sequencing as *Lactobacillus casei*. In this paper we used strains of *Lactobacillus casei* possessing by different levels of acid production

To determine the expression of lactate dehydrogenase genes it was carried out two step RT Real-Time PCR. As intercalating agent it was used SybrGreenI. To determine the initial number of cDNA sample it was used the algorithm describing the behavior of the kinetic curve. As a criterion of normal distribution it was using the Shapiro-Vilkonsona test, using the expression of "house keeping" genes.

The graph for determining the melting curves of the gene expression of lactate dehydrogenase had a peak with the melting point, indicating that only the accumulation of specific products.

The maximum value acid activity of *Lactobacillus casei* correspond to the maximum level of lactate dehydrogenase gene. The coefficient of correlation is 0.25, indicating a linear correlation of two traits.

Determined the levels of lactate dehydrogenase mRNA by real-time PCR. It was found, the level of lactate dehydrogenase mRNA varies slightly. Decrease in the acid activity was characterized by low levels of mRNA compared with control: lower by 63 - 76%, while increasing the rate of acid activity was characterized by high levels of mRNA: 11 - 17% of the level of the benchmarks. The data obtained are preliminary and do not give the full specifications of acid production depending on the lactate dehydrogenase gene expression.

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EFFECTS OF BETA – ADRENOBLOCKERS ON ENDOTHELIAL DYSFUNCTION IN PATIENTS WITH STABLE ANGINA PECTORIS IN COMBINATION WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Aim. To study effects of a cardioselective beta-adrenoblocker bisoprolol on vascular wall endothelium function and external respiration function in stable angina of effort combined with chronic obstructive pulmonary disease (COPD).

Material and methods. Endothelial function and external respiration were studied before and after 4-week treatment with bisoprolol in 36 patients with stable angina and COPD using assessment of endothelium-dependent vasodilatation (EDVD) and concentration of nitric oxide metabolites.

Results. Before the treatment EDVD was $3,11 \pm 1,23\%$, after the treatment EDVD became $4,94 \pm 1,43\%$ ($<0,05$). Initially the concentration of nitric oxide metabolites in blood consisted of: $\text{NO}_2 - 15,73 \pm 2,54$ mkmoll/L, $\text{NO}_3 - 17,19 \pm 3,51$ mkmoll/L; after 4-weeks of treatment became $\text{NO}_2 18,53 \pm 1,97$ mkmoll/L, $\text{NO}_3 - 20,92 \pm 1,8$ mkmoll/L. Significant improvement of endothelial function was achieved due to 4-week bisoprolol treatment which did not affect external respiration function.

Conclusion. Bisoprolol is an effective and safe drug in the treatment of stable angina combined with COPD. It can noticeably improve endothelial function.

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DIE FORSCHUNG DER HAUT ERFASST DIE PHASEN DES ÖSTRUSZYKLUSES UND DER MORPHOLOGISCHEN TYPOLOGIE

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In der modernen Medizinwissenschaft wird die Konzeption entwickelt, laut der sich die Wirkung der Geschlechtshormonen in diesem oder jenem Maß auf den funktionalen Zustand aller Organe und Systeme auslöst. Die Schwankungen der Geschlechtshormonen, die von den abwechselnden physiologischen Faktoren abhängen, bedingen die physiologisch-biochemischen Abläufe in der Haut.

Das Ziel der Studie ist die Einschätzung des funktionalen Zustands der Haut und ihrer Derivate abhängig von den Phasen des Östruszykluses und der persönlich-typologischen Besonderheiten von dem jungen Organismus.

An der Untersuchung haben 43 Mädchen teilgenommen, die ein 28-tägiges Östruszyklus haben und in der 5 Periode der Pubertät laut der Skala von J. Tanner sind. Die Formel dieser Periode lässt sich mit den Punkten $A_{x_3}P_3Ma_3Me_2$ charakterisieren. Zwei Gruppen wurden gebildet: 21 Mädchen waren in der Follikelenentwicklungsphase des Zyklus, 22 Mädchen waren in der Luteralphase. Die Untersuchung war mit Hilfe des Satzes der Messgeräte der Firma Gnepel Switzerland, des Gerätes „Rider-550“ und der Digitalkamera Bomtech durchgeführt.

Die Ergebnisse. Auf Grund des vorherrschenden „mittleren“ Brustraumssomatyps, der für die Jünglingsperiode der Entwicklung charakteristisch ist, ist die Zunahme der Zahl der Mädchen des Digestivmotphotyps bestätigt, der die Verlangsamung der somatypologischen Entwicklung kennzeichnet. Bei 25% der Mädchen des Typs, die in der Luteralphase mit der größten Niveau des Progesterons 33,72 nmol/l und dem Follikelstimulationshormon 22,02 MME/ml sind, ist die grobe Haut und die größte Zahl des Akne. Die grobe Haut lässt sich mit der Verminderung der funktionalen Aktivität der Fett- und Schweißdrüsen und das Vorhandensein des Finnausschages kennzeichnen. Aus 19,5% der Mädchen des asthenischen Typs, der die Beschleunigung des Tempos der somatischen Entwicklung zeigt, bei 9,5% der Mädchen, die in der Follikelenentwicklungsphase sind, ist die Vergrößerung der Feuchtigkeit der Wangen, der Stirn und des Kinns entdeckt. Auf Grund des hohen Niveaus des Estradiols (2,22 nmol/l) in der Periode des Wachstums und der Reife der Follikel sind die kleinen Blutgefäße in der Haut geengt, die Erteilung des Blutes verringert sich und dementsprechend nimmt die Wärmeabgabe ab.

Mit Rücksicht auf das Hormonbild der Follikelenentwicklungsphase, die sich mit dem höchsten Wert des Follikelstimulationshormons 13,69% und mit dem niedrigsten Wert des Progesterons 1,1 nmol/l charakterisiert, ist es zu behaupten, dass im Grund der vergrößerten Feuchtigkeit der Haut der Anpassungsmechanismus der „Wärmträgheit“ liegt. Die erhaltenen Ergebnisse deuten auf die Besonderheiten der Hautwärmeregelung der asthenischen Mädchen, die in der Follikelenentwicklungsphase des Östruszyklus sind. Die Verminderung der Wärmeabgabe passiert wegen der Verminderung der Körpertemperatur infolge der Einengung der Blutgefäße in der Haut, der Vergrößerung des Kreislaufons und der Schweißausbrüche mit dem Ziel, die stabile Temperatur des „Kernes“ des Körpers festzuhalten.

Die Schlussfolgerung. Festgestellt ist die unmittelbare Verbindung des Hormonenzustandes der Mädchen, die gegenseitige Positionen laut dem Tempo der somatypologischen Entwicklung nehmen, mit der Bildung der Problemhaut. Die höchste Feuchtigkeit der Haut bei den Mädchen des asthenischen Typs, die in der Follikelenentwicklungsphase sind, ist vom niedrigsten Niveau des Progesterons und dem höchsten Wert des Estradiols bedingt, der die anabolische Wirkung der Androgen vermindert. Die große Feuchtigkeit der Haut in der Follikelenentwicklungsphase des Östruszyklus ist durch den Anpassungsmechanismus der Aufbewahrung des Wärmegleichgewichtes des Organismus zu erklären.

Der hohe Keratinanteil in der Haut und der höchste Wert des Finnausschlages

bei Mädchen des Digestivsomatyps in der Lateralphase ist durch das hohe Niveau des Progesterones und die Ungleichgewicht der Spurenelemente zu erklären.

P. Klug

GESTALTUNG EINES WIRKUNGSVOLLEN MEDIZINISCHEN MUSKELTRAININGS IN PRÄVENTION UND REHABILITATION UNTER EINBEZIEHUNG WICHTIGER ERKENNTNISSE AUS MEDIZIN UND SPORTWISSENSCHAFT

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Ausgehend von der Tatsache das insuffiziente Muskulatur das Entstehen von diversen Krankheiten begünstigt, wollen wir genau an dieser „Schwachstelle“ im wahrsten Sinne des Wortes ansetzen und durch eine entsprechende Prävention zur Vermeidung von Unter- und Dysfunktionen des aktiven Bewegungsapparates und deren Folgen beitragen.

Ebenso möchten wir bei manifesten Krankheiten, die ein entsprechende Belastung zulassen, auf therapeutischer Ebene die optimalen Belastungsreize setzen, die zum Heilungserfolg beitragen.

Dazu wird zunächst von jedem Teilnehmer/Patient durch einen Muskelfunktionstest und einem Test der muskulären Kraftqualitäten ein Muskelstatus erhoben. Ausgehend von den individuellen Defiziten wird dann ein persönlicher Trainings-Therapieplan erstellt und in den Trainings/Therapieeinheiten unter Anleitung und Kontrolle des Kursleiters bzw. Therapeuten umgesetzt.

Schwerpunkte dabei sind:

- Verbesserung Intra -und intermuskulärer Koordination
- Verbesserung Kraftausdauer, Schnellkraft und Kondition
- Gezielter Muskelaufbau bzw. Muskelpflege
- Verbesserung der Beweglichkeit und Stabilisierung der Gelenke
- Herstellung einer belastungsadäquaten Körperkomposition

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ANTISTRESS COLOR CORRECTION IN MEDICINE AND PSYCHOLOGY

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Antistress Color Correction (ACC) is a new effective method of complex color therapy and color correction, developed by the doctor of medical science, the psychologist-

psychotherapist, the leader of courses A.M. Lugova. It can be applied in medicine and psychology. Novelty, uniqueness and efficiency of the method is confirmed and protected by three Russian and one international patents. ACC – method for correcting actual psychoemotional state and accentuate character traits, harmonization of a person.

Antistress Color Correction is a way of correction psychoemotional conditions including:

- The estimation of actual (current) psychoemotional state.
- Analysis of individual peculiarities of a person and his stress stability.
- Testing and correction the health level using irido code (A.M. Lugova method).
- The situational and typical choice of color (A.M. Lugova Method on the basis of

which Antistress Color Correction has been created).

- Complex affects by color through the visual analyzer: visual color impulse correction by special apparatuses and color correction combinations.

This method gives a choice to choose the color and select color correction combinations for complex color therapy taking in consideration the current psychoemotional state, individual peculiarity of a person and his stress stability.

Visual color impulse correction (VCIC) is the influence by electromagnetic impulses of the visible spectrum through a visual analyzer on the person. VCIC is carried out by means of special glasses with radiator sources of optical radiation and the block of conducting of light impulses. Optimum color and rhythmic components of apparatuses VCIC are the mortgage of affective influence. They allow to make procedures to patients in view of individual perception of color and rhythm. Visual color impulse correction can be appointed in the form of separate sessions of relaxation at stress and 10-14 day courses for correction current psychoemotional condition and sight prevention and correction neurotic and psychomatic frustration.

For definition of rhythms of the visual analyzer which often happens to be broken at psychoemotional and visual infringements, special glasses have been developed for research of rhythms of visual perception in visual color impulse correction. These glasses can be used before appointing ACC and after carrying out the medical course. The given research gives a chance to find infringements of rhythms of visual perception and to estimate efficiency of ACC at their repeated definition.

Color correction combinations are relaxing, toning up and mixing, they are harmonious combinations of colors to the optical degree of their clarification or blackout for visual influence in polygraphic or electronic kind, and also interior and clothes. For a situational and typological choice of color, selection of color correction combination and their further usage the Atlas of antistress color correction tables has been developed and published. It includes tables for color testing, color correcting circle (12 sectors, 108 segments) and 204 color correction combinations (on 17 for each of 12 pure sated colors of color correction circle).

Antistress color correction is effective in prevention, treatment and rehabilitation of

neurotic and psychomatic frustration, harmonization of the individual and interpersonal attitudes, increases stress stability and adaptable opportunities of organism.

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HYGIENIC CHARACTERISTICS OF CHEMICAL FACTORS ON HEALTH CONDITION OF DENTIST IN MODERN CONDITIONS

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Rapid latest developments in medical industry have brought a dramatic change in working conditions at dental facilities. New engineering, technology, toolkits, equipment and medications are constantly introduced into dental practice. On the one hand, it improves the quality of treatment and facilitates work of the staff, on the other hand dentists are confronted with new operating conditions, which are not thoroughly investigated in terms of occupational hygiene. Such hazardous factors of an industrial environment as air pollution, insufficient light, exposure to amalgam fillings, and susceptibility to patients' infection were previously hardly mentioned in studies.

Now attention of hygienists should be switched to exposure to latest dental equipment, new filling materials, allergic effects of chemical substances used in dentistry, toxic concentrations in the air in dental surgery and diseases of dentists and dental technicians.

A peculiarity of working conditions at a dental prosthodontic laboratories is marked with a risk factor dealing with an air pollution due to various chemical substances in various modular conditions (dust, vapors, gases) some which are toxic: mercury, cadmium, lead, carbon oxide, an acid and alkali, SiO₂, acrylates etc. Beside of the enlisted substances there are also certain combinations, which influence in conditions of dental surgery remains quite obscure. During manufacturing of metal dentures gold, silver, platinum, chromium, nickel, titanium, molybdenum, cobalt etc. Their vapors and dust encompass about 20 metals, for example during production of dentures. In this context the purpose of the present research was to investigate the influence of chemical factors on working conditions and diseases of dental staff in a number of dental clinics in Almaty. The preliminary data revealed that so far the sanitary normative documents do not stipulate concentration of hazardous substances in the air of dental surgery premises. The problem of an allergy in dentistry is especially actual. According to the literary data this field of medicine uses more than 500 chemical substances that are able to cause allergic reactions not only in patients but in doctors as well. According to the data 15 % of dentists suffer from allergenic influence of medicines and materials. Long ago in occupational hygiene for dentistry

established a “mercury” problem due to wide application of amalgam.

According to latest dental studies in Kazakhstan amalgam is not applied any longer although abroad it still finds a wide application.

Therefore the urgency of conducting researches on hygiene in dentistry is evident.

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**SANITARY AND HYGIENIC ASSESSMENT OF SOME
PARAMETERS OF THE PROFESSIONAL ENVIRONMENT AT
DENTAL FACILITIES**

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Studying of hygiene of the working environment of medical staff in general, and staff of dental facilities in particular till now has been done insufficiently. If medical professions used to consider safe from industrial exposure, now it is evident that doctors are subjects to about 500 various harmful factors.

Somewhat separate in this context are dental doctors and dental technicians. If exposure to noise among other medical professions is not a significant factor, it truly is for dental staff. High-speed drills and turbines have been employed in dentistry for almost fifty years. Their application eliminates painful sensations in the patient at manipulations, accelerates grinding and other processing of a tooth and reduces manual strain in the dentist. At the same time air or water cooling, promotes dispersion in air of an aerosol from an oral cavity of the patient, which quite often contains a pathogenic microflora. It called upon a discussion on preliminary hygienic processing of oral cavity aimed at eliminating the source of infection. Pathogenic flora from a mouth of the patient, ultimately infects dental premises. This question has not been properly highlighted.

Operating dental equipment, in particular, the high-speed turbines, accelerating momentum rotations up to 200-400 thousand revolutions a minute reaches the maximal energy of a sound -equal to frequency of 8000 hertz.

The incidence of hearing pathologies among dental staff workers there is an open question. Some researchers deny the role of noise in etimology of hearing problems among dentists, other quote the data on occurrence of left-hand relative deafness in dentists working on turbines. In regard to vibration as a harmful factor there is still no evidence.

