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Inhalt

<i>Lukyan Andriyk; Irina Magulka</i> MANUAL THERAPY IN THE COMPLEX OF TREATMENT AND REHABILITATION OF SCOLIOSIS IN CHILDREN	14
<i>Irina Arkhipova</i> CREATIVE ACTIVITY AS AN EFFECTIVE COPING STRATEGY IN ADULTHOOD	15
<i>V.V. Astashov; Yu. I. Borodin; T.A. Astashova; E.V. Starkova</i> HERBAL PREPARATIONS IN MAINTENANCE THERAPY OF PATIENTS WITH TUMOR AND PRECANCEROUS DISEASES	16
<i>T.A. Astashova; M.A. Yurov; S.V. Morozov; V.V. Astashov</i> FREE FATTY ACIDS IN ESTIMATION OF ENDOTOXEMIA, OXIDATIVE STRESS DEVELOPMENT AND THEIR CORRECTION IN EXPERIMENTAL PROSTATE INJURY	17
<i>A. Averyanov; A. Konophyannikov; A. Chernyaev; A. Tsib; O. Kuzovlev; N. Kulagina; A. Bruhovetsky</i> EXPERIMENTAL TREATMENT OF PULMONARY EMPHYSEMA IN RATS WITH AUTOLOGOUS MESENCHYMAL STEM CELLS	19
<i>K.S. Bakhtijarova; R.Kh. Gisatullin</i> ANWENDUNG DER ANÄSTHESIE BEI EINEM LANGE ZEIT INTERFERON-BETA-1B EINNEHMENDEN PATIENTEN MIT DER MULTIPLLEN SKLEROSE	20
<i>B.S. Baiserkina; A.S. Karakushikova; K.K. Toguzbayeva; Z.D. Bekmagambetova; A.A. Lukashev; A.R. Madigulov; L.S. Niyazbekova; A.K. Sailybekova; L.B. Seiduanova; D.D. Zhunistaev</i> PROBLEMS OF OCCUPATIONAL HEALTH AND HEALTH OF TRAFFIC DRIVERS	21
<i>E.V. Balyazina</i> THERAPY OF CLASSICAL TRIGEMINAL NEURALGIA	22
<i>Z.D. Bekmagambetova; K.K. Toguzbayeva; K.A. Tulebayev; E.S. Nadueva; L.S. Niyazbekova; L.B. Seiduanova; A.K. Sailybekova; D.D. Zhunistaev; A.B. Nurshabekova</i> ABOUT A COMPLEX SYSTEM OF MEASURES FOR PREVENTION OF TUBERCULOSIS IN ECOLOGICALLY POOR REGIONS	23
<i>T.E. Belousova</i> ANTIHOMEOTOXIC SUPERVISION OF PATIENTS WITH CHRONIC DISEASES IN FAMILY DOCTOR'S PRACTICE	25
<i>E.V. Bosenko</i> POST-TRAUMATIC STRESS DISORDER: EMPIRICAL STUDIES, OUTCOME ANALYSIS AND PSYCHOLOGICAL CORRECTION METHODS	26

<i>U.S. Butov; V.U. Vasenova; S.H. Ahtyamov</i> NEUE METHODEN BEI DER BEHANDLUNG VOM SPITZEN KONDYLOM	28
<i>V.G. Cherenkov; V.V. Ivanchenko; S.A. Tverezovskiy</i> A NEW METHOD OF MINIMALLY INVASIVE TUMOR MASS ELIMINATION IN A MAMMARY GLAND	30
<i>M.I.Chubirko; N.M.Pichuzhkina; L.A.Masaylova</i> IMPLEMENTING OF COMPETENCY APPROACH OF POSTGRADUATE MEDICAL EDUCATION	31
<i>A.P. Chuprikov; B.P. Popovskiy; N.V. Vasilevskaya; E.E. Kushnirskaya; A.V. Burago; N.M. Markanov</i> ANIMALOTHERAPIE WIRD ALS OFFIZIELLE MEDIZIN ANERKANNT	32
<i>A.P. Chuprikov; V.D. Mishiev; V.Y. Nayshtetik</i> CEREBROCURIN-R IN DER KINDERPSYCHIATRIE	33
<i>T.G. Denisova; A.N. Vasilyeva; L.I. Gerasimova; E.V. Portnova</i> HORMONE THERAPY IN THE COURSE OF PREVENTION OF TERM INFANTS' FETAL GROWTH RETARDATION SYNDROME	35
<i>A.A. Djumaliev; T.M. Kim; G.A. Djumaliev; A. Azimova; J.B. Botbaeva ; K.O. Dzhusupov</i> THE USE OF DISTANCE LEARNING ON HIV / AIDS IN THE CENTRAL ASIAN REGION	36
<i>V.S. Dmitruk; M.G. Kartalov; G.V. Martova; S.I. Dmitruk</i> KARTALIN IN THE TREATMENT OF CHRONIC INFLAMMATORY SKIN CONDITIONS	37
<i>E.V. Donchenko; V.A. Kolosyuk</i> AUTOIMMUNE THYROIDITIS: TREATMENT BY METHODS OF HUMAN ECOLOGICAL MEDICINE	38
<i>R.T. Dschumascheva; G.G. Kapanova; K.K. Toguzbaeva; G.G. Bedelbaeva</i> MEDIZINISCHE AUSBILDUNG IN KASACHSTAN ANGESICHTS DES BOLOGNA – PROZESSES: PROBLEME UND PERSPEKTIVEN	40
<i>V.A. Elisseev; Z.P. Bulatova; V.A. Galahov; T.V. Kulishova; L.V. Kotschurova</i> DIE KOMPLEXE REHABILITATIONSBEHANDLUNG DER KINDER MIT DER BRONCHITIS IM REKONVALESZENZSTADIUM IM KURORT BELOKURICHA	41
<i>Y.A. Fadeeva</i> PHYSISCHE REHABILITATION ZIRKUSARTISTEN MIT FIBROMYALGIE DES LUMBOSAKRALEN ÜBERGANGS	43

<i>N.E. Gelfond; V.V. Greff; E.V. Starkova; V.V. Astashov</i> MACRO-MICROELEMENTS AS MARKERS OF THE DEVELOPMENT OF ENDOTOXICOSIS IN PREGNANCY COMPLICATED WITH CHRONIC INTOXICATION	44
<i>S.V. German; I.E. Zykova; A.V. Modestova; N.V. Yermakov</i> EPIDEMIOLOGY OF HELICOBACTER PYLORI INFECTION IN A MEGAPOLIS	45
<i>R.Kh. Gisatullin; S.N. Ivakina</i> ORGANISATORISCHE UND WIRTSCHAFTLICHE ASPEKTE DER NUTRITIVEN UNTERSTÜTZUNG VON KINDERN IN KRITISCHEN ZUSTÄNDEN	46
<i>E.A. Glikman</i> SUTCZI-CHIMSUR THERAPY AS A HIGH-EFFICIENCY TREATMENT METHOD	48
<i>V.N. Gorchakov; S.I. Anobin; O.V. Gorchakova; Yu.P. Kolmagorov</i> MACRO- AND MICROELEMENTS OF KIDNEY AND LYMPHATIC NODE IN DYNAMICS OF RENAL INSUFFICIENCY	49
<i>V.N. Gorchakov; A.G. Loginov</i> CYTOARCHITECTONICS OF REGIONAL LYMPH NODE IN THE CONDITIONS OF EXPERIMENTAL IMPLANTATION THE NICKELIDE TITANIUM	51
<i>V.V. Gref; E.V. Starkova; V.V. Astashov; N.N. Burchak; P.M. Larionov; S.V. Zalavina</i> LYMPH NODES IN PREGNANCY COMPLICATED BY CHRONIC INTOXICATION AND IN CONDITIONS OF CORRECTION OF NANO-CARBON MINERAL SORBENT (ANATOMIC-EXPERIMENTAL STUDY)	52
<i>H.I. Ibodov; T.A. Abdufatov; R.R. Rofiev; Sh.E. Latipov; B.Dz. Azizov</i> TACTICS OF TREATMENT OF CHILDREN WITH HIRSCHSPRUNG'S DISEASE	53
<i>H.I. Ibodov; A.M. Sharipov; B.Dz. Azizov</i> CHOICE OF METHOD OF SURGICAL TREATMENT IN CHILDREN WITH ECHINOCOCCOSIS LUNG	55
<i>G.A. Ignatenko; M.K. Pola; A.A. Fayerman; Y.O. Ivanchenko</i> LUNG DIFFUSING CAPACITY AS A MARKER OF THE FORMING OF VENTILATION DISTURBANCES IN PATIENTS WITH HEART FAILURE AND CORONARY HEART DISEASE IN ASSOCIATION WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE	56

<i>G.A. Ignatenko; B.L. Rakitov; K.S. Scherbakov; G.V. Dubovyk</i> INTERVAL NORMOBARIC HYPOXYTHERAPY ADMINISTRATION IN COMPLEX TREATMENT OF PATIENTS WITH MICROVASCULAR ANGINA	57
<i>Ignat Ignatov</i> ENTROPY AND TIME IN LIVING ORGANISMS	59
<i>Ignat Ignatov; Vera Tsvetlova</i> WATER FOR THE ORIGIN OF LIFE AND INFORMATIVITY OF WATER. KIRLIAN (ELECTRIC) AURAS OF DIFFERENT TYPES OF WATER	61
<i>I.A. Ignatova; L.I. Podkidysheva</i> ANPASSUNGSPROZESSE DER GEHÖRORGANE INFOLGE DES UMSIEDLUNGSVORGANGS BEI NORDLÄNDERN- MIGRANTEN	64
<i>V.A. Isakov; Yu.I. Sternin</i> PERSPECTIVES TO USE PROTEOLYTIC ENZYMES IN TREATMENT OF HERPESVIRAL INFECTIONS	65
<i>E. Ivanova; N. Vorobeva</i> EFFICACY AND SAFETY OF HEMATOLOGICAL OF PHOSPHAZIDE OF HIGHLY ACTIVE ANTIRETROVIRAL THERAPY FOR HIV-INFECTED PATIENTS: 48 WEEKS OF TREATMENT	67
<i>O.V. Kalmin</i> MORPHOLOGICAL FACTORS OF THE MECHANICAL STRENGTH OF PERIPHERAL NERVES	68
<i>G.Zh. Kapanova; G.G. Bedelbaeva; A.A. Aytkulova</i> VERWENDUNG DER A-LIPONSÄUREDERIVATE BEI EINER KOMPLEXEN BEHANDLUNG VOM DIABETISCHEN FUSS	69
<i>A.S. Karakushikova; B.S. Baiserkin; K.K. Toguzbayeva; Z.D. Bekmagambetova; M.S. Kaynarbaeva; A.A. Lukashev; A.R. Madigulov; L.S. Niyazbekova; A.K. Sailybekova; L.B. Seiduanova; A.B. Nurshabekova</i> HYGIENIC EVALUATION OF MICROCLIMATE OF THE DRIVER'S VEHICLE	70
<i>A.S. Karakushikova; K.K. Toguzbayeva; B.S. Baiserkin; Z.D. Bekmagambetova; A.A. Lukashev; A.R. Madigulov; L.S. Niyazbekova; D.D. Zhunistaev; A.K. Sailybekova; L.B. Seiduanova; A.B. Nurshabekova</i> HYGIENIC CHARACTERISTICS OF THE EFFECT OF NOISE AND INFRASOUND ON THE BUS DRIVERS ORGANISM	71
<i>A.S. Karakushikova; K.A. Tulebayev; K.K. Toguzbayeva; B.S. Baiserkin; Z.D. Bekmagambetova; A.A. Lukashev; A.R. Madigulov; L.S. Niyazbekova; D.D. Zhunistaev; L.B. Seiduanova; A.K. Sailybekova</i> CURRENT ISSUES OF SAFETY AND HEALTH OF MEDICAL WORKERS AT THE PRESENT STAGE	72

<i>A.S. Karakushikova; K.A. Tulebayev; K.K. Toguzbayeva; Z.D. Bekmagambetova;</i> <i>A.A. Lukashev; A.R. Madigulov; M.S. Kainarbaeva; L.S. Niyazbekova;</i> <i>D.D. Zhunistaev; A.K. Sailybekova; L.B. Seiduanova</i>	
HYGIENIC EVALUATION OF THE INFLUENCE OF SOME INDUSTRIAL FACTORS ON THE EFFICIENCY OF BUS DRIVERS AT URBAN TRANSPORT IN ALMATY	73
<i>A.S. Karakushikova; B.S. Baiserkin; K.K. Toguzbayeva; Z.D. Bekmagambetova;</i> <i>A.A. Lukashev; K.S. Mendybaeva; L.S. Niyazbekova; D.D. Zhunistaev;</i> <i>A.K. Sailybekova; L.B. Seiduanova</i>	
HYGIENIC CHARACTERISTICS OF VIBRATION EFFECTS ON THE BUS DRIVERS ORGANISM	75
<i>A.S. Karakushikova; Z.D. Bekmagambetova; K.K. Toguzbayeva; E.T. Sultanaliev;</i> <i>E.S. Nadueva; L.S. Niyazbekova; L.B. Seiduanova; A.K. Sailybekova;</i> <i>D.D. Zhunistaev; A.B. Nurshabekova</i>	
SICKNESS RATE CAUSATION IN POPULATION EXPOSED TO HIGH ENVIRONMENTAL POLLUTION	76
<i>S.E. Katorkin; P.F. Kravtsov; V.E. Kostyaev</i>	
PHENOMEN OF IMPELLENT FRUSTRATION AT PATIENTS WITH CHRONIC VENOUS INSUFFICIENCY OF THE BOTTOM EXTREMITIES	77
<i>G.G. Khachatryan; K.V. Hondkaryan; V.S. Bagdasaryan;</i> <i>M.V. Kocharyan; R.G. Khachatryan</i>	
ZUSTAND DER MYOKARDPERFUSION BEIM METABOLISCHEN SYNDROM	78
<i>E.A. Khaljastova; V.A. Grojsman; I.V. Olovjanischnikova;</i> <i>N.V. Vlasova; E.P. Sakeev; L.P. Raslivinskikh</i>	
DIE INTEGRATIVE ANWENDUNG DES PHYSIOTHERAPEUTISCHEN PROZEDUREN KOMPLEXES UND DER PSYCHOLOGISCHEN BEGLEITUNG FÜR DIE EFFEKTIVITÄTERHÖHUNG DER PROGRAMME ZUR GEWICHTSREDUKTION	79
<i>A. Khama-Murad; N. Heydarian; Y. Pushkarev; E. Sinelnikova</i>	
FUNCTIONAL CARDIO-RESPIRATORY RELATIONSHIP IN SPONTANEOUSLY HYPERTENSIVE RATS IN EXPERIMENTAL RESEARCH	81
<i>A. Khama-Murad; N. Heydarian; K. Akhanchikova</i>	
CHANGES OF RHEOLOGICAL INDICATORS OF ERYTHROCYTES IN ARTERIAL HYPERTENSION, COMPLICATED WITH MYOCARDIAL INFARCTION AND STENOCARDIA	83
<i>A. Khama-Murad; N. Heydarian; K. Akhanchikova</i>	
CHANGES OF RHEOLOGICAL INDICATORS OF ERYTHROCYTES IN PATIENTS WITH ISCHEMIC STROKE	84

<i>A. Khama-Murad; N. Haydaryan</i> THE CHARACTERISTICS OF BIOCHEMICAL VALUES OF THE BLOOD OF RATS EXPOSED TO A STRESSFUL SITUATION (RUNNING ON A TREADMILL)	85
<i>N.Ya. Kirilenko</i> THE HYPOTHESIS OF ENERGY-MEDIATED INTERACTIONS	86
<i>I.V. Klimenko</i> DAS MODELL DER GESUNDHEITSKULTURBILDUNG FÜR DEN INVALIDE IN EINEM REHABILITATIONSPROZESS	88
<i>S.V. Kolbasnikov; N.O. Belova; V.E. Avakova; A.A. Mokunin; A.A. Melnikova</i> STIFFNESS OF ARTERIAL WALL IN PATIENTS WITH ARTERIAL HYPERTENSION DEPENDING ON A STATE OF ANXIOUS DISTURBANCES	90
<i>D.B. Kolesnikov; S.I. Rapoport; L.A. Vosnesenskaya</i> METABOLIC SYNDROME: PSYCHOSOMATIC CORRELATION	91
<i>E.B. Kolotov; E.V. Kolotova; R.R. Aminov; V.V. Kelmakov</i> FAILURE BACK SURGERY SYNDROME (FBSS)	92
<i>N.G. Komkina; N.V. Nazarenko</i> VALUE OF INSPECTIONS OF LIKVOR AT A SYPHILIS	93
<i>P.M. Kondrashov</i> HEART IS THE EXAMPLE OF PUMP STATION DESIGN	94
<i>V.D. Koptev; T.I. Pospelova; N.V. Skvorcova; L.M. Kopteva</i> INTRARENAL PARENCHYMAL BLOOD FLOW IN PATIENTS WITH NON-HODGKIN MALIGNANT LYMPHOMAS AT DIFFERENT STAGES OF ITS PATHOGENESIS	96
<i>L.E. Kopylova; N.N. Burchak; V.V. Gref; E.V. Starkova; V.V. Astashov</i> HEPATOPROTECTIVE AND LYMPH CORRECTION ACTIONS OF FUNCTIONAL FOOD "PIKSIL"	97
<i>A.I. Kraschenyuk; S.V. Kraschenyuk</i> DIE ROLLE DER HIRUDOTHERAPIE FÜR DIE GEBURT GESUNDER UND TALENTIERTER KINDER	98
<i>A.I. Kraschenjuk; S.V. Kraschenjuk; A.A. Bojzova</i> ZUR FRAGE DES ENTZIFFERNS DER NATUR DES ENERGIE- INFORMATIONSEN-EFFEKTES DURCH DIE HIRUDOTHERAPIE	100
<i>I.G. Kretova; S.E. Chigarina; O.I. Dmitrenko</i> PECULIAR PROPERTIES OF NUTRITION OF MODERN STUDENTS OF SAMARA ACCORDING TO THE DATA OF A SOCIOLOGICAL INVESTIGATON	102
<i>T.V. Kulemsina</i> DIE KOMPLEMENTÄRE MEDIZIN IN DER UKRAINE: ASPEKTE DES UNTERRICHTS	103

<i>A.B. Kuzgibekova; S.M. Kabieva; N.T. Abildina; R.S. Dundukova</i>	
MORPHOLOGICAL PECULIARITIES OF MUCOUS MEMBRANE IN CHRONIC GASTRITIS IN CHILDREN	104
<i>G.B. Lubomirskii</i>	
ELECTROEXCITABILITY OF DENTAL PULP IN VARIOUS SOMATIC PATHOLOGIES	106
<i>E.A. Luginina</i>	
STUDY OF MEDICINAL PROPERTIES OF SOME MACROMYCETES IN RUSSIA	107
<i>G.I. Lukina</i>	
CLINICAL MANIFESTATIONS OF DIGESTIVE SYSTEM DISEASES IN THE ORAL MUCOSA	108
<i>Lily Luzina-Chju</i>	
FACIAL NERVE NEURITIS: AN INTEGRATIVE APPROACH	109
<i>Lily Luzina-Chju; Camilla Luzina</i>	
AN INTEGRATIVE APPROACH TO TREATING THYROID PATHOLOGY	110
<i>A.B. Medvedeva; I.K. Tseretelly; G.V. Manaeva; E.A. Kuzmenko; E.V. Konophyanik; L.P. Razlivinskikh</i>	
THE USE OF SYNTHETIC MATERIALS FOR SURGICAL CORRECTION OF FEMALE GENITAL PROLAPSE	110
<i>Yu.S. Milovanov; S.Yu Milovanova</i>	
HOW LOW-PROTEIN DIET BALANCED WITH ESSENTIAL AMINO AND KETO ACIDS AND HIGH-NUTRIENT MIX DECELERATES ADVANCE OF RENAL IMPAIRMENT IN THE PRESENCE OF PRE-DIALYTIC CHRONIC KIDNEY DISEASE CAUSED BY SYSTEMIC ILLNESSES	112
<i>L.Yu. Milovanova; Yu.S Milovanov</i>	
PLACE OF PARICALCITOL IN NEPHROPROTECTIVE STRATEGY FOR PRE-DIALYTIC CHRONIC KIDNEY DISEASE CAUSED BY SYSTEMIC ILLNESSES	113
<i>S.Yu. Milovanova; Yu.S. Milovanov</i>	
PECULIARITIES OF KIDNEY AFFECTIONS WHICH ACCOMPANY CHRONIC HEPATITIS AND CRYOGLOBULINEMIA	114
<i>E.V. Miroshnik; A.I. Burnazyan</i>	
DYNAMICS OF THE ADAPTATION CHARACTERISTICS IN THE PATIENTS WITH ADAPTATION DISORDERS DURING THE APPLICATION OF ACTIVATION LIGHT-ACOUSTIC TECHNOLOGY «NEURODISK»	116

<i>I.V. Mukhin; T.S. Ignatenko; R.Sh. Zhitkova; M.V. Grushina</i> PLATELET AGGREGATION DISORDERS IN PATIENTS WITH CHRONIC GLOMERULONEPHRITIS COMBINED WITH ISCHAEMIC HEART DISEASE, THEIR MANAGEMENT	117
<i>A.V. Nikitin; D.A. Malyukov; L.A. Titova</i> CLINICAL EFFICACY OF BRONCHIAL ASTHMA ASSOCIATED WITH GASTROESOPHAGEAL REFLUX DISEASE COMBINED WITH LASER THERAPY	118
<i>V.P. Novikova; A.N. Petrowskiy; V. A. Krulevskiy</i> IDENTIFICATION OF VIRUS ANTIGENS IN GASTRAL MUCOSA IN PATIENTS WITH CHRONIC GASTRITIS	119
<i>V.G. Paschenko; L.I. Senogonova; S.B. Buksha</i> SANITATION AND REHABILITATION OF STUDENTS WITH BRONCHOPNEUMONIA	121
<i>Ya.S. Pekker; T.V. Novikova; O.V. Vorobeychikova</i> COMPUTER-AIDED TRAINING OF DOCTORS AT CLINICAL DEPARTMENTS	122
<i>T.N. Petrova; A.A. Zujkova; G.M. Panyushkina</i> ESTIMATION OF RISK OF CARDIOVASCULAR DISEASES IN THE YOUTH ENVIRONMENT	123
<i>M.N. Petrova</i> METABOLIC SYNDROME AND GOUT IN YAKUTIA	125
<i>V.A. Pogodina;</i> WAY OF LIFE OF PEOPLE OF THE YOUNG AGE, INFLUENCING INDICATORS OF HEALTH OF THE POPULATION OF THE CITY OF NOVOSIBIRSK	125
<i>A.G. Polyakova; I.E. Malisheva</i> EHF-PUNCTURE IN REHABILITATION OF PATIENTS WITH ORTHOPEDIC PATHOLOGY	127
<i>V.B. Popov; G.A. Protasova</i> THE COMPLEX ASSESSMENT OF HUMAN BLOOD PATHOGENIC FACTORS, INDUCED BY CHEMICALS, DRUGS AND UNFAVORABLE ENVIRONMENTS	128
<i>S.E. Postnov</i> ACCELERATED ORGANISM RESTORATION AFTER AN INTENSE LOAD IN SPORT	129
<i>G.A. Protasova; V.B. Popov; L.V. Shabasheva</i> THE COMPLEX ASSESSMENT OF HUMAN BLOOD PATHOGENIC FACTORS, INDUCED BY CHEMICALS, DRUGS AND UNFAVORABLE ENVIRONMENT	132