The combined action of materials and the preparations used in dental surgery as a hazardous factor is also open to rigorous experimental and epidemiological researches.

Thus, hygiene of working conditions in dentistry presents an actual problem.

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BIOLOGICAL FLUIDS CRYSTALLIZATION AT THERMO-INHALATION TRAUMA

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Today crystalloscopic analysis of the dehydrated biological fluids is wide spread. It is known that informativity of the crystalloscopic picture is determined by changes in biological substratum chemical composition and its physical properties, which are associated with patient's functional status.

The advantages of this research methods group underline the importance of crystalloscopy application. At the same time the majority of approaches described in literature is based on comparison of the dehydrated biological fluids samples by qualitative attributes and on attempts of specific crystalloscopic «markers» separation of different pathological states. That is why the significant question of modern biocrystallography is the highest possible objectivity of findings. It should be mentioned that the most authors do not describe or analyse the process and results of yielding of crystals, except visual description.

Burns are wide spread trauma variant, which can provoke specific burn disease, associated with all system and organs dysfunction. One of its main pathogenesis components is endotoxiosis, connected with overconcentration of some substances in the blood, such as medium level weight molecules, creatinine et others. This transformation of biological fluid composition determinate changes of its crystallogenic properties, which can be an integral index of organism metabolic status.

There is almost no information about biological fluids morphology at burn disease, and first of all at thermo-inhalation effect. That is why our research aim was data comparison of the saliva facia criterial visual morphometry and blood serum of the patients with thermo-inhalation trauma, and biosubstratum neogenic crystals spectrometric analysis.

Materials and methods

We studied character of free and 0,9% sodium chloride solution initiated crystals yielding in saliva and blood serum of the 14 thermo-inhalation traumatized patients. The dehydrated biological fluids micropreparations were made by classic crystalloscopy and comparative tezigraphy methods. Estimation of the crystalloscopic and tezigraphic analysis results was made by the original algorithm. Situated on the object-plate samples of the dehydrated biological fluids were examined spectrometrically by the PowerWave XS device (USA), special attention was paid to the waves with the 300, 350 and 400 nm length absorption rate.

Statistic processing of the data was accomplished by program systems Primer of biostatistics 4.03 SPSS 11.0.

Results and discussion

Based on the morphometric analysis of the saliva and blood serum crystalloscopic and tezigraphic facias of the thermo-inhalation traumatized patients, we established that free and initiated crystallogenesis of such patients had a specific character. It should be mentioned that thermo-inhalation trauma features became apparent in micropreparations, when the characteristics of the biosubstratum samples were preserved.

Analysis of the facias spectrometric characteristics revealed some peculiarities of the biofluids crystals absorption rate at the above-mentioned wave-lengths. It is interesting that absorption rate differentiation was noted only at 300 nm wave-length in the samples made by classic crystalloscopy methods, whereas tezigraphic facias were differ in spectrometric characteristics at all of the studied wave-lengths.

Revealing of the high and medium correlated connections ($p < 0,05$) between crystals visual morphometry characteristics and their spectrometric parameters in the crystalloscopic test proved additionally biofluids composition changes at thermo-inhalation effect.

Conclusion. Considerable shifts in saliva and blood serum crystallogenic and initiating properties were revealed at thermo-inhalation trauma and visualized morphometrically and spectrometrically.

R.G. Melkadze

ANTI-NARCOTIC FEATURES OF BALSAM "GRAAL"

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Balsam "Grael" was created within in the frames of transnational program "To help Chernobil, 1987" and it is an aromatic 40°-alcoholic liquid from the medicinal plants, the Caucasian mountain and the red wine from the special vine breed.

It was registered at the Ministry of Heath in Ukraine and Byelorussia as a radioprotective, antistress, adaptogenic, antitoxic preparation against inflammation.

The results of the research of balsam's antinarcotic action are represented in the practice.

The experiments were carried out on hybrid mice of both sexes, weighing 22-24gr. in the conditions of thermocomfort. The balsam was orally lead in the animal's stomach by means of 1,3 and 10ml/kg doses, 1 hour before receiving the narcotic dose of ethanol (0,1ml 40 % spirit for 10 gr. body masses). The control animals were given the drinking water Placebo instead of preparation one hour before receiving ethanol.

We were estimating the functional tone of central nervous system by means of duration of losing an orthostatic reflex after receiving the ethanol, restoration of which was registered according to the animal's side condition.

It is established that the balsam "Grael" has solid neirotonized effect in the wide interval of doses (from 1 to 10 ml/kg).

The part of mice (as a rule, 2-3 from the group) didn't lose an orthostatic reflex when

having a narcotic doze of ethanol, after receiving 3-10ml/kg preparation, which points out the fact that the balsam has clearcut neurostimulating effect.

Table 1 Neurostimulating action of the balsam on mice while estimating the ethanolic narcotic test

groups	doze ml/kg.	the number of mice	the duration of narcosis M±m,min	the number of mice without the side condition*
1	control		37,7±4,8	0/10
2	0,3		26,2±2,2**	0/10
3	1,0		16,3±3,0**	1/10
4	3,0	10,0	15,5±2,7**	3/10
5	10,0		19,6±1,2**	2/10

*the side condition isn't placed (et $P \leq 0,05$)

** Trustworthy difference from the control

The comparative examination of balsam and 40° ethanol has shown that the components of preparation weaken the neurodeprimatic action of ethil spirit. This deference becomes especially clear when the dozes of balsam and clean ethanol are comparatively low (8ml/ kgr.). In this case 40% of animals doesn't have the side condition, but for the rest the duration of narcosis lasts 12,8 minutes compared with the 24,2 minutes in control.

Table2 Comparative narcotic action of balsam and ethanol during an equal concentration of ethil spirit

groups	doze ml/kg.	the number of mice	the duration of narcosis M±m,min	the number of mice without the side condition*
ethanol 40°	10		31,4±4,1	0/10
balsam	10	10	22,0±3,4**	0/10
ethanol 40°	8		24,2±2,6**	1/10
balsam	8		12,8±1,5**	3/10

remark:designations are the same as in table 1

According to the received results we may conclude that balsam "Graal" has clearcut antinarcotics action, which can be a good base for creating an effective antiophiaticmeans.

G.P. Nartsissova

FOUR – DIMENSIONAL ECHOCARDIOGRAPHY IN DIAGNOSTICS OF HEART DISEASES

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Four-dimensional echocardiography (4DEcho)-real-time three-dimensional echocardiography is a new modern technology for assessment of complex anatomy and morphology of heart. This method is based on novel matrix transducer technology which is capable of rapid real-time three-dimensional acquisition and rendering. 4D-Echo now allows us to visualize the heart and its structure dynamics in a realistic fashion with online volume-rendered reconstruction.

The diagnostic performance of four-dimensional echocardiography is visualization of details of cardiac anatomy in patients with heart diseases.

Objective: To estimate opportunities of a four-dimensional echocardiography (4DEcho) in diagnostics of anatomical, morphological and functional abnormalities in patients with different heart diseases.

Methods: The 4DEcho was used on GE Vivid 7 Dimension with matrix 3V transducer.

Results: 150 patients with congenital heart diseases, 20 patients with valvular diseases were included in this study. We made 35 fetal 4DEcho examinations with congenital heart disease.

Use of 4DEcho at congenital heart diseases has allowed to visualise details of anatomic, morphological and functional abnormalities.

Spectrum of congenital heart diseases was wide: septum defects, atrioventricular channel (AVC), coarctation of aorta, pulmonary stenosis, intra-cardiac mass and other. The 4D diagnostics of septal defects has led to the most exact estimation of their localization, the form, edges.

At AVC three components have been investigated: atrial, ventricular, valvular portions of the channel. The greatest interest was represented by an estimation of atrioventricular valves and subvalvular apparatus: a condition and fastening of leaflets, an arrangement of chords of both portions of the common valve, cleft of leaflets.

4DEcho at coarctation of aorta have allowed to define a level and character of narrowing, hypoplasia of descending aorta, LV geometry, hypertrophy and function.

At pulmonary artery stenosis and right ventricular outflow tract obstruction the type and character of pathology has been appreciated with 4DEcho.

Fetal 4D echocardiography allows to improving of visualization of cardiac structures at congenital heart diseases from 22 to 40 weeks of pregnancy.

The acquire heart diseases were presented defeat of mitral, tricuspid, aortic valves, prosthetic valves. At valvular diseases the details of anatomy and morphology have been

investigated. Research of prosthetic valves allows to estimating their conditions and dysfunction.

Intra-cardiac mass (the cases of tumour, thrombus, vegetations at infectious endocarditis) also become more accessible to visualisation.

Estimation of ventricular volume is important for baseline and serial evaluation of abnormal hearts.

The left ventricular volume was calculated by multiplane method. We performed 4DEcho multi-plane quantitative analysis of LV volumes, based on contours drawn from three cross sections of end-systole and end-diastole. According to some researchers, the calculating of LV volumes now is quite an exact method because it is based on geometrical reconstruction in three ut-planes (Zaeidan Z et al.,2003, Van den Bosch A E et al,2005).

Conclusions: 4DEcho allows us in daily practice to diagnose details of anatomy and morphology of heart structures and prosthetic valves, to improve revealing of congenital heart diseases in fetuses. The limitation of method of 4DEcho now is connected with possibilities of equipment. We hope that the improvement of equipment and development of method will lead to its wide application as a routine method.

T.E. Nichik
V.A.Groisman

**RENAL MORPHOLOGICAL VARIABLES IN PATIENTS WITH
HYPERTENSION AND MILD PROTEINURIA**

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Introduction and Aims: Hypertensive renal damage has become one of the most important causes of end-stage renal disease and renal replacement therapy. Affected patients rarely have a kidney biopsy and their diagnoses therefore remain uncertain. Moreover, in the case of hypertensive patients with mild proteinuria, nephrologists tend to make a diagnosis of benign nephrosclerosis without renal biopsy.

The objective of the present study was to examine patients suspected of renal glomerular disease, which at biopsy proved to have isolated benign nephrosclerosis or mesangioproliferative glomerulonephritis (MPGN).

Methods: We performed semi quantitative histopathological analysis in 81 patients (M:F 45:36) with hypertension and mild proteinuria of less than 2.0 g/day. According to light microscopy results patients were divided into to 2 groups: group 1 patients with isolated benign nephrosclerosis (n = 42; M:F 22:20), and group 2 patients with MPGN (n = 39; M:F 23:16).

We related histopathological parameters and some clinical data: systolic blood pressure (sBP), diastolic BP (dBP), mean BP (mBP), glomerular filtration rate (GFR), using abbreviated MDRD formula, and daily proteinuria, in studied groups.

Results: There was no significant difference in mean proteinuria (meanSE) between group 1 and 2 (1.050.18 and 0.780.10 g/day, respectively; $P=0.2$). However, the age of patients (48.41.5 #1080; 39.62.04 yrs; respectively, $P=0.007$), duration of hypertension (13.61.5 and 5.90.7 yrs, respectively; $P<0.005$), sBP (1724 and 1494 mm Hg, respectively; $P=0.0005$), dBP (1012 and 932, respectively; $P=0.01$), and mBP (1252 and 1122, respectively; $P=0.002$) were significantly higher in group 1 than in group 2. At the same time mean GFR was lower in group 1 (61.8+4.4 and 80.7+4.5 mL/min, respectively; $P=0.004$).

The percentage of globally sclerotic glomeruli was significantly higher in group 1, comparing with group 2 (23.43.4 and 8.12.1, respectively; $P=0.0003$), as well as the percentages of glomeruli with periglomerular sclerosis (11.73.7% and 0.0%, respectively; $P=0.0026$). The grades of tubular atrophy (0.890.15 and 0.380.08, respectively; $P=0.009$), interstitial fibrosis (1.340.17 and 0.870.11, respectively; $P=0.02$), arterial intima elastofibrosis (0.550.14 and 0.130.07, respectively; $P=0.02$), and arteriolar hyalinosis (1.250.18 and 0.380.11, respectively; $P<0.0001$) were also higher in group 1.

Conclusions:

In mild proteinuria renal histopathological changes are more severe in hypertension than in MPGN, possibly because of higher age, duration of hypertension and levels of BP in patients with essential hypertension.

V. Nikolova

GRAPHISH-BILDICHE BIOINFORMATIONSDAGNOSTIK

Stadt Troyan, Bulgarien; www.medicalbiophysics.dir.bg

Die Biodiagnostik ist ein sehr wichtiger Aspekt der Tätigkeit eines Biotherapeuten. Die genaue Diagnose bedeutet auch den richtigen Therapieweg einer Erkrankung zu finden. Deshalb, seitdem ich meiner biosensitiven Fähigkeiten bewusst wurde, richtete ich meine Aufmerksamkeit auf die Stellung einer genauen Diagnose. Ich begann „unbewusst“ die Organe zu zeichnen und auf eine seltsame Art und Weise die Veränderungen auf denen einzutragen.

Gleichzeitig tauchten in meinem Bewusstsein Informationen über die Krankheitsursachen auf. Z.B., „die Ursache ist stäbchenförmig“ (Information bei Tuberkulose). Ich begann die Erkrankung als eine Form zu sehen in ihrem Umfang, der Art, der Farbe, der Größe usw. Manchmal zeichne ich zu einer vollständigeren Aufklärung des Krankheitsbildes auch die Krankheitspathologie oder verursache das Auftauchen der Erkrankung auf die Haut, d.h. ich ziehe ein „Scanner-Bild“ des kranken Organs auf die Haut des Patienten. Bei Hauterkrankungen, z.B., zeichne ich die Epidermiszellen und die Art der Krankheitsverbreitung. Bei Psoriasis werden die Platten durch spinnenförmiges Erfassen der benachbarten Zellen gebildet. Auf diese Weise bestimme ich auch ihre

Art – klassische, geografische usw. Wenn der Patient an Anemie leidet, stelle ich das Blut als Wellen dar und bestimme welche Mikroelemente eine geringere Anzahl haben und welche die verunreinigenden Stoffe sind. Danach erhalte ich Informationen, wie die Krankheitsursache beseitigt werden kann. Falls Phytotherapie angewandt werden soll, bekomme ich das genaue Rezept über die Zusammensetzung der Heilkräuter und die Anwendungsweise. Ein Großteil der einzigartigen phytotherapeutischen Rezepte, die ich auf einem Bioinformativweg bekommen habe, sind in meinem Buch „Heilkräuteroffenbarungen, inspiriert vom Rila-Wundertäter“, Verlag VIA, Sofia 2003, veröffentlicht.

Diese mir gegebene Fähigkeiten erlauben mir praktisch in jede Funktionsebene des Organismus einzudringen – sogar in die Zwischenzell-, Intrazellular-, Molekularebene usw.

Nach einer zweijährigen Arbeit erkannte ich, dass ich auf diese Weise zu viel Zeit verschwende. Deshalb stellte ich ein spezielles Schema des menschlichen Körpers her, auf dem ich mit einem Farbkuli die Stellen der Erkrankungssymptome eintrage. Ich schreibe auch sofort ihre Benennung auf.

Im Laufe der Zeit vervollkommnete ich nicht nur meine Methodik, sondern auch meine Biosensitivität wurde vervollkommen. Jedes meiner Organe begann in Übereinstimmung mit dem des Patienten, mit dem ich an anatomischem Schema arbeitete, zu reagieren. Ich begann den Schmerz zu spüren, die Krankheitsursache zu sehen und zu verstehen. Das half mir sehr viel sicherer bei meinen Diagnosen zu sein. Von außerordentlich großer Bedeutung war auch meine Arbeit mit Ärzten verschiedener Fachbereiche. Auf der Grundlage der gegenseitigen Achtung und der Anerkennung der Kenntnisse jedes einzelnen auf seinem Gebiet, sowie auch meiner Fähigkeiten, konnten wir die geeignetste Behandlung für die Erkrankung jedes Patienten finden.

Meine langjährige Praxis mit verschiedenen Fachärzten zeigte, dass meine Autorenmethode „GRAFISCH-BILDLICHE BIOINFORMATIVS-DIAGNOSTIK“ erfolgreich angewandt werden kann bei:

- Sekundärprophylaxe der Erkrankungen
- Frühdiagnostik, wo die offizielle Medizin nicht im Stande ist die begonnene Erkrankung festzustellen
- Diagnostik eines begonnenen Krankheitsprozesses
- Diagnostik von Anfälligkeit für Erbkrankheiten
- Diagnostik von Krankheiten, deren Ursachen noch nicht ganz genau von der offiziellen Medizin festgestellt sind
- Diagnostik der Energiefelder (Risse, Verschiebungen der Felder u.a.); das sind Begriffe, die von der offiziellen Medizin nicht anerkannt sind, jedoch ein Grund für Unbehagen und Krankheitsprozesse sind
- Bestimmung des Zustandes der Energiemeridiane (formuliert von der chinesischen Medizin) und der Stellen mit blockierter Energie, die auch einen Grund für Erkrankungen darstellen
- Bestimmung des Energiezustandes der Chakren.

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CYTOARCHITECTOICS OF THE COLON REGIONAL LYMPHATIC NODE UNDER CONDITIONS OF CADMIUM INTOXICATION AND CORRECTION BY TAGAN-SORBENT

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For the last decade due to the vigorous development of industry there has been the considerable increase of heavy metals in the environment that affect organisms of animals, plants and human beings. Lymphatic nodes are of important significance in protective reactions of the organism under the conditions of endotoxycosis. All of the above mentioned results in necessity of working out a complex program of lymphosanation, detoxication and endoecological rehabilitation of population with application of new conceptual approaches to sanation of the organism through the lymphatic system.

Material and methods

In experiment male rats of Vistar race (weight range 180-200 g) were used. The animals were divided into 3 groups. The first - control one included the animals, receiving standard vivar ration for 2,5 months. The second group was composed of the animals, taking vivar ration but with addition of cadmium in the dose of 1,5 mg per kg of weight for the same period of time. In the third group after developing the model of chronic cadmium intoxication Tagan-sorbent in the dose of 1g per kg of body mass was added in the standard vivar ration for 30 days. The animals were decapitated in 1,7,14 and 21 days after the experiment a caudal mesenterial lymphatic node was taken for histological investigation as object of study.

In the second group of animals in all the studied zones of the lymphatic node there was observed an increase of macrophages number, elevated lymfoidcytolysis, particularly in the centers of multiplying the secondary lymphoid nodules. In the cerebral lines there were found Mott cells. A macrophage reaction was observed in the cerebral sinuses. The number of thick cells increased two-folds.

In the animals of the third group in comparison to the second one there was decrease of degenerating cells, macrophages, thick cells, number but an increase of a medium lymphocytes number. Mitotic cells activity raised. Restoration of the lymphatic node structure was observed by the end of the experiment.

Thus, correction of exotoxicosis by Tagan-sorbent does not prevent dystrophic changes in the lymphatic area of the colon. The coregent action is manifested in restoring the colon structure.

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**BEWERTUNG DES BEHANDLUNGSERGEBNISSES BEI DER
OSTEOCHONDROSE DES LENDENABSCHNITTES**

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Praktisch immer wird das Behandlungsergebnis der Lendenwirbelsäule-Osteochondrose ausgehend von der Linderung des Schmerzsyndroms beurteilt, das vom Patienten subjektiv wahrgenommen wird. Immer aktueller wird dieses Problem bei der chirurgischen Behandlung der aktuell vorliegenden Wirbelsäulepathologie. In der Regel werden bei der Beurteilung des Ergebnisses des operativen Eingriffes nur die klinischen Erscheinungsformen der Erkrankung beachtet. Die Daten über klinisch-neurovisuelle und elektrophysiologische Erscheinungsformen der Erkrankung, der Ausmaß des operativen Eingriffes, intraoperative Komplikationen und die OP-Fehler kommen nicht in Betracht. Es schließt das individuelle Herangehen an die Bestimmung des Behandlungsergebnisses bei der Lendenwirbelsäule-Osteochondrose aus. Infolgedessen kommt es häufig zu einer nicht objektiven Bewertung des Ergebnisses bei der chirurgischen Behandlung der Lendenwirbelsäule-Osteochondrose.

Für das Erhalten des objektiven Behandlungsergebnisses schlagen wir eine Methode der Polyfaktor-Einschätzung des Ergebnisses bei der chirurgischen Behandlung der Lendenwirbelsäule-Osteochondrose vor.

Der Kernpunkt der Methode besteht darin, dass die klinischen Symptome der Lendenwirbelsäule-Osteochondrose durch die gesamtheitliche Wirkung des Komplexes verschiedener pathologischer Prozesse im Bereich des Krankheitsherdes bedingt sind. Das Vorhandensein dieser oder jener Komponenten des Komplexes während der OP, sowie die Fehler während der operativen Eingriffes bestimmen die klinischen Erscheinungsformen der Erkrankung in der postoperativen Periode vorher. Beim quantitativen Ausdruck der klinischen Erscheinungsformen der Erkrankung (einschließlich die Intensität des Schmerzsyndroms) und der pathologischen Prozesse, die zur Erscheinung der Krankheit beitragen, entsteht die Möglichkeit für den numerischen Ausdruck der Erkrankung in der preoperativen und postoperativen Periode und seines Vergleiches. Die Bestimmung der numerischen Bedeutsamkeit jedes neurologischen Symptoms und jedes pathologischen Merkmals, das in der Bildung der Erscheinungsformen der Erkrankung teilnimmt, wurde anhand einer retrospektiven Datenanalyse bei einer komplexen Untersuchung der Patienten mit Lendenwirbelsäule-Osteochondrose und nach ihrer Gegenüberstellung mit dem klinischen Bild von 396 Patienten möglich.

Um die Bewertung des Ergebnisses bei der chirurgischen Behandlung der Lendenwirbelsäule-Osteochondrose durchzuführen, verwendeten wir die individuelle Karte, die aus folgenden Sektoren bestand: Intensität des Schmerzsyndroms, neurologische, neurovisuelle, elektrophysiologische Erscheinungsformen der Erkrankung und ein Sektor der möglichen Komplikationen des operativen Eingriffes. Die Intensität

des Schmerzsyndroms bei den Patienten vor und nach der Operation wurde in einem numerischen Ausdruck nach einer visuellen Analogskala von 0 bis 50 gemessen. Das starke ständige Schmerzen, infolge dessen der Kranke eine erzwungene Lage übernehmen soll (40 – 50). Das ständige Schmerzen mit einer periodischen Verstärkung bei einem Kranken im Ruhezustand (30 – 40). Der ständige Schmerz, der sich bei der Bewegung des Kranken verstärkt. (20 – 30). Der gemässigte Schmerz, der in der Ruhe von alleine verschwindet (10 – 20). Kein Schmerz oder der Schmerz des unbedeutenden Charakters, der nach einer schweren Arbeit oder einer langwierigen physischen Belastung entsteht (0-10).

Neurologische, neurovisuelle, elektrophysiologische Merkmale der Erkrankung, sowie die während der operativen Eingriffs entstehenden Komplikationen und die verwendete OP-Technik beim Zugang zum Bandscheibenvorfall wurden als die mit einem numerischen Ausdruck äquivalent betrachteten Merkmale bewertet. (ihre Anzahl ist gleich 0,7). Die aus den verschiedenen Gründen nicht diagnostizierten Erscheinungsformen von der Lendenwirbelsäule-Osteochondrose wurden mit einem numerischen Ausdruck 1,7 vorgelesen.

Die vorgeschlagene Methode war bei den 65 operierten Patientinnen verwendet. Das Ergebnis, das herauskam, wurde in 3 Gruppen eingeteilt betrachtet - gut, ohne Effekt und unbefriedigend.

I. Olovjanishnikova
V. Groisman

**CONTINUOUS DAILY MONITORING OF BLOOD GLUCOSE BY
CGM MINI MED APPARATUS AS AN EFFECTIVE METHOD
TO SELECT INDIVIDUAL PLAN FOR MEDICAL THERAPY OF
DIABETICS**

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Nowadays the continuous long-term monitoring of blood glucose for diabetics is widely used in that scientific sphere as well as in every day clinic practice of endocrinologists and diabetologists. There is no doubt that this revolutionary clinic approach to measure quantity of sugar in blood permits to achieve carbohydrate exchange compensation faster as it has become inalienable instrument in use for optimization of type 1 and 2 diabetes monitoring.

It is a well-known fact that the level of glucose in blood is generally being controlled with the help of individual glucometers but according to the recently obtained data of international researches the routine spot measurements taken in the day time do not allow us to evaluate the fluctuations of sugar in blood adequately for the whole(full) day. Moreover, it should be noted here that glycomy level estimation during the night time turns out to be the most complicated problem. The system of continuous glucose

monitoring – CGM Mini Med – consists of monitor (apparatus), computer connecting block, soft-wear unit and one-off sensor. The sensor is fixed under the skin for 3 or 4 days and glucose testing is accomplished automatically within interstitial liquid 288 times a day. A small device with the sensor switched to a patient will be made fast on his belt and will not disturb the habitual order of patient's life or limit the freedom of his movements as well as the place of his location (at home, at work out of town). The patient will enter all the necessary data into the apparatus memory: insulin injection time, meals, physical loads, stresses, changes of daily diet and so on. After the apparatus has been activated (put in operation) the sensor readings will be taken off as real information of glucose level every ten seconds. Before the installation of the sensor device the doctor enters the values of acceptable limits of glycomy fluctuations individually (in other words, the range of compensations). The results will be registered in the monitor memory and the doctor, after having analyzed the information, will correct doses of sugar-decreasing therapy and the treatment chart (plan). When the data are interpreted (deciphered) both the doctor and the patient receive the charts of glycomy changes during the whole day (day and night) and on the base of those data the computer program will calculate the percentage of the glucose registered parameter deviations.

We have also conducted the research work to estimate daily monitoring of blood glucose for 98 patients with diabetes of type 1 and 2. The index value of glycosylated hemoglobin for 12 patients was not more than 6,3% (normal) before examination and their condition was estimated as compensation state of diabetes. It was really interesting to discover that the patients who used frequent measurements of blood glucose during the whole day and seemed to receive good sugar-decreasing therapy appeared to be within the normal glycomy range only about 65% of the day and only 25% of the day-time those patients were in the state when blood glucose exceeded the norm considerably (10-15 mmol/l[^]).

We greatly regret that this phenomenon was not revealed earlier when the traditional research method of blood glucose control was used with the help of glucometer. Besides we obtained the data the periods of hypoglycomy which lasted about 10% of the total time. It is also very important that the periods of low sugar in blood are found to take place at night and were not fixed by the patients by their glucometers.

We have noted that even if the frequency of control is 4 – 6 times a day using the glucometer some unsystematic night hypoglycomy as well as maximum rise of glycomy after meals.

About 86% of patients had diabetes in the state of decompensation and were in need of sugar-decreasing therapy correction. 10 patients were examined in the condition when diabetes was revealed for the first time. We have undertaken an attempt to prolong our investigations up to 7 – 8 days and during that period of observation beginning from the second day of observation to correct sugar-decreasing therapy. This gave us a possibility to bring in some correction into sugar-decreasing therapy and control the changes introduced in treatment process within several days. In all the research works that describe

daily monitoring of blood glucose at first the investigations had been done for 2-3 days followed by the sugar-decreasing therapy correction without monitoring and after that but not earlier than 2-3 weeks the investigation was repeated.

It is a very important fact that all the patients who were examined received a new motivation to follow the recommendations for their nourishment and excluding or limiting some products. For example, some patients after they had understood that food based on ciliates and sorbets increased blood glucose about 4-8 mmol/l for a short period of time stopped to take such kind of food.

Conclusions:

Daily monitoring gives the following possibilities both to doctor and patient:

1. to obtain real picture of blood glucose fluctuations during several days and to reveal the problems which actually disturb diabetes compensation
2. to correct sugar-decreasing therapy (diet therapy, insulin therapy, to dose sugar-decreasing medicine in tablets) taking into consideration the patients particularities and their ways of life
3. to help in compensation of carbohydrate exchange of pregnant women and those who are planning pregnancy
4. specific therapy selection may include transfer to the usage of the other sugar-decreasing medicine, alteration of carbohydrate contain of nourishment, mode of insulin injections or even send the patient for consultation to a psychologist to strengthen his motivation to follow the prescribed treatment and regimen.

Zh.E. Pavlova
V.A. Groysman

**INTESTINAL LAVAGE, A NEW MEDICAL TECHNOLOGY.
EVALUATION OF THE EFFECTIVENESS OF INTESTINAL
LAVAGE IN COMPLEX TREATMENT OF ACUTE POISONINGS**

Municipal Clinical Hospital Nr. 1, Togliatti, Samara Region, Russia

During acute poisoning a large part of toxic substances concentrates in the cavity of the gastrointestinal tract, especially when the peroral way of poisoning takes place. There is always the paresis of gastrointestinal tract (GI tract) that makes it considerably difficult to remove toxic substances from the cavity of the bowel. For quick and efficient removal of toxic substances a new method of purification of GI tract with intestinal lavage was developed in the department of treatment of acute poisoning in the N.V. Sklifosovsky Research Institute of First Aid in Moscow.

Intestinal lavage - is lavaging in the natural direction the whole GI tract with a special salt solution which is identical to the composition of chime in the electrolyte composition, osmolarity and pH. The aim of this lavaging is to remove toxic substances from the body, correct the parameters of homeostasis, functional disorders of organs and

systems and microbiocenosis of intestine.

As a result of lavaging the gastrointestinal tract its contents including toxic substances are removed, the natural drainage of the biliary system and pancreas is improved, the concentration of poisons of exogenous and endogenous origin in blood decreases. Initially high contents of bilirubin, urea, creatinine and other products of metabolism in blood are also reduced. Filterability of the kidneys is improved. This treatment method has advantages as compared with hemodialysis, hemosorption, plasmapheresis and enterosorption. Under our supervision there were 83 patients with acute peroral poisoning caused by psychotropic drugs of carbamazepine and 12 patients with acute alcohol intoxication, complicated by acute alcoholic hepatitis.

Hemosorption combined with other methods of treatment was the basic method of removing toxic substances from the body for all the patients with carbamazepine poisoning. 35 of these patients were treated with intestinal lavage.