<i>Alexander Pukhalsky; Galina Shmarina; Vladimir Aliosbkin</i> METABOLIC SYNDROME AND THE COMPLEX ADAPTIVE SYSTEM EXHAUSTION: MODERN APPROACHES TO THEIR PREVENTION AND TREATMENT	133
<i>A.L. Razlivinskikh</i> THE USE OF MODERN INFORMATION TECHNOLOGY FOR ENHANCEMENT OF EFFICIENCY OF PUBLIC HEALTH ORGANIZATION	134
<i>Gerhard Reichel</i> BOTULINUMTOXIN-THERAPIE DER ZERVIKALEN DYSTONIEN (TORTICOLLIS SPASMODICUS)	135
<i>M.G. Romantsov; L.G. Goryacheva; I.U. Melnikova; T.V. Sologub</i> ANDRAGOGIC APPROACH IN TRAINING FOR DOCTORS	138
<i>M.G. Romantsov; T.V. Sologub; I.U. Melnikova; L.G. Goryacheva</i> «ACTIVE» METHODS OF TEACHING DOCTORS IN RUSSIA	139
<i>N.G. Rovenskaja; T.W. Kulischowa</i> EINSCHÄTZUNG VON DER EFFEKTIVITÄT DER KOMPLEXTHERAPIE FÜR DISKULATORE ENZEPHALOPATHIE ERGÄNZT MIT DER NEUROADAPTIVEN ELEKTROSTIMULATION IM RAHMEN VON KURBEHANDLUNG	140
<i>D.Sadykova; I. Lutfullin</i> PSYCHOLOGICAL CHARACTERISTICS AND COGNITIVE FUNCTIONING IN ADOLESCENTS WITH ESSENTIAL ARTERIAL HYPERTENSION	141
<i>Guido Schumacher</i> MODERNE MÖGLICHKEITEN UND ERGEBNISSE DER ONKOLOGISCHEN CHIRURGIE DES GASTROINTESTINALTRAKTS	142
<i>Zulfiya Serazuiyeva</i> TECHNOLOGY OF CONSTRUCTIVE TRANSFORMATION OF DNA	143
<i>V.B. Shadlinski; G.A.Huseynova</i> MORPHOLOGICAL CHANGEABILITY THE GLANDS OF THE URINARY BLADDER SPHINCTERS IN POSTNATAL ONTOGENESIS	145
<i>A.M. Schilov; M.S. Dulaeva</i> BESONDERHEITEN DER BEHANDLUNG VON ARTERIELLER HYPERTONIE BEI VERFETTUNG	146

<i>Galina Shmarina; Alexander Pukhalsky; Vladimir Alioshkin</i> RELATIONSHIP BETWEEN ANTI-INFLAMMATORY THERAPY AND HEPATOBILIARY ABNORMALITIES IN CYSTIC FIBROSIS PATIENTS	148
<i>A.V. Smolensky; A.V. Mikhailova; N.M. Leonova; G.G. Kokovina</i> MORPHO-FUNCTIONAL HEART PECULIARITIES OF YOUNG SWIMMERS WITH SMALL ANOMALIES OF HEART EVOLUTION	148
<i>Ye.N. Sraubayev</i> ASSESSMENT OF OCCUPATIONAL EXPOSURE AT INDUSTRIAL ENTERPRISES OF KAZAKHSTAN	149
<i>Sergey Suchkov</i> A NEW CONCEPT OF PREDICTIVE MEDICINE ASSOCIATED WITH PRECLINICAL DIAGNOSTICS	151
<i>D.S.Sukhanov; A.U. Petrov; M.G. Romantsov; A.L. Kovalenko</i> EXPERIMENTAL AND CLINICAL REASONING OF SUCCINATES USE FOR CHRONIC LIVER DISEASE TREATMENT	152
<i>Y.G. Tarasova</i> INVESTIGATION OF THE CORRELATION BETWEEN CHRONIC GENERALIZED PERIODONTITIS AND INDEXES OF LIFE'S QUALITY AMONG CITIZENS OF THE UDMURT REPUBLIC	153
<i>E.P. Timofeeva; T.I. Ryabichenko; T.V. Kartseva; G.A. Skosyreva</i> NEGATIVE EFFECTS OF USING VITAMIN-MINERAL COMPLEXES IN CHILDREN AND ADOLESCENTS	154
<i>B.E. Titkov; K.U. Čuhrov</i> SURGICAL STRATEGY IN TREATMENT OF RECURRENT INGUINAL HERNIA	156
<i>K.K. Toguzbayeva; A.S. Karakushikova; Z.D. Bekmagambetova; A.A. Lukashev; A.R. Madigulov; L.S. Niyazbekova; D.D. Zhunistaev; A.K. Sailzbekova; L.B. Seiduanova; B.S. Otarbaeva</i> HYGIENIC CHARACTERISTICS OF THE AIR CAB URBAN TRANSPORT	157
<i>K.K. Toguzbaeva; G.G. Kapanova; R.T.Dschumascheva; G.G.Bedelbaeva</i> DIE VERVOLLKOMMUNG DES BILDUNGSMONITORINGS ALS EIN INDIKATOR BEI DER EINFÜHRUNG DES QUALITÄTSMANAGEMENTSYSTEMS AN EINER HOCHSCHULE	158
<i>Frank Bätje</i> EVIDENZBASIERTE MEDIZINISCHE VORSORGE- UNTERSUCHUNGEN – EVIDENCE-BASED MEDICAL CHECK-UPS	159

<i>Frank Bätje; Helmut Lill; Jürgen Kopp</i> ZEHN-JAHRE EXTRAKORPORALE STOSSWELLENTHERAPIE (ESWT) BEI PSEUDARTHROSEN - TEN YEARS EXPERIENCE WITH SHOCKWAVE THERAPY (ESWT) FOR IMPAIRED BONE HEALING	160
<i>Frank Bätje</i> FLUGRETTUNG: INTENSIVMEDIZINISCHE SEKUNDÄR-TRANSPORTE – AIR AMBULANCE: INTENSIVE CARE SECONDARY TRANSPORT	161
<i>Igor Akzjonovics</i> POSSIBLE PERSPECTIVES OF USING THE BIOPHYSICAL EFFECTS OF ABIEM IN DIAGNOSTICS	162
<i>R.T. Dzumasheva</i> LUNGENMORPHOLOGIE VON RATTEN BEI DER EINWIRKUNG VON URANERZSTAUB	163
<i>G.G. Kapanova; R.T. Dschumasheva; K.K. Toguzbaeva; G.G. Bedelbaeva</i> DIE KOMPETENZORIENTIERTE BILDUNG IN KASNMU ALS EINE KOMPONENTE VON DER MODERNISIERUNG DER MEDIZINISCHEN BILDUNG	165
<i>V.A. Koschevnikov; E.V. Koschevnikov; T.V. Bauer</i> DIE MÖGLICHKEITEN NIEDRIGEN TEMPERATUREN BEI DER BEHANDLUNG CHIRURGISCHER ERKRANKUNGEN IN KINDER- UND ERWACHSENEN PRAXIS	166
<i>O.V. Timofeeva; V.A. Grojsman; E.P. Sakjev; L.P. Raslivinskich</i> DIE METHODE DER STOSSWELLENTHERAPIE ALS EINE WIRKSAME UND SICHERE METHODE IN DER BEHANDLUNG DER CHRONISCHEN HERZINSUFFIZIENZ ISCHÄMISCHER GENESE. (EINIGE ERGEBNISSE DER FORSCHUNG DER STATIONÄREN PATIENTEN)	168
<i>FI. Vassilenko</i> KOMPLIZIERTE FORMEN VON ZEREBRALEN HIRNSCHLÄGEN. DIE BESONDERHEITEN DER KLINIK, DER DIAGNOSTIK UND DES VERLAUFS	169

**MANUAL THERAPY IN THE COMPLEX OF TREATMENT
AND REHABILITATION OF SCOLIOSIS IN CHILDREN**

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Among the anomalies and malformations of the first place is occupied by various congenital disease of musculoskeletal system (scoliosis). It causes great theoretical and practical importance of the depth study, whose results can serve as a basis for the development of modern methods of diagnosis, prevention, and application of rational therapy. This work is dedicated to the principles of differentiated program of treatment and rehabilitation activities in the progression of the children`s scoliosis.

To improve the diagnostic, treatment and prevention of scoliosis are got for each child diagnostic and rehabilitation in time cards individually conducted the survey. The duration of the test about two hours. These cards are the basis for planning and individual programs for correction of children`s scoliosis.

Methods of diagnosing the physical condition of the child with scoliosis is to determine the level of development of motor skills and in-depth study of the spine to create an image map that indicated the violations found, allowing an individual to pick up and manipulate complex corrective exercises for each child and evaluate the comparative effectiveness of treatment over a period of time.

To determine the level of physical condition, motor activity and posture we use the following tests: endurance (by definition of maximal oxygen consumption using the technique treadmills for Azihapsi R.A), flexibility (Eurofit), strength (method Oleshko), coordination skills (Lyakhov method). Building a graphics card musculoskeletal condition in the frontal and sagittal planes of the spine, causing the diagram layout, reflecting the normal spine, the visual inspection, fixing muscle rollers, edge hills, spastic and atrophic muscle, peak of the scoliosis, kyphosis, lordosis, shortened limbs and torticollis.

The «diagnostic card» contains recommendations and additional activities that child should do (physiotherapy procedures, usage of orthopedic products). After that, the diagnostic card there is a possibility case to find an individual corrective exercises and manipulation, according to each. This is the «Card of rehabilitation», where the diagnostic conclusion and graphic images of the spine must be included.

As the Card of rehabilitation indicates the recommended amount of manipulation and dispensing, loading, taking into account the physical condition of the child, the way of treatment. Individually appointed special orthopedic products and devices that are necessarily used during manual therapy. We indicate stage and degree of difficulty during the manual correction of the child`s posture. Besides the important information is a list of prohibited activities for the child that may force a variety of reasons that can negatively affect on its general condition.

Therefore, the usage of manual therapy for correction of children`s scoliosis has preventative value. In many cases corrective exercises, mobilization, postisometric

relaxation not only improves the results of correction, but also can eliminate the causes of the emergence of scoliosis. Especially it is important to restore supination of feet, toes form, reducing knee strain.

Irina Arkhipova

**CREATIVE ACTIVITY AS AN EFFECTIVE COPING STRATEGY
IN ADULTHOOD**

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The ability to cope with the complex human life situations, to go out of stress and resist it, is perhaps the most important skill of a person for its normal and comfortable existence in the modern world. In this context the behavior aimed to cope with stress is actively studied in various science fields, especially in medicine and psychology. Coping behavior is a special kind of social behavior that provides productivity, health and welfare. This is a purposeful behavior, and it allows a person to cope with stress (difficult situation) in ways that are appropriate for his or her personal characteristics and situation.

The study of coping strategies, their correction or creation lets to reduce some difficulties in different periods of human life. For instance, many people who have just retired (so called “third age”) often perceive this situation as difficult, stressful. Indeed, they find themselves in a situation of triple crisis. One crisis affects the social perspective, when a person loses his or her job and, therefore, loses the meaningful participation in social life, the common environment of communication, the life rhythm. The second crisis is in the age or psychophysiology perspective, and it is associated with age-specific changes occurring in the human body and affecting the health and mood. The third crisis is in the time perspective, when the structure of psychological time of an elderly person is changing. His or her share of the future is sharply reducing, and some of them actually lose it, because it is filled with uncertainty and meaninglessness for them. In addition a rupture of links between generations occurs that can be experienced subjectively as a fear of loneliness and the painful feeling of uselessness.

In this situation some older people choose a life strategy aimed to “live the rest days”, which manifests itself through the protective behaviors. Protective behavior is actually rigid, compelled and distorting the reality. Such behavior leads to disadaptation. Another group of people chooses a strategy of “normal life” that accomplishes through coping behavior, in other words through deliberate strategies aimed to the elimination of difficulties and lead to the personal development. The elimination of difficulties can occur either through adaptation to the demands of the situation either through its transformation. Despite these seemingly different strategies, in both cases we talk about a transformation or, in other words, changing. In the first case a greater emphasis is made on inner transformation or, in other words, on the person’s ability to adjust to the situation by changing either attitude or reaction to it. In the second case the emphasis is made on

the transformation of the external world, but a person needs to change himself for this. Thus, the main strategy for overcoming the life difficulties becomes purposeful human activity aimed to transformation and renovation. This kind of activity can be defined as a creative activity. These people, so called “transformers” or “creators”, have (according to the statistics) better life interval, health, activity, performance and optimistic sense of life. Creative activity as a basic parameter of personality is a combination of several important components: ideological position (“I am the creator of my life”), personal component (initiative, responsibility, creativity) and behavioral component (transformation, coping of new). Apparently the main component is the ideological position of man. This is the “set of beliefs”, which defines the direction of all human activity at this stage of his or her life. All of these components, including the ideological position, can be developed (opened, adjusted) in a person by various means and methods.

Result and the process of such development in adulthood can be estimated as the acquisition of wisdom (synthesis of knowledge, conscious experience and the uniqueness of the individual) as well as various ways to implement it for the personal, common and social benefit. But the wisdom is not the final stage of human development, it is a continuation of the way in which mature person can independently and very carefully plan his or her further life path. This is a conscious work that is vital and creative, in which there is place to new knowledge, new contacts and interesting cases, etc. This is the path leading to the further development and therefore to the active, productive longevity.

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HERBAL PREPARATIONS IN MAINTENANCE THERAPY OF PATIENTS WITH TUMOR AND PRECANCEROUS DISEASES

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Constantly deteriorating environmental conditions lead to contamination of extracellular microenvironment, cause failure of drainage - detoxification processes in some lymphatic regions. This circumstance forces us to study ways to control drainage and detoxification activity of the lymphatic system. Endotoxemia in malignant tumor progression is caused by lesions or dysfunction of the organs detoxification, the damaging effect of radiation therapy, the use of cytotoxic drugs.

The aim of our work was to study phytosorbntional complexes (food supplements) for maintenance therapy (adjuvant therapy) in cancer patients and patients with precancerous diseases.

The result of the research was the development of herbal remedies which action

is based on the fundamental principles of lymphosanation: lymphocorrection and lymphoprotection. The mechanism of action of phytosorbptional complexes is formed from the combined action of natural enterosorbents (dietary fiber from medicinal plants) with biologically active compounds, natural antioxidants, phytoadaptogens. Phytopreparation "Bereg" is a functional food for cancer patients. Plant components with oncoprotective and antioxidant effect are introduced into the preparation. "Bereg" assists to inhibition of tumor development, stimulating antitumor resistance and reducing the risk of malignant diseases. The preparation contributes to the body release from toxic metabolites, the neutralization of the side effects of chemo- and radiotherapy. The action of food supplement "Bereginya" is based on six specially selected phytocomponents in combination with dietary fibers and aimed at arresting the main pathogenetic links in the development of various forms of lesions: microcirculation and trophic disturbance in the pelvic organs and mammary glands; neuroendocrine infringements. Dynamic ultrasound examination of the breast and mammography data before and after taking food supplements "Bereginya" in all groups showed decrease in tissue density, volume of fibrous component and hyperplastic elements of breast tissue in 66% of patients; reduction in echogenicity of glandular structures in 51% of patients. "Leonardo" is a phytocomplex consisting of biologically active natural substances of plant origin, aimed at restoring the metabolism regulation, improving circulation and normalizing the prostate function, the restoration of man sexual activity. The use of food supplement "Leonardo" caused improvement in 94.5% (17 patients). Study group includes patients with benign prostate hyperplasia (BPH) at first and second stage which is 72,3% higher than in the comparison group (patients with BPH treated with placebo). Based on these results we conclude that the food supplement "Leonardo" can be used for auxiliary therapy in patients with BPH at the first and second stage, at inability of their surgical treatment.

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**FREE FATTY ACIDS IN ESTIMATION OF ENDOTOXEMIA,
OXIDATIVE STRESS DEVELOPMENT AND THEIR CORRECTION
IN EXPERIMENTAL PROSTATE INJURY**

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The purpose of this work was to study the role of the lymphatic system in the mechanism of oxidative homeostasis in experimental venous stasis in the pelvis, aggravated by chronic alcohol intoxication, and at correction by the use of the natural complex "MaxiSil". To assess the state of pro-antioxidant balance and the development

of endotoxemia the substrates of lipid peroxidation, free fatty acids (FFA), were used. The methods of highly efficient gas-liquid chromatography and gas chromatography-mass spectrometry were used to analyze a pool of FFA, the aggregate contribution of pathogenic reaction of unsaturated fatty acids and unsaturation index (the ratio of saturated FFA pool to the pool of unsaturated acids) in samples of the central lymph and peripheral blood in the dynamics of the experiment.

The transition from the normal living conditions to the conditions of the model in the central lymph samples is accompanied by acute increase of 39.7% in the total proportion of unsaturated fatty acids with a decrease of 12% in the contribution of saturated acids. Index value of saturation in the samples of the central lymph in venous stasis in the pelvis with chronic alcohol intoxication is 62,8% below than normal values, indicating the development of oxidative stress and lymphotoxicosis.

In the blood samples 90% increase in the pool of unsaturated fatty acids is revealed under condition of the model compared with the norm value and, as a consequence, the endotoxemia development. However, identified for these conditions 45.7% growth of the contribution of saturated fatty acids resulted in significantly lower (by 24% of normal values) decrease in saturation index compared with the situation in the central lymph. Taken together, these data indicate the greatest development of oxidative stress at the amplification of prooxidant processes in the central lymph.

The food supplement "MaxiSil" is an additional source of polyunsaturated fatty acids, including omega-3, bioflavonoids, iron, manganese and calcium, contributing to prevention of pathological changes in lymphatic region, in its detoxification and drainage structures. The choice of "MaxiSil" in the model of endo (exo) toxicosis is caused by its composition (lyophilized sea urchin roe, *Leuzea Carthamoidis*, Sweetvetch Tea, roots of *Calamus* and Manchurian *Aralia*) with strong antioxidant effect. It is shown that the use of the complex "MaxiSil" for dietary correction of rats ration during experimental venous stasis in the pelvis, aggravated by chronic alcohol intoxication, pools values of saturated and pathogenic unsaturated fatty acids in the samples of the central lymph were closer to normal quantities, thus the value of the saturation index saturation was only 12.4% below normal. At the same time transformation of FFA pools in the blood samples revealed for the conditions of correction has led to the value of the saturation index 8% over normal

Regulatory role of the lymphatic system in the maintaining pro-antioxidant balance in the control of oxidative homeostasis provides implementation of the mechanism of biomodified lymph throw into the bloodstream and is expressed in the stabilization of the relative pool of reactive unsaturated fatty acids.

Natural complex "MaxiSil" at synergistic unity of essential nutrients from plants and animals is able to provide corrective metabolic lymphostimulation to restore disturbed functions in lymphatic region and maintaining oxidative homeostasis.

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**EXPERIMENTAL TREATMENT OF PULMONARY EMPHYSEMA
 IN RATS WITH AUTOLOGOUS MESENCHYMAL STEM CELLS**

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Pulmonary emphysema (PE) is one of the most common diseases with the absence of medical solutions could stop the progression of the extracellular matrix destruction and lung function decline. One of the hypotheses of the pathogenesis of PE suggests that it is based on the imbalance of injury/regeneration of alveolar structures. Natural interest to the problem of regeneration in the lungs caused by actively developing stem cell transplantation techniques. Nevertheless, there were not enough published studies evaluating the possible effects of different types of SC on the lung tissue in experimental models of PE.

The aim of our study was to assess effects of autologous mesenchymal stem cells (MSC) transplantation on the lung tissue in elastase model of pulmonary emphysema in rats.

Methods: Forty 3-months old Wistar rats were randomized into 4 groups. Control group (1 group) was injected intratracheally 0,4 ml of normal saline, other animals (2-4 groups) received one intratracheal injection of 20 units (U) porcine pancreatic elastase in 0,4 ml of saline. Next day (2 group) and 7 day (3 group) rats were intravenously injected 2000000 autologous MSCs in 0,5 ml of saline. 4 group was used as emphysema control. Animals were euthanized at the 21 –st day.

Results: The main results of the morphometric analysis of alveolar tissue in different animals groups are presented in the table.

Table Morphometric characteristics of acini in control and experimental groups

	alveolar ductus width (µm)	alveolar index (alveolar width/alveolar depth ratio)
Group 1 (saline control)	(n=65) 43,2±2,0**	(n=59) 0,78±0,04*
Group 2	(n=60) 66,5±3,8*	(n=57) 0,71±0,04*
Group 3	(n=38) 60,8±4,3*	(n=41) 0,49±0,06**
Group 4 (emphysema control)	(n=76) 100,0±2,0	(n=73) 1,16±0,04

n – amount of the measured alveolar ducti and alveoli

*p<0,01 compared with group 4

** p<0,001 compared with group 4

Conclusions: Our study confirmed the possibility of regenerative lung tissue effect of autologous MSCs intravenous injected in experimental rat models of PE. The next step should be conducted the clinical trials to evaluate the efficacy and safety of this technology in human emphysema.

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ANWENDUNG DER ANÄSTHESIE BEI EINEM LANGE ZEIT INTERFERON-BETA-1B EINNEHMENDEN PATIENTEN MIT DER MULTIPLN SKLEROSE

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Multiple Sklerose (MS) wird durch die Variabilität der klinischen Manifestationen, durch verschiedene Krankheitsverlaufstypen, Obskürität der Krankheitsursache und Pathogenese gekennzeichnet. Die Erkrankung wird durch hohe Behinderungsrate, hohe Kosten für Diagnostik, Therapie, Rehabilitation und soziale Hilfe charakterisiert. Es wurde bewiesen, dass verschiedene Unfallverletzungen, Infektionen, Stress, operative Eingriffe, Anästhesie eine Exazerbation einer multiplen Sklerose und eine Verschlimmerung des Patientenzustandes verursachen können. Gesamtanästhesie beeinflusst nicht negativ den Verlauf einer multiple Sklerose. Theoretisch kann man empfehlen, anticholinergische Medikamente zu vermeiden, um die Wahrscheinlichkeit der Temperaturerhöhung zu erniedrigen [Edward D. Briggs, Jeffrey R.Kirsch, 2003]. Die frühere Berichte über negative Effekte von Thiopental-Natrium wurden nicht mit Forschungen nachgewiesen. Die Patienten mit einem progredienten Verlauf einer multiplen Sklerose sind von Succinylcholin-Hyperkaliämie bedroht. Es gibt keine Berichte über eine anormale Reaktion auf nichtpolarisierende Myorelaxantia [Benumof].L., 1998]. Ergebnisse der Anwendung einer regionalen Anästhesie bei den Patienten mit MS sind nicht eindeutig. [Schapira et al., 1959; Jones and Healy, 1980; Crawford et al., 1981]. Wichtig bei einer Anästhesie der Patienten mit MS ist eine Temperaturkontrolle. Bei einer sekundär progredienten Verlauf von MS und ausgeprägten neurologischen Defizit (bis 6,5 Punktwerte nach EDSS-Skala) wird als Medikament Interferon-beta-1b (Betaferon) gewählt. In der frei zugänglichen Literatur haben wir die Angaben weder über ein Zusammenwirken von Betaferon und anästhesierenden Mittel noch über einen Einfluss einer dauerhaften immunomodulierenden Therapie auf einen Verlauf einer Postoperationsperiode bei den Patienten mit MS. Besprechung von diesen Problemen wird erlauben, eine optimale Lösung bei einer präoperativen Vorbereitung, bei einer anästhesiologischen Versorgung während eines chirurgischen Eingriffs und bei einer postoperativen Vorsorge eines Patienten zu finden. Der unten beigebrachte klinische Fall zeigt, dass ein Systemansatz zu chirurgischen Eingriffen bei den Patienten mit MS nötig ist. Der erste Schub der multiplen Sklerose in der Form von einer retrobulbären Neuritis ist in 1987 passiert, seit 1996 hat die Erkrankung einen sekundär progredienten Verlauf. Die Behinderte des

höchsten Grades. Seit 1998 bis heute nimmt die Patientin Interferon-beta-1b ein. Einen chirurgischen Eingriff plante man in der Rückenlage durchzuführen. Man begutachtete die folgenden Varianten einer Anästhesie: 1) Spinalanästhesie; 2) Epiduralanästhesie; 3) Inhalations-Anästhesie und druckkontrollierte Beatmung; 4) Venenanästhesie mit Propofol-Anwendung und druckkontrollierte Beatmung. Sonatische Konstitution wurde in Klasse 3 nach ASA-Klassifikation eingruppiert. Venenanästhesie mit Propofol-Anwendung und druckkontrollierte Beatmung wurde gewählt. Prämedikation – Atropin, Dormikum (Midazolam). Induktion – Propofol, Phentanylum. Entspannung – Tracrium. Künstliche Beatmung wurde mit einer Mischung von Stickstoffoxydulgas und Sauerstoff gemacht. Aufrechterhaltung der Anästhesie – Phentanylum. Operationsdauer – 45 Minuten. Narkosen-Dauer - 50 Minuten. In der postoperativen Periode wurde antibakterielle Therapie durchgeführt, Schmerzbetäubung wurde mit Tramal und Paracetamolum gemacht. Eine nutritive Unterstützung nach 6 Stunden mit Nutricomp-liquid. Die postoperative Periode ohne Komplikationen. Es waren Veränderungen der neurologischen Konstitution weder in der früheren noch in der späteren postoperativen Periode zu beobachten. Dauerhafte Betafer-Therapie hat in diesem Fall keinen negativen Einfluss auf den Ausgang des chirurgischen Eingriffs ausgeübt.