During the use of the intestinal lavage in the complex removal of toxic substances from the body the consciousness and self-breathing restored to 1.6 times faster. The mortality in various stages of intoxication decreased in 1,7 – 2,3 times respectively. The period patients stay in hospital reduced in 1,4 times. In addition, the dynamics of advanced recovery performance of homeostasis was noted, the conductivity was improved and metabolic disorders in the myocardium were restored. 12 patients with alcoholic hepatitis in latent and icteric forms which were confirmed by laboratory studies had common protective liver therapy, and 8 patients had intestinal lavage in the indicated range. As a result of intestinal lavage the liver function recovered faster as compared with the control group, the duration of treatment in hospital decreased. Thus the use of intestinal lavage allows removing toxic substances from the GI tract in the shortest term, which increases the efficiency of detoxification of the body. The effect of detoxification is supplemented by the nonspecific effect of correction of some indices of homeostasis (normalization of body temperature, central haemodynamics, electrolytic and acid-base status of blood, hemoconcentration), stimulation of the motor-evacuative bowel function. The technical simplicity and low cost, compared to hemosobtion and plasmapheresis, makes intestinal lavage perspective for practical medicine in selecting the method of blood purification. Intestinal lavage is extremely effective against exotoxiation and endotoxiation, including acute pancreatitis, hepatitis, nephritis, diseases of the skin lesion / atopic dermatitis, psoriasis, eczema / allergies, constipation with 1-3 degrees of functional nature, diarrhea, pancreatic diabetes of the 2nd type, alcohol withdrawal syndrome, syndrome, alcohol hallucinosis, delirii, preparations for elective surgeries and colonoscopy.

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**IMMUNE STATUS AND EARLY POSTOPERATIVE
REHABILITATION IN PATIENTS WITH GALLSTONE DISEASE
AFTER LAPAROSCOPIC CHOLECYSTECTOMY**

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In the period from September, 2003 to October, 2006 we observed 56 patients treated with laparoscopic cholecystectomy for gallstone disease at the surgical department Nr. 1 of A. Novak Transcarpathian Regional Clinical Hospital. Thirty-eight patients underwent post-operative rehabilitation at "Polyana" sanatorium.

The majority of the patients (92%) were transferred to the sanatorium "Polyana" within 1-2 weeks after surgery whereas, 8% were admitted later – within 2-4 weeks. Patient ages were between 18 and 78 years with an average of 42.0 ± 2.0 years. Women of working age comprised 88% of the group. Comorbidities included chronic pancreatitis in 24%, large bowel dyskinesia in 36% and chronic hepatitis in 29% of cases.

In spite of numerous publications in the surgical literature the problem of gallstone disease remains unresolved. Introduction of minimally invasive methods of surgical treatment for gallstone disease such as of laparoscopic cholecystectomy led to significant reductions in intra-operative trauma and post-operative complications. If further improvements in management of gallstone disease are searched for, however, investigation of the role perturbations in local and humoral immunity caused by gallstone disease needs to be carried out. Furthermore, optimization of post-surgery rehabilitation would be desirable.

Investigations, which were carried out, let us determine, that we can see a number of changes in the early period after laparoscopic cholecystectomy in the liver and in the biliary system of patients with gallstone disease. It is shown both clinically and by analyzing laboratorial indices, which characterizes the functional state of liver and the immune system. Mesenchymal syndrome, cytological syndrome, reduction of synthetic processes in the liver, abnormalities in pigmentary and lipid exchange were noticed more then in half of cases.

The biochemical indices of patients' blood serum in the early post-operative period and after rehabilitation in the "Polyana" sanatorium (M+m)

*-differences have been compared with indices of healthy people and are reliable ($p < 0.05$)

While investigating the immune status of patients in a short space of time after laparoscopic cholecystectomy, activation of humoral immunity, activation of autoimmune reaction (antibody titer rising to the tissue antigens of liver, rising of circulating immune complex's level) and reduction of nonspecific resistance indices have been noticed.

The prescription of rehabilitation with the use of mineral water "Polyana Kupely" for

the patients in short period after laparoscopic cholecystectomy led to the decreasing of clinical symptoms of the disease (disappearance of asthenic syndrome, dyspeptic syndrome in 80% of patients and liver downsizing), and also to the improvement of indices, which characterizes the functional status of liver and immune system. The activity of indicator enzymes (alanine aminotransferase and aspartatamino-transferaza) was reduced during the process of medical treatment; the level of bilirubin and lipids in blood was normalized. In the same time the symptoms of mesenchymal syndrome (rising of γ -globulins, thymol test) and cytological syndrome were present. In cases of patients treated via laparoscopic cholecystectomy for gallstone disease who underwent rehabilitation in sanatorium "Polyana", the improvement of tissue and humoral immunity was noticed; the indices of E-RUK ($p < 0.012$), alexine ($p < 0.09$), titre general IgE-AT ($p < 0.1$), antigens to the pancreas ($p < 0.03$), ceruloplasmin ($p < 0.09$) were rising. Our observations have shown that the best effect of early (within 1-2 weeks after surgery) rehabilitation in sanatorium "Polyana" occurs in cases of patients with not complicated gallstone disease who underwent routine surgery with a short presurgical period. The majority of these have considerable improving of general condition, normalization of the indices of functional state of liver and of the immunoresponsiveness of the organism.

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NEW PATHOGENETIC TREATMENT OF CEREBROVASCULAR PATHOLOGY

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Background. Encephalopathy due to brain dyscirculation is a widespread pathology, which may impair a quality of life and even lead to inability of patients. The original device complex «Bioregulator-004 M» allows to apply a new modification of volumetric pneumopressing as a pathogenetic treatment of encephalopathy. Artificial acceleration of local blood flow provides certain shear stress on vascular endothelium and causes enhanced secretion of endothelial cells with following vasodilatation, antithrombotic effects and improvement of blood rheology. These processes are explained by NO accumulation, releasing of prostacyclin and plasminogen activators resulted in activation of microcirculation, local and general blood- and lymph flow, venous outflow, tissue trophic and reparation, restoration of organ function. Clinical effects of proposed technique also include antiedematic, detoxication, analgetic and sedation influences.

Methods. We observed 65 patients (35 male) aged from 55 to 65 years with confirmed dyscirculatory encephalopathy II-III degree (both atherosclerotic and hypertonic genesis). Vestibulopathy was diagnosed in 9 cases and extrapyramidal disorders in 7 patients. 3 male and 2 female suffered from ischemic stroke 1-3 years ago with residual mild unilateral hemiparesis. Complains of each patient reflected the level of his/her functional and

organic damages. All patients were treated by original device complex «Bioregulator-004 M», which operates with programmed interval regimens of dosing air pressure in multiple hermetically connected with each-other compartments formed universal pneumocuff. This pneumocuff-transformer can modulates for press out of different body parts including head (pneumocuff “cap”). Complex was designed and developed by doctor of technical science, academician I. Tarshinov and approved by Health Ministry of Ukraine for medical usage (State Register of medical products No. 237, 1995.12.22).

The treatment course consisted of pneumopressing programmes which were adjusted individually for each patient according to impact direction, time and intensity.

Results. After 10-12 sessions of apparatus treatment we registered significant improvement in patients’ psycho-emotional status and sleep, decreasing of blood pressure, reduction or disappearance of headache, vertigo and walking instability, particular restoration of memory, enhancing of capability. Ophthalmologist noted vision improvement with glasses correction by 1-2 dioptries in 4 patients.

Conclusions. Considering the above presented results and an available practical experience of our organization, it is possible to recommend application of the method of volumetric pneumopressure by original equipment complex «Bioregulator-004 M» in pathogenetic and rehabilitation treatment of chronic cerebrovascular disorders.

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ASSESSING THE TIME OF ADJUSTMENT AS A WAY TO PRESERVE SPORT LONGEVITY

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Introduction. The process of approaching a specific work or sports activities at the beginning of each work, with a required stereotype movements (by the nature of the movement, shape, amplitude, speed, strength and rhythm) is a process of adjustment.. This requires a certain amount of time, during which a new level of functioning of autonomic systems is established, enabling the muscle activity. Maximum efficiency and optimum effect of the work achieved only gradually in the process of adjustment. It is therefore of interest to study this process assessment of a functional state (FS) of the man in this period. Currently, it is believed that there is a large set of physiological reactions of the body, which reflects changes in the level of the functional state. It is therefore proposed to evaluate the FC on a set of interrelated physiological reactions, and changes in the FS seen as replacing one set of reactions of others. Sharing this approach to the diagnosis of PS, NB Maslov et al. (2003) considers that in practical-based view in the study of human FF in the first place should be paid attention to the central nervous system (CNS), as well as in the hierarchical structure of functional systems, it occupies a special, important place. Considering this aim in experiments conducted in natural conditions, we widely used

psychophysiological techniques to measure parameters of the FS CNS.

Methods. Along with other psychophysiological methods of FS assessment used there was a critical frequency of light flashing (CFLF), presented due to inertia of the optic analyzer. CFLF method is used in physiology of sport and labor, since this value characterizes the general condition of the organism at different levels of general physical loading. However, changes in the value CFLF in response to physical loads are small and do not exceed 1-3 Hz. At the same time, experimental studies have shown that the transition from visible light flashing to their merger is blurred and presents an indefinite zone, on average, equal to 1 Hz, hence the low accuracy of the CFLF method. Recently psychophysiological methods have been proposed that enable determining other temporal parameters that characterize the inertia of view: the time of perception and the time of recovery

Results. In the laboratory for Study of Human Kinetics at the Department of Physical Culture, Sport and Tourism Mari State University were tested ways of assessing time of the body adjustment, based on the definition of perception time, which characterizes the speed of agitation processes in the CNS. To do this a threshold interim pulse interval was periodically determined in veloergometry, at which the two pair impulses are merged into one, and processed into a chart of dynamics of the threshold interim pulse interval with the coordinates «interim pulse threshold value vs. the time of testing,» with a simultaneous measurement of heart rate variability ((HRV). The adjustment time was determined on the time of output of the chart of threshold interim pulse interval on the «plateau». This testifies that the CNS is found in a quasi stationary mode, i.e. the processes of regulation of autonomic functions in all organs of the body systems are completed and the entire organism is introduced to a state of an optimal efficiency.

Conclusions. The obtained results of laboratory test data in regard to the time of adjustment for the organisms of sportsmen of cyclic sports allows conducting more focused preparations for upcoming contests, prevent injuries and prolong intensive training in physical culture and sports.

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MODELING OF GENOMIC INTERACTIONS BETWEEN GENES FOR XENOBIOTIC-METABOLIZING ENZYMES IN BRONCHIAL ASTHMA

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We have recently carried out a comprehensive genetic analysis of 25 polymorphic variants of 18 xenobiotic-metabolizing enzymes (XME) genes in 429 individuals, including 215 asthmatics and 214 controls. This study was designed to test a hypothesis of systemic involvement of XME genes in the genetic basis of bronchial asthma. We have revealed

statistically significant associations of 106 combinations of XME genotypes with asthma susceptibility ($p < 0.05$) by conventional two-way analyses. However, because multiple disease loci presumably interact to produce a complex disease phenotype, such as asthma, it is difficult to assess disease susceptibility loci by conventional locus-by-locus parametric-statistical methods. It is recognized that the main issues confronted by conventional parametric methods, such as logistic regression, are insufficient power and flexibility to detect high-order gene-gene interactions underlying a susceptibility to complex disease. The central problem in modeling gene-gene interactions is the dimensionality of the data and the large sample sizes needed to detect effects with so many dimensions. Taken this issue into account, we used the multifactor-dimensionality reduction (MDR) method (the MDR software v.1.1.0 is available at <http://www.epistasis.org/mdr.html>) as alternative non-parametric statistical approach to investigate the high-order gene-gene interactions responsible for susceptibility to bronchial asthma. We have performed an exhaustive search of all possible two- to five-locus models among all 24 genetic polymorphisms of the XME genes. Among five n-locus models, one three-locus model had a minimum prediction error of 37.8% and a maximum cross-validation consistency of 100% that was significant at the empirical p-value 0.05, as determined by 1000 permutations with Monte-Carlo procedure. The interaction between EPHX1 Y113H, CYP1B1 V432L and CYP2D6 G1934A loci has showed the highest cross-validation consistency and the lowest prediction error among all gene-to-gene interactions models evaluated by the MDR. Importantly, two of three XME genes included in this model, such as EPHX1 and CYP1B1, showed significant associations with susceptibility to asthma in our previous study. Meanwhile, the CYP2D6 gene polymorphism did not show any associations with the disease when we performed the one- and two-way analyses. This finding indicates epistasis: the effect of one gene may not be disclosed if the effect of another gene is not considered. Obviously, such high-order gene-gene interactions could not be readily disclosed by conventional analytical methods. Interestingly, a strong independent interaction between CYP2D6 and EPHX1 genes has been obtained by the MDR analysis. In addition, a cluster technique implemented into MDR software has observed a high degree synergistic interaction between these loci suggesting that the gene-gene effect may be driven by a true interaction, rather than by the main effect from the EPHX1 gene. Notably, although all the three genes were included in the best MDR model, the CYP1B1 gene displayed independence from interaction of CYP2D6 and EPHX1 genes. Certainly, it is very difficult to interpret biologically gene-gene interactions obtained the MDR analysis. However, the gene-gene interaction found makes mechanistic sense, because these genes are involved in the same biological pathway. It is probable that the integrated function of EPHX1, CYP1B1 and CYP2D6 genes and their products promotes coordinated metabolism of common xenobiotics, such as PAH and heterocyclic compounds in lungs and airways where these genes are vitally expressed. The information gleaned from our study may reflect the systemic involvement of the XME genes in susceptibility to asthma; the results obtained for the first time, and, in turn, could be very useful in unraveling the true biological roles of xenobiotic-metabolizing

enzymes in the pathogenesis of the disease. To the best of our knowledge, the present study is the first to show that a number of xenobiotic-metabolizing enzymes genes are systematically involved rather in aetiology than in pathogenesis of asthma.

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MAKING A DIAGNOSIS AND CORRECTION FOR THE PRONOUNCED HUMAN INTERNAL DYSFUNCTIONS BASED ON ANALYSIS OF THE BRAIN RHYTHMICAL ACTIVITY

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An innovative project on the health monitoring and correction in practically healthy people is being realized with the Far Eastern Branch of RAS. The project is based on registering and analyzing the brain rhythms. The subject that appears to become more important is evaluating and predicting the individual current health state, operating its levels, adaptation rates as well as normalizing and correcting the functional disorders that precede pathology. It is of special importance for people undergoing high psychoemotional, physical or technogene loads as well as for those residing under extreme natural-climatic conditions.

The monitoring technology is based on the findings obtained from fundamental studies in the field of neurophysiology and neurocybernetics. The knowledge that underlies the technology is considering the human brain as an organ that controls and corrects either the internal systems or the whole body functioning and state. The developed oscillator model of the brain activating system enabled to get to know how, in a frequent equivalent, the reflective activities of the body internal organs are presented in the brain cortex. The new principles of diagnosing and regulating the functional state of either a brain or its peripheral executive mechanisms that are different parts of the vegetative nervous system and the internal organ functions, were developed (G. Shabanov et al., 2005). That became possible after having the long-running frequent components within the brain rhythmical activity revealed and spectrally analyzed (Patent RU No. 2217046 of November 27, 2003). The two functionally related hard & software units were developed: a diagnostic one that simulates a brain's analytical function and a corrector of the functions that simulates a brain's managing function. The main idea of the technology is getting involved in the processes of managing internal functions, to help an organism with its mechanisms of autoregulation and to prevent the occurrence of formation of stationary pronounced dysfunctions and structural disorders within organs. For the first time the monitoring of human individual health state was developed based on the registered and analyzed brain rhythmical activity (A. Rybchenko et al., 2006). The following technologies were

developed: a system evaluation of the body health state and adaptability, a functional-topical diagnostics for internal organ diseases at early stages, and a correction of pronounced dysfunctions and pathologies using weak electromagnetic fields. The main principles of revealing a starting point of the pathology-caused excitation (inhibition) in the CNS that leads to the pronounced dysfunctions and further structural disorders within an organ were developed. It was reliably proven that, it is possible to differentiate the internal organ inflammation stages using the relative activity of visceral receptors: muscular spasm, hypoxia, hyperemia, active inflammation, edema, and regeneration of an organ (Patent RU No. 2315554 of January 27, 2008). The theoretic and experimental studies have enabled to create an absolutely new technology for an individual health monitoring, diagnostics and correction of the internal dysfunctions. The technology involves the two complex devices of "CDgTD-01" diagnosing unit and "ANKF-01" correcting one. The hard & software devices have been conformity tested and enrolled in Russia's medical equipment list.