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PROBLEMS OF OCCUPATIONAL HEALTH AND HEALTH OF TRAFFIC DRIVERS

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The activities of the driver belongs to one of the most stressful and demanding forms of labor. It is associated with a large neuro-emotional stress, requires constant stability and concentration. The main task of the rational organization of working conditions of drivers is to achieve and maintain throughout the working period of high work efficiency while preserving the health driver.

Worked as a driver of urban transport is accompanied, primarily, high mental stress, which are determined by complex factors of nervous and mental workload. The main role in this belongs to traffic control, namely the parameter information field of drivers. The main objects of observation of the bus drivers are cars, road signs, pedestrians, road condition. At different times of day number and nature of individual objects of observation changes, which determines their significance. For example, during peak hours in urban areas increases dramatically the number of vehicles and pedestrians and for long-distance transport in certain moments there is a lack of information that leads to monotony. Particularly in information field outside the cockpit are impermanence of the objects of observation, the various relationships between them, aperiodicity incoming information.

Mental stress due to the peculiarities of the information field outside the cabin, aggravated by additional information from the passenger compartment of bus passengers in connection with the sale of tickets, coupons, etc. In some cases it can cause drivers nervous and emotional tension.

Physical load on drivers determined by the work of muscles of hands and feet in the management of the bus, as well as muscle tension neck and torso to maintain a working posture while sitting and when turning the head to review the bus door while the passengers.

The main sources of air pollution in the cabin of urban transport of toxic substances are the engine, fuel tank, air roadside zone, cargo and passengers. Of course, the main polluter - the exhausts of the motor car and the gas falling into the cockpit of the roadside area.

Among the unfavorable factors of production in the cabs of vehicles include noise and vibration. Currently, the noise levels in the cabins of buses is 71 dBA and vibration in the workplace is a broadband random process, the maximum value, which is concentrated in the frequency range 1 to 125 Hz, especially 8.2 Hz.

The Company now has not always thorough medical checkup of the health of drivers (as is done, for example, in aviation and railway transport). Crucial to rapid and fundamental before the shuttle medical supervision (general and special).

Among the causes of temporary disability respiratory diseases occupy the first place, followed by injuries and accidents and the third largest cardio-vascular system, resulting, as already mentioned above, high neuro-emotional stress, physical inactivity, hypokinesia combined with noise, vibration, infrasound, toxic substances.

Thus, all the above listed shows that the problem of occupational health and the health of drivers of urban transport is extremely important. Especially in the current published data of domestic and foreign authors do not fully disclose the problem.

E.V. Balyazina

THErapy OF CLASSICAL TRIGEMINAL NEURALGIA

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Multiple approach in the treatment of trigeminal neuralgia (TN) as written in many books does not meet the satisfaction of many clinicians. New research in the method of treatment is carried out in two directions: accomplishing therapeutic treatment as a result of the usage of the new drugs and their combinations and the discovery of new surgical methods of the trigeminal nerve.

Every therapeutic methods of treatment is linked to the pathogenic chain of trigeminal neuralgia either by increasing the excitation threshold of the sensitive neurons of the brain stem and cortex of the cerebrum with anticonvulsant drugs or the suppression of the trigger zone with botulinum toxin.

The basic link where the formation of pathologic nidus demyelination (neurovascular

conflict) takes place is not under the influence of therapeutic method. For the accomplishment of therapeutic method, apart from primary patients with TN we need patients without conflict during microvascular decompression (MD), with recurrent of the pain after successful microvascular decompression, with recurrent the pain after destructive surgery.

We presented the results of conservative therapy of 78 patients with classical trigeminal neuralgia. 64 out of the patients were treated with (accepted Patency of Russian Federation No 2227028) effect on the components of the pathogenesis of the disease: truncal and cortical foci of pathologically increased stimulation and on the focus of demyelination in the region of the neurovascular conflict. 14 patients were treated with the effect on the 3 components of the pathological chain. To the method presented in Patency No 2227028 there were also added application of the trigger zones, anesthetics with the aim of excluding them. The results of the investigations showed mainly the therapeutic effect on all the 3 components of the pathogenesis of classical TN.

Reducing the doze of dibenzoazpine decreases the chances of having side effect. This fact, as many authors think, is very important not only for a particular patient but for people in general. Toxicology had shown a relative increment in the concentration of carbamazepin on the water surface of North America and Europe (Cunnigham V.L at al, 2010). Alongside with epileptic patients, patients with TN taking carbamazepin for a long time will have the greater part of the drug in their exosystem.

Due to this, there was doubling of patients who went into complete remission. Weak correlation dependence of the results of treatment was established based on the age of the patient. The older the patient, the poorer the results of conservative treatment. If it is not possible to achieve full remission of the disease within the period of 3-4 months, the patient undergoes spiral computed angiography. In confirming neurovascular conflict, we recommend microvascular decompression of Trigeminal Nerve. Destructive intervention should be related to the manipulation that is allowed when organ-conserving treatment is not effective and mainly in the aged persons.

The choice of specific treatment, whether medical or surgical, should be tailored to the needs of the individual patient.

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ABOUT A COMPLEX SYSTEM OF MEASURES FOR PREVENTION OF TUBERCULOSIS IN ECOLOGICALLY POOR REGIONS

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An important condition for effective prevention of infectious diseases is the proper sanitary and epidemiological supervision, during which some emphasis should be shifted to

monitoring the environmental safety. This issue has recently received much attention. Thus, the UN recommends that the industrialized countries, the average environmental investments amounting to 5% -8% of total investment (in the CIS countries they make up 1.7%).

Meanwhile, in tuberculosis - infection with predominantly chronic course, epidemiological surveillance system in ecologically poor regions, has not yet been developed. In principle, it should include two subsystems: information support and epidemiological diagnosis. Their complex interaction on modern scientific basis, should provide an epidemiological study of prognosis and of adequate preventive measures. Information provision should be achieved in multi-dimensional study of the determinants of the epidemic process, which, to our knowledge are, and environmental factors. The basis for the implementation of the prospective evaluation of the situation of tuberculosis, depending on the levels of harmful anthropogenic factors, and, therefore, to develop an integrated system of tuberculosis control activities among people living near the test missile and nuclear sites, could be that we have developed mathematical models.

Algorithm research to establish causal relationships in the “environment-incidence of tuberculosis” for people living in rural areas adjacent to the missile and nuclear test site may consist of five blocks. Block V - a complex system of activities which in turn includes three sets of studies, the first of which consists of “monitoring the pollution of the environment” and “monitoring the epidemiological situation of tuberculosis”. Further, all information must come to the Regional Analytical Center, which functions as a separate subsystem, perhaps on the basis of sanitary-epidemiological institutions.

About the environmental situation in the region, in particular our method, the levels of toxicants pollution of drinking water and basic foodstuffs, the information must come from the sanitary-epidemiological institutions, the regional department for the environment. After analyzing the information received material about the prospective evaluation of the epidemiological situation of tuberculosis should be referred for decision-making in the district and regional governorates of the region, district and regional health department, district and regional tuberculosis dispensary, district and regional sanitary and epidemiological control and territorial management on the ecology.

Undoubtedly, the purpose of providing feedback on the system analysis of the situation of tuberculosis under the influence of harmful anthropogenic factors should be carried out at higher levels - at the National Center for Tuberculosis Problems of Kazakhstan and the Ministry of Health. Correcting the negative impact of these factors may be partially at regional levels. However, the radical improvement of the socio-sanitary and environmental conditions of the population living in regions of nuclear-missile test ranges, is only possible with the support at the state level

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ANTIOMOTOXIC SUPERVISION OF PATIENTS WITH CHRONIC DISEASES IN FAMILY DOCTOR'S PRACTICE

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Generally a family doctor carries out a large scope of medical and health-improving activities because the final goal of their work is a high quality level of a patient under supervision. Most often the peculiarity of the family doctors' patient pathology is a sluggish character of chronic internal diseases with exacerbations of moderate expressivity. The most widely spread patient's problems are diseases of respiratory, cardiovascular and cerebrovascular systems, arthropathy, vertebral diseases, diverse clinical presentations of metabolic syndrome. Considerable negative environmental and social changes occurring within the recent 15-20 years cause the need in supplementing therapeutic standards with modern naturopathic technologies.

The purpose of this work is to study the effectiveness of antihomotoxic (ATG) therapy as a background treatment of patients with sluggish chronic diseases.

Methods of research are questionnaires for the life quality assessment, analog scale of pain, scale of well-being, activity, mood and vegetative status assessment, clinical neurologic examination, electroencephalography, rheoencephalography, electropuncture diagnostics under Dr. Voll's method.

435 patients from 142 families were under our observation for different chronic diseases within 5-7 years. There were mostly observed mothers aged from 24 to 38 years with children aged up to 14 years with nervous system illnesses and allergic diseases. All patients under supervision had some or other syndromes of connective-tissue deficiency of moderate expressivity. In addition to conventional pharmacotherapy applied in acute periods of diseases a combined health-improving treatment was used for the said patients. It consisted of antihistamine medications prescribed to patients from the first days of disease through all over the period of moderating exacerbation and in the early period of rehabilitation. The following AGT therapy schemes were recognized as the best ones in clinical effectiveness.

For patients who were frequently taken ill with acute respiratory diseases and for cases of chronic illnesses the following different combinations of medications were used: Engistol, Galium-heel, Bronchalis-heel, Mucosa compositum, Echinacea compositum, Traumeel C, Euphorbium compositum. After 2-3 therapy courses within a year or a year and a half the clinical effectiveness was 77.3% (47.8% in a controlled group).

In case of allergosis Galium-heel, Lymphomiosot, Psorinoheel, Cutis compositum, Mucosa compositum, Luffel were used. After 2-3 therapy courses within one or two years the clinical effectiveness is 77.3% (39.6% in a controlled group). For aftereffects of perinatal encephalopathy, infantile cerebral paralysis, IFBBSD - Cerebrum compositum, Traumeel C, Coenzyme compositum, Ubichinon compositum, Placenta compositum, Hepar compositum, Momordica, Vertigoheel, Nervoheel, Valerianaheel were applied.

After 3-4 therapy courses within one year and a half or three years the clinical effectiveness was 78.9% (54.5% in a controlled group).

In case of faults in posture, arthropathy and vertebral diseases Traumeel S, Cell T, Discus compositum, Placenta compositum were used. After 2-3 therapy courses within a year or a year and a half the clinical effectiveness was 79.2% (53.7% in a controlled group).

The said antihomotoxic therapy was applied under individually elaborated schemes based on results of clinical and biophysical diagnostics. Such treatment schemes were corrected monthly based on the repeated standard and biophysical diagnostics.

Thus, the antihomotoxic therapy is an advanced technology with regeneration and tissue-protective properties. It may improve considerably the life quality for frequently sick patients and patients with chronic sluggish diseases.

E.V. Bosenko

**POST-TRAUMATIC STRESS DISORDER: EMPIRICAL STUDIES,
OUTCOME ANALYSIS AND PSYCHOLOGICAL CORRECTION
METHODS**

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Events of the recent years such as socioeconomic crisis in Russia, the problems of Chechnya, mass disturbances, wave of terrorism and organized crime, corruption, spiritual crisis, spiritual bankruptcy, loss of ethical principles, beliefs and ideals – all these are stressors which strongly affect people’s mental and physical condition and cause growth of criminogenic potential. These situations have a hyper extreme impact on human psyche – they cause traumatic stress. Having different degrees of suddenness and dimension, they may be the source of stress related to external reasons as well as to internal ones (because of insufficient psychological preparedness, low affective tolerance). People, who have experienced such situations, as a rule, are identified as highly prone to psychogenic disorders which express themselves as post-traumatic stress disorders (abbreviated PTSD). Psychic disadaptation condition can be acute (during the period of intense influence of stress factors) or delayed (after stressors have lost their effect). These two types of conditions are called correspondingly “acute stress disorders” (ASD) and “post-traumatic stress disorders” (PTSD), according to International Classification of Diseases ICD-10. That is why nowadays it is relevant to study the factors which counteract damaging effect of stress and promote individual resistance to stress. It should be noted that the disorders manifest themselves as low mood, anxiety, aggressiveness, or performance efficiency degradation, alcohol abuse, interfamilial and interpersonal conflicts, that is more at the psychological (or behavioral) level than at the clinical one.

Principal objective of the research: identifying optimal ways to prevent crisis phenomena during social integration.

Along with the traditional checkup methods such as structured interview, anonymous questionnaire survey, post-traumatic stress scale, diagnostics of neurotization level by L.I. Wasserman's method, the Colourpsychosomatics computer technology has been used in the diagnostic center.

There were 109 respondents involved (100%), whose average age was 29,5.

The survey sample has been divided into three age groups:

The group aged from 20 to 30 - 58 participants which is 53,21% of the total.

The group aged from 31 to 40 - 43 participants which is 39,44% of the total.

The group aged 41 and above - 8 participants which is 0,34% of the total.

General PTSD has been identified in 92 cases which is 94,4% of the total survey sample, of which: 81 participants with insignificant symptoms of PTSD (88% of the total), 4 participants with "partial" PTSD (4,34% of the total), 4 participants with possibility of frank clinical disorders (4,34% of the total), 3 clinical diagnoses (3,26%) of "full" PTSD are to be specified, yet.

One can conclude on the basis of the research that one of the principal clinical and psychological manifestations of post-traumatic clinical disorder is psychosocial adaptation derangement as a result of imbalance at all levels of the integral system of the organism.

Analysis of the research results shows:

1. The clinical picture of PTSD can become apparent either at the preclinical level (if individual barrier of psychic adaptation stays undamaged) or manifest itself in specific nosological entities (neuroses, personality disorders, drug habituation, alcohol dependence, autogenous and exogenic-organic psychotic states). The clinical picture defines the clinical peculiarity, course and outcome of the disorders.

2. The so called "acute" PTSD in most cases reflect a psychologically adequate response of a mentally sane personality while chronic forms of PTSD are nothing else but a group of personality disorders acquired under long-lasting stress.

3. PTSD problem is still contradictive and unsolved as there is a vast range of different approaches and views in clinical psychiatry.

Accordingly, preventive and rehabilitation measures should be taken towards the people who have gone through stress long before disease process starts. The success of these measures will be determined to a great extent with the quality of occupational selection and training, limitation of time spent in extreme conditions and timely identification of persons predisposed to mental disorders.

Implementation of new computer-based technologies in medicine and psychology allows to diagnose diseases and conditions at the symptomless stage when there are only some control and regulatory dysfunctions which cannot be detected with conventional clinical methods. Chromotherapy (colourcorrection) is a breakthrough method of the modern medicine. This is a natural way of prevention of psychosomatic diseases

with narrowband (monochromic) light radiation. The treatment mode is based on the bioresonance effect produced by the light of different wave lengths on a human-being through his/her visual organ. Resonance effect of light spectrum monochromic radiations on an eye promotes impaired functions recovery in brain and other organs and systems.

The work done within the limits of this research allows to make the following conclusions:

1. Colourpsychosomatics allows to make shorter the phase of establishing a trust-based contact with the patient; to inform the patient about his/her disorder type and therapeutic intervention options, to prepare him/her for further therapeutic experience, in particular for the necessity of going through the past painful traumatic experience once again. All this is vital in working with PTSD.

2. Adequate execution of the rituals satisfies a patient's need for safety: every day, from 1 to 2-3 times a day (depending on the patient's tolerance level), a patient watches therapeutic sessions in his/her computer. Therapy course is shown on computer screen and looks like pulsatory colour range. The colours, ripple frequency and duration are chosen for each patient according to his/her needs.

3. Everyday colourcorrection has a cumulative effect, that is "biological memorization" takes place and positive reaction volume grows over time.

4. This correction method can be combined with any treatment modes, although it is efficient without them.

5. Colourpsychosomatics allows to protract individual psychocorrection work with therapist, in particular work on value system correction, correction of needs and their hierarchy, adjusting a patient's claims to his/her psychophysical potential; correction of attitude to others; forming empathic ability and ability to understand feelings and interests of others; acquiring social skills based on equality; forming ability to prevent and resolve interpersonal conflicts and, consequently, increase of stress resistance and performance efficiency level.

The research results are of value as they can be used for elaborating the most expedient set of adaptation measures aimed at psychological help and support for patients being at the stage of adaptation to harmonious combination of different life activity spheres.

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**: NEUE METHODEN BEI DER BEHANDLUNG VOM SPITZEN
KONDYLOM**

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Von allen sexuell übertragbaren Infektionen, befällt der Humane Papillomavirus (HPV) ebenso häufig sowohl die Männer, als auch die Frauen. Einige Serotypen besitzen

ein hohes onkogenes Risiko und können den Gebärmutterhalskrebs, Krebs der Vulva, den Scheidenkrebs, sowie Krebs im analen und oropharyngealen Bereich hervorrufen. Das unterstreicht nur noch die soziale Bedeutung des Problems.

Das Ansteckungsrisiko mit dem spitzen Kondylom hängt unmittelbar mit dem häufigen Wechsel der Geschlechtspartner zusammen. Aber auch ein einmaliger Geschlechtsverkehr kann zu einer Infektion führen. In mehr als 50% der Fälle wurde festgestellt, dass die HPV-Infektion sowohl in Form einer Persistenz, als auch mit solchen klinischen Symptomen, wie akute Scheidenentzündungen, Juckreiz der äußeren Geschlechtsteile und Ausfluss verlaufen kann. In einigen Fällen treten Begleiterscheinungen, wie Fieber und Gelenkschmerzen auf, die anscheinend auf eine Immunschwäche zurückgehen.

Es ist bekannt, dass HPV in die basalen Epithelzellen eindringt, sich an die dort herrschenden Bedingungen anpasst und beginnt, das E-7-Eiweiß herzustellen. Dieses Eiweiß neutralisiert die Interferonaktivität, wirkt sich negativ auf die Reifung der antigenpräsentierenden Zellen aus und unterdrückt die Expression der Haupthistokompatibilitätskomplexe, was den Erkennungsprozess von antigenen Strukturen durch T-Lymphozyten erschwert.

Das wurde zur Grundlage für die Entwicklung von rekombinanten menschlichen Interferon alfa-2v durch staatliche Wissenschaftler vom ZAO „Biokad“ in der Form von Genferonzäpfchen, die eine gesamte immunomodulierende, sowie lokale antivirale und antiproliferative Wirkung in dem Schädigungsherd haben.

Wir haben 73 Patienten (53 Männer und 20 Frauen) im Alter von 19 bis 49 Jahren beobachtet. Die Krankheitsdauer betrug bei 69,8% der untersuchten Personen bis zu einem Jahr und bei 30,2% - über ein Jahr. Die kombinierte Therapie beinhaltete sowohl bei Männern, als auch bei Frauen die rektale Einführung von Genferonzäpfchen bis zu 1000000 Einheiten zwei Mal pro Tag innerhalb von zehn Tagen. Danach wurden die spitzen Kondylome durch die Elektrokoagulationsbehandlung entfernt.

Die Medikamenteneinführung erfolgte bei den Männern 20 Tage lang rektal bis zu 1000000 Einheiten jeden zweiten Tag. Die Frauen bekamen das Medikament 10 Tage lang vaginal bis zu 500000 Einheiten zweimal pro Tag, sowie parallel 20 Tage lang rektal bis zu 1000000 Einheiten jeden zweiten Tag.

Als Ergebnis dieser kombinierten Behandlung, trat die klinisch-laboratorische Genesung bei 93,9% der Patienten, während bei einem chirurgischen Eingriff ohne Genferon es nur bei 77,5% der Fälle war. In der ersten Gruppe wurde die Erhaltung der klinischen Symptome bei 6,1% und in der zweiten Gruppe - bei 22,5% der Patienten beobachtet. Auf dieser Weise stellt sich die kombinierte Behandlung mit Genferon als pathogen heraus und zeigt eine ausgeprägte klinische Wirkung.

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A NEW METHOD OF MINIMALLY INVASIVE TUMOR MASS ELIMINATION IN A MAMMARY GLAND

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Breast cancer (malignant breast neoplasm - MBN) is one of the leading causes of women's death in most countries. Mass screening of females based on high sensitivity mammography allows detecting different tumor phases including Carcinoma in situ which can be cured with modern organ-preserving surgery.

There is a biopsy method consisting of lumpectomy and minimally invasive elimination of "small" breast tumors by way of dissecting skin a little, introducing under ultrasound control a device containing a stylet and trocar sleeve, then vacuum soaking and, finally, manifold excision of tissue fragments (device for breast biopsy named EnCore manufactured by American company SenoRx). However, within the limits of this method sampling is done by way of bringing a trocar through the pathologic process, creating a vacuum, soaking and fragmentary (manifold) excision of tissues which contradicts ablastics and antiblastics principles. In vacuum the biological material pollutes the expensive device.

Research Objective – to provide ablastics and completeness of minimally invasive elimination of breast tumors, to improve the adequacy of ultrasound visualization, to cut down expenses, to reduce surgical intervention.

Research Methods. One dissects skin up to 2 cm indepth, pulls apart the wound edges and introduces a device which allows to fix reliably a pathologic focus with a cryogenic stylet, to turn the focus into an "ice ball", then to excise and remove it by way of retraction of the cryogenic stylet together with the "ice ball" into the cylinder with the help of a handle (Fig.1).

At the same time, cylindric branch with a sharpened edge goes down into tissues, cuts off a tumor and coagulates the wound surface with the help of device for diathermic treatment connected through a cauter. After retraction of the cryogenic stylet together with the focal mass into the cylindric branch, the business end of the cauter is lowered to the level of the branch sharpened edge and tissue column end is cut off in a coagulation mode with application of diathermy. The device is pulled out of the wound. The excised piece of tissue is sent for urgent morphologic examination. Hemostasis control. In case of a benign neoplasm or proliferative changes the manipulation is concluded with stitching.

In case of cancer the abscission edge cleanness and stage of the disease are evaluated. Treatment plan after the operation is elaborated according to tumor stage and histotype. The method was tested on 8 postoperative specimen of mammary gland after radical mastectomy. Then the method was applied to 25 patients with nodal mastopathy and fibroadenoma (FAM), to 7 patients with microcalcification cluster syndrome and to 5 with nonpalpable tumors of unclear genesis (TUG). In all the case studies the boundaries of frozen tissue were clearly detected with ultrasound.

No complications occurred after minimally invasive elimination of pathologic foci, neither did the problems in morphologic examinations. Average time needed for minimally invasive elimination of a focus (from skin dissection to stitching) made up $12 \pm 3,0$ minutes, while analogous elimination of palpable abnormalities with the device EnCore manufactured by American company SenoRx takes up to one hour. The method offered is little traumatic, fixes pathologic focus in a reliable way, handy to work with and doesn't require expensive disposable instruments.

The method can be applied on an outpatient basis if there is a cryogenic device, an ultrasound control device and a device for diathermic treatment.

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IMPLEMENTING OF COMPETENCY APPROACH OF POSTGRADUATE MEDICAL EDUCATION

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For 12-year period of operation of the department of hygiene, epidemiology, epidemiological service organization and environment of the Institute of Postgraduate Medical Education has trained over two thousand specialists. Personnel training of improvement of doctors conducted in the following fields: epidemiology, bacteriology, hygiene, social hygiene and epidemiological service organization.

The main requirement for epidemiological service professionals is the ability to professionally, based on a set of theoretical knowledge and practical skills to implement the organizational, supervisory and advisory activities on the sanitary-epidemiological welfare of population. The overall purpose of cycles' postgraduate training is the acquisition by the end of training knowledge and skills needed to perform the functions specified qualification requirements. Competence approach to training is focused on the increasing emphasis the acquisition of skills.

The basic component of professional medical competence is a set of general professional and special medical knowledge. The specialist's task is to able to assess and monitor the main activities, to form and substantiate an assessment of various information. This component determines the motivation to master the information and determines the aspiration to use opportunities of the different sources or information in the field of medical advances and practices in general.

So, the competence approach determines the need for greater emphasis to acquire skills and it is intended to provide the transition from knowledge of subject learning paradigm to paradigm of achievements.

Control the quality of education at the department is carried out by the preliminary and final knowledge testing, delivery of the qualifying exam, preparation of essays on a

particular subject on the most urgent problems of hygiene and epidemiology. Learning process at the department is not limited to the institution. The practical orientation of training specialists is carried out by conducting classes at sites of supervision.

Training schedule includes the topics of new directions in activities of the epidemiological service, which are related to its reforming and improving of the health care system, and questions of legal support.