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OPTIMIZATION OF GROWTH MEDIA FOR PROBIOTIC STRAINS LACTOBACILLUS DELBRUESKII

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Probiotic strain of *L. delbrueskii* singled out from a feces of healthy children was deposited in the collection as a republican perspective for the development of probiotic ferment in dairy industry. *L. delbrueskii* has a high antagonistic activity to *Escherichia coli*, *Serratia marcescens*, *Klebsiella ozaenae*, *Streptococcus pyogenes*, *Staphylococcus aureus*, *Salmonella typhimurium*, *Candida albicans*, *Proteus mirabilis*, resistance to Amoxiclav, Furazolidone, Ampicillin, Cephazolin, Vancomycin, Kanamycin, Roxithromycin, with a titratable acidity 70° T.

Activities of the probiotic strain during cultivation in the fermentation for 17 hours at 37° C, in MRS broth medium production "Himedia" amounted to 1*10⁷ CFU / ml.

In order to improve the economic efficiency of crop production, a study was conducted on the selection of an optimal growth medium with cheaper raw materials. The analysis showed that the most effective medium for the cultivation of *L. delbrueskii* is the environment containing whey, sodium citric acid, sodium phosphate, potassium hydrophosphate, magnesium sulfate, yeast extract, glucose and casein hydrolysate.

For study the culture was prepared by ten passages on the given medium, followed by fermentation for 17 hours at a temperature of 37° C, the amount of contributed inoculum was 5%, pH 6.0. The evaluation was carried out by limiting dilution and subsequent

seeding on the medium MRS-4 and the definition of optical density at a spectrophotometer at a wavelength of 600 nm.

The analysis showed a high enzymatic activity of the strain *L. delbrueskii* during cultivation of an optimized environment for $1 \cdot 10^9$ CFU / ml. In our opinion, this is due to the rich composition of the main raw material in a serum containing proteins, fats, calcium, magnesium, vitamins and lactose, which are important for crop growth factors for the cultures of genus *Lactobacillus*. Moreover, milk serum is a waste dairy products, otherwise a cheap raw material.

Application of an optimized nutrient product is a significant factor influencing the cost-effectiveness in the production of biological-based probiotic strain of *L. delbrueskii*, facilitating reduction of costs for raw materials in more than twenty times.

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HYGIENIC ASSESSMENT OF PHYSICAL REPRODUCTION FACTORS IN PRIVATE THERAPEUTIC-AND-PREVENTIVE INSTITUTIONS

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Medical workers is a category of representatives of workers mainly concerned with brainwork and regarded as a more complex and responsible activity defined by significant intellectual capacity that requires in some cases physical efforts, endurance, performance of work in extreme conditions.

The statistical data shows that a death rate of medical workers under the age of 50 is by 32 % higher than general, and surgeons have even higher rate.

Researches on studying occupational health of medical workers are constantly expanding, but, unfortunately, do not give desirable effect.

Working environment of medical workers working in private therapeutic-and-preventive institutions, in some cases essentially differ from the working environment in state medical institutions. First of all, the majority of state TPI settle down in the buildings constructed by standard projects with account of all building and sanitary norms and rules. Private TPI¹ settle down frequently in the adapted premises and if these premises are used under lease then administration, as a rule, have no motivation to a foresight in such buildings of the repair, essential reorganizations etc.

Studying of labor health conditions of medical workers has shown that health of this category of individuals potentially can be threatened by considerably more harmful and dangerous production factors than it takes place with representatives of other professions.

We carried out a study of microclimate index, noise level and EMR² of industrial frequency in premises of “Dostar med” LLP – private therapeutic-and-preventive institution in Almaty city in warm season of the year. The category of works of all examined people was defined at a level 2A.

Microclimate indexes of 13 workplaces of doctors of various profiles, laboratorians and nurses were surveyed. As a result of research it was found that levels of temperature, relative humidity and outputs from the limits of recommended specifications while speed of the of air movement was much lower than the recommended level (0.01-0.18 m/s instead of 0.3 m/s). The noise level on a workplace of a laboratorian in biochemical laboratories exceeded maximum permissible level by 13dB. The level of electromagnetic radiations of industrial frequency on a workplace of the nurse in physiotherapeutic department exceeded permissible level.

Thus, levels of physically harmful and dangerous production factors on some workplaces of medical workers of private medical institution exceed maximum permissible levels.

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OSTEOGENIC THEORY OF CLINICAL MANIFESTATIONS OF NEURO-ORTHOPEdic DISEASES

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The present concept of neuro-orthopedic diseases has been elaborated on the basis of substantial experimental and clinical research, which has been carried out in PFUR since 1980.

Under the influence of multiple etiological factors in different parts of the skeleton dystrophy and degenerative bone tissue changes take place and intra-bone blood circulation is interrupted. This causes intra-bone pressure increase and overstimulation of intra-bone receptors (IBR). Increased IBR afference facilitates other afferent flows, intensifies motor reactions and reduces corticofugal influences on a corresponding segment level, which leads to formation of typical clinical manifestations on this level: pain, musculo-tonic, angio-spastic and hypotrophic syndromes.

Clinical manifestations depend on the presence of “target tissues” in a corresponding segment of the impaired part of the locomotor system. Thus osteochondrosis IBR hyperafference is clinically manifested in different ways: in lumbus- in different lumbar tissues, in cervical area- additionally in the vertebral artery, in thoracic area- in viscera by vertebra-visceral syndromes. Increased skull bones IBR afference may manifest itself mostly by face and head pain and angio-spastic syndromes and more seldom by musculo-tonic syndrome.

The basis of therapeutic effect mechanisms of bone cortical layer trepanation,

tunnelization, osteoreflexotherapy, intra-bone injections, osteocryodestruction and other treatment methods, which are based on direct manipulation with the bone sponge tissue is intra-bone pressure normalization, which results in arresting neuro-orthopedic clinical manifestations.

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EFFICACY OF INTRA-BONE INJECTIONS IN THE TREATMENT OF MULTIPLE SCLEROSIS

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Introduction. Multiple sclerosis (MS) is one of the most topical issues of modern medicine due to the constantly increasing number of patients, uncertain etiology and pathogenesis, as well as insufficient efficacy of MS treatment methods.

Aim of the work. Study intra-bone injections (IBI) efficacy in MS treatment.

Materials and methods. We have monitored 30 MS patients (7 male, 23 female) aged 36-78. 16 patients were diagnosed with remittent MS, and 14 with stabilized secondary progressive MS. 24 patients had pain syndrome (PS). All the patients had had 2 months without MS exacerbations.

Visual-analogue scale was used for PS quantitative assessment. For objective assessment of emotional disorders Beck scale (depression rate) and Spielberger scale (state-trait anxiety inventory) were used; Ashworth scale was used for spastic syndrome assessment. Patients were examined before and after IBI treatment.

Patients were given injections depending on pain localization, in huckle bone wing posterior spine, spinous processes of cervical, dorsal and lumbar vertebra, greater trochanter, cheek bone. The course is 5-10 sessions, every 1-2, sometimes 4 weeks. No complications observed.

Results. Before treatment pain intensity indices were high (7,1 + 1,2). After IBI treatment pain intensity indices fell significantly ($p=0,012$) to 4,3 + 0,8 on the VAS; spasticity level before treatment $2,8 \pm 1,1$ after - $1,2 \pm 0,7$ ($p < 0,05$), levels of state-trait anxiety and depression decreased dramatically ($p < 0,005$).

Conclusion. IBI are an efficient method of MS neurological symptoms treatment. IBI decrease pain and spastic syndromes as well as psycho-emotional disturbances.

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MODULATION OF TOXICITY OF SOME INDUSTRIAL POISONS WITH THE HELP OF A SULFATE-ION

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The question of medical prevention of intoxications is not descending from the agenda for many years. For a long time Kazakhstan studied the ability of a sulfate-ion to interfere the development of an intoxication by various industrial poisons. Efficiency of a sulfate-ion is proven at intoxication by lead, white phosphorus, zinc etc.

In the present message results of study of sulfate-ion influence on the development of intoxication by cadmium at isolated action and combination with other elements that exist in a working zone at the enterprise manufacturing cadmium.

Two series of experiments were carried out. The circuit of experiments was identical in both series, with the exception that in the first series cadmium was entered into an animal in amount of 0,1 mg/kg, in the second – in the amount of 0,5 mg/kg. The mixture of substances consisted of the following components: zinc - 0,5 mg/kg; lead - 0,4 mg/kg; iron - 0,5 mg/kg; cooper - 0,3 mg/kg; antimony - 0,05 mg/kg; arsenic - 0,25 mg/kg; fluorine - 1,0 mg/kg.

The sulfate-ion entered into the animal as a solution of sodium sulfate at the rate of 25 mg SO_4^{2-} to the kg of the animal body weight. This amount approximately corresponds to receipt of sulfate into the organism by consumption of potable water with the sulfate - ion content at a level of maximum concentration limit.

All substances were entered per os as a solution of salts within 4 months daily except for days off and holidays.

The first group of each series received only cadmium, the second - cadmium and the mixture of substances, the third - cadmium and sulfate, the fourth - cadmium, the mixture of substances and sulfate. The fifth group was control.

Every month blood of animals was taken to define the following parameters: the whole protein, urea, DNA, RNA, glucose, general lipids, the general cholesterol, conjugated cholesterol, diphenylamine reaction, inorganic phosphorus, calcium of blood. The assessment of sulfate influence was carried out by comparing parameters of the groups which were receiving and not receiving it with the help of Student's criterion. The difference of percentage parameters was determined by the application of Fisher's variable.

In each group of animals during experiment 44 parameters were obtained (4 terms and 11 parameters). The group receiving cadmium of 0,1 mg/kg had changes in 11 parameters from 44, 7 of them have undergone corrections by sulfate. The group receiving the same amount of cadmium and a mixture had changes of 22 parameters, 10 of them have undergone corrections by sulfate. The group receiving cadmium of 0,5 mg/kg had

21 changes of parameters, 17 of them have undergone corrections by sulfate. The group receiving 0,5 mg/kg cadmium and a mixture had 17 changes, 14 of them have undergone corrections by sulfate. Protective action of sulfate was statistically significant in both cases.

Thus, protective action of sulfate is determined at isolated action of cadmium in both investigated doses, and at its combinations with other elements.

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THE ROLE OF HEREDITARY COMPONENT IN THE ORIGIN OF CEREBRAL PALSIAS

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The purpose of our research was to learn the level of functional activity of ribosomal genes (FARG) among children with cerebral palsy (CP), their parents and to compare the obtained results with ones in control groups. Also we estimated polymorphisms of gene TP53 among children with CP and

their parents.

Materials and methods. The material of our research consisted of 60 children with CP, 46 mothers and 17 fathers of children with CP. Control group consisted of 37 healthy children and 70 healthy adults of Kursk region.

Cultivation of cells and their colouring was performed according to conventional method. The level of FARG was estimated on metaphase chromosomes with the help of light microscopy by sight using the five-ball scale (Lapunova N.A., 2001).

DNA was extracted from the venous blood of children with CP for estimation of gene TP53 polymorphisms. Extracted DNA was put to PCR-test. After that restriction by BspFNI TP53 enzyme and electrophoresis of nuclear acids in agarose gel were performed with the following estimation of polymorphisms: P 199 (mutation), R 113+86 (wild). The score distribution was: R/R (wild) – 0 scores, P/R (heterozygous mutation) – 1 score, P/P (homozygous mutation) – 2 scores. The level of trustworthiness was taken at $p < 0,05$.

Results and their discussion. It was determined that average index of FARG among children with CP was $18,4 \pm 0,24$ conventional units (c.u.) which was statistically proved to be lower than in control group of children – $19,43 \pm 0,27$ c.u. ($t=3,77$). There were discovered no statistically proved differences among patients by sex, average FARG among boys was $18,57 \pm 0,27$ c.u. and among girls – $18,04 \pm 0,48$ c.u. Neither we found any statistically proved differences between indices of FARG among children with CP and their parents. Average indices of FARG among fathers and mothers of children with CP didn't differ much and were $18,07 \pm 0,38$ c.u. and $18,73 \pm 0,23$ c.u. correspondingly. However there were found statistically proved differences between indices of FARG among parents

of children with CP and adults in control group.

There were found statistically proved differences in FARG between children with spastic hemiplegia, lower spastic diplegia and the group of healthy children: $t=3,3$ and $t=2,59$ correspondingly.

The estimation of polymorphisms of gene TP53 was performed using the score-system. The average quantity of score (s.) among children with CP was $0,62\pm 0,09$ s. There were found no statistically proved differences among patients by sex. The average quantity of scores among fathers and mothers of children with CP was $0,53\pm 0,12$ s. and $0,72\pm 0,09$ s. correspondingly and didn't statistically differ from each other. There were neither any statistically proved differences in scores between children with CP and their parents.

Study of gene TP53 polymorphisms among children with different forms of CP in comparison with each other and with their parents showed no statistically proved differences.

As a result of correlation analysis, poor correlation link was revealed between FARG and sex; It was confirmed with literature data. The same poor link was revealed between FARG and polymorphisms of gene TP53.

Thus our research proves the presence of hereditary-genetic component such as FARG and polymorphisms of gene TP53 in the origin of CP. Consequently this shows the new direction in the solving the problem of treating and early prognosing of CP. However, gathered results in the research of gene TP53 polymorphisms only do not provide complete information about the role of hereditary-genetic component in the structure of CP morbidity. This requires further research of polymorphisms of other genes.

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**INFLUENCE OF TAGAN SORBENT ON FUNCTIONAL
CONDITION UNDER DIFFERENT DOSES OF CHLOROUS
CADMIUM**

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The purpose of persisting studies was an estimation of the influence of the use of Tagan sorbent on contents of the urea and creatinine in shelters of the rats, at exposure to different doses of chlorous cadmium, for determination of the functional condition of these animals.

The experiments were conducted on white non-pedigree rats. Chlorous cadmium was given daily with provender in 2 groups of the rats (on $1,5$ mg/kg accordingly and $3,0$ mg/kg), for 2,5 months. Then these groups were divided each on 2 parts. 2 from four groups got Tagansorbent (on $1,0$ g/kg weight daily, for a month in composition with standard ration). Remained two groups received during a month a standard ration. Then, on 1, 7, 14, 21 day after completion of the intake of the sorbent, 2-3 rats from each group

withdrew for undertaking experiment. Besides in each animal were taken the tests samples from abdominal aorta. In tests there were researched contents of the urea and creatinine.