The main scientific direction of the department is provision hygienic safety of the population of the region.

11 scientific - research works were made by members of the department. These works are aimed at studying of cause - effect relations of the environmental factors' influence on the human health including the formation of iodine-deficiency states, cancer incidence. The results of the works were introduced during the preparation of the 4 regional laws in the field of environmental protection, the 12 regional programs which were directed on providing of the sanitary – epidemiological happiness of the population.

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**ANIMALOTHERAPIE WIRD ALS OFFIZIELLE MEDIZIN
ANERKANNT**

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Animalotherapie oder Zootherapie, existiert schon seit Urzeiten, wahrscheinlich von dem Moment an, als der Urmensch anfing, die Wildtiere zu domestizieren. Erst vor kurzem beginnt das wissenschaftliche Stadium – Mitte des zwanzigsten Jahrhunderts, als es die Hippotherapie, Delfintherapie und Canistherapie entstanden. Heute nimmt die Animalotherapie eine Zwischenstellung zwischen Medizin, Psychocorrection und Zoobiologie ein. Heutzutage braucht man zum Beispiel bei der Durchführung von Delfintherapie die ärztliche, psychologische und zooveterinäre Begleitung. Angesichts dessen, wird die Animalotherapie in verschiedenen Ländern unterschiedlich eingestuft. In einigen Ländern gehört sie zu der Kategorie der heilpädagogischen Ereignisse (in erster Linie die Hippotherapie), in den anderen - zum gesundheitsfördernden Unterhaltungsbereich der Wirtschaft.

Die Autoren dieses Beitrags bemühen sich, in sieben Delfinarien des „Nemo“-Verbandes in der Ukraine und Armenien einen einheitlichen, vom ukrainischen Gesundheitsministerium genehmigten, Standard der Durchführung von Delfintherapie umzusetzen.

Dieser Standard beinhaltet eine zwingende ärztliche Kontrolle des Zustands des Kindes bei unterschiedlichen Therapiephasen und angemessenen Verhältnis zwischen den eingenommenen Medikamenten und den physiotherapeutische Maßnahmen. Es

sind gerade die Ärzte, die bei den Kindern mit Epilepsie und epileptischen Zuständen, sowie mit Nerventicks und Stottern diese Behandlung, verweigern.

Delfintherapie kann zur Exazerbation dieser Erkrankungen führen. Die Psychologen und Pädagogen begleiten das Kind, indem sie sich mit ihm schrittweise an das Delfin nähern und danach gemeinsam im Schwimmbassin schwimmen.

Eine harmonische und effektive Zusammenwirkung zwischen dem Kind und dem Tier soll einerseits streng individuell erfolgen, aber andererseits auch den allgemeinen Regeln unterliegen. Vom Trainer (Zooveterinär) hängen das Training und die Vorbereitung der Tiere für die Delfintherapie, sowie die Kontrolle deren Gesundheitszustandes und adäquaten Verhaltens.

Als Ergebnis dieser Teampflege der kranken Kinder (mit Diagnosen: Autismus, Verzögerung der geistigen und sprachlichen Entwicklung, Bettnässen, Kinderlähmung u.a.) erfolgt eine erhebliche Verbesserung des Gesundheitszustandes der Kinder: die Stimmung erhöht sich, der geistlichen Horizont und die Kommunikationsfähigkeiten erweitern sich. Es entstehen Möglichkeiten, die Sprache und die Sozialisierung zu verbessern.

Zur Erstellung der Hippotherapiestandarten leistete das Mitarbeiterteam von der „Spirit“-Stiftung einen beträchtlichen Beitrag. Wurde die Hippotherapie früher überwiegend bei den Kindern mit Kinderlähmungsfolgen durchgeführt, so benutzt man sie heutzutage, um Kindern mit der Verzögerung von psychisch-sprachlichen Entwicklung und Autismus zu helfen.

Die Pferdehaltung und -pflege, sowie psychologisch-pädagogische und medizinische Betreuung sind ebenfalls notwendig bei der Realisierung dieser Art von Animalotherapie. Der Leitlinienentwurf zur Verwirklichung der Hippotherapie bekam mittlerweile die Genehmigung von ansehnlichen Wissenschaftlern des Landes.

Somit realisiert die Ukraine als einer der ersten Länder die Anerkennung von Animalotherapie als offizielle Medizin.

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CEREBROCURIN-R IN DER KINDERPSYCHIATRIE

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In der Kinderpsychiatrie ist heutzutage aufgrund der Erfolge in den neurologischen bildgebenden Diagnoseverfahren, das Vorhandensein von Anzeichen einer suborganischen, infolge einer im Mutterleib überstandener hypoxischen Enzephalopathie entstandener Verletzung im Gehirn der Patienten unbestreitbar.

In den letzten zehn Jahren gehört in der Ukraine der Neuropeptide Cerebrocurin zu einem Bestandteil der komplexen Behandlung von Kinderautismus, psychischen und

sprachlichen Entwicklungsverzögerungen, psychoorganischen Syndrom und geistiger Behinderung.

Das Medikament besteht aus einem Komplex von freien Aminosäuren, Peptiden und niedermolekularen Substanzen, der infolge einer kontrollierten Proteolyse von Eiweißen aus dem Gehirn der Rinderembryonen gewonnen wird. Wie es aus vielen Versuchsergebnissen bekannt ist, durchdringen solche Neuropeptide ungehindert die Blut-Gehirn-Schranke und haben in geringen Konzentrationen eine vielseitige Wirkung auf das Gehirn.

Insbesondere werden sie zu den Auslösern vom apoptotischen Schutz, der Einschaltung von genetischen Apoptoseprogramm und der Verstärkung von neurotrophen Versorgung, indem sie ein ganzes Kontrollsystem für die Expression der zellulären Botenstoffe, der Zytokine und den anderen Signalmolekülen benutzen.

Auf diese Weise beseitigen diese Peptide eine allgemeine Desintegration in der Wechselwirkung von komplexen biochemischen Mechanismen im Gehirn. Cerebrocurin wurde von einer ukrainischen Pharmafirma „NIR“ in Kiew erfunden.

Wir benutzten Cerebrocurin für eine komplexe Behandlung von 100 Kinder mit den oben genannten Diagnosen im Alter von einem Jahr bis acht Jahren. Drei-viertel davon sind die Jungen.

Es wurde der Tropismus von Cerebrocurin zu den Gehirnstrukturen, die für die Wahrnehmung und Wiedergabe von Sprache verantwortlich sind, festgestellt. Diese Wirkung manifestiert sich seinerseits in der Entstehung und Verbesserung der Sprachverständlichkeit von Kindern, in der Erhöhung des Wortschatzes, in der Deutlichkeit der Aussprache, in dem Verständnis der gewandten Rede, im Auftreten von einer Ausdruckssprache. Die Aufmerksamkeit und das Gedächtnis, sowie die soziale Anpassung der Patienten besserten sich ebenfalls.

Viele Kinder bekamen eine wiederholte Cerebrocurinbehandlung (mit der Häufigkeit von einem Kurs in sechs Monaten) vorgeschrieben. Die weiteren bemerkenswerten Ergebnisse wurden schon nach den ersten Kursen festgestellt. Später, bei der Zugabe von Immunmodulatorinjektionen – Inflamafertin (Extrakt aus dem Kuhmutterkuchen), der ebenfalls von der Firma „NIR“ entwickelt wurde, beobachtete man eine Erhöhung ihrer Effektivität.

Die potenzierende Wirkung von dem Immunmodulator könnte durch die Normalisierung von Immunhomöostase und der Abschwächung der gegengehirnlichen Immunität, die für solche Kinder charakteristisch ist, erklärt werden.

Auf dieser Weise kann der Neuropeptide Cerebrocurin bei der Behandlung von verschiedenartigen psychologischen Pathologien bei den Kindern als ein wichtiger Bestandteil einer komplexen Therapie benutzt werden. Die Epilepsie und die epileptiformen Zustände gehören aber zur Gegenanzeige für dessen Verwendung.

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HORMONE THERAPY IN THE COURSE OF PREVENTION OF TERM INFANTS' FETAL GROWTH RETARDATION SYNDROME

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Course of pregnancy, birth and prenatal outcomes were studied among 200 women at term pregnancy. The main group contained 100 patients, identified at a risk group, who were taking medicines for the prevention of intrauterine growth retardation according to our especially developed method. The comparison group included 100 pregnant women, identified at risk, who refused the suggested method. The women of the main and comparison groups were comparable by all rates with minor differences. We developed a method of medicamental prenatal prevention of fetus' intrauterine development retardation for the risk group women, which was an additional medication for 10-14 days in the period of 14-16, 20-24, 30-34 weeks of pregnancy. According to the method the main group was prescribed natural micronized progesterone (200mg) 0.007oz. intravaginally 2 times daily up to 18 weeks – gestagenic drug with a selective effect on the endometrium, a complex of essential polyunsaturated fatty acids of omega-3 family – as an antioxidant, combined multivitamin complex with micro and macro elements, potassium iodide (200mg) 0.007oz. per day. The complex included dry aqueous extract of fresh Artichoke leaves, 2 tablets 3 times a day – hepatoprotector of plant origin. To improve the metabolism of protein and fat Levocarnitine was used, 8 drops 3 times a day – a natural substance akin to B vitamins.

At 14-16 weeks a preventive treatment in day hospital was prescribed with additional inclusion of deproteinized gemoderivat made of calf blood with low molecular weight peptides and nucleic acids derivatives and nadroparin calcium 0.3 n/a, by indication, into the complex.

In the comparison group vitamin therapy and iodine medicines were recommended at first attendnace. The pregnant women refused proposed preventive treatment of FGR and placental insufficiency.

At ultrasound at 32-34 weeks of gestation period 88% of women of the main group were detected with the 1st degree of the placenta's maturity, estimated fetal weight was 2470g ± 120g. 8 pregnant women (8%) were detected with the 1st degree of intrauterine growth retardation and asymmetric shape. Blood flow disorders and CTG changes were not found. 53% of the women of the comparison group at 32-34 weeks of pregnancy had 2-3 degrees of the placenta's maturity, estimated fetal weight was 2120g ± 142g. 19 pregnant women (19%) were detected with the 1 degree of FGR and asymmetric shape. The pregnancy of the main group women completed with spontaneous birth in 97.0% of cases, the comparison group women – 79.0%. 3 women of the main group were operated

on the combined indications, and 21 of the comparison group according to the data of the fetus. The birth weight of a child of the main group women exceeded 3.100g in 92% of cases, all the children were born without signs of fetal development retardation. In the comparison group 31% of children were born with the signs of intrauterine growth retardation and the birth weight was less than 3.000g. The detection of pregnant women with the risk of birth of term children with the fetal growth retardation syndrome and the development and implementation of preventive measures is a way of the improvement of children's individual health.

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THE USE OF DISTANCE LEARNING ON HIV / AIDS IN THE CENTRAL ASIAN REGION

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HIV is not just a national problem of one country. At present, all Central Asian countries are facing the rapid growth of HIV/AIDS epidemics. But not enough attention is paid to regional aspects of the epidemic. As a consequence of this, measures of combating HIV / AIDS in these countries are not so effective.

Traditional methods of post-graduate education such as participation in training and/or conferences are not always acceptable due to their considerable costs and the remoteness of residence of persons in need of retraining. Taking into account this situation, the postgraduate medical schools in Kyrgyzstan, Kazakhstan and Tajikistan with the support of the GIZ organization have developed separate regional distance learning courses in HIV / AIDS for non-medical specialists and for health professionals resided in remote areas. The educational modules are developed on the base of the latest scientific findings and global data on HIV/AIDS.

For both groups, medical and non-medical professionals, these courses provide a detailed information on the latest trends in the epidemiological situation on HIV / AIDS, the latest methods of diagnostics and treatment, control strategies used in the present; and agencies that provide consulting and social support for people living with HIV. These courses give for attendants an opportunity to share experiences in combating HIV in Central Asia, as well as to discuss and communicate among themselves and with experts in this field from different countries, promote international collaboration and cooperation in this field. With the purpose of further communication and sharing ideas a special internet-forum was developed for the graduates of this programme.

The programme represents a combination of distance and face-to-face learning. During the 2-day introductory workshop, participants get thoroughly acquainted with Internet

resources and acquire skills of the distance learning. The distance learning phase consists of 4 modules, including case studies, lectures, written assignments, questions for self-control. It works through chat rooms, forums, communicating by e-mail, the use of electronic library, glossaries, and lists of links.

To this date, three distance courses for non-medical experts and one course for medical specialists in Kyrgyzstan, and three regional distance courses with the participation of Kyrgyz, Kazakh and Tajik specialists are conducted.

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KARTALIN IN THE TREATMENT OF CHRONIC INFLAMMATORY SKIN CONDITIONS

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Relevance of the studies. More than one-third of all doctor visits for dermatology conditions are for chronic inflammatory skin conditions, including psoriasis and atopic dermatitis. A large number of the clinical variations of these conditions are limited forms that do not require long-term systemic therapy, and their treatment is limited to the use of topical products. Underlying the pathogenesis of these dermatoses are changes in keratinization processes in the epidermis, which invariably lead to an increase in water loss and skin permeability, which promotes local inflammation. One of the most original products affecting keratinization processes and restoring the epidermal barrier is Kartalin therapeutic ointment.

Methods and materials. In the first stage of the research we studied and treated 100 psoriasis patients in the skin disease clinic of Siberian Medical University. Initial PASI scores were determined for all patients under our care. Patients with mild and moderate psoriasis (PASI up to 50) were selected for the study groups. After 4 weeks the PASI was recalculated and the efficacy of the therapy was assessed according to the results.

The first study group **A** (n=50) received standard treatment in hospital: disintoxicators, hyposensitizers, and vitamins combined with daily application of Kartalin ointment to the psoriatic papules for 4 weeks. The second group **B** (n=50) received integrated therapy in hospital for 4 weeks, which included disintoxicators and hyposensitizers, vitamins, indifferent ointments, and topical therapy products.

Group **A**'s initial PASI was 32.6. Group **B**'s PASI was 31.4. The PASI of the study groups was calculated at the end of treatment to reflect the trend in the regression of the clinical manifestations of psoriasis. In group **A** it was 13.1 and in group **B** 18.6. The clinical manifestations of psoriasis exhibited a negative response during treatment in both study groups. At the end of 4 weeks all patients treated had a lower PASI: in group **A** it fell by 59.8%, in group **B** by 40.8%. Given the trend in the decline in the groups' PASI one may state that there was an improvement in the clinic in group **A** after treatment (a

50% decline in the PASI).

The second part of the study involved examination and treatment of 46 patients with atopic dermatitis. Criteria for inclusion in the group were: adolescence and adulthood; lichenoid clinical forms and squamous clinical forms with lichenification. Criteria for exclusion from the study groups were: the diffuse form of AD; a severe condition; infancy and childhood; individual intolerance of the ointment's ingredients, and complications in the form of pyoderma. All patients were representative in age, sex, and duration of the condition.

All the patients were divided into two groups. The first group C (n=26) comprised patients who received Kartalin as topical therapy for 2 months. The second group D (n=20) comprised patients who received topical therapy consisting of indifferent and moisturizing ointments and cosmetics. The SCORAD index was used to determine the severity of the atopic dermatitis. At the beginning of the course of treatment the SCORAD equaled: in the first group C — 59; in the second group D — 60. At the end of the treatment it was 14 for group C and 18 for group D.

On this basis one may make the following conclusions:

1. Kartalin is effective in topical treatment of atopic dermatitis (a 76% decrease in the SCORAD index) and may be used as monotherapy for mild and moderate atopic dermatitis with squamous manifestations and lichenification in outpatient and inpatient settings.

2. Kartalin is an effective product for topical treatment of psoriasis (reduction in PASI 59.8 %) and may be effectively used in integrated therapy for mild and severe psoriasis.

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AUTOIMMUNE THYROIDITIS: TREATMENT BY METHODS OF HUMAN ECOLOGICAL MEDICINE

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Autoimmune thyroiditis (AT) is the most common thyroid disease. This disease does not present immediate danger to life. Most often slow development and progressing of hypotheriosis are noted. Diminished thyroid function provokes occurrence and progressing of atherosclerosis, significantly deteriorates quality of life, decreases antitumor resistance. Less frequently the disease manifests by thyrotoxicosis with involvement of heart, nervous system. In traditional endocrinology there are no methods of AT treatment. Patients are observed and at diminishing of thyroid function replacement therapy is carried out using synthetic analogs of thyroid hormones. The patients are convinced that the disease is incurable, as a genetic immune defect lies at its root. Indeed, the role of genetic predisposition to autoimmune reactions is undeniable. But those features of immune response might practically not manifest themselves. Distinctive features of the

disease occur with chronic centers of infection, acute or chronic stress.

In the 2-year period (2009-2010) 187 AT patients underwent treatment at the Clinic for Ecological Medicine. The patients included 165 (88,8 %) of women and 22 (11,8 %) of men. The age of patients was in the range from 14 to 82 years, and in the average was $50,6 \pm 4,1$. Duration of treatment of the patients was 1,5 - 8 months, in the average - $3,2 \pm 1,1$ m. Observation period was in the average $7,9 \pm 1,6$ months. At the moment of treatment beginning, most patients had latent or apparent hypothyroidism (table 1). Most often (96 or 51,3 %) hypertrophic AT was observed. Atrophic disease form was found in 23 (12,3 %), and 69 (36,4 %) of patients manifested the pseudonode option. 37 (19,8 %) patients against the background of AT revealed true nodes (colloid and adenomas). At the moment of treatment beginning 63 (33,7 %) of patients underwent replacement therapy with L-thyroxine preparations in the doses of 25 - 150 mg/day, 25 (13,4 %) patients underwent treatment with thyreostatic drugs.

Table 1. Functional condition of thyroid of examined patients

Thyroid function	Number of observations	
	Abs.	%
Euthyroidism	26	13,9
Subclinical hypothyroidism	72	38,5
Clinical hypothyroidism	41	21,9
Thyrotoxicosis	48	25,7
Total	187	100,0

In all observations basic methods of endoecological rehabilitation were used – hyperthermic intestinal dialysis, visceral massage, injections of sodium thiosulphate. Hyperthermic intestinal dialysis with saline solutions and phytotea allowed to get out of system toxins and pathometabolism products, to restore acid-base balance and liver function, to remove excessive hormones at thyrotoxicosis. Detoxification effect, restoration of functional activity of kidney and thyroid significantly enhanced visceral massage method application. Solutions of sodium thiosulphate were prescribed for desensibilization and suppression of immune autoaggression. Treatment efficiency improved when using homeopathic composite preparations by inhalation or subcutaneous injections. In most cases the complex of treatment included isopathic sanum-therapy and treatment with fetal organopreparations.

As a result of this treatment within one month it was possible to achieve significant improvement of well-being in all cases – clinical implications of hypothyroidism and thyrotoxicosis were managed, thyroid hormone levels were restored according to laboratory research. Restoration of normal indices of TTH and antithyrotropic antibodies took much longer. In all cases of thyrotoxicosis within one month it was possible to give up thyreostatic therapy. Approximately in 90 % of observed cases within one month the need in replacement therapy by levothyroxine was eliminated. However persistent and

lasting remission was achieved using the whole complex of methods, in treatment of not less than 3 months.

Thus, autoimmune thyroiditis should not be considered as an incurable disease. Application of endoecological rehabilitation complex allows to achieve a positive subjective and objective effect in all observations. In absolute majority of observations a persistent and lasting effect can be achieved.

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**MEDIZINISCHE AUSBILDUNG IN KASACHSTAN
ANGESICHTS DES BOLOGNA – PROZESSES: PROBLEME
UND PERSPEKTIVEN**

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Die Bildung ist die prioritätische Hauptrichtung und der Hauptindikator von der Entwicklung in allen zivilisierten Ländern der Welt. Zurzeit ist das traditionelle lernmethodische Modell, das früher verwendet wurde, veraltet. Die moderne Welt der Entwicklung sieht eine bedeutende soziale und professionelle Mobilität, eine Teilnahme der immer größeren Zahl der Menschen für die Schaffung einer mehr vollkommenen Gesellschaft vor.

In diesem Zusammenhang soll eine medizinische Bildung die gemeinsamen Prinzipien der Personalvorbereitung haben, um ein wirksames Bildungssystem erschaffen, die die Bedürfnisse der internationalen Marktwirtschaft erfüllen wird.

Heute existiert reale Problem der ungenügenden Qualität von Vorbereitung und Umschulung der medizinischen und pharmazeutischen Fachkräfte im Land. Dafür gibt es eine ganze Reihe von Gründen:

Es gibt eine unvollkommene normativ-rechtliche Basis; Es gibt eine ungenügende materiell-technische Basis der medizinischen Bildungsorganisationen; Es gibt eine ungenügende praktische Vorbereitung von Absolventen in medizinischen Hochschulen und im Colleges; Eine Versorgung mit qualifizierten Fachkräfte bleibt schwach; Das existierende Vorbereitungssystem der medizinischen Personal ist an neuen Zielen und Aufgaben des Prozesses der Überlassung von medizinischen Dienstleistungen an Bevölkerung schwach angepasst, was nicht immer die Konkurrenzfähigkeit von Fachkräfte gewährleistet.

Angesichts dieser Faktoren ist die Bildung in Kasachstan als eine der wichtigsten Prioritäten der langfristigen Strategie "Kasachstan – 2030» anerkannt.

Zurzeit gibt es im Land alle Möglichkeiten für die Bildung einer neuen, sowie Nutzung und Entwicklung der schon existierenden innovativen Infrastruktur. In diesem Zusammenhang erlaubt uns ein Eintritt in die Bologna Charte eine Reihe von

wesentlichen Veränderungen im quantitativen und qualitativen Zustand der medizinischen Fachkraftpersonal im Gesundheitssystem.

Für Lösung der obengenannten Probleme im System der Vorbereitung von dem medizinischen Personal ist die Reformkonzeption der medizinischen und pharmazeutischen Bildung für 2005-2010 Jahre entwickelt, und es wird auch für 2011-2015 Jahre entwickelt. Die Konzeptrealisierung hat zu den wesentlichen Änderungen in der medizinischen Bildung gebracht, und zwar:

1. Eine deutliche Verbesserung der normativ-rechtlichen Basis, des Systems die Finanzierung und die Festigung von materiell-technischen Basis der medizinischen Bildungsorganisationen. Von 2005 bis 2010 haben sich die Ausbildungskosten für Grant fast verdoppelt.

2. Es sind die lern-klinischen Zentren bei den staatlichen Hochschulen geschaffen, die mit der modernen Lehrausrüstung ausgestattet sind.

3. Es vervollkommnet sich die Verwaltung von der medizinischen Bildung. Die Einführung das System des Qualitätsmanagements in der alle staatliche medizinische Hochschule hat zugelassen, mit dem Internationalen Standard ISO 9001:2008 zertifiziert zu sein.

4. Es ist neues System der Vorbereitung, der Einschätzung der Qualität und des Niveaus des professionellen Kompetenzbereiches von medizinischen und pharmazeutischen Personal unter Berücksichtigung der internationalen Forderungen geschafft.

5. Die Struktur der Vorbereitung von medizinischen und pharmazeutischen Fachkräften ist mit dem Übergang auf 3-Ebene-System der Hochschulbildung geändert.

Das gesamte Bildungssystem und insbesondere die medizinische Bildung hat starke sowjetische (russische) Wurzeln und ist rechtlich stolz auf ihre reiche Vergangenheit, wann es im XX. Jahrhundert als einer beste in der Welt anerkannt war. Heute stehen vor ihr die neuen Aufgaben und das wird schon reformiert.

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**· DIE KOMPLEXE REHABILITATIONSBEHANDLUNG
· DER KINDER MIT DER BRONCHITIS IM
· REKONVALESCENZSTADIUM IM KURORT BELOKURICHA**

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Im Kurort Belokuricha war es in 20 Jahren 1500 Kinder mit der Bronchitis im Rekonvaleszenzstadium behandelt. Die Periodendauer der Bronchitis rekonvaleszenz bildete 2-6 Monate. Die Therapie wurde ganzjährig durchgeführt. Das Alter der Kinder

war von 7 bis 14 Jahre, von ihnen waren 800 Mädchen, 700 Jungen. Die Kinder kamen aus verschiedenen Regionen Sibiriens und Fernen Ostens an.

Der ganze Zeitabschnitt der Behandlung im Kurort wurde auf drei bedingte Perioden abgegrenzt: die erste - die Adaptation, die zweite - die aktive Kurbehandlung, die dritte - die Vorbereitung zum Auszug.