In rate contents of urea in shelters of the rats varies from 2,5-8,3 mmol/l. The contents of the urea in shelters decreased, in contrast with checking level. So, at the first day, in response to reception of 1,5 mg/kg CdCl₂ urea fell by 15%, by the end of the first week - by 18%, the second week - on 60% nearly, but by the end of observations - by 33% (that much lower compared to the second week) to the source level. However, intake of 3,0 mg/kg CdCl₂ brought about reduction to the first day by 8%, by the end of the first week by 41%, the second week - by 60%, and, by the end of observations - by 35%. That is to say if exposure to cadmium resulted in reduction of the functional activity of the liver, synthesizing urea then at getting a higher dose of toxin did not occur as expected, more cutting the reduction of the contents of the urea in shelters that though and does not deny the fact of the reduction to functional activity liver. Otherwise it is possible to expect the joining of the reduction to functional activity, to reduction of the activities liver with increase the dose of toxin.

It was stated that intake of Tagan sorbent greatly reduced the biochemical shifts in shelters of the rats, appeared in response to chronic influence of the different doses of clorous cadmium (1,5 and 3,0 mg/kg on masses of the body animal).

If, influence of CdCl₂ brought about reduction in the functional activity in liver of the rats, the use of Tagan sorbent rendered an essential protecting influence. Approximation to source level on background of the sorbent of the contents of the urea in shelters of the rats confirms this fact. However if contents of the urea in shelters exceeds the source level, which occurs after influence of a higher cadmium dose, by the end of observations, than this fact can speak as well as about a damage of the secretory function at intake of 3,0 mg/kg Sd. From the literary it is known that under increasing of the contents of the urea there is damage in plasma shelters.

Therefore, using Tagan sorbent renders the positive influence upon condition of the liver, however animal are more sensitive to damaging action of the toxin. For this reason positive influence of the sorbent on activity of this organ was revealed only at intake of a small dose of toxin.

O.A. Umnova

FORSCHUNG DER GIFTIGKEIT UND DER BIOLOGISCHEN AKTIVITÄT DER LEPTOSOMENEMULSIONEN

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Das Ziel ist die Forschung des Effektivitätsgrades der Leptosomenemulsionen, die mit Hilfe der Methode der Phasenumkehrung erhalten sind.

Die Ergebnisse. Bei der Anfertigung der Leptosomen wurden die Vegetations- und

Tierlipiden in der Korrelation 90%:10% gebraucht. Als Bestätigung der Zweckmäßigkeit der ausgewählten Prozentangaben des Tiere- und Pflanzenrohstoffes wurde eine Reihe der Versuche mit der Testkultur *Paramecium caudatum* durchgeführt. Die biologische Aktivität wurde nach dem Wert der Schwellenkonzentration geschätzt (Tabelle 1).

Tabelle 1. Die Bestimmung der Giftigkeit und eigener Aktivität der Leptosomemulsionen in dem chronischen Versuch.

Analysegegenstand	Zellenzahl In 5×10^{-2} ml der Umwelt	Giftigkeitsangaben			
		Bewegungs- charakter	Zellenform	Zellenzahl In 5×10^{-2} ml der Umwelt	Lysen der Zellen
Kompositionszeit - 7 Tage und Nächte					
Leptosomen ohne Kräuter	3-5	Ohne Unterbrechung	rund	7-9	Kein
Leptosomen mit Kräuter	3-5	Ohne Unterbrechung	Leptosom- förmig	10-15	Kein

Die Bearbeitung der *Paramecium caudatum* in der Emulsion mit den Kräutern (Kamille, Ringelrose, echter Salbei, *Hypericum perforatum*, *Urtica dioica*) in dem chronischen Versuch hat die Liposomenungiftigkeit bestätigt, weil die Zellenform und der Bewegungscharakter der physiologischen Norm entsprechen. Die bedeutende Verminderung des Vermehrungswertes zeugt anscheinend davon, dass dieses Komplex der Heilkräuter über die biostatische (vermehrungsverlangsamte) Aktivität verfügt (Tabelle 1).

Die Schlussfolgerung. Festgestellt ist, das die intakten Leptosomen über die biologische Aktivität verfügen, weil in ihrer Umwelt die Vermehrung der *Paramecium caudatum* passiert. Die Leptosomen mit diesem Heilkräuterkomplex haben die biostatische (vermehrungsverlangsamte) Aktivität bei der Studie des Einflussgrades auf den Vermehrungsapparat gezeigt.

Experimentell ist es bewiesen, dass die Komposition der gewählten Heilkräuter über die ausgeprägte bakterizide Wirkung sowohl in der intakten als auch in der leptosomen Form verfügt.

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FORSCHUNG VON KUNDENPRÄFERENZEN FÜR HEILKOSMETIK

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In den modernen wirtschaftlichen Bedingungen ist der Erfolg der Produktion auf dem Markt meistens von dem Komplex der Konsumentencharakteristiken bedingt, die am besten die Bedürfnisse der Personen erfüllen, die die Korrektur einigen kosmetischen Nachteile benötigen.

Das Ziel der Studie ist die Marketinganalyse der Konsumentenbevorzugungen der Apothekenbesucher, die die Heilkosmetikproduktion gekauft haben, in Form einer Umfrage. An der Umfrage haben mehr als 300 Menschen teilgenommen, die in verschiedenen Städten des Zentralen, Nord-Westlichen, Südlichen Föderalen Kreises Russlands 2009 wohnen.

Die Ergebnisse. Festgestellt das positive Verhalten der Konsumenten zu den Kosmetik- und Pflegemittel (91 % der Befragten). Für 70% der Befragten sind sie ein unentbehrlicher Bestandteil des Images der modernen Frau. Die Hauptgründe des Einkaufes sind das moderne Aussehen der Geschäftsleute (25%) und die Hygiene und Pflege der Haut, der Haare, des Gesichtes (22%). Bei der Wahl des Pflegemittels berücksichtigt man vor allem eigene Erfahrung und Meinung (18,2% und 22,3%). Die bevorzugte Einkaufsstelle sind Kosmetikgeschäfte (53,5%). Der Preis beeinflusst die Wahl der Ware für 90% der Befragten. Bevorzugt werden die Mittel, die Stoffe verschiedener Heilpflanzen (36%) und Vitamine (32%) enthalten. 99% der Käufer achten immer auf die Verpackung und den Design. Für 37% ist die Information über die Mittelbestimmung und die Fristen der Tauglichkeit, und auch über die Aufbewahrungsregeln wichtig. Unter der Parfüm- und Pflegemitteln werden vor allem bevorzugt: die Zahnpasta (100%), Shampoo (100%), in der dekorativen Schönheitspflege sind das Lippenstifte (100%), Feuchtigkeitscreme für das Gesicht (82,4%), Masken für das Gesicht (77,5%), Wimperntusche (74,5%), Pflegemilch für den Körper (55%), andere Mittel nehmen die folgenden Stellen in der Skala.

Die Analyse des Angebotes der Liposomenkosmetik, die von der Forschungs-Produktionsvereinigung „Alpika“, Stavropol hergestellt wird, hat die hohen Einschätzungen der Konsumenten für einige Arten der Produktion gezeigt. So aus 21 Schönheitsmitteln haben 10 Mittel (47,6 %) die höchsten Punkte von den Konsumenten bekommen. Das ist die Feuchtigkeitscreme mit Kakaobutter und Vitamin E für die reife Haut, Feuchtigkeits-, Kollagen – und Verjüngungsmasken, Creme gegen Venenentzündung, Brandcreme u.a. 28% der Mittel haben guten und exzellenten Noten bekommen (die Feuchtigkeitscreme mit Pfirsichgrübenöl für junge Haut u.a.). 23,8 % der Mittel, nach der Meinung der Konsumenten, haben einige Mängel, was ihre Einschätzung beeinflusst hat.

Es ist auch die Analyse der Meinungen von den Ärzten der Schönheitspflege mit der Einwendung der Heilkosmetik „Alpika“ der Linie „Profi Line“ (apparative, Kosmetiksalonkosmetik, tonisierende Mittel und Mittel für die Hautreinigung) durchgeführt. Festgestellt ist auch das Angebot der Mittel, die am größten (60%) nachgefragt sind und nämlich, ist das die apparative Kosmetik, Verjüngungsmaske, Kollagenmaske u.a.

Mit der extra Methode hat man die Einschätzung der Qualität der Heimkosmetik erstattet. Mit Rücksicht auf solche Angaben wie das Aussehen, die Duft, die Auftragen- und Benutzenbequemlichkeit, die Verpackung, die Wirksamkeit und die Entsprechung Preis/Qualität. Unter den Mittel mit dem höchsten Wert der Qualität sind Creme für Augenlider und Hände, Behandlungs- und Präventionscreme, Brandcreme, Creme gegen Venenentzündung.

Die Schlussfolgerung. Nach den Ergebnissen der Marketing-soziologischen Studie sind die Programme der weiteren Entwicklung des Angebots der Vereinigung vorbereitet, die

verschiedene Veranstaltungen für die Waren, Förderung, Preisbildung und Verkaufsförderung umfassen, was im Endeffekt die Erhöhung der Konkurrenzfähigkeit der Produktion und der Vereinigung selbst fördern wird.

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DETERMINATION OF THE TOTAL ANTIOXIDATIVE ACTIVITY OF CONSORTIA PERSPECTIVE AS FUNCTIONAL PRODUCTS STARTER CULTURES

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It is known that some strains of bifidobacteria and lactobacillus possess antioxidant activity (Kaizu et al, 1993; Korpela et al, 1997; Lin and Yen, 2002; Kullisar et al., 2002).

This property depends of antioxidative defense systems like superoxide dismutase, reduced glutathione, pseudocatalase that mitigate the damaging effects of reactive oxygen species (ROS) and begin to start in the optimum of the microorganisms growth. The strength of expression of antioxidative properties is strain specific.

Three consortia of lactic acid bacteria and bifidobacteria: RKM 0205 (*Lactococcus lactis*, *Streptococcus thermophilus*, *Bifidobacterium brevis*); RKM 0206 (*Lc. lactis*, *Str. thermophilus*, *Lb. delbruesckii*, *B. brevis*); RKM 0207 (*Lc. lactis*, *Lb. delbruesckii*, *B. brevis*) were used in this study. All microorganisms were isolated from different sources: fermented milk products and biotopes of healthy human organisms. All consortia have high activity of fermentation, and good organoleptic characteristics during fermentation of milk, that is the arguments to consider them as a functional dairy products starter cultures.

The total antioxidant activity (TAA) of cell lysates was determined by using the linolenic acid test (Kullisar et al., 2003). The antioxidant activity of 19 cultures of lactic acid bacteria (*L.acidophilus*, *L.delbrueckii* ssp. *bulgaricus*, *Streptococcus thermophilus*) was studied by J.A. Saide and S.E. Gilliland (2005) and they have found out that cells lysate expressed greater level of antioxidant activity than intact cells do. In this method special substances of cell lysates must slow down or stop the accumulation of free radical reactions secondary products that reacted with thiobarbituric acid (TBA - reactive products). Results were read by measure a quantitative account of TBA secondary products on spectrophotometer (534 nm). Cultures of consortia were grown 15 hours in MRS-1 on 37° C conditions we used in our experience. Activity (%) was calculated by the formula: $TAA = (1 - A_{\text{sample}} / A_{LA}) \times 100$ (A_{LA} - oxidized linolenic acid). Data of experience were statistically significant $p < 0.05$ (table).

Tab. TAA of consortia

	Oxidized linolenic acid	RKM 0205	RKM 0206	RKM 0207
D (A)	0,088	0,072	0,067	0,069
TAA (%)	-	18	23	21

In our study the total antioxidant activity was different to all consortia and it was 18 - 23%. According to literature data the high level of antioxidant activity of lactic bacteria cell lysates are already 15% and above (JA Saide, SE Gilliland, 2005; Lin, 2002). It can be concluded, that cell lysates of our consortia have relatively high ability to inhibit effects of free radicals. In human gastrointestinal tract this property of lactic acid bacteria can be shown through the action of the bile acids on them.

Conclusion: Our consortia based on lactic acid bacteria and bifidobacteria possess a good level of total antioxidative activity. Antioxidative active starter cultures are using in functional food production would expand the range of healthy and antioxidative products that helping to fight diseases and early signs of aging.

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**AUTONEURITOTHERAPIE — DIE NEUE MEDIZINISCHE
METHODE DER KINDERLÄHMUNGBEHANDLUNG**

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“Der bleibender Eindruck beim Erforschen der Nervenaktivität des Menschens - ist das diese Aktivität sehr plastisch ist, über enorme Fähigkeiten verfügt und nichts bei Ihr bewegungslos bleibt. Alles kann erreicht werden, wenn die Voraussetzungen für die Entwicklung stimmen.”

Akademiker I.P. Pavlov

36% aller Nervenerkrankungen der Kleinkinder gehören zur Perinathal Pathologie (A.S. Petruschin, 1977). Bei allen Erkrankten bis zum 3. Lebensjahr, 70 % aller Erkrankungen gehören zur Perinathal Pathologie. Dabei nach den Angaben der Hauptverwaltung des Mutter-Kind- Schutzsbundes (D.I. Selinskaja, 2005),

60 % der gesamten Kinderbehinderungen sind in der Perinathal Zeit eingetreten. Den ersten Platz bei den Behinderungen des neurologischen Profils, beziehen Kinderlähmungen, als Ergebnis der Perinathal Pathologie (das tritt bei 3 bis 5 von 1000 Neugeborenen auf, M.V. Virjasova, V.S. Polunin). Davon ausgehend, ist das Problem der Behandlung der Kinder mit Perinathaler Pathologie sehr aktuell. Als einer der Behandlungsmethoden der Kleinkinder mit perinathaler Enzephalopathie und Kinderlähmung benutzen wir eine neue

pathogenetisch effektiver Technologie. Sie heißt Autoneuritotherapie.

Diese Behandlungstechnologie fusst auf den folgenden neurophysiologischen Haupteigenschaften der Entwicklung des Nervensystems der Kindern, die letztendlich für die pathologische Mechanismen des "Teufelskreises" der Kinderlähmungsentwicklung verantwortlich sind. Wegen dem geschwächten Spautingprozesses, werden die angeborene Reflexe nicht weiterentwickelt und nicht befestigt. Weiterhin findet die funktionale Virage nicht statt, und die bedingten Reflexe treten nicht auf. Der pyramydaler Weg, die primären, sekundären und die tertiären Felder in Hirnhaut entwickeln sich nicht, und das führt zur niedrigen Regenerierung und Mielenisierung der Aksonen, Dendriten und zur niedriger Geschwindigkeit der elektrischen Potenziale. Die Etapen der Autoneuritotherapie sind: 1) Diagnostik; 2) danach die Klärung der klinischen und der topischen Diagnose; 3) danach unter Vorbehalt der individuellen Daten, werden die gesunden Normative aufgezwungen. Das geschieht durch den Einfluß auf die mediale und laterale Nervenbündel der hinteren Würzel des Knochenmarks über ihre Proektionszonen auf dem Körper. Als Ergebnis normalisiert sich die Funktion in allen durch die Kinderlähmung gestörten Kettengliedern des Nervensystems. Klinisch zeigt sich das durch die Beseitigung der früher erworbenen neurologische Defekte.