Den Kindern mit der Bronchitis im Rekonvaleszenzstadium im Kurort Belokuricha wurde die komplexe Kurbehandlung im Laufe von 21 Tagen ernannt, in der das schonend-trainierende motorische Regime, Klimatherapie Balneothermotherapie, die manuelle Einwirkung, die Physiotherapeutischen Prozeduren und die Heilgymnastik eintraten. Die Klimatherapie schloß die Spaziergänge der Kinder ganzjährig im Kiefer-Eichenwald am Ufer des Bergflusses Belokuricha (natürliche Aeroionotherapie), die Anordnung in die Sommerzeit der sonnigen-und-Luftbädern ein. Die Balneotherapie war durch den radonen (8 nKu/l) termalen (38°C) Mineralwässer in der Zahe von 8-12 Prozeduren auf den Kurs vorgestellt. Die Thermobehandlung bestand aus dem Besuch der Sauna bei der Temperatur (70-80°C) bei der niedrigen Feuchtigkeit (15%) 2 Male in die Woche. Aus den Physiotherapeutischen Prozeduren waren die Amplipulstherapie auf dem Brustkorb, die thermischen Inhalationen mit 1 % von der Lösung des Meersalzes, und auch den Kurs der intrapulmonel perkussionalen Belüftung bei dem Druck 1 Bar mit der Perkussionsfrequenz 3 Gz im Verhältnis des Atemzuges / Ausatmung - 1/1,5 in der Zahl von 15 Prozeduren ernannt. In den Komplex der Heilgymnastik traten die Morgen-hygienische Gymnastik, die Terrainkur und die Atmungsgymnastik ein.

Die Benutzung der Kurbehandlung in die Rehabilitierung der Kinder mit der überstandenen Bronchitis im Rekonvaleszenzstadium im Kurort Belokuricha hat ermöglicht, die Effektivität der Therapie zu erhöhen. Den Kranken mit der obstruktiven Bronchitis wurde der Komplex der therapeutischen Manipulationen mit dem Einschluß der termalen radonen Bäder in der Kombination von der Manualtherapie verordnet. Den Kindern mit der kurzen Bronchitis rekonvaleszenzperiode (bis zu 3 Monaten) wurde der Komplex der therapeutische Manipulationen mit der Benutzung der Sauna, der Manualtherapie und der Badeprozeduren vorgeschrieben.

Nach der Einschätzung der unmittelbaren Ergebnisse der Kurbehandlung wurden alle Kinder (100 %) mit der Bronchitis im Rekonvaleszenzstadium mit der Verbesserung, einschließlich ihr dritte Teil (35 %) - mit der bedeutenden Verbesserung ausgeschrieben. Die fernen Ergebnisse, die nach den Personalien bewertet wurden, haben die hohe Effektivität der Rehabilitierung in der Sanatoriumsetappe auch bestätigt. Bei der absoluten Mehrheit der Kranken (90 %) wurde der Bronchitisrückfall im Laufe von dem ersten Jahr der Nachkurperiode nicht beobachtet.

Auf diese Weise, hatte die Durchführung der Rehabilitationsveranstaltungen im Kurort Belokuricha bei den Kindern mit der Bronchitis im Rekonvaleszenzstadium ermöglicht, die Verbesserung bei allen Patienten beim Auszug aus dem Sanatorium und im Laufe vom eisten Jahr der Nachkurperiode zu erreichen, den Ruckfall der Bronchitis auszuschließen.

Y.A. Fadeeva

**PHYSISCHE REHABILITATION ZIRKUSARTISTEN
MIT FIBROMYALGIE DES LUMBOSAKRALEN ÜBERGANGS**

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Relevanz der Arbeit. Fibromyalgie (FMA) bezieht sich auf die häufigste Form der Pathologie - 2-6%. Die Erfahrung unserer professionellen Arbeit in dem Zirkus, und eine Reihe von literarischen Quellen weisen auf das Vorhandensein dieser Krankheit in dem Zirkus, insbesondere bei den Akrobaten und Turnern, aufgrund der Traumatisierung und Stress bei ihrer Arbeit. Fehlen eines integrierten Ansatzes zur Behandlung dieser Krankheit mit als pharmakologische, psychotherapeutische und physische Rehaufsmittel Gewichtung führt zu der Krankheit. Nach den Aussagen einiger Autoren, kann keine der bekannten Methoden der Rehabilitation bis heute eine stabile therapeutische Wirkung erreichen. In diesem Zusammenhang erscheint es ratsam, ein wirksames Programm der kombinierten Einsatzes verschiedener Mittel zur Rehabilitation von Zirkusartisten mit Fibromyalgie lumbosakralen Wirbelsäule, ihre Fähigkeit zur Wiederherstellung der Arbeitsfähigkeit zu entwickeln.

Organisation der Studie. Die Studie schloss 20 Artisten (Mann und Frau), 19-36 Jahre alt. Von den 20 Patienten wurden 10 Menschen in der CG und 10 - im EEG.

Das Hauptziel der Rehabilitation bei Fibromyalgie ist die schnelle und optimale Wiederherstellung des Bewegungstereotypen und Lebensqualität. Aus welchen kommen folgende Aufgaben:

- Verringerung der Schmerzen;
- Lockerung der spastischen Muskeln in dem betroffenen Bereich;
- Inaktivierung der schmerzhaften Punkte (BT);
- Korrektur der Wirbelsäulendeformationen Reflex;
- Stimulation von Blut-und Lymphzirkulation in dem betroffenen Gebiet PDC

Wirbelsäule.

- Beseitigung pathobiomechanical Veränderungen der Wirbelsäule.

Die komplexe Rehabilitation umfasst:

- Morgen hygienische Gymnastik
- Krankengymnastik
- spezielle Übungen aus der Ausgangsposition auf dem Bauch,auf dem Rücken und im Sitzen.
- Übungen,gerichtet zu Dehnung der Wirbelsäule
- spezielle Übungen auf autorelaksatsiyu longissimus dorsi, Lenden-und quadratus, tiefe juxtaspinal Muskel.
- isometrische Übung.
- Methode der postisometrischer Entspannung.
- Übungen in der Stärkung der Muskeln paraverterbalnyh und der zunehmende

Mobilität der betroffenen Wirbelsäule.

Die Ergebnisse der Studie, nach der Rehabilitation, zeigen, dass die Zirkusartisten EG:

eine erhöhte Rate von Bewegungen der Wirbelsäule und alle Indikatoren für die Beweglichkeit der Gelenke, die wesentlich waren ($p < 0,05$) als CG. Die Ergebnisse der Experimente deuten darauf hin, dass von uns entwickelte Rehabilitationsprogramm eher effektiver für die Wiederherstellung der Zirkusartisten aus der PMA-Syndrom der lumbosakralen Wirbelsäule ist. Basierend auf einer neuen Kombination der Übungen. Es ermöglicht Ihnen:

- Verbesserung des Zustands der neuromuskulären Apparats der betroffenen Wirbelsäule

- Verbesserung der psycho-emotionalen Zustands des Patienten

- Schmerzlindernd

Das erleichtert die baldige Wiederherstellung des optimalen Bewegungstereotypen und verbessert die Lebensqualität.

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**MACRO-MICROELEMENTS AS MARKERS
OF THE DEVELOPMENT OF ENDOTOXICOSIS IN PREGNANCY
COMPLICATED WITH CHRONIC INTOXICATION**

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Annually humanity produces tens of thousands of new chemical compounds, which are in contact with a man, dwelling in his metabolic processes. Especially toxic among the heavy metals are lead, ranked as the first class of extremely hazardous substances. It is proved that lead has reproductive toxicity; this element easily crosses the placental barrier and accumulates fetus tissues (Nikitin A.P., 2005). Long-term exposure during pregnancy with harmful chemical substances, even subliminal values, resulting in damage to the placenta is formed in uterus des-adaptive processes, which are then implemented in pathological states are directly related to disturbances in mineral metabolism.

The purpose of the work: using multi-element analysis of blood serum to examine the state of the exchange of macro-and microelements in the organism with chronic intoxication salts lead to pregnancy.

Methods: analytical investigations were carried out by methods of atom-issue spectrometry. The chemical compound of the blood whey and lymph was defined on 11 elements (Al, Ca, Cu, Fe, K, Mg, Mn, Na, P, Pb, Zn). Biomarker: - blood serum. In the experiment used 90 female rats, which prior to the pregnancy, during 18 days, every day was the introduction of lead acetate solution through a tube into the stomach in a dose of

20 mg/kg body weight in terms of the meta, that corresponds to the 1 -2 mg lead.

Results and discussion: The obtained results testify that micronutrient balance of organism changes during physiological pregnancy. The maintenance of Ca, Cu and Na increase - on 25% and 10% accordingly, the reliable lowering of level of Fe, K, Mn and Zn in the serum of blood (40-10%) is marked. These changes are related to development and active functioning of feto-placental complex. The concentration of Pb in the serum of pregnant animals did not change as compared to a control group.

Considerably more serious disbalance of element exchange is found in the group of animals with leaden intoxication out of pregnancy (group A) and at condition of pregnancy by complicated leaden intoxication (group B).

Group A. Against a background the sharp increase of maintenance of Pb (70%) in blood, level of maintenance of all other elements except Al and Cu considerably decreases: Ca - 16%, Fe - 35%, Mg - 44%, K - 57%, Mn - 80%, Na - 25%, P - 8%, Zn - 80%.

Group B. At pregnancy by the complicated leaden intoxication maintenance of Pb in blood increases twice, the concentrations of other elements fall, both as compared to a control group and as compared to a group A: Al - 70%, Ca - 33%, Fe - 60%, K - 56%, Mg - 33%, Mn - 60%, Zn - 80%.

The carried out researches have shown that modeling of a lead intoxication, especially during pregnancy, leads to sharp disturbance of acid-base and water-electrolyte balances (to what change of a parity of sodium and potassium in a blood testifies), to redistribution of elements in system "mother-placenta- fetus" and to accumulation of the extremely toxic Pb in a blood.

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**EPIDEMIOLOGY OF HELICOBACTER PYLORI INFECTION
IN A MEGAPOLIS**

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Research objective – to clear up epidemiologic peculiarities of Helicobacter pylori infection (H.p.) in the citizens of a megapolis by the example of Moscow.

Research material and methods. Randomly chosen representatives of the working population of Moscow were checked for Helicobacter pylori (H.p.) infection within the limits of mass medical examinations. 1856 people at the age from 19 to 67 years old were included into the research, 1132 males and 724 females. The infection was diagnosed by the presence of specific anti-Helicobacter pylori IgG antibodies in the blood serum by way of enzyme-linked immunoelectrodiffusion essay (ELISA). Diagnostic tests of two types were used: H.p. IgG ELISA («BIOHIT», Finland) and H.p. «Ecolab» (Moscow). Relation of total amount of IgM, IgA and IgG antibodies to H.p. CagA antigen was established in 704 persons infected with H.p. with the help of HelicoBest-antibodies set ("VECTOR-

BEST”, Novosibirsk). Each of the research participants was interviewed about their working activity, socioeconomic status, health status, living conditions at the moment of interview and in childhood, bad habits and hygienic habits, contacts with animals. The results were statistically processed with χ^2 Person criterion.

Results. 1615 persons, i.e. 87% of the research participants, were diagnosed with H.p. infection. It was detected with equal frequency in males and females. Working citizens under the age of 30 were diagnosed with H.p. infection in 76% cases. The older the participants were the more of them were diagnosed with H.p. infection – up to 96% cases among participants over 60 years old. Anti-H.p. antibodies were seldom detected in the participants with higher education than in those with elementary and secondary education, in office workers than in workmen. The share of infected participants among those who at work had been in contact with sewage waters was higher than among those who had not. Living in childhood in a village house without a sewerage system affected the frequency of H.p. infection. All the participants who lived in a communal apartment or hall of residence turned out to be infected. Influence of adherence to one of the principal hygiene rules – to wash hands before a meal – on how often antibody-positive results were obtained was not established. Drinking tap water without boiling it did not affect contamination rate. Contact with pets did not lead to increase in contamination rate. Income per family member did not influence H.p. contamination rate, either. The cases of probable family contamination were often registered.

CaGA antigen was detected in 81% of the H.p. infected.

Conclusion. H.p. infection prevalence among the working citizens of Moscow is extremely high. The infection is often to be detected in young people. Virulent strains of the bacterium predominate among the infected citizens of the megapolis. H.p. contamination risk factors are age, insufficient education, working as a workman, regular contact with sewage waters, living in a residence hall or communal apartment, and in childhood in a village house without conveniences.

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S.N. Ivakina

**ORGANISATORISCHE UND WIRTSCHAFTLICHE ASPEKTE
DER NUTRITIVEN UNTERSTÜTZUNG VON KINDERN
IN KRITISCHEN ZUSTÄNDEN**

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Heutzutage ist eine wichtige Rolle der künstlichen Heilnahrung dank zahlreichen Forschungen im Bereich Ernährungswissenschaft und Notfallmedizin bewiesen. Es gibt wissenschaftlich belegte Anzeichen davon, dass eine optimal ausgewählte Ernährung zu einer Wiederherstellung von geänderten Reaktionen des Stoffwechsels beiträgt, einen

antioxidativen und immunomodulierenden Effekt hat. [I. Campbell, 1997; W.A. Tuteljan, 2005]. Alle Forschungen zeigen, dass eine optimal ausgewählte Ernährung nicht nur erlaubt energetische und plastische Bedürfnisse eines Patienten zu befriedigen, sondern auch als unabhängiger Heilfaktor dient. Es ist mit einer grossen praktischen Relevanz der Effekte, die durch eine qualitative nutritive Unterstützung hervorgerufen werden, verbunden: Reduzierung der Häufigkeit von Infektionskomplikationen; Verkürzung von der Periode einer künstlichen Beatmung und von der Periode eines Aufenthaltes in der Intensivbehandlungsabteilung und Stationärbehandlungsabteilung. Doch, trotz eines in diesem Bereich erreichten Erfolges, ist die Verordnung und Ausführung der künstlichen Heilnahrung bei den Kindern in kritischen Zuständen immer noch ein Problem, das weit von ihrer Lösung ist und in der Literatur nicht gut genug beleuchtet ist. Grundlegend für ein Kind in einem kritischen Zustand ist die Verordnung einer frühen gemischten parenteralen und enteralen Ernährung, die dem realen Energiebedarf eines kranken Kindes entspricht. Das wird im Endeffekt die Effektivität der Intensivbehandlung erhöhen lassen und die Ausgaben für die Behandlung niedriger machen. Deshalb ist es relevant organisatorisch-methodische Herangehen auszuarbeiten, die den Einfluss einer nutritiven Unterstützung auf die Qualität einer den Kindern in kritischen Zuständen geleisteten medizinischen und medikamentösen Hilfe feststellen lassen. Um das aufgesteckte Ziel zu erreichen, haben wir die folgenden organisatorisch-methodische Herangehen ausgearbeitet, die schliessen das folgende ein: Untersuchung eines Einflusses der nutritiven Unterstützung auf die Behandlungsqualität, Vergleichsanalyse der Häufigkeit der Verordnung von Medikamenten zusammen mit der nutritiven Unterstützung und Berechnung eines Nutzeffektes von dem Einschliessen nutritiver Unterstützung in die Behandlung; Durchführung von ABC-VEN- Analyse der Medikamenten für nutritive Unterstützung.

Schlussfolgerungen. Stoffwechselbesonderheiten bei Kindern machen es nötig, mit einer nutritiven Unterstützung früh anzufangen. Nutritive Unterstützung erlaubt, Bluttransfusionsvolumen zu reduzieren, was einen guten wirtschaftlichen Effekt hat und das Komplikations- und Letalitätsrisiko im Rahmen von Stationärbehandlung verringert. Die ausgeführten Untersuchungen zeigen, dass Präparate für nutritive Unterstützung kostenaufwendig sind (zu Gruppe A und B gehören). In der Kostenstruktur fallen auf enterale Mischungen 4,5% der für Medikamenteneinkauf zugeteilten Mittel, auf Fettemulsionen MCT/LCT - 4%, auf Glukose - 2,2%, auf Aminosäuren - 1%. VEN-Analyse hat gezeigt, dass diese Präparate lebenswichtig (Gruppe V) in Kur von Patienten in kritischen Zuständen sind. Notwendig ist die Kontrolle der Nutzung von Präparaten der nutritiven Unterstützung.

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SUTCZI-CHIMSUR THERAPY AS A HIGH-EFFICIENCY TREATMENT METHOD

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Main objective: to justify the practical application of Sutdzi-Chimsur therapy for various treatments.

Methods: Clinical observation of patients, applying traditional Chinese treatment methods, Korean Sutdzi-Chimsur therapy, methods of functional diagnostics and laboratory methods while conducting diagnostics.

Results: an approach to diagnostics and treatment of diseases using Sutdzi-Chimsur therapy is offered.

Sutdzi-Chimsur is a Korean hand acupuncture method. Up to the present day scholars argue which method had been developed earlier: corporal (Chinese) acupuncture or Korean Sutdzi-Chimsur acupuncture.

With every year Sutdzi-Chimsur therapy gains more supporters, however, this useful method isn't widely used in Europe. According to our information, Medical Center "Ying and Yang" is the only medical facility in Russia (and in the post-Soviet space) to apply Sutdzi-Chimsur.

Each person's hands are unique and can reveal not only his character but also his health condition. Our hands and our health are strongly connected.

A palm is a holographic image of the whole organism that reflects the state of the internal organs and the presence of disease. No matter what the disease is, it always begins with affecting the energy channels. Since the hands are the first to reflect the state of the internal organs we can obtain precise and detailed information on the patient's health condition by studying them. The hands act as a health barometer. They receive and transmit distress signals from the internal organs.

Different parts of hand reflect the state of different organs. Hand diagnostics allows to estimate and forecast health condition, including the spheres that are hardly accessible for modern medical devices (early stages of CVD, kidney and liver disease etc). Hand diagnostics enables the specialist to receive precise information on diseases (including incurable ones) in order to perform necessary prophylaxis and treatment.

What makes Sutdzi-Chimsur special?

14 energy channels run through the hands. These channels are identical to the body channels. We found out that Sutdzi-Chimsur points function similarly to **epy** corporal points but the effect from Sutdzi-Chimsur acupuncture can significantly exceed the effect from the corporal acupuncture.

Our trials proved Sutdzi-Chimsur to be more effective than **epy** corporal acupuncture for skin diseases, obesity, alcoholism and smoke cessation treatment. Sutdzi-Chimsur is effective when the specialist faces the necessity to insert needles into restricted and dangerous points

of corporal acupuncture. Sutdzi-Chimsur provides soft and yet effective treatment.

Sutdzi-Chimsur therapy is an alternative for inserting needles into the points of perineal space, lower part of the abdomen, points of 1st and 2nd chakras etc.

Sutdzi-Chimsur is also an alternative for the corporal acupuncture when the conditions required by the latter aren't accessible.

Our observations prove Sutdzi-Chimsur therapy to be most effective when combined with corporal acupuncture, ayurvedic treatment, phytotherapy and homoeopathy. We believe that combination of Sutdzi-Chimsur therapy and the corporal acupuncture contributes to the effectiveness of the treatment and provides more stable and durable results at a faster pace. This combination is especially effective when treating bronchial asthma, endocrine pathologies, migraines as well as liver, pancreas, stomach, intestinal tract diseases and gynecologic and urologic conditions.

Sutdzi-Chimsur therapy is more complex and more effective than Su Jok therapy, especially when treating chronic diseases.

Based on our studies of the hand channels intersecting the hand lines and their reflection of pathologies of inner organs we are able to offer treatment methods.

Conclusion: Sutdzi-Chimsur therapy deserves thorough studying and is recommended for clinical application.

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MACRO- AND MICROELEMENTS OF KIDNEY AND LYMPHATIC NODE IN DYNAMICS OF RENAL INSUFFICIENCY

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Necessity of study of microelement exchange in nephrology is dependent on participation of kidney and its regional lymphatic node in maintenance of homeostasis. Roentgen fluorescent analysis with synchrotron irradiation (Institute of Nuclear Physics of Russian Academy of Sciences) and kidney and lymphatic node as a bio substrates have been used in study. Glycerol model with rats has been used for simulation of acute renal insufficiency (Borisova I.V. et al., 2003). It has been revealed that concentration of macro- and microelements in kidney differs from its concentration in lymphatic node. Concentrations of zinc (1,3 times), copper (1,5 times), iron and calcium (1,6 times) and selenium (1,6 times) are more in regional lymphatic node, than in kidney at the physiologic conditions.

Concentration of potassium, manganese, chlorine and lead are almost the same in these organs per unit of mass. The mean concentrations of studied macro- and microelements in tissue of kidney and in tissue of lymphatic node in order of decreasing are the same $K>Cl>Ca>Fe>Zn>Cu>Mn>Se>Pb$.

At the 3-rd day of the acute renal insufficiency concentration of chlorine (1,8 times), iron (1,4 times), copper (1,4 times), zinc and selenium (1,2 times) are increased in tissue of kidney. Simultaneously concentration of manganese (1,3 times) is decreased. Concentrations of the other elements (calcium, lead, potassium) aren't changed in comparison with control. At the 7-th day of acute renal insufficiency concentrations of the most macro- and microelements return to control values except chlorine, lead and iron, concentrations of them are increased 1,2, 1.6 and 1,7 times accordingly. At the 14-th day of acute renal insufficiency concentrations of studied macro- and microelements are in the limits of control. At the end of study changes in concentrations of certain macro- and microelements in tissue of kidney are observed. Statistically significant decrease of concentration of calcium (1,3 times) and increase of concentration of iron (1,9 times), copper (1,3 times), selenium (1,4 times), lead (2 times) are observed. A tendency to increase concentration of zinc and potassium takes place. Concentration of chlorine is in the limits of control.

At the 3-rd day of the acute renal insufficiency concentration of potassium (1,7 times), iron (1,5 times), zinc and chlorine (1,3 times) are increased in regional lymphatic node. Simultaneously concentrations of copper (1,5 times) and selenium (1,6 times) are decreased. Concentrations of the other elements (calcium, lead, manganese) aren't changed in comparison with control. At the 7-th day increased concentrations of chlorine (1,2 times), potassium (1,9), iron (1,5 times), zinc (1,4 times), lead (1,6 times) and decreased concentrations of copper (1,5 times) and selenium (2,2 times) are statistically significant. Concentrations of calcium and manganese are in the limits of control. At the 14-th day of acute renal insufficiency concentrations of studied manganese, calcium, iron, zinc and lead are changed in the limits of control. At the end of study (30 days) changes in concentrations of certain macro- and microelements in tissue of lymphatic node are observed. Statistically significant decrease of concentration of calcium (1,5 times), copper (1,8 times), zinc (1,3 times), selenium (2,5 times) and increase of concentration of potassium (1,4 times), lead (1,6 times) are observed. Concentration of chlorine and manganese are in the limits of control.

Exchange of important macro- and microelements is intensified at the renal insufficiency and they accumulate in the tissues of kidney and lymphatic node. Functional synergism takes place in kidney and lymphatic node during the exchange of microelements. It prevents losses of macro- and microelements at the renal insufficiency. But compensatory adaptive processes are sufficiently expended and accompanied with decreased concentrations of copper and selenium in lymphatic node. More precise definition of microelement composition of kidney and regional lymphatic node is very important for understanding pathogenesis of acute renal insufficiency and gives new possibilities for correction disease based on bioelement exchange.

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**CYTOARCHITECTONICS OF REGIONAL LYMPH NODE
IN THE CONDITIONS OF EXPERIMENTAL IMPLANTATION
THE NICKELIDE TITANIUM**

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The work is aimed at investigating dynamics of cellular composition of various structurally functional zones of a superficial cervical lymph node at experimental implantation of the titanium nickelide.

Methods of experiment. Research was studied on 60 white rats of a Wistar. Animals have divided into 3 groups: the first group of animals was control; by an animal of the second group it has been generated an implantation bed without introduction of the titanium-nickel alloy; animals of the third group were exposed to implantation of the titanium-nickel alloy in area of an alveolar process of the lower jaw. Cells of lymphoid tissue investigated with the help of an ocular graticule. Quantity of cells calculated an area of 1849 square microns in various structurally functional zones of a lymph node (germinal center, paracortex, medullary cords and lymphatic (medullar) sinus. At calculation were considered lymphocytes, immunoblasts, macrophages, reticular cells, mature plasmocytes, eosinophils. Statistical processing has been spent with application of software packages SPSS 9.0.