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HYPOTENSIVE EFFECT OF DYNAMIC ELECTRONEURO-STIMULATION IN PATIENTS WITH ARTERIAL HYPERTENSION

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Background. Arterial hypertension (AH) is one of the most wide-spread vascular heart diseases, which is very dangerous for its complications. In spite of a wide range of drugs for correction of AH the efficiency of therapy is still insufficient. Researches on new non-drug methods of treatment of AH are continuously carried out. Transcutaneous electroneurostimulation (TENS) is one of such methods.

Dynamic electroneurostimulation (DENS) is a new variant of TENS consisting in stimulus of reflexogeous zones with short electric current impulses which form changes depending on values of electric impedance of skin surface in subelectrode zone. So that dynamic change of the impulse form during the procedure minimizes habituation effect of stimulated tissues and therefore allows DENS application within a longer period.

The purpose of this trial is to evaluate the hypotensive effect of DENS in patients with different variants of arterial hypertension.

Patients and methods. It was a randomized double-blind placebo-controlled research. 60 patients with hypertension of stages I-II were treated and examined in the trial. All patients had hypotensive drug therapy. The main group of patients (30 persons) also had DENS-treatment with the DiaDENS-Cardio apparatus (Certificate No.: CQ070361-V dd. 05 February 2007 issued by EUROCAT Institute for Certification and Testing GmbH,

Darmstadt, Germany) on the neiguan zone on the inner surface of lower third part of forearm.

The DiaDENS-Cardio apparatus combines stimulation at 9.2 Hz and a special mode 77 10 under which the apparatus automatically alternates stimulation at 77 and 10 Hz. The duration of procedures was 5-6 minutes and determined by the apparatus depending on the change of skin surface impedance in subelectrode zone. The procedures were taken daily during 10 days.

An imitation of DENS-effect was created in a control group (30 persons) by DiaDENS-Cardio apparatus-placebo.

All the patients had daily monitoring of ABP and ECG before and after the treatment course. In addition the intensity of headache was assessed by 10 cm VAS.

Results and discussion. Before start of treatment course the compared groups did not differ by age, duration of the disease, daily average systolic blood pressure (BP) and intensity of headache by VAS.

After 10-day treatment course the reduction of systolic BP was registered in both groups (table), but in the main group who had DENS this reduction was more considerable. In the main group the headache intensity (average indexes of VAS) significantly reduced compared to placebo group.

The presented data confirm the information that arterial hypertension is a psychosomatic disease. Even application of placebo apparatus with basic drug therapy results in reduction of blood pressure (BP). But influence of the DiaDENS-Cardio apparatus adds up the hypotensive effect and is more efficient than placebo. More over, clinical presentation of the disease namely headache did not change at all in the group of patients who had placebo in spite of reduction of BP. But patients in DENS group had a considerable reduction of headache which confirms an analgesic effect of electroneurostimulation of the neiguan reflexogenous zone.

Conclusions. DENS was superior over placebo in BP reduction in patients with arterial hypertension. Under influence of the DENS-therapy a positive dynamics of the clinical presentation of AH is observed.

Dynamics of daily average blood pressure and headache intensity by 10 cm VAS before and after the treatment course

Groups of Patients	Before treatment	After treatment	
Average Blood Pressure, mm Hg			
Main group (n=30)	141.9±17.0	125.8±16.4	0.001
Control group (n=30)	149.7±15.3	138.3±20.8	0.019
	0.067	0.012	
Headache Intensity, cm VAS			
Main group (n=30)	4.35±0.36	1.95±0.26	0.000
Control group (n=30)	3.90±0.24	3.30±0.30	0.124
	0.303	0.003	

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DEVELOPMENT OF THE SOFT DRUG FORMULATION ON THE BASIS OF ESSENTIAL OILS OF ARTEMISIA PONTICA AND AN ARTEMISIA JACUTICA.

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Now in modern medicine there is a tendency to use natural medicines. One of groups of natural medical products is essence. Essential oils are flying, mobile liquids of a complex organic structure. Essential oils have a various color and a characteristic smell. They are soluble in spirit, ether, fats, and a little soluble in water. Essential oils of *Artemisia pontica* and an *Artemisia jacutica* contains -pinen, camphor, isobutyric acid, ethers of butyric acid and formic acid, phenols, aquiline. The basic operating substance of this essence is chamazulene. Chamazulene concentration in the essential oil of *Artemisia pontica* is 13 %, and 40 % in the essential oil of *Artemisia jacutica*. Chamazulene possesses complex antiphlogistic, anesthetic, anti-edematous activities. Essential oils received by a method of steam distillation from a grass collected in a flowering phase. Essential oils of *Artemisia pontica* and a *Artemisia jacutica* is a complex of operating substances and their use is especially effective for treatment of various wounds since they possess anti-inflammatory, bacteriostatic, wound healing activity, and they render clearing action. At treatment of burns by these essential oils blisters, post burn hems and maculas are not formed.

In this connection the purpose of our research work was development of a soft drug formulation on the basis of these essential oils. 8 ointment of various compositions bases were selected for investigation. Ointments contained 3 % of essential oil. Determination of bioavailability of essential oil spent using a method of direct diffusion to an agar. It was established that ointments on the basis of polyethylene glycol have the best bioavailability. The ointment base has the following composition: Polyethylene glycol-1500: Polyethylene glycol-400: Twin-80 (4, 9:4, 9:0, 25). Ointments on the basis of polyethylene glycol are ointments emulsive type, they have good organoleptic properties and one well put on a skin surface.

Wound healing activity of ointment determined on mice by degree of rescuing a tail after an afflicted thermal burn. Tails of animals were put into hot water (55°C) for 30 seconds. Ointments applied on tails of animals daily. The experiment was conducted during 25 days. Ointment with essential oil of *Artemisia jacutica* have the greatest wound healing activity, at its application the percent of safety of a tail is 55,2 %, it is higher than in control group (26,48%) and comparison group (36,46 %). Then we conducted histologic research of fabrics of tails of animals. For histologic research, by means of the sliding microtome did microscopic sections, thickness of 5-6 micron from two sites of a tail (the beginning of a tail and the tail end). Decalcification of fabrics was carried out, and the material was painted hematoxylin and eosin. In control group the inflammation was shown seepage fabric by leukocytes, a hypostasis of fabric, plethora, and stagnation of blood in vessels. In fabric of tails of the animals that were treated with the experimental ointment, inflammatory

reaction was absent, the sclerosis and regeneration of epithelium was observed. Thus, the studied ointment positively influences all stages of the inflammation and accelerates healing of wound.

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BIOCRSTALLIOMICS METHODS FOR ASSESSMENT OF METABOLIC STATUS OF THE ORGANISM

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History of the biocrystallization phenomenon goes back to over 30 years, although it was first mentioned about 1804.

There are many articles, which demonstrated diagnostic function of crystalloscopic and tezigraphic facia.

In that time, the unitary publications devote to ability of crystallographic methods for indication of treatment effectiveness. This thesis was aim of our investigations.

Materials and methods

We study the dynamics of the transformation of teziocrystalloscopic picture of some human biofluids (saliva, urine, blood serum, teardrops etc.) in the management process.

Free crystallization of biomaterial (classic crystalloscopy) was examined by using the special identification table, which consists of 5 classes of crystal and amorphous structures and half-quantitive additional criteria, such as facia destruction degree [FDD], regularity [R], cellularity [C] and marginal belt [MB].

Tezigraphic facia was evaluated by complex of basic (initiation coefficient [IC]; belt coefficient [BC]) and additional parameters. We used two variants of tezigraphic test. There are comparative and differential teziography, which discrepant by number of the basic substances.

Data were processed with statistic programs (SPSS 11.0; Primer of biostatistics versus 4.03).

Results

On the base of our data it was demonstrated, that the dynamics of the biofluids] teziocrystalloscopic picture correlates with patient common condition and his clinic-functional status. This thesis was verificated on patients, which have gastroenterological, neurological, traumatological, cardiological and nephrological diseases. We tested the dynamics of free and initiated biosubstrates crystallogenesis on medicamental, chirurgical, balneological and physiotherapeutic management.

On our opinion, the most informative and comfortable for practical using biosubstrates are saliva and urine, but informativity of the monitoring highly increase, if two or more biofluids are analysed simultaneously.

It was shown, that character of the crystalloscopic specimen's changes (on the general

tendency to organization or destruction of the facia) illustrates the treatment effectiveness. This conclusion with respect general tendency is formed by the analysis of crystallization rate (crystal concentration in microscope visual field), facia destruction degree, homogeneity of elements allotment, cellularity, marginal zone width etc.

It is determined, that positive treatment results associate with decreasing of facia destruction degree, cellularity; increasing of facia homogeneity and normalization of crystalloscopic rate for own crystallization (initiation potential for tezigraphic test).

We composed universal algorithm of the crystalloscopic monitoring of patient functional status, which consist of the two or three control points. If we estimate short-time or unitary medical interference, it is enough to investigate the baseline and final condition. In this time the taking of biosubstrates is accomplished. For the treatment scheme, which realized in long time, the three-points investigation is most suitable.

Conclusion

So, it was ascertained, that crystallographic methods of biofluids investigation can be used for the treatment control.

N.V. Voskresenskaya

**NEUE PERSPEKTIVEN DER KOGNITIV- VERHALTENS-
METHODE IN PSYCHOKORREKTION UND
REHABILITIERUNG**

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Ende des XX und Anfang des XXI Jahrhunderts sind durch dramatische Ereignisse, wie Kriege, Katastrophen, Terror und Wirtschaftskrisen kennzeichnet worden. Die Zahl der Menschen, die psychotraumatische Situationen erlebt haben, senkt leider auch nicht. Das Problem der posttraumatischen Störungen wird immer öfter diskutiert. In diesem Bereich wird nach wie vor aktiv geforscht und gearbeitet.

„Retrospektive Modifizierung der funktionalen Systeme“ – diese Methode wurde in der Akademie für Militärmedizin entwickelt, und sie versucht auch das Problem zu lösen. Das Ziel der Methode ist die Korrektion der Angstneurosen und Phobien, die als Folge der psychotraumatischen Wirkungen entstanden sind.

Die Kernidee dieser Methode beruht auf der Behauptung, dass der aktuelle psychische Zustand dank dem vegetativen Gedächtnis die Verbindung mit der vergangenen Erfahrungen hat.

Das Ausgangstrauma wird im geänderten Zustand des Bewusstseins (Altered states of consciousness) ohne Suggestion herausgefunden. Der Patient soll sich auf den somatischen Empfindungen konzentrieren, die das Trauma begleiteten. Durch Anregung des vegetativen Systems entsteht der so genannte flashback-Effekt, der die Absenkung in die früheren

Empfindungen ermöglicht, die den traumatischen ähnlich sind. Das traumatische Ereignis wird retrospektiv modifiziert (dafür gibt es verschiedene Techniken und Möglichkeiten: Exposition, Gegenüberstellung, Gestaltabschluß, Desensibilisierung), was zu Änderung „des Nährbodens“ führt. Dieser integriert sich durch invertierte Afferentation in „ICH“ – Vorstellung des Patienten.

Diese Methode hat sich auch im klinischen Bereich als effektiv gezeigt. Am Experiment waren insgesamt 55 Patienten mit folgenden psychotraumatischen Situationen beteiligt: 21 Fälle – Angstneurosen, 15 – Scheidung, 6 – Tod einer Bezugsperson, 6 – Suchtprobleme in der Familie, 5 - unerwartete Entlassung, 2 – Kampfhandlungen. Die posttraumatische Belastung unterschiedlich: von einigen Wochen bis einigen Jahren. In 87% der Fälle wurde positive Dynamik im Zustand der Patienten registriert.

Die Methode der retrospektiven Modifizierung der funktionalen Systeme hat sich also als zukunftsfähig erwiesen und kann erfolgreich für Psychokorrektion und Rehabilitation angewendet werden.

S.L. Yalukova

EFFICACY OF TRADITIONAL METHODS FOR TREATMENT OF CHRONIC TOXIC HEPATITIS

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The aim of research. An assessment of therapeutic efficacy of traditional methods (homotoxicology, homeopathy, phytotherapy, hirudotherapy and osteopathy) for treatment of patients with chronic toxic hepatitis in comparison to therapeutic efficacy of standard methods of treatment

Materials and methods. The research was carried out on 36 patients 33-55 years old with chronic toxic hepatitis (markers HBSAg, HCV negative). The course of therapy lasted 1,5-3 months. The patients of the first group were treated by homeopathy (a constitutional anti-homotoxic preparation), hirudotherapy, phytotherapy and osteopathic medicine); the patients of the second group received the conventional metabolic therapy; the third group were treated to the conventional and traditional therapies. Before and after the course clinical, biochemical, laboratory, immunologic and functional tests were undertaken (osteopathic diagnostics, Imago-diagnostics, ultrasonography)

Results. The study revealed a higher clinical efficacy of the traditional methods in treatment of patients with chronic toxic hepatitis, which is testified by positive clinical dynamics in the patients (relieving the pain, reduction in general weakness, discomfort in the right subcostal area, improvement in sleep and appetite). We managed to gain a significant hepatoprotective, spasmolytic, anti-inflammatory and cholagogue effects, improvement in motility, gallbladder and liver motor function as well as improvement in immunogenic and non-immunogenic reactivity, which is confirmed by the research data.

Conclusion. The obtained results give evidence for the clinical efficacy of the traditional

methods for treatment of chronic toxic hepatitis without allopathic medications and the feasibility of using computer Imago-diagnostics, bioresonance therapy and osteopathic medicine.

G.A. Yusupov

SCIENTIFIC BASIS OF HOMEOPATHY AND ENERGOINFORMATIONAL MEDICINE

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Homeopathy and energoinformational methods of diagnostics and treatment, which are based on principle of similarity, have much in common, but also have differences. If a conception of «ultrasmall dose» for the homeopathic preparations may have the meaning, for the energoinformational treating means and their preparation deals with electrical transference of energoinformational characteristics of nozods, homeopathic preparation on different carriers, the conception «dose» loses its any sense. For the scientific grounding of homeopathy and energoinformational medicine the hypothesis, which provide reasonable answers to the next questions, are of great interest.

1. What is the carrier of a «life force», extracting out of the crude drug;
2. Why it is so important to shake liquids or mill powders during the compounding of a homeopathic preparation;
3. Where is a «life force» in molecules of mother substance, why does it transfer to medical justification only as a result of dynamisation and where does a «life force» fix?
4. What is the sense of the principle of similarity, and on what condition does therapeutic modality of homeopathic preparations realize?
5. In what way can we explain the phenomenon of medicamental testing, possibility of electrical rewriting of properties of potentiated preparations and the possibility of distance transferring of these properties, among the ways of transference (internet)?

K. Smitt supposes that theoretical bases of homeopathy are connected with «water memory», which is provided by the aggregating of water's molecules in the form of clathrates. Ludwig W. presents the results of experiments on the basis of which it is shown that homeopathic medicines contain some electromagnetic information that has the ability to be in the resonance with their own frequency of living organisms.

Strube J., Stolz P., Maier W., confirm that even twice purified water contains amino acids and J-chains and consider that amino acids and J-chains can play a pivotal role for a permanent preservation of information and realization of therapeutic effect.

Professor V. L. Voeikov supposes that biologically active substances which contain water during the process of potentiation of homeopathic medicine seal on oscillatory-wave processes, providing specific effects of homeopathic preparations on biological model.

Analysis of this material, present knowledge of fundamental science and the results

of their own researches, which were made with complex «UPRANA-PRO» display that specific property «water memory», aren't the singular natural phenomena, which discover scientific justification of homeopathy.

1. Factors of specific properties homeopathic preparations, which transfer during the process of potentiation wave characteristics of electromagnetic area, which produce intramolecular and intermolecular bounds during the dynamiation.

2. Carriers of what energoinformation characteristics can act electromagnetic and acoustic waves which appear in the time of bond breaking, and the elements, which have wave properties (electrons, protons, photons and others), which are in the structure of atoms and molecules of original substance.

3. «Life force» can record new contacts, which appear during the process of potentiation, as a frequency modulation of wave characteristics of molecular bond.

4. Result of therapeutic action can be due either constructive (resonance), or destructive interference, which is possible only at similarity of frequency behavior, on a level of chemical bond of molecules-target of wave information-homeopathic or energoinformational preparations.

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THE DISTINCTION BETWEEN OSMOTIC AND HYDRAULIC HYPERTENSION IN THE RETINAL CHANGE VESSELS IN CASES OF THE HEMORRHAGIC RETINOPATHY

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All metabolic matters using in the cells vital functions, are bounded noncovalent up with molecules of water almost constantly, that is why those moving from the blood flow to the interstitial space and then into the cells is due to the convection, it means with the water molecules. The water's sense of current depends on two forces: the gradient pressure between osmotic and hydraulic pressure. For example, transmural osmotic blood pressure is near 25 mm.hg., thus if transmural hydraulic pressure in the change vessels rises above 25 mm.hg. the liquid moves out, if it declines - molecules of water move back into the vessels.

It was thought for a long time that the fluid goes out from arterial vessels and is absorbed in the veins capillaries. We were shown in our work, the liquid flows from one bloodstream to the other due to the pressure gradient. The illustrative example of that are eyeballs vessels. The liquid goes out from the ciliary body and choroid and is taking up by the retinal vessels. The unbalance between these vessels systems can cause severe retinal diseases.

The hemorrhagic retinopathy is the result of acute rising of transmural blood pressure (osmotic or hydraulic) in retinal change vessels. Hydrostatic higher pressure can be appear

in the arterial hypertension, the retinal veins thrombosis, during Valslve's test and others conditions, what accompanied by retinal edema. If osmotic transmural pressure was high (diabetes, acute and chronic renal impairment, paraproteinemia and etc.) liquid moves out of the retinal tissue, what cause rising of hydraulic transmural pressure in this change vessels, which lead to extravasations and hemorrhages. In such variant microaneurysms are mostly observed. The combination both of these factors is possible.

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COMPARATIVE BIOLOGICAL AGGRESSION OF CADMIUM SULFATE IN A DOSE OF 0,5 MG/KG AND ITS MIXTURES WITH OTHER ELEMENTS AND CORRECTION BY A SULFATE-ION

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Cadmium compounds are widely used in various industries, and rather significant working contingents are exposed to their professional influence.

In this connection present research studying comparative aggression cadmium sulfate in a doze of weight of a body of 0,5 mg / kg separately and in a mix with other poisons on parameters of a fatty, carbohydrate and mineral exchange was, and also studying of ability of a sulfate - ion to interfere with development of an intoxication.

In experiment was 4 groups of animals and two groups of control animals. The first group of animals received only cadmium, the second - cadmium and sulfate, the third - cadmium with a mix of substances (zinc, lead, iron, cooper, antimony, arsenic, fluorine in quantities which meet in manufacture of cadmium), the fourth - cadmium with a mix of substances and sulfate. Sulfate was entered, as well as all components, per os as a solution sodium sulfate at the rate of 25 mg SO_4^{2-} on kg of weight of a body of an animal. This quantity of sulfate approximately corresponded to its quantity acting in an organism at consumption of potable water with the maintenance of sulfate at a level of maximum concentration limit.

Duration of experiment - 4 months. All substances were entered per os daily, except for days off and holidays.

Every month blood of animals was taken to define the 11 biochemical parameters: the whole protein, urea, DNA, RNA, glucose, general lipids, the general cholesterol, conjugated cholesterol, diphenylamine reaction, calcium, inorganic phosphorus. Standard techniques stated in widely known manuals are used. The positive effect of sulfate was estimated by comparing parameters of the groups which were receiving and not receiving sulfate with the help of Student's criterion.

Overall during experiment each group received it is 44 parameters (4 terms and 11

parameters).

During experiment the group receiving cadmium had 21 changes of parameters, 17 of them have undergone corrections under influence of sulfate; the group receiving cadmium with the mixture of substances had 17 changes, 14 of them have undergone corrections under influence of sulfate. Statistical processing with application of Fisher's] variable showed reliability of data on the positive influence of sulfate in both cases. The essential difference in amount of parameter changes or cases of positive influence of sulfate between groups of animals was not revealed. It gives the ground to consider that the degree of intoxication in action of cadmium and cadmium with a mixture of substances was approximately identical.

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COMPARATIVE EVALUATION OF THE INFLUENCE OF CADMIUM IN A DOZE OF 0.1 MG/KG AND ITS MIXTURES WITH OTHER METALS ON BIOCHEMICAL PARAMETERS IN ANIMALS AND A PROTECTIVE ROLE OF SULFATE-ION

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It is known, that toxicity of this or that substance can change under influence of other substances and connections. Special interest in this matter attracts substances in a dose equal to the toxicity of poison, do not bring harm to an organism. One of such substances is the inorganic sulfate-ion, which favorable action on development of intoxication by many industrial poisons has been already shown earlier.

In the given work results of researches on biochemical parameters of rabbits blood of at an intoxication by cadmium in a doze of 0,1 mg/kg of body weight per day, and also the same amount of cadmium in a combination with mixture including zinc, lead, iron, cuprum, antimony, arsenic, fluorine in amounts which is met in the manufacture of cadmium, and influence of a sulfate-ion as sodium sulfate in amount of 25 mg SO₄² on kg of body weight on development of an intoxication by these substances is investigated. The amount of sulfate approximately met its enter into an organism by consumption of potable water with the sulfate content at a level of maximum concentration limit.

Duration of experiment is 4 months. All substances were entered per os daily, except for days off and holidays.

The first group of animals received only cadmium, the second - cadmium and sulfate, the third - cadmium with a mixture of substances, the fourth - cadmium with a mixture of substances and sulfate. There were also two groups of intact animals.

Every month in the body of the animals 11 biochemical parameters of blood were determined: the whole protein, urea, DNA, RNA, glucose, general lipids, the general

cholesterol, conjugate cholesterol, diphenylamine reaction, calcium, inorganic phosphorus. Widely known techniques recommended by the respective manuals are used. A positive effect of sulfate established by comparison of parameters of the groups which were receiving and not receiving sulfate with the help of Student's criterion.

In each group of animals during experiment 44 parameters were obtained (4 terms and 11 parameters).

For the period of experiment the group receiving cadmium had 11 changes of parameters, from which 7 under the action of sulfate have undergone corrections; in the group receiving cadmium with a mixture of substances there were 22 changes, 10 from them have undergone corrections with the help of sulfate. Statistical processing with application of Fisher's] variable has shown the reliability of data on the positive influence of sulfate in both cases, however in relation to amount of the changed parameters in group with a mixture of substances the cases of positive influence of sulfate was less. Moreover, the significant amount of parameters changes in group with a mixture of substances allows to say that the mixture of substances aggravates action of cadmium.

V.I. Zlobin

**TICK-BORNE ENCEFALITIS IN RUSSIAN FEDERATION:
CURRENT EPIDEMIOLOGICAL SITUATION AND
PROPHYLAXIS**

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Tick-born encephalitis (TBE) is the most important natural foci infection in Russian Federation. It has strictly seasonal character depending on a period of activity of its transmitters – Ixodes ticks. The main transmitter in focuses around most territory of Russia is Ixodes persulcatus, the highest disease rate is observed in May-June. Another situation exists in some European regions where Ixodes ricinus prevail: two peaks of the disease are usually registered – in spring and in the end of summer and beginning of autumn. Activity of focuses fluctuates from year to year as a result of changes in different biological and abiotic factors. Therefore number of cases of tick-borne encephalitis may vary considerably. Man is an occasional recipient of TBE virus, when undergoes an attack of infected tick being in natural or anthropourgic focuses.

Traditionally high risk of infection exists among workers of “forest professions” – forest guards, wood-cutters, as well as topographists, geologists, road and pipeline builders. Workers of these professions are included into a risk group and undergo systematic vaccination. However villagers are also under threat to be infected during hunting, wood cutting, fishing, gathering mushrooms and berries. Last several years among all patients with tick-borne encephalitis townspeople prevail, who visited natural and anthropourgic

focuses for picnic, tourism and work in suburb gardens.

Epidemiological situation in the time of border of ages is characterized by unprecedented increase in disease rate (up to 10 000 annually) and some other new features, requiring precise analysis in order to develop adequate strategy to deal with the disease.

Disease rate of Tick-borne encephalitis in Russia increased primarily because of Siberian and Ural territories. For example, disease rate of tick-borne encephalitis in 1999 in Russia was 6.8 per 100 000 of population, being in Udmurtia 53.0, Perm' region – 32.4, Tyumen' region – 35.2, Kurgan region – 35.4, Krasnoyarskiy kray – 52.8 and Tomsk region – 64.2. An extremely high increase of the disease rate was detected in regions of Eastern Siberia. Only for 5 years 1994-1999 in Republic of Hakasia it increased in 4 times, Republic of Buryatia – 5 times, Irkutsk region – 6 times and Republic of Tyva – 16 times. The decrease of morbidity of TBE in beginning of 2000^{ths} is the result of natural cycle and probably will continue some more years.

An important feature of modern epidemiology of tick-borne encephalitis is a shift in the structure of disease rate: today 70-80% of cases are uninoculated townsmen visiting forests for recreation and sometimes with economic intentions. Mainly people get infected in anthropourgic focuses, easily arising in suburb forest massifs because of individual house-building.

Loose control of a forest exploitation leads to acceleration of anthropogenic transformation of natural taiga and forest landscapes, destroying them and often creating favorable conditions for increase of ticks' number. Raising number of automobiles significantly influences the disease rate, increasing number of townsmen going to a countryside and leading to their intensive contacts with ticks. Inhabiting of parks and public gardens by ticks is an another one negative factor. There is a data that about 10-20% of patients get infected without crossing borders of a city. Changes and extension of areas of the infection, appearance of new endemic regions were detected either in Europe or in Asia.

It was revealed that three main genotypes of TBE virus exist, corresponding to antigen subtypes. Elucidation of primary structure of viral RNA revealed that genotype 3 (Ural-Siberian) dominates on the territory of Russia (more 60%) but not genotype 1 (Far-Eastern) as it was thought before.

New important information concerning wide spread of combined focuses of tick-borne infections of bacterial, viral, rickettsial and protozoan origin has appearance during last 10-15 years. Tick borreliosis is the most well-studied disease, which area coincides with the area of TBE and may be even wider. Main arthropod hosts of *Borrelia* are the same tick species as for TBE - *I. persulcatus* and *I. ricinus*. In some cases a tick may be infected with two or more pathogens, leading to appearance of a mixed-infection in humans. Circulation of several genetically different species of *Borrelia* was revealed in Eurasia: *B. burgdorferi*, *B. garinii*, *B. afzelii*. Retrospective analysis has shown that a significant number of cases, which were treated as tick-borne encephalitis in 1960-1980 were in fact Tick borreliosis (Lime's disease). Tick-borne rickettsiosis also extends it's

borders. Wide circulation of *R. sibirica*, *R. slovaca* in Russia was shown, and also several new non-pathogenic rickettsiae were described from a group of Tick-borne spotted fever. Recently several focuses of Granulocytic and Monocytic ehrlichiosis were discovered and patients revealed on the territory of Russia inside the area of TBE virus. Literature of the last years describes a possibility of babesiosis in Siberia.

The strategy of prophylaxis of TBE includes complex of specific and nonspecific measures as vaccination, using immunoglobulin against TBE for urgent prophylaxis, acaricidal processing and individual prevention. Since 2008 in Russian Federation a company of mass vaccination of endemic territory population was started.

T.E. Belousova

DER ALGORITHMUS DER WIEDERHERSTELLUNG FÜR DIE ALTERSKRANKHEITEN

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Im XXI. Jahrhundert kommen bedeutende Änderungen in der Altersstruktur der Bevölkerung und im Krankheitsbild. Die Zahl von alten und behinderten Menschen zunimmt. Die Zahl der Jugendlichen und leistungsfähigen Menschen sinkt. In allgemeiner Morbiditätsstruktur erhöht die Teil der protrahierten und chronischen Krankheiten. Es gibt Dominanz der Krankheiten, die Systemcharakter haben, wie z.B. Atherosklerose, Hypertension, chronische zerebrovaskuläre Krankheiten, Immunodefizit-Zustände, Stoffwechselstörungen, Endokrinopathie, Onkologie. Diese Situation demonstriert Aktivierung der Alterung des Organismus und Notwendigkeit neue Behandlungstechnologien gegen die so genannten Alterskrankheiten einzusetzen.

Standardbehandlung ist immer die erste Stufe der Therapie während der Exazerbation. Das Ziel ist der akuten Krankheitszeichen und Lebensbedrohung zu kämpfen. In der Regel besteht die Medikation aus bestimmte Verbindung der starkwirkenden pharmakologischen Mittel, die schnell Symptomen mildern. Aber diese Therapie hat viele Nebenwirkungen und Komplikationen. Deshalb soll man die Standardbehandlung streng dosieren und richtige Kombination der Arzneien wählen.

Langfristige Programm der Wiederherstellungsbehandlung für die Patienten, die unter chronischen Krankheiten leiden, besteht aus medikamentösen und nicht-medikamentösen Technologien, die in kleinsten Dosen verwendbar sind. Zu diesen Technologien gehören Akupunktur, physikalische Therapie, naturopatische Heilmittel. Diese Technologien kann man lange benutzen. Ein Behandlungskur dauert bis 3-4 Monate. Es gibt kein Risiko wegen Nebenwirkungen und der Komplikationen. Man erreicht regeneratorsche und trophische Veränderungen in den Organen. Die Wiederherstellungsbehandlungsschemen sollen mit - und nach der Standardtherapie benutzen werden.

Wir verwenden die Programme für Behandlung folgenden Zustände: Hypertension, vasovegetatives Syndrom, Bindegewebeinzuffizienz-syndrom, Zerebrovaskuläre Krankheiten, Stoffwechselstörungen, Endokrinopathie, Immunodefizitzustände u.s.w.

Richtige Verbindung der Basisbehandlung und ergänzenden Heilmittel erlaubt lange Behandlungskurse, die keine allergische, toxische Reaktionen und andere Nebenwirkungen haben, vorzunehmen. Man bekommt die Fixierung der Behandlungseffekte. Die Behandlungseffektivität der Basistherapie erhöht auf 30-50 %. Man bildet auch wichtigen Nachbehandlungseffekte auf, senkt die Zahl der Exazerbationen, steigt die Dauer der Remission. In allen Altersgruppen erhöht sich die Lebensqualität und Arbeitsfähigkeit.

European Academy of Natural Sciences (Hanover)
European Scientific Society (Hanover)
Russian Academy of Natural Sciences, Moscow

International Forum “Euro-ECO - Hanover 2009”:
Environmental and Engineering Aspects for Sustainable Living

3 - 4 December 2009
ANDOR Hotel Plaza, Hanover, Germany

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Deadlines:

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On-line Submission: akademie2002@freenet.de

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Languages: German, English, Russian: simultaneous translation

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