Results. The implantation of titanium nickelide changes cellular composition in a lymph node. There is statistically a decrease of the maintenance small lymphocytes, blast cells, macrophages and eosinophils in a lymphoid nodule with the germinal center. There is a decrease the maintenance of averages lymphocytes, immunoblasts reticular cells, and an increase the number of macrophages and eosinophils in paracortex. The cell population is become normal to an end of experiment in the paracortex. There is in the experiment beginning an increase the maintenance of mature plasmocytes in medullar cords of a lymph node. The quantity of macrophages, reticular cells, mature plasmocytes and eosinophils increased to an end of experiment in medullar cords of a lymph node. There is a decrease the maintenance of small and average lymphocytes and an increase the maintenance of eosinophils and macrophages by 7 days of supervision in medullar sinus of a lymph node. The number small lymphocytes, immunoblasts and eosinophils increased to end of experiment in in medullar sinus of a lymph node.

For 7-30 days of implantation was observed the authentic increase in the maintenance macrophages in germinal center, paracortex and medullary sinus of a lymph node. These changes are the activation of phagocytal reaction. It is often observed at protective reactions of an organism (Jurina N.A. et al. 1976; Rusina A.K., 1978). For all zones of a lymph node number decrease lymphocytes is characteristic. Decrease of lymphocytes is connected with

delay of migration of cages in a lymph node, especially in paracortex. Certainly, the local proliferation cells are of great importance (Hussar J.P., 1980, Nieuwenhuis P. et al., 1976). The basic way of receipt lymphocytes in a lymph node are postcapillary venules with high endothelium. Circulation of lymphocytes is regulated of interdigital cells and macrophages in a lymph node (Fossum S. et al., 1983; Drayson M. et al., 1984). There is an increase in number of averages lymphocytes in the conditions of implantation. The average lymphocyte is the transitive form between immunoblast and small lymphocyte (Fossum S. et al., 1995). The increase the maintenance of averages lymphocytes is a development basis of proliferation of lymphoid tissue (Vasilev N.V. et al., 1972). In the germinal center marked maintenance increase immunoblasts. At the same time their maintenance in paracortex and medullary cords authentically decreased. Apparently, there is an oppression of differentiation of cells. These results will be coordinated with data of other scientists (Borodin Y.I. et al., 1985). Number of plasmocytes is connected with intensity of humoral immunity in a lymph node. We have noted positive changes in population of cells in a lymph node for 60 and 120 days of experiment. The quantity of lymphoid cells does not differ from control in structural and functional zones of a lymph node.

Conclusion. Morphokinetics of cellular populations of structurally functional zones takes place to be differently directed. The number of cells depends on functional specialization of a zone in a lymph node and from period of implantation.

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LYMPH NODES IN PREGNANCY COMPLICATED BY CHRONIC INTOXICATION AND IN CONDITIONS OF CORRECTION OF NANO-CARBON MINERAL SORBENT (ANATOMIC-EXPERIMENTAL STUDY)

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Range of industrial toxicants, which can meet the woman before and during pregnancy, is very wide. Annually humanity synthesizes tens of thousands of new chemical compounds, which are in contact with a man and interfere in its metabolism. Soil contaminated with chemicals, products of radioactive decay, the water in the aquifers contains dissolved heavy metals, often in concentrations exceeding the maximum allowable. It was heavy metals occupied the second place (after the pesticides) among the main pollutants of the environment. Their concentrations in the biosphere in 30-600 times higher than the background level and especially toxic is Pb. In modern toxicology estimates Pb refers to the first class of extremely dangerous for an organism. Reproductive toxicity of Pb is known for a long time, he easily overcomes gisto-blood barriers and the placenta, accumulates tissues

of the fetus. Clinical and experimental studies carried out earlier in our institute, it is shown that many of the chronic diseases associated with health defects that have occurred even in the prenatal period. Long-term exposure of a pregnant woman with harmful chemical substances, leads to violation of fetoplacental complex and to the “vertical transmission” pathological processes in the body of the mother to the developing fetus and in fetus period are formed des-adoptive processes, which in the further life are implemented in immunodeficient in children, fast chronic pathological processes and the development of disease.

In this investigation, a study of the status of the lymphatic system during pregnancy complicated by chronic intoxication Pb acetate and on the background of application of NanoCarbon mineral sorbent (NCMS).

Only in the experiment used 90 female Wistar rats, which prior to the pregnancy was the introduction of Pb acetate (model toxic nephropathy) through a probe in the stomach every day in the dose of 20 mg/kg body weight in terms of the metal within 18 days. In the group of correction, during the pregnancy, administered enterally within 14 days NanoCarbon mineral sorbent. In this group of animals – before implantation fetal mortality was 11,11%, after implantation was 4,17%, and the total fetal mortality was 14,82%. Iliac lymph node in complicated chronic intoxication of pregnancy on the background of NCMS remains fragmented type of structural-functional specialization, it identifies structural signs of activation of the humoral and cell-mediated immune response. In the reduced thickness of the connective tissue structures, perhaps due to the reduction of edema. Investigation of the structure of the renal lymph nodes in the group of animals revealed reduction of transport through the lymph node (the area of the sinuses). In the renal lymph nodes identified pronounced structural signs of activation of humoral type of the immune response (increased area of secondary lymphoid nodules, the number of mature forms of cells of lymphoid and plasma- derived series).

Therefore, the use of sorbent to reduce the toxic load on the organism is extremely important, because many drugs are not recommended or even contraindicated during pregnancy. This study confirms that the use of sorbent in the complex of methods of drainage interstice, has expressed lymph correction and lymph stimulation effects.

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TACTICS OF TREATMENT OF CHILDREN WITH HIRSCHSPRUNG’S DISEASE

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Objective: To improve treatment of children with Hirschsprung’s disease (HD)

Materials and Methods: A study of 63 children to learn treatment in the period 1996 -2004, with Hirschsprung’s disease. At the age of 3 days to 1 year were - 9, from 1 to 3 years - 25,3 - 7 years - 22, i7 - 15 years of children -7. Rectal HD observed -

at 23, rektosigmoidalation - in 27, subtotal - 7, total-and segmental in 3 - 3 children. In 42 (66,7%) of 63 patients had unfavorable somatic background (the lag in physical development, anemia, dysbiosis, (dysbacteriosis) chest deformity, rickets, bronchitis). Hirschsprung's disease in the stage of compensation was in 11, subcompensation - 40 and decompensation - 12 children. Patients, depending on the clinical manifestation of chronic intoxication and disturbances of homeostasis parameters are divided into three levels of endogenous intoxication (T.A. Abdufatov, 2001). . As of 1- st degree. Endogenous intoxication (EI) were observed - 9, 2-nd degree. Endogenous intoxication - 41 and 3-rd degree, -13 patients.

Manifestation of endogenous intoxication mainly stuck to care for the sick in the hospital to stage. Degree of endogenous intoxication was based on identifying changes in lung function, cardiovascular system, liver, and homeostasis. Leading to the diagnosis of HD was the contrast ergography colon in two projections, in a tight filling and emptying, as well as X-ray measurement and manometry.

Discussion. 17 patients with preoperative training started with a colostomy in the ascending colon (thick intestine) and the Department of Correction blemish was carried out by Soave-Lenyushkinu.3 patients in the immediate postoperative complications were observed in the form of suppuration hematoma interfutlyar space (1), with the pressure in interfutlyar (mezhfutlyarnom) space and necrosis relegated intestine (2).In the late period two patients had complications as a narrowing of the anastomosis (1) and disease recurrence (1). In 4 children 3 years there was a decrease proteinosynthetic detoxification and liver function. The average hospital stay for all stages of treatment comprised 53 three bed-days.

40 children preoperative preparation was carried out without imposing a colostomy, 6 newborn as the first phase of the operation was superimposed left-sided parietal colostomy on the extended portion of the colon (thick intestine). The date of radical surgery believe children older than 6 months. All the patients were carried out demucozation start of the sigmoid and rectum to the longitudinal folds of not more than 1 cm from the anal opening. Expanded sections of sero-muscular sheath on the antero-lateral surface of the excised left depending on the size of the gut relegated to the projection of the internal sphincter. Further dissection is performed internal and partly external sphincter (up to 1 cm from the anus).In order to prevent reduction relegated intestine sero-muscular sutures fixed to the skin of the anus. All patients to postoperative regional analgesia and endolymphatic antibiotic therapy, interoperation projected 3.4 per retroperitoneal lumbar is inserted through contraaperture (counteropening) on the left iliac. In 46 patients with postoperative complications and no deaths were observed. The average stay of patients was 28 2.5 bed days.

Thus, the preoperative preparation of patients with HD without prior colostomy and Soave operation - Lenyushkina in conjunction with a longitudinal wedge-shaped excision of the extended part of sero-muscular sheath and dissection of the internal and partly external sphincter latching relegated ulcer on the skin of the anus are very effective.

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**CHOICE OF METHOD OF SURGICAL TREATMENT
IN CHILDREN WITH ECHINOCOCCOSIS LUNG**

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Objectives of the study. Improved results of surgical treatment of children with various forms of echinococcosis of the lungs

Materials and methods. Over the last 10 years in the Department of Paediatric Surgery of the Tajik Institute after graduation training of medical personnel were on the treatment of 152 patients with lung echinococCis. (EL) in various forms. Children aged 2-7years were 52.8-10 years-33 ,11-15 years-67. Solitary echinococcal cyst 144 (94,7%). Bilateral lesion in 8 (5.3%) children. In 16 (10,5%) patients had pulmonary hydatid cyst combined with lesion of the liver. Right-sided localization (59), left-handed (41%). According to the location in tissue lung echinococcus more (126) and other central located, less (26) on the periphery.

Depending on the size and scope of the EC (in the classification of A.T. Pulatova) were. small amount of 10-100ml, diameter of the residual cavity of 4-7cm (6), medium - 100-250 ml, diameter-7-10 cm (24), large and huge volumes of 500 or more (71). Among the complicated forms of echinococcosis patients with a breakthrough in the bronchus was 42, in the pleural cavity 4, a breakthrough in the bronchus and the pleural cavity-2, suppuration of the residual cavity of the EC-3, re cystic inflammation -15. In the diagnosis of the disease was mainly used radio logic method of investigation (152). In 106 observations for the diagnosis, the timing and extent of surgical intervention was used ultrasound (U.S.).

Results and discussion. We used two-stage disclosure of thoracic injuries in 71 patients with large and giant cyst of the lungs. It consisted of the following: first produced torakotsentez dissection of parietal pleura in the course of the wound for 5-10 cm Surgeon finger bluntly and gently detaches contiguous portion of the fibrous capsule, given that it was possible to separate the edge of 4-5 cm and thereby partially exposing cyst. Then sucked all the way to puncture echinococcus fluid, then dissected and removed fibrous capsule chitinous shell. Cavity of the fibrous capsule is disinfected and loose plugging. Easy fully released from adhesions. In order to prevent recurrence of echinococcosis There are many ways is the use of 1-5% formalin solution. We have 20 (30,4%) patients in the control group was used 2% formalin solution. In this case, bronchospasm, we observed in 5 patients, cardiac arrhythmias (bradycardia) in 4 patients. In the clinic of pediatric surgery until 1996 when centrally located cyst easily applied method, developed by AT Pulatov in 1982 - is the creation of artificial interlobar or intersegmental grooves. In this procedure, operated on 56 out of 152 patients, including 13 with complications. In this case, 14% of the 56 patients had complications in the postoperative period in the form of education

residual cavity in 2 patients and neparaziterial cyst in one patient. We have been modified to create an artificial interlobar or intersegmental grooves. In this method, operated on 90 children from 152 patients. Complicated by pulmonary EC were 38, the average EC in 16, large lung EC were 20, a giant 16. The technique is as follows: after the disclosure of the residual cavity formed in the hemisphere, further dissected fibrous capsule with minimal thin layer of lung tissue in the course of vessels and bronchi to the bottom within a functioning lung tissue to 2-3 cm excised edge of the fibrous capsule is imposed several eight-shaped, nonabsorbable hemo and aerostatic seams. formed three additional artificial interlobar or intersegmental fissure. When inflating the lung surface of all the fibrous capsule are closed, as the concave surface on the fibrous capsule is completely eliminated. Thus echinococectomy with various forms of lung EC children, our technique is more efficient surgical treatment, postoperative complications of this technique is 9% against 14.8% for traditional ones.

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LUNG DIFFUSING CAPACITY AS A MARKER OF THE FORMING OF VENTILATION DISTURBANCES IN PATIENTS WITH HEART FAILURE AND CORONARY HEART DISEASE IN ASSOCIATION WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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The considerable success in diagnostics and treatment of the widespread diseases of modern world as a chronic obstructive pulmonary disease (COPD) and coronary heart disease (CHD) has been achieved at the present time. However, problem remains extremely urgent. CHD in the industrially developed countries is one of the most common diseases and on the first place among the causes of death. COPD is disease with the large prevalence and fast developing of disability and high mortality.

Purpose of the study: to estimate value of diffusing capacity for carbon monoxide (DLCO) in patients with chronic heart failure (CHF) and CHD in association with COPD at different stages of disease.

Methods and Results. There were included in the study 73 patients with CHF and CHD in association with COPD (45 men and 28 women) with the stable symptomatology COPD for at least 6 month. There were 14 patients with CHF New York Heart Association (NYHA) class I, 43 patients with CHF NYHA class II, 16 patients CHF NYHA class III. All patients received standard therapy with loop diuretics, angiotensin converting enzyme inhibitor or angiotensin II receptor antagonist and beta-adrenoblockers in the optimum dosages in the case of absence of contraindications to them. Above mentioned therapy was constant and did not change at least 8 weeks before a study. For the comparison, in

control group were included 30 people with the CHD without the signs of CHF and with the decreased lung ventilation typical for COPD. There were performed assessing of lung ventilation which includes spirometry, bodyplethismography for evaluating of the volumes of lungs and measurement of the lung diffuse capacity by the single breath method. All these examinations were performed for all patients of both groups on a pulmonary complex Master Lab Pro, Jaeger, Germany.

Examination of lung ventilation revealed decreased DLCO and lungs volumes such as forced expiratory volume during first second, slow vital capacity and alveolar volume as a result of the pneumosclerotic and emphysematous processes of lungs. In patients with the CHF and coronary heart disease in association with COPD the DLCO was decreased more significant compared to the patients of control group. It was characterized by reduction in the general and corrected DLCO and by expressed alveolar hypoventilation.

At patients with combined pathology with CHF NYHA class I the DLCO was higher comparing to the control group patients without CHF. At those patients molecular diffusion of carbon monoxide (CO) through the alveolocapillary membrane in the majority of the cases still remained in normal condition. This increase was determined with an increase in the chemical reaction of CO with the blood of the capillaries of lungs as a result of an increase in the volume of the pulmonary blood. In proportion to the increase of interstitial lung oedema and as the result of developing of the pulmonary vessels damage DLCO became equal to the control group. It was probably due to the gradually developing of thickening of alveolar-capillary membrane and as a result the reduction in the molecular diffusion of CO. More frequent this equality coincides with CHF NYHA class II. However in progression of CHF the DLCO decreases due to the progression of reduction of molecular diffusion of CO through the alveolar-capillary membrane. That happens in patients with combined pathology with CHF NYHA class III. However at this moment the chemical reaction of CO with the blood of the capillaries of lungs compensatory grows and exceeds the same in patients with CHF NYHA class II.

Conclusions. Molecular diffusion of CO through the alveolocapillary membrane highly correlates with functional class by NYHA. Gas transfer decreasing in patients with such combined pathology is reflecting reduction in alveolar-capillary membrane diffusing capacity.

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**INTERVAL NORMOBARIC HYPOXYTHERAPY
ADMINISTRATION IN COMPLEX TREATMENT OF PATIENTS
WITH MICROVASCULAR ANGINA**

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Microvascular angina is quite rare disease, little-studied processes of endothelial dysfunction are in the base of its pathogenesis, they initiate spasm of small coronary

arteries branches. The treatment options in microvascular angina are still poor developed and insufficiently effective.

The aim of the study is to increase treatment effectiveness of the patients with microvascular angina with using interval normobaric hypoxytherapy (IHT).

Materials and methods. 60 patients with microvascular angina were included in the study if they: had chest pain of several hours duration during exercise, with absence of ischemic ECG changes at rest; had ischemic changes during exercise testing; did not have positive reaction on sublingual nitroglycerine, left heart hypertrophy features and valvular disease on echocardiography, did not have in history myocardial infarction, systolic or diastolic dysfunction, arteriosclerosis coronary arteries obliterans, features of deterioration of segmental myocardial contractility.

We did not include patients with diabetes mellitus, mitral valve prolapse, essential hypertension. Specific characteristics that specify presence of microvascular angina at coronary angiography are: symptom of contrast substance “delay”, presence of “myocardial bridges”, distal arteries situation or its contours irregularity. Microvascular angina is diagnosed by complaints on angina pain; absence of coronal arteries changes at coronary angiography; ECG ST segment depression >1 mm at veloergometry. Other patient’s pathologies of cardiovascular system and any severe concomitant disease, diabetes mellitus in particular, were excluded.

The patients were divided in 2 groups. 30 patients of the 1-st group took beta-adrenergic blocking agents and/or calcium channel blockers, trimetazidine, acetylsalicylic acid, hypolipidemic agent, when needed – nitrates. The 2-d group (30 patients) additionally got daily session of normobaric hypoxytherapy for 50-60 min during 30 days (hypoxicator “GIP-10-1000”, Russia). Control group included 30 practically healthy people of the adequate sex and age.

For individual test of hypoxia tolerance and treatment sessions hypoxicator “GIP 10-1000-0”, «Trade Medical» (Russia) and pulseoxymeter B-002, “Bion” (Russia), stopwatch and tonometer were used. Treatment session of IHT was performed in cycle-fractionate mode: breathing with hypoxic gaseous mixture, then breathing with normal gaseous mixture.

During hypoxic adaptation time of breathing with hypoxic gaseous mixture was increased. Number of such cycles during one procedure was 5-10, total time of breathing with reduced content of oxygen in the air was from 20 to 45 min. Optimal oxygen concentration was used for men 11.5%, for women 12%, for elderly patients – 12%.

Hypoxic cycle duration was corrected taking into account individual sensitivity and susceptibility for hypoxia, oxygen saturation, heart rate and arterial pressure. At the moment of hypoxic gaseous mixture inhaling oxygen saturation was from 85 to 80%, that is feature of procedure adequacy. Duration of on hypoxic period was 3-5 min, pause of normal gaseous mixture respiration - 5 min. Such exposures was repeated 10-12 times during one procedure. Statistical processing of the results was made using package “Statistica 6.0”.

Results. Patients with microvascular angina of the 2-d group who have got IHT treatment had significant exercise tolerance increasing ($\chi^2=7,1$, $p=0,04$) in comparison of the 1-st group, frequency of angina pectoris attacks ($\chi^2=8,7$, $p=0,008$) and necessity of additional nitrates intakes ($\chi^2=4,1$, $p=0,03$) were decreased.

Conclusion. Everyday interval normobaric hypoxytherapy sessions in patients with microvascular angina stimulate exercise tolerance increasing, angina attacks frequency and necessity of additional nitrates intake decreasing.

Ignat Ignatov

ENTROPY AND TIME IN LIVING ORGANISMS

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http://www.medicalbiophysics.dir.bg/en/water_memory.html

The second law of thermodynamics states that the entropy of any closed system always strives toward an increase, i.e. increase of chaos. In information theory, entropy is a measure for insufficiency of information in a physical system and is a function of probability. Entropy is infinite if probability is zero.

According to Hawking, the second law of thermodynamics defines that the states of chaos significantly outnumber the states of order. He makes the assumption that in the beginning a system has a small number of orderly states. Over time, this system develops according to natural laws and its states change. At later stages, the states of chaos increase in number. Eventually, its states of chaos increase and so does entropy. He uses as an example the computer's memory, which is based on the binary numeral system. The direction of time in which the computer saves the past is the same direction in which disorder increases.

Schrödinger demonstrates a correlation between the entropy of living organisms and the environment. Living organisms decrease their own entropy at the expense of the increase of the entropy of the environment.

Entropy is a measure of randomness or disorder of the physical system. It is expressed in the number of possible arrangements of the components. Prigozhin received the Nobel Prize explaining that at a statistical level the chaotic states of living systems lead to an irreversible behavior. Self-structuring and self-organization are observed. He explains the auto-oscillatory reaction of Belousov–Zhabotinsky. Prigozhin shows how together with the increase of entropy, self-organization originates.

According to the author, living organisms decrease their own entropy due to their orderliness. This orderliness increases with the transition from unicellular to multicellular organisms. Cells divide in a particular sequence. Living organisms live with their own energy, and also exchange substances and energy with the environment. The environment increases its entropy and thus its disorder. Over time, the living organism has more and more difficulties to adapt. This adaptation depends on the consistency and velocity of

life processes. Time is a fundamental concept in physics and philosophy and the fourth dimension in space – the time continuum. According to Einstein’s theory of relativity, there are 3 spatial and one time dimension. Time measures the duration and sequence of states and events.

The more rapid the life processes, the faster the states of orderliness are observed, i.e. entropy decreases. Yet this leads to difficulties in compensating entropy with that of the environment, which is associated with metabolism and energy. These organisms such as mammals are able to live up to 100 years. In trees processes are slower, the states of orderliness are obtained more slowly and entropy decreases more slowly than in animals. In trees ‘life’ energy accumulates more slowly. There are trees that live more than 1000 years. For example in the turtle life processes are slower than in mammals and faster than in trees. It can live up to 300 years. For each living creature its own time can be defined, which somewhat differs from the time of the environment. This time correlates with parameters of the vital activity of living organisms.

When considering the origin of life, the question arises whether there is information in surrounding space for this event. The information in the electromagnetic spectrum spreads with the speed of light. The plant world has originated 1.5 billion years ago. The spectrum of reflected light from plants in the red diapason is interrupted. This means that if this information can be disseminated and there is a highly-sensitive apparatus at a distance of 1.5 billion light years, this apparatus at present time will monitor the process that has occurred on Earth 1.5 billion years ago.

Let us imagine that from the Earth there is information at 1 light year. This information is identical on a sphere with a radius of 1 light year. Any observer from this sphere sees different information compared to other observers. Yet each observer from the sphere observes the center in the same way. In this regard, in the electromagnetic spectrum there is no identical information in different points, if a center of the coordinate system for observation has not been marked. This is an illustration of how time and space are related, when information is disseminated at the speed of light. Light quanta or photons have no mass. The presence of mass leads to deceleration. The question remains how fast can living matter with mass move in space.

However, when we obtain information from living organisms, it is in the electromagnetic range. In some of them there are also acoustic waves.

But how does time from surrounding space affect living matter?

Here are two examples from Hawking. Let’s observe an airplane that flies over a hilly area. Although it moves in a straight line in three-dimensional space, its shadow depicts a bent path on the two-dimensional earth surface. The mass of the Sun bends space-time as follows. When the Earth moves in a straight line in four-dimensional space-time, to us it seems that it moves in a circular orbit in three dimensional space. The general relativity theory of Einstein stipulates that in proximity to such a massive body like the Earth, time slows down. The development of life is a unique phenomenon and the lifetime of any living thing depends on the speed of its processes, the “vital” energy, which is a measure of

entropy, and the exchange of energy and substances with the environment. Diseases are a violation of processes in the organism and they create chaos in the living organism, as well as a shorter lifetime.

This means that if an earth organism lives on another planet, a series of evolutionary changes will commence, related to gravity, light, water quality, etc. The organism's own time will change, due to the different entropy and time of the environment.

In 2010, I stated evidence that the origin of life depends both on the properties and structure of water and on additional conditions. Closest to these conditions, leaving a trace in plants with its structure and entropy, is mineral water, which reacts with calcium carbonate. Next in quality rank marine and mountain waters. This water is closest in its spectrum to the cactus juice as a model system. Therefore I have introduced the concept of "informativity" of water. Water has a number of unique properties that allow it to store and disseminate information as a result of external physical or chemical factors of influence. However, without this property of the water, one can hardly explain the origination of living matter, moreover in "chaotic" water.

Water for origination of life reduces its own entropy compared to the water that has no characteristic peaks for living matter.

In the origination of life, Mosin states that the information properties of water have been better because of deuterium molecules in the water. In such water entropy declines faster. Living creatures are part of Nature and the discovery of new planets gives us a chance to also discover extraterrestrial life forms.

Ignat Ignatov
Vera Tsvetlova

WATER FOR THE ORIGIN OF LIFE AND INFORMATIVITY OF WATER. KIRLIAN (ELECTRIC) AURAS OF DIFFERENT TYPES OF WATER

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New achievements in the studies of water structure allow to better analyze the conditions for the emergence of life. The evidence shown indicates that the emergence of life depends on the properties and structure of water and also on additional conditions. Mineral water, which interacts with calcium carbonate is closest to these conditions and has left a trace in plants with its structure, and entropy. Next in line with regard to quality are sea and mountain water. Different water should influence in a different way seed growth. Prof. Klima has scientific evidence in this direction. Representatives of the Club of Medical Biophysics from Teteven, Bulgaria under the direction of Dr. Ignatov

held the following scientific experiment. They watered identical seeds with tap water and mountain water. Plants watered with mountain water grew faster. The larger amount of deuterium reduces the permeability of the cell membrane. Two tests were carried out to study the composition and the spectrum of mountain water. These experiments are part of the “Days of mountain water” organized for the first time in the world by the Research Center of Medical Biophysics and the Teteven municipality represented by Mayor Nikolay Pavlov.

Name of indicator	Result of anion testing	Result of cation testing	Quantity unit (mg/l)
Na (Sodium)		4.1	
Ca (Calcium)		89.9	
Mg (Magnesium)		6.98	
Fe (Iron)		40.2	
Mn (Manganese)		3.5	
Zinc (Zn)		0.3	
Sulfates (SO ₄)	17.7		
Chlorides (Cl)	0.94		
Other quantities	Result		
Active reaction (pH)	8.0 Alkaline		pH units
Electric conductivity	446		μS/cm

Water molecules are polar and they orient themselves according to the external electric field. In the Kirlian method the conductivity of the object does not affect the electric image. Its formation depends on the distribution of dielectric permittivity (Antonov, 1984). The effect of Kirlian is also related to the bioelectric aura of a living object. When examining the spectrum of water droplets, the electric aura is associated with the polarity of water molecules and their arrangement as a result of the applied external electric field. Polarization is a phenomenon that occurs in electromagnetic waves in which the electromagnetic field oscillates (hesitates, flickers) in one particular plane.

The photographing of the Kirlian spectrum is one of the physical methods in which the image has a much better quality on photographic film. The experiment shows that for different water a different electric aura is obtained. With the increase of temperature, the dielectric permittivity is reduced. The dielectric permittivity of water is high and this is important for its properties as a solvent. Kirlian auras of water droplets show that different water perceives differently the electric field. Peaks in the spectrum of plant sap and mineral water, which interacts with calcium carbonate are found at -0.1112, -0.1187, -0.1262, -0.1287 and -0.1387 eV. A study is made of a control sample with deionised water and the same water after an influence by Dipl. Eng. Drossinakis with biophysical fields. At the

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same time color Kirlian auras of both samples are made. In the spectral analysis of the same water the following peaks are observed - at - 0.1112, -0.1187, -0.1262 and -0.1387 eV. The graph shows a statistically reliable result upon bioinfluence of a group of 30 people. Analyses show a bio-resonance interaction between biophysical fields and water molecules. Peaks are associated with the formation of relatively stable cluster formations. The result is valuable because it shows the possibility of using biophysical fields on a bio-resonance principle to store biological structures. Prof. Dubrov, the creator of the bio-resonance theory, shows the reality of bio-resonance interaction in living organisms.

With color Kirlian spectral analysis, Dr. Ignatov (2007) shows how the bioelectrical Kirlian aura of man looks like during bioresonance interaction of biophysical fields. The basic color is blue-green (cyan). This color is observed in the bioelectric auras of plants and is an "indicator" for selective gas discharge for "vital" energy. A related evidence is that the Kirlian auras of inorganic objects and water droplets do not have a blue-green (cyan) color. Experiments with the electric aura of water droplets prove the self-organization as a result of the polarization of water clusters with a tendency to store information in a living cell. The best structuring belongs to the water molecules in mineral waters that interact with calcium carbonate and then to sea water, depending on their polarization. A parallel spectral analysis of water shows that the water with the more pronounced electrical auras has more pronounced peaks in the spectrum. In the ancient atmosphere there were electric discharges and the indicated analyses show a tendency for ordering and self-organization of water clusters.

Regarding the storage of information from clusters of water molecules, it is considered that a major role in the origin and self-organization of living cells belongs to the deuterium bonds.

Experiments and analyses indicate close quantum-mechanical distribution according to energies of water molecules between a liquid, which is directly connected with the vital activity of a plant, and mineral and karst water. Mineral water in springs and geysers flows with a nearly constant composition, and long enough. In contact with calcium carbonate (CaCO_3), sulphur (S) and other elements (Na, K, Ca, Mg, etc.), stable cluster formations are established. And since the external factor is repeated, they are more difficult to destroy. Energy required for maintaining the self-organizing structures directly depends on the heat from the volcanic activity and the magma. It also depends on the solar energy. Entropy depends on the amount of heat and the self-organized structure does not self-destruct because the energy balance is maintained. The amino acid glycine, which is the basis of protein, has been found in the Tempel comet. These scientific advances show that the "building blocks" of life have existed in the origination of the Solar system and the Earth. On our planet the molecules fell in the aquatic environment of evolution. Amino acids and water clusters began to self-organize. This activity was maintained with energy from the magma, the volcanic activity and the solar activity.

ANPASSUNGSPROZESSE DER GEHÖRORGANE INFOLGE DES UMSIEDLUNGSVORGANGS BEI NORDLÄNDERN- MIGRANTEN

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Die Aktualität des betrachteten Materials wurde durch die hohe Häufigkeit der Gehörpathologien, bei denen eine Verschlechterung und eine Veränderung ihres Verlaufs vorliegen, begründet. Die größte Bedeutung besitzt dieses Problem für die Bewohner des Ostsibiriens wegen den dort herrschenden extremen klimatischen Bedingungen.

Die heutige mit verschiedenen Informationen überfüllte Welt stellt enge Anforderungen an die Gesundheit ihrer Gesellschaftsmitglieder, einschließlich des Gehörs. Es ist bekannt, dass bei der Einwirkung von extremen natürlichen Faktoren in Ostsibirien, sich bei den Bewohnern einige spezifische morphologische, metabolische und physiologische Besonderheiten bilden. Sie manifestieren sich dann in der Form von pathologischen Prozessen.

Während der letzten Jahre zeigte sich eine Tendenz zur Erhöhung einer Patientenzahl mit der Schwerhörigkeit, die meistens auf eine Erkrankung des Innenohrs zurückgeht. Das hängt mit der Einnahme von ototoxisch wirkenden Medikamenten, einer großer Zahl der Patienten mit den erblichen und angeborenen gesundheitlichen Störungen, den Umweltfaktoren und anderen Gründen zusammen.

Nach den Angaben der Weltgesundheitsorganisation leiden von 4% bis 7% der Weltbewohner an Störungen der Hörfunktion. Bei den Erwachsenen sind es 17,6 von 1000 und bei den Kindern – 1,2 von 1000. Die Anzahl der Patienten mit Hörstörungen in der russischen Föderation übersteigt die Größe von zwölf Millionen Menschen.

Untersuchungsziel: Den Einfluss von solchen Faktoren, wie Alter, Krankheitsdauer, Krankheitsursache, Krankheitserscheinungsform und Aufenthaltsdauer im Norden bei den Nordländern - Migranten mit den Herz-Kreislauf-Erkrankungen auf die Schwerhörigkeit zu erforschen.

Materialien und Methoden: Es wurden die Nordländern – Migranten (n=197) im Alter von 50 bis 80 Jahren mit solchen Herz-Kreislauf-Erkrankungen, wie koronare Herzkrankheit, Bluthochdruck, Arteriosklerose und andere, beobachtet. Man führte eine komplexe audiologische HNO-Untersuchung mit Hilfe vom Otoskop und den diagnostischen Audiometer AD-226, sowie kardiologische und statistische Untersuchungen durch. Der Zusammenhang zwischen den untersuchten Indikatoren einer Hörstörung und der Form und Schwere einer Herz-Kreislauf-Erkrankung wurde mit der Methode der Korrelationsadaptometrie festgestellt.

Ergebnisse: Die Untersuchung ergab folgendes: Es stellte sich heraus, dass bei der Beeinflussung der Schwerhörigkeit durch das Alter von Nordländern – Migranten das größte

Risiko bei der Gruppe von 50 bis 60 Jahren liegt. (Gewichtswert der Korrelationskurve $G = 132,57$). Die Erforschung vom Krankheitsdauereinfluss des Herz-Kreislauf-Systems auf die Form und Schwere der Schwerhörigkeit ergab einen direkter Zusammenhang: der maximaler Gewichtswert ($G=156,47$) lag bei der Gruppe mit der längsten Krankheitsdauer. Ebenfalls ein direkter Zusammenhang ergab sich bei der Untersuchung von der Form und Schwere einer Herz-Kreislauf-Erkrankung auf die Entstehung von der Schwerhörigkeit.

Der größte Gewichtswert der Korrelationskurve G erhöhte sich bei den Patientengruppen mit dem ersten und dritten Grad des sensorineuralen Hörverlusts bezüglich auf den Stress, den Schlaganfall und den Rauchen. Ebenfalls deutlich wurde der Einfluss der Aufenthaltsdauer im Norden auf die Entstehung der Schwerhörigkeit. Er zeigte sich in den hohen Gewichtswert der Korrelationskurve ($G=147,59$) bei der Gruppe mit der längsten (vierzigjährigen) Lebenszeit im Norden. Aus diesen Untersuchungsergebnissen erfolgt ein sehr enger Zusammenhang zwischen den Modellvariablen.

Auf dieser Weise stellte sich durch die entdeckten Hörerkrankungsbesonderheiten bei den Nordländern – Migranten heraus, dass ein zuverlässiger kausaler Zusammenhang zwischen der Form, den Schwerhörigkeitsgrad, dem Alter, der Krankheitsdauer, der Aufenthaltsdauer im Norden, Krankheitsursache, sowie der Form und Schwere einer Herz-Kreislauf-Erkrankung besteht.

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**PERSPECTIVES TO USE PROTEOLYTIC ENZYMES
IN TREATMENT OF HERPESVIRAL INFECTIONS**

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High morbidity with herpesviral infections (HVI) represents one of the most important problems for healthcare worldwide. Herpesviridae (HV) are pantropic, and can target all organs and tissues in host, thus, resulting in latent, acute, chronic, and slow infections. Altogether, it defines HVI as a systemic disease which should be considered as an interdisciplinary medical problem.

Recurrent genital herpes (RGH) is detected in youngsters and middle-age adults, where 76% of cases were due to HSV-2, whereas HSV-1 was found in 24% (St. Petersburg, Russia). Moreover, RGH was shown as mono-infection in 27% of all examined patients. Patients with at least six relapses of RGH per year were found to have reduced production of endogenous IFN- α and IFN- γ , which was accompanied with lowered activity of CD16⁺ NK cells as well as CTL cytotoxicity, decreased absolute numbers of both total T cells and CD4⁺ T cells (and decreased functional activity). In addition, it also revealed decreased numbers of neutrophils and their activity, but increased content of immune complexes. In women with RGH they were shown to have intestinal and vaginal dysbiosis. These immune disturbances were found both during relapse and remission.

Modern antivirals which are used to quickly control relapses of RGH, however, do not prevent new recurrences, nor do they reduce its frequency. Moreover, long-term antiviral therapy is not always applicable. Thus, all these issues mentioned above predetermined that in order to treat RGH a complex systemic therapeutic approach should be used. Altogether, it underlies a reason that in 1991 we proposed a four-stage complex therapy. Since then more than 800 RGH patients were treated by using this method.

Stage 1 – treatment of acute phase. Antivirals with different mode of action should be combined with compounds having immunobiological effect: Valacyclovir or Famiciclovir, recombinant Interferons (IFN) or IFN inducers (Isoprinosin, Kagocel, Cycloferon the having identical mechanism of action with Imiquimod), immunomodulators, systemic enzyme therapy (SET). Wobenzym (Mucos Pharma, Germany) has anti-inflammatory, anti-edemic, fibrinolytic, immunomodulatory, secondary analgetic, antiviral effect, and immunoregulatory effect: stimulation of IFN production, increased NK cell activity, normalized Th1/Th2 balance, decrease of pathology-associated pro-inflammatory fibrosis-inducing cytokines. Usage of medicines with different mode of action provides with synergistic and additive effect.

Stage 2 – treatment of early remission (d8-15 of relapse). Main goal – to reach clinical and immunological remission, to prepare a patient for vaccine therapy. For this immunomodulators, phytogetic adaptogens and SET should be used.

Stage 3 – specific prophylaxis of herpes relapses is reached by using inactivated divalent vaccine together with IFN inducers. All medicines should be used until clinical and immunologic remission is reached (in 3-4 weeks). Goal of vaccination – to restimulate cellular immunity, perform its immunocorrection as well as specific desensibilization. Vaccine is injected by intradermal route, according to allergometric scale that allows to determine max. lowest working dosage of anti-herpetic vaccine. By using vaccine in this way increased amounts of CD4⁺ and CD8⁺ T cells as well as CD16⁺ NK cells are achieved. Such positive changes are important as all these immune cells are involved in developing protective immunity during RGH. Moreover, vaccine therapy results in significant increase of blood serum IFN- γ in parallel with simultaneous decrease of IL-4 suggesting Th1-skewed polarization of immune reactions.

Stage 4 – dispensary observation and rehabilitation of patients with RGH. Proactive follow-up of patients together with clinical and laboratory monitoring should be prioritized, sites of chronic infection should be cured; immunorehabilitation must be carried out. Pathogenetic therapy based on patient's status should be performed (SET, prebiotics etc.). Patient should be consulted by psychotherapist, immunologist, and neurologist. Course of vaccine therapy may be repeated to provide with further prophylaxis of RGH.

Thus, basing on the proposed multi-stage complex therapy period of remission for RGH was increased at least three-fold, and it was accompanied with improved quality of patient's life.

E. Ivanova
N. Vorobeva

**EFFICACY AND SAFETY OF HEMATOLOGICAL
OF PHOSPHAZIDE OF HIGHLY ACTIVE ANTIRETROVIRAL
THERAPY FOR HIV-INFECTED PATIENTS: 48 WEEKS
OF TREATMENT**

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Key-words: HIV, antiretroviral therapy, hematological safety, Phosphazide

Background: explore the effectiveness and the hematological safety of the Russian antiretroviral drug Phosphazide (FAZT, Nikavir) - pro drug zidovudine regimens of HIV-infection.

Methods: In 2009 - 2010 of the AIDS & Infectious Diseases Center, Perm, Russia conducted the study on the effectiveness and the hematological safety of Phosphazide in Highly Active Antiretroviral Therapy (HAART) for HIV-infected patients was conducted. The study included 36 patients 19-38 years, 23 women and 13 men with the A2 (2 pers.), B1 (2 pers.), B2 (30 pers.) and B3 (2 pers.) stages of HIV-infection (CDC, USA, 1993). They were divided into two groups: the first - 18 patients with mild or moderate severity anemia and received Phosphazide (FAZT)+3TC+EFV; the second group, with no hematological disorders, 18 patients received - CBV(ZDV/3TC)+EFV. In all patients, RNA HIV was > 100.000 copies/ml and CD4+ <350 cells/mm³. Treatment was conducted for 48 weeks according to national protocols of treatment of HIV infected adults. Phosphazide (NIRT class) produced by "AZT FARMA K.B." ltd. - Phosphorylated derivative of zidovudine, was given per os in the form of tablets of 0.4 g twice a day. 3TC and EFV were used at standard doses. The effectiveness of treatment was evaluated by clinical, immunological and virological criteria. CD4+ blood cells were counted with "FA CS Calibur" BD using flow cytometry and Simultest IMK Plus ("Beston Dickenson", USA) monoclonal antibodies. Pretreatment and post 4-12-24-36-48 weeks treatment RNA HIV concentration was estimated with real time PCR method and Amplicor HIV-1 Monitor v.1.5; "Khoffman-La Roch" (sensitivity ~ 500 copies/ml). Monitoring the dynamics of changes in clinical blood was performed with hematologic analyser MEK-7222 w.

Results: Phosphazide therapy, resulted in reduction of viral load by 1.5-2 log₁₀, starting from 4 weeks of treatment. This effect was more expressed in group 1 patients. In the next 48 weeks the figure was ~ 500 copies/ml, indicating the virological efficacy. Prior to the start of therapy the average level of CD4+ lymphocytes was 155+28x10⁶/l, 4-12 weeks there was a tendency to increase CD4 cell counts to 209+26x10⁶/l, respectively. At 24 weeks the figure was statistically significant 298+34x10⁶/l (p<0.05), indicating the restoration of the immune status of patients. After 48 weeks of therapy cellular restoration rate was higher (by 2.4 times) then in group 2 patients (by 1.6 times). There was no

clinical progression of HIV infection.

After 48 weeks of treatment, significant reduction in peripheral blood parameters in patients from both groups was found. In contrast, hemoglobin levels in patients from the first group of observations have significantly increased; starting from 4 weeks of antiretroviral therapy including Phosphazide compared with baseline, and remained stable until the end of the study. There was a tendency to reduce the level of platelets, leukocytes and lymphocytes in groups' patients at 4-12 weeks from the start of HAART.

Conclusions: therapeutic efficacy of Phosphazide – pro drug zidovudine in antiretroviral therapy, was established most the potential drug. This allows regarding Phosphazide in the treatment of HIV-infection. We can recommend alternative antiretroviral regimens including Phosphazide for patients with anemia of mild to moderate severity.

O.V. Kalmin

MORPHOLOGICAL FACTORS OF THE MECHANICAL STRENGTH OF PERIPHERAL NERVES

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Biomechanics of the peripheral nervous system is one of the pressing problems of functional neuromorphology whose solution has practical importance in connection with the prevalence and severity of medical and social consequences of damage to the nerve trunks. The least studied in the biomechanical reliability of nerves is the question of the sequence included in the process of deformation of structural elements in the transition of small deformations in the large. In this regard, the aim of our study was to examine the influence of the structural elements of the nerve trunks of varying degrees of tension.

Material studies provided the median and ulnar nerves of 78 corpses of adults 21-60 years of both sexes. Strength-strain properties of nerves have been studied by tensile testing machine, change the architectonics of the constituent elements under strain - in histological preparations stained with hematoxylin-eosin, picrofuchsin and impregnated with silver nitrate on the Gros-Bilshovsky-Campos.

The study showed that under tension to 5-7% of the initial length of the elongation of the nerve occurs, firstly, by straightening the folding of nerve bundles, nerve fibers and connective tissue membranes and, secondly, stretching the elastic fibers. At this stage, a relatively small deforming load causes a significant lengthening of it. Subsequent deformation to 10-13% of the original length of the nerve requires a substantial increase in workload. In this case, it is observed stretching of connective tissue membranes lost waviness of collagen fibers. Adaptation of the nerve fibers to increase the length of the nerve occurs at the expense of smoothing their undulations are a small residual pool of a strain. At this stage the dependence of the "load-strain" is nonlinear and does not obey Hooke's law.

Thus, under small strain stretching of the nerve occurs at the expense of connective

tissue, and mainly elastic fibers. Structures that determine the strength and elasticity of the nerves at small strains, are their connective tissue sheath and epineurium in the first place. The thickness of the epineurium and the total area of connective tissue in the cross-section of the nerve is most closely correlated with its biomechanical properties at this stage of deformation.

In the second phase of deformation is stretching as collagen and elastic, so as nerve fibers. For small strains, the collagen does not significantly affect the strength properties, but clearly defines them in case of overload. At the stage of large strains over 20-22% protective role of biomechanical epineurium is exhausted and its connective tissue fibers with increasing strain are destroyed. The main factors of anti-elongation at this stage are the nerve fibers and perineurium. By 25-30%th threshold stretch nerve fibers pass into the phase of plastic deformation and start to disintegrate. Nerve trunk retains its external anatomical integrity by perineurium. High strength is determined perineurium laminated, large thickness of layers and different orientation of the connective tissue fibers.

Thus, the structural foundations of biomechanics of nerves at the stage of small and large strains are different. When they stretched up to break a gradual transition of security functions from one set of structural components to the other. At the initial stage of shock-distorting load is the epineurium, and the stage of large deformations close to the break - perineurium. Furthermore, it should be borne in mind that stretching of the nerve causes a narrowing of its perineural sheath, naturally leading to a rise intratruncal pressure, compression of nerve fibers and intratruncal blood vessels and, consequently, conduction abnormalities before the appearance of macroscopically visible changes.

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**VERWENDUNG DER A-LIPONSÄUREDERIVATE BEI EINER
KOMPLEXEN BEHANDLUNG VOM DIABETISCHEN FUSS**

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Akute eitrige Entzündungen des Weichgewebes der unteren Extremitäten sind die häufigsten Komplikationen bei Blutzuckererkrankungen. Der Infektionsprozess verschlimmert nur noch den schon infolge von Angio-und Neuropathie gestörten Blutfluss. Die oben genannten Erkrankungen werden meistens von starken Schmerzen und Blutgerinnselbildung in den beschädigten Blutgefäßen begleitet, was öfters als absolute Indikation zur Amputationen angesehen wird.

Es ist offensichtlich, dass unter solchen Bedingungen, zusammen mit einem chirurgischen Eingriff, der sich auf die Öffnung und den Abfluss des eitrigen Herdes und die Entfernung von nekrotischem Gewebe richtet, eine Anwendung von Medikamenten zur Blutflussverbesserung und Schmerzlinderung zum wesentlichen Bestandteil einer komplexen Behandlung dazugehört. Angesichts der Notwendigkeit einer Therapie von

jedem Symptom, fällt der Wahl auf die a-Liponsäurederivate. Tiogamma gehört zu einem von diesen Präparaten.

Wir haben 47 Patienten mit den Phlegmonen der unteren Extremitäten im Laufe von 2009 und 2010 beobachtet. Bei 28 Patienten (59,5%) wurde eine Dekompensation festgestellt. Allen Patienten wurde eine Notwendigkeit einer Notoperation festgestellt, den 32 Personen (66,7%) sogar eine Amputation vorgeschlagen. Davon haben 8 Patienten (16,6%) es jedoch verweigert. Bei den anderen wurden eine Öffnung der Phlegmone und die Entfernung von nekrotischem Gewebe durchgeführt.

Alle Patienten wiesen, ungeachtet der chirurgischen Eingriffe, ischämische Schmerzen auf. Das deutete auf eine Angio- und Neuropathie, was auch bei einer neurologischen und Doppleruntersuchung festgestellt wurde.

Zur Linderung diese Schmerzen verwendete man bei einer komplexen Behandlung das Medikament „Tiogamma“. Es wurde als Infusionen mit Kochsalzlösung verabreicht. Die Ergebnisse zeigten, dass die Schmerzen in 73% der Fälle einen erleichterten und weniger intensiven Charakter aufwiesen. Auch insgesamt zeigte sich durch diese Behandlung ein positiver Effekt.

Bei den Patienten, die eine Amputation verweigerten, erlaubte die Verwendung von „Tiogamma“ ebenfalls, schonende Amputationen durchzuführen. Angesichts der oben genannten Daten halten wir die Aufnahme von den a-Liponsäurederivate in eine komplexen Behandlung für zwingend notwendig.

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HYGIENIC EVALUATION OF MICROCLIMATE OF THE DRIVER'S VEHICLE

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The efficiency of the bus driver is largely determined by the microclimate in the cockpit. Excessively high or low temperature limit the ability of operations management bus. Found that the temperature of air in the cabin of a car affects the number of errors made by the driver, and therefore the number of accidents.

Under the influence of heat from the driver drops the attention, the precision and reaction speed. A significant increase in temperature leads to large losses of moisture body, which in turn affects performance. The cold also leads to increased sensitivity to pain, which leads to more cautious, and hence the intense traffic, tiring the driver. With an increase in skin sensitivity endurance muscles of the hands is reduced by 20-30%.

Microclimate in the cabin depends on the heating, ventilation, and a number of design parameters of the car (cabin leak, the location of the engine, its thermal insulation, heat and

thermal conductivity of materials, the degree of glass cockpit, etc.). Significant role in the formation of microclimate in buses and cars can play a number of passengers, the number and frequency of stops with the opening of doors, engine operation, etc.

Microclimate of cabins must meet the optimal performance, i.e. have such an impact on the driver's body, which not only would cause disturbances in the state of health, state of health of the driver, but also conducive to maintaining its efficiency

Such a climate can be maintained only by air-conditioning systems. It should be borne in mind that the classification of drivers on the severity rather conditional, since the driver's energy consumption while driving greatly vary, depending on the category of roads, terrain, speed and quality of traffic organization, the technical condition of the car.

In our view a list of hygiene for the microclimate of cabins must be included and acceptable standards that are tailored to the principles of priority health issues to economic indicators and technically accessible.

According to published data of air temperature from +18 to +30 °C in the management of a moving vehicle does not cause significant changes in the level of attention, speed of visual-motor reactions and ability perception of time intervals.

At the same time it was established experimentally that when +32.2-33.3 °C slows down the thinking process, associative memory, accuracy and speed of action. The extent of this reduction increases with higher and lower humidity. Renin G.N., Afanasieva R.F., recommends the following acceptable standards at a relative humidity of 75% (in the cold season), but in the warm period of 55% - Temperature-28 °C at 60% -27 °C at 65% -26 °C, at 70% -25 °C at 75% -24 °C and below.

Permissible temperature of the air in cabins of buses must meet SNAR RK 2.04.01.2001 «Building Climatology».

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HYGIENIC CHARACTERISTICS OF THE EFFECT OF NOISE AND INFRASOUND ON THE BUS DRIVERS ORGANISM

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Currently, Almaty refers to one of the most polluted and environmentally threatened cities in the world. This is facilitated by increasing from year to year a huge number of vehicles. It is assumed that every family has a 2 - 3 cars. Currently, the city recorded 600 - 750 000 units of vehicles and urban highways almost do not provide a normal car traffic.

One of the major industrial hazards that affect the organism drivers are physical factors (noise, vibration, ultrasound, etc).

Exposed to noise may cause not only all sorts of physical illness but also mental health.

The driver in the workplace subject to a double load of noise factor - the actual production of noise, which arises from the engine passenger vehicles and so-called urban noise, a large percentage of which is traffic noise from all other types of vehicles.

Studying diverse nature of the traffic noise - presents considerable difficulties because individual sensitivity to noise and the nature of reaction to noise exposure in humans are different. Noise prevents the work, disrupts sleep and prevents verbal communication, can damage hearing and cause other reactions of organism.

There is no doubt and the important role of noise as one of the factors contributing to decreased performance in real conditions and changes in the health of bus drivers. Remains controversial question of hygienic regulation of noise in the cockpit. It is quite clear that the noise must be normalized by taking into account its impact on the body of the driver together with other factors, especially with severe nervous - emotional stress. Permissible noise level in the cabin looking cars should be recognized 60 dBA. Denisov E.E and collaborators (1984) suggest the following specifications: passenger taxis and buses - 50 - 60 dBA, trucks and cars - 60 - 70 dBA; SUVs - 70 - 80 dBA. To eliminate the negative impact of noise on the organism drivers must be further study of problems of internal noise of passenger vehicles in an environmentally troubled city, which is the city of Almaty, in order to find the optimal parameters of this factor does not have an adverse effect on the organism.

In recent years there have been reports in the literature on the impact of other physical factor- infrasound on the drivers organism. The main sources of infrasound is the car itself. According to Shaypak E.Y (1981) in the cabs of trucks and buses at 2 - 16 Hz infrasound level is 107 - 113 dB, and 3.5 Hz, octave with steeply declining. Effect of typical vehicle levels of infrasound on the body manifests itself in the driver's inhibitory effect on the central nervous, respiratory, endocrine and other systems on the state of which depends largely on its performance and hence safety. Therefore, the reduction of infrasound in the cab remains an urgent task in addressing the general problem of optimizing the working conditions of drivers of passenger vehicles.

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CURRENT ISSUES OF SAFETY AND HEALTH OF MEDICAL WORKERS AT THE PRESENT STAGE

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In recent decades, the nature of the doctor's have been great changes. The amount of harmful and dangerous production factors due to a new health-care facilities (X-ray machines, electronic, electromedical, laser, ultrasound equipment and installation over frequency settings, medical hyperbaric chambers) and a large number of drugs that can cause contact dermatitis, inhalation

poison, radioactive substances etc. And finally, dramatically changed the incidence of infectious diseases easily transmitted from patient to doctor.

This HIV infection, tuberculosis, hepatitis B and C and some other diseases, called extremely dangerous infections.

Retain their traditional importance of hygiene factors unfavorable microclimatic conditions (temperature, humidity and air velocity). Especially frequently in adverse weather conditions are complaining surgery and dentistry, whose work involves physical effort for a long time and therefore there is always the threat of overheating of the body.

In the procedural manipulation and dental offices are not on the agenda of contact with chemicals that cause allergic reactions.

In the absence of the current system of state social protection of doctors and lack of attention to the problems of poor quality of life of doctors, the medical profession has ceased to be a prestigious.

It is no secret to low salaries of health workers. However, their work belongs among the most complex and critical human activities. It is characterized by significant intellectual stress, and in some cases requires great physical effort, endurance, attention, and high ability to work in extreme conditions.

Given the wide spectrum of professional factors affecting health care workers, it seems urgent problem of occupational morbidity of this population, and in recent years, it has a tendency to increase. Leading factor in the production environment, giving rise to occupational diseases in health care workers are the biological factor, the proportion of which is an average of 73%, medication-16%, chemicals-11%.

The structure of occupational diseases, health workers predominate such nosological forms, such as pulmonary tuberculosis, 51%, hepatitis B 16%, an allergy drug medication - 8%, bronchial asthma - 8%, eczema and dermatitis - 4%, other-13 %.

Should be specially emphasized that a large proportion of occupational diseases accounted for nurses, and they tend to occur in workers with less than 5 years.

Chronic stress in large measure responsible for the decline in life expectancy and higher morbidity among health care workers, compared with other professions.

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HYGIENIC EVALUATION OF THE INFLUENCE OF SOME INDUSTRIAL FACTORS ON THE EFFICIENCY OF BUS DRIVERS AT URBAN TRANSPORT IN ALMATY

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Almaty is one of the most polluted cities in Kazakhstan. This contributes both to its geographical location, and the large number of different types of vehicles. Almaty is located

in an extremely unfavorable weather conditions, impeding the natural self-purification of air, since the 3-surrounded by mountains.

Worked as a driver associated with greater neuro-emotional stress, requiring constant stability and concentration. In addition to bus drivers affected by a number of harmful factors: poor working environment (temperature, humidity, air velocity), noise, vibration, infrasound and ultrasound, various gases and vapors of chemical substances (carbon monoxide, hydrocarbons, nitrous oxide, etc). One of the main indicators of health status of drivers is their performance, which is determined by the state of physiological systems. Significant impact on the level of efficiency involving factors of physical and psychophysiological nature. Thus, the lack of road lighting, the presence in the field of view of blinding sources, weak contrast of the object relative to the background, etc. leads to a rapid decrease in efficiency, and hence the reliability of the driver. On the health status affects a number of factors (mental stress, exercise, physical and chemical factors and microclimate production environment). The impact of these factors increases, especially in the context of a specific hot climate and ecological trouble in Almaty.

Negative impact on the performance of bus drivers have the exhaust gases that enter the cabin. The composition of these gases include carbon monoxide, nitrogen oxides, aldehydes, acrolein, ethane, methane, propane, butane, acetylene, etc. Once in the driver's body through inhalation, carbon monoxide causes oxygen starvation nitrogen oxides - irritation of the mucous membranes, cough, shortness of breath; aldehydes - a runny nose, chronic catarrh of the throat, acrolein - cramps in his eyes, watery eyes, coughing, sneezing, impaired heart function etc.

Noise causes the deterioration of muscle performance driver, reduces visual acuity, stability of clear vision, sensitivity to orange-red color, the level of attention and its distribution. As a result of noise decreases the accuracy of determining the distances between objects on the road, the time intervals. Noise is usually accompanied by vibration. The combined effect of these factors on the performance is usually stronger than each separately. Static muscle tension, resisting change in the normal position of the body as a result of acceleration, vibration leads to an increase in energy expenditure.

Thus, our results showed that the health status of drivers affected by a number of adverse factors of production environment (temperature variations, noise, vibration, carbon monoxide, nitrogen oxides, etc.).

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**HYGIENIC CHARACTERISTICS OF VIBRATION EFFECTS
ON THE BUS DRIVERS ORGANISM**

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Protecting people from the adverse effects of vibration is one of the most urgent tasks in even the most industrialized countries.

Vibration of jobs on the source of shares for transport, transport-technological and technological. Drivers of motor vehicles subject to general and local vibration. On the jobs transmitted high-frequency jerky vibration indiscriminate nature arising in the course of movement of vehicles on uneven surfaces or moving parts of machinery. In addition, the driver's workplace, including on the government passed the vibration resulting from engine and transmission.

Prolonged exposure to vibration leads to the development of an organism drivers persistent violations, united by the notion of "vibration disease". At the combined effects of noise and local high frequency vibration developed peripheral circulatory disorders, which are based on spasm arteries (obliterative endarteritis, combined with hypertension.) Working in the driver's seat as the local effects (such as the hands and feet) and overall vibration transmitted to the whole body (vibrations seat). Prolonged exposure to vibration affects the quality of attention and precision action.

Vibration disease develops, usually after several years of work. It is very typical complaint numb hands and toes, pain in arms and legs, especially after work and at night, frequent cramps in the fingers, unexpected short-term weakness in the hands, increased sensitivity to the overall cooling of the body and especially the cooling of limbs, disturbance of pain sensitivity of the hands and feet. When expressed forms of the disease is dominated by disturbances of the central nervous system and vestibular system (dizziness, chronic headaches, intolerance to shake). Current study found that the vibration on the driver's seat is for a broadband random process.

The maximum values of vibration is concentrated in the frequency range 1 to 125 Hz, especially 8.2 Hz. Levels of vertical vibration in the modern city buses have the highest values (up to 135 dB). In marked low-frequency nature of the spectrum.

Characteristics of vibration on the corrected level indicates that the truck he is 108-122 dB at 100-118dB cars, buses - 105 dB. Over the past few years has become very topical problem of hygienic standardization of harmful factors of physical nature, which is the noise, vibration, ultrasound and infrasound in the cabs of drivers of urban transport. As shown, the old regulations should be carefully reviewed and redrafted.

Thus, an analysis of published data and studies have shown that the drivers of urban transport has an impact vibration, which cause serious disturbances in the body of drivers.

In this connection it is necessary to develop a series of preventive measures consisting of technical, sanitary and health-care, and, above all, as noted above, the need to develop new standards of hygienic regulation of vibration.

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SICKNESS RATE CAUSATION IN POPULATION EXPOSED TO HIGH ENVIRONMENTAL POLLUTION

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It is known that there may be summation of the effects of many toxins that determines the nature of their complex adverse effects. In circumstances where there is a long-term effect on the body of heavy metals, man-made radionuclides may develop nonspecific effects of intoxication, immunosuppressive status and background of the activation of different pathogens in the human body.

To study the influence of some anthropogenic factors on the incidence of population in the regions adjacent to the test missile nuclear test sites in Western Kazakhstan, as a unit of the mathematical model has been used multiple correlation and regression analysis between the incidence of the population these regions (modeled feature Y) and actual chemical load (RHN), heavy metals and radionuclides (factor signs - X1, X2, X3, etc.), namely: Zn, Pb, Cd, Co, Ni, Cu, Mn, Fe and ¹³⁷Cs with food as a vegetable, so and animal origin. After stepping through the definition of valid variables and insignificant exceptions, a number of predictive mathematical models.

The relationship between the real load of heavy metals in plant and animal foods and the level of morbidity of population in the region of western Kazakhstan test sites for the classes "Infectious and Parasitic Diseases" (Co, Zn), «Neoplasms» (Fe, Ni), «Diseases of the circulatory system» (Co), "Diseases of the digestive system» (Fe, Cd).

At the same time, the regression equation revealed that the morbidity of the population of the region, by class of "Diseases of blood and blood-forming organs", "Endocrine disorders, nutrition and metabolism", "Congenital malformations, deformations and chromosomal abnormalities" had a direct correlation with real nutritional stress not only by heavy metals (Co, Pb, Cu, Zn, Cd), but also technogenic ¹³⁷Cs.

This situation indicates the presence of the combined effects of hazards caused by missile and nuclear tests, on public health. That is, high levels of the incidence of population of the region, on the above classes of diseases are associated with the influence of complex chemical and physical factors. In this case, radiation (physical) factor from our data is caused by internal irradiation of ¹³⁷Cs in the body through the consumption of a population of animal food products produced locally.

Thus, the results obtained in the course of multiple correlation and regression analysis

between the incidence of the population in the region of western Kazakhstan test sites and the actual nutritional chemical load, allow for the hygienic prediction required for the organizational and preventive measures aimed at reducing the health risks of harmful anthropogenic factors.

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PHENOMEN OF IMPELLENT FRUSTRATION AT PATIENTS WITH CHRONIC VENOUS INSUFFICIENCY OF THE BOTTOM EXTREMITIES

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Purpose: To improve long-term results of operative treatment of patients with chronic venous insufficiency of lower extremities by use of biomechanical methods of functional diagnostic.

Methods: With the aim of complex functional diagnostic of venous and musculoskeletal system conditions were used: Dopplerography and Doppler mapping, podometry, goniometry, plantography, X-ray and optical projecting computer investigation of bearing, functional electromyography.

452 pathients were examined at the age of 18 to 85 (middle age - 51,5 12,5 years) with chronic venous insufficiency C3-C6 class of CEAR. 164 of them (37%) are men and 288(63%) are women. Most of them are ill more then 5 years. The life quality of patients in long term postoperation period was analyzed with the help of questionnaire “SF36 Health Status Survey”.

Results: The results of examination of patients (C3-C6) showed that 56% have scoliosis, 28% - osteohondrosis, 89% - dysfunction of foot configuration, 45% - osteoarthritis. The most evident pathology of musculoskeletal system have patients with active trophic changes of soft tissues of lower extremities. Were noted pathological changes of internal temporary structure of step cycle and lowering locomotion, especially in ankle joint. There is a physiological reaction of unloading of affected extremity with pathological displacement of gravity (C3- C4a) projection centre. In C4b-C6 - there is an overwork of affected extremity.

In early term postoperation period was noted the increase of life quality coefficient. Were also increased physical functioning and role-physical functioning, general health and vitality. But 6,24% patients remained with pain which was before operation, and also convulsive syndrome. In long term period the amount of patients with pain syndrome was decreased, and was only 2,3%. The sense of heaviness, which appears during heavy physical activity, had 3,85% patients. Edema of distant part of lower extremities had 2,8% of patients, and 4,9% kept convulsive syndrome. In long term postoperation period index of life quality is but staying rather low in comparison with health people.

From our point of view, the appearance of complaints and low life quality coefficient of part patients in long term postoperative period thought to be because of concomitant pathology musculoskeletal system. An absence of adequate treatment is the main reason of life quality decrease.

Conclusion: Rehabilitation programs before and after operation should be used to stimulate muscle system of lower extremities, recovery amplitude locomotion, liquidation of pathological walk and work on feedback principle.

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ZUSTAND DER MYOKARDPERFUSION BEIM METABOLISCHEN SYNDROM

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Es ist bekannt, dass die Patienten mit einem metabolischen Syndrom eine Risikogruppe für die Entwicklung der Pathologien des Herz-Kreislauf-Systems, insbesondere der ischämischen Herzkrankheit, darstellen.

In dem Zusammenhang war das Ziel dieser Arbeit eine Untersuchung der Myokardperfusion zur Identifizierung möglicher Besonderheiten bei solchen Störungen.

Insgesamt wurden 17 männliche Patienten im Alter von 40 bis 55 Jahren mit den Beschwerden auf paroxysmalen Schmerzen im Herzbereich, Schwankungen des arteriellen Blutdrucks, (bis 200 mm/Hg systolisch und 140 mmHg diastolisch) und Arrhythmie beim maximalen Blutdruck untersucht. Der Gewicht der Patienten lag zwischen 100 bis 140 kg, bei 12 Personen wurden Fettstoffwechselstörungen und bei 10 Personen ein erhöhter Glukoseanteil festgestellt.

Die Untersuchungsmethode bestand in einer Perfusionsszintigrafie mit Hilfe von radioaktiven Technetij und Reagenziensatz (MIBI-technitrite). Die Untersuchungen wurden mit dem ungarischen SPECT "Mediso" -Tomographen durchgeführt. Der Schritt des Tomographen beträgt 5,6°, der Umdrehungswinkel des Detektors um das Herz - von 60° bis 240°, Anzahl der Bilder - 32. Der Schnitt beträgt 4 mm bei allen drei tomographischen Achsen. Die Untersuchung wurde in zwei Stufen durchgeführt. Erste Stufe erfolgte nach einer Stunde seit der Einführung von ^{99m}Tc-MIBI mit der Aktivität von 22-24 mCi, und die Zweite - nach der Einnahme von zwei Nitroglycerintabletten. Die abschließende Bewertung der erhaltenen Informationen wurde in Form einer Herzkarte erstellt, die eine qualitative und quantitative Bewertung des Grades der Perfusionsstörungen bei allen Schnitten und Wänden der linken Herzkammer zeigt.

Eine Analyse der erhaltenen Ergebnisse zeigte, dass der Stenosegrad der Koronararterien nicht immer mit dem Grad der Perfusionsstörungen (ca. 36% der Patienten) übereinstimmt und die Stärke des Schmerzsyndroms nicht den wirklichen Grad der Perfusionsstörungen

(Myokardischämie) bei 46% der Patienten widerspiegelt. Bei den Belastungstests wurde bei 77% der Patienten verborgene Perfusionsdefekte, besonderes bei der Vorderwand der linken Herzkammer, apikalen und septalen Herzwänden, sowie die Anzeichen einer Umverteilung des koronaren Blutflusses (bei 20% der Patienten), festgestellt. Fast bei allen Patienten mit einer Umverteilung des Blutflusses hatte das Belastungsszintigramm ein sehr spezifisches Aussehen, in der Form „einer Blume mit großen Blütenblättern“. Die schwierigste klinische Aufgabe scheint bei der Patientengruppe (ca. 20%) zu liegen, bei denen die Perfusionsstörungen und der Ischämiebereich des ganzen Myokards von der linken Herzkammer nicht mit dem Schweregrad des Schmerzsyndroms zusammenfiel, der viel weniger, als die beobachtete Perfusionsstörungen ausgeprägt war.

Auf diese Weise wurden die allgemeinen und die spezifischen Perfusionsstörungen des Myokards der linken Herzkammer im Ruhezustand und bei einer Nitroglycerinbelastung festgestellt.

Es ist notwendig zu unterstreichen, dass der klinisch-prognostische Wert der Untersuchungsergebnisse der Herzsintigrafie hinsichtlich der Bestimmung der Perfusionsstörungsstufe die Ergebnisse der anderen, sowie Strahlungs- als auch nicht Strahlungsforschungsmethoden übersteigt.

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**· DIE INTEGRATIVE ANWENDUNG
· DES PHYSIOTHERAPEUTISCHEN PROZEDUREN
· KOMPLEXES UND DER PSYCHOLOGISCHEN BEGLEITUNG
· FÜR DIE EFFEKTIVITÄTERHÖHUNG DER PROGRAMME
· ZUR GEWICHTSREDUKTION**

· *Das städtische klinische Krankenhaus Nr. 1, Samara Gebiet,
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Mit jedem Jahr werden immer aktueller für Bewohner Russlands die Probleme, die mit der überschüssigen Masse des Körpers und die Verfettung verbunden sind. Jeder zweite Russe (54 %) hat Übergewicht. Unter den Ärzten haben 24 % Übergewicht und Verfettung. Die Gesundheit des praktischen Arztes zog mehrmals zu Aufmerksamkeit der Forscher heran. In erster Linie wurden die Herz- und Gefäßerkrankungen und ihre Risikofaktoren solche wie Arterienhypertension, der Hyperglykämie, Dyslipidämie beachtet. Außerdem verbunden sich Übergewicht und Verfettung mit solchen Problemen wie ischämische Herzkrankheit, deformierende Osteoarthritis, Gallenstein- Krankheit, nächtlicher Atemstillstand, ein Risiko der bösartigen Tumoren (Brustkrebs, Prostata, Endometrie, Dickdarm). Eine Entwicklung von komplexen Methoden für Korrektur der pathologischen Zustände und ebenso Wiederherstellung der Gesundheit und primäre Prophylaxe bei praktisch gesunden Personen sehen als perspektivste Richtungen der Wiederaufbaumedizin aus.

In der ersten Etappe unserer Forschung haben wir eine Gruppe aus Mitarbeiter unseres Krankenhauses gewählt, bei denen festgestellt waren: Übergewicht (70 %), Verfettung (11 %), Arterienhypertension (64 %), Dyslipidämie (62 %), Hyperglykämie (12 %). Allem waren die Empfehlungen über Körpermassensenkung und über medikamentöse Therapie gegeben. Sie waren auf Gesundheitsverhalten orientiert und sie haben sich mit Korrektur bei ihnen vorhandenen Problemen ziemlich erfolgreich beschäftigt. Für die Mehrheit gelang es wesentlich, die Masse des Körpers zu verringern, aber bei einem Problem "Stillstand auf der Waage" ist die Motivation wesentlich gesunken.

In diesem Zusammenhang war von uns ein komplexes physiotherapeutische Programm angeboten.

Die beobachtete Gruppe hatte 52 Menschen aus Ärzte und Krankenschwestern unseres Krankenhauses. Von ihnen 42 (82 %) waren Frauen (mit durchschnittlichen Alter von 42 Jahre) und 10 (19 %) waren Männer (mit durchschnittlichen Alter von 41 Jahr). Vor Anwendung des physiotherapeutischen Komplexes haben wir einer überschüssigen Körpermaße bei 46 %, eine Verfettung 1 Stufe bei 44 %, eine Verfettung 2 Stufen bei 8 % und bei 2 % war Körpermassenindex 24,0-24,9 festgestellt. Die Erweiterung von Dyslipidämie hat 43 % gebildet, dabei 67 % über seinen Cholesterinwerten keine Ahnung hatten. Eine Arterienhypertension wurde bei 29 %, die Hyperglykämie – bei 6 %, nächtlicher Atemstillstand – bei 5 % Teilnehmern beobachtet.

Nach Abschluss der physiotherapeutischen Prozeduren haben wir die Ergebnisse über Senkung der Körpermaße auf 1-4 kg (durchschnittlich 2,5 kg), eine Reduzierung von Taillenumfängen auf 1 - 7 cm, Normalisierung des Arteriendrucks, Verbesserung des Allgemeinbefindens und emotionalen Hintergrund bekommen. Nach drei Monaten hat eine Reduzierung von Körpermaßen noch auf 2-6 kg (durchschnittlich 4 kg) gebildet. Dabei hat sich die Zahl von Patienten mit der Verfettung 1 Stufe bis zu 32 % verringert, es wurde keine Patienten mit der Verfettung 2 Stufen beobachtet, und die Zahl der Patienten mit einer normalen Masse des Körpers ist bis zu 10 % gewachsen. Arterienhypertension war bei 20 %, Dyslipidämie - bei 31 %, Hyperglykämie – bei 3 %, nächtlich Atemstillstand – bei 2 % festgestellt.

Jedoch macht die Vielfältigkeit von psychologischen Problemen bei Patienten mit der Verfettung unvermeidlich eine Einführung von psychologischem Programm in der zweiten Forschungsstufe durchzuführen. Die anthropometrische Untersuchung, die nach Programm Abschluss durchgeführt ist, demonstriert eine positive Umverteilung des Körpermaßen Indexes. Und Befunde, die nach 6 Monaten bekommen sind, zeigen, dass die Patienten, die am psychologischen Programm teilnahmen, nicht nur die beste sondern auch die stabilste Ergebnisse haben.

Die Schlussfolgerungen:

1. Die Patienten mit einer überschüssigen Körpermaße und einer Verfettung bekommen nach einem bestimmten Ergebnisse in 94 % Fälle das "Stillstand auf der Waage" Problem. Auf dieser Etappe muss man Motivation Mechanismen für weitere Errungenschaft des erwünschten Ergebnisses für Senkung der Körpermaße aktivieren.

2. Eine Einführung in die Gewichtsreduzierung Programm eines Komplexes der physiotherapeutischen Prozeduren hilft ein Gewicht bis zu 6,5 kg innerhalb von drei Monaten zu reduzieren.

3. Eine Einführung von psychologischer Begleitung ins Gewichtsreduzierung Programm lässt zu, ihre Effektivität zu erhöhen (Eine Gewichtsreduzierung auf 8-10 kg für 6 Monate) und den Effekt " Stillstand auf der Waage " minimisieren.

4. Die beste Ergebnisse werden bei Anwendung von den physiotherapeutischen Prozedur Komplexen mit psychologischer Begleitung des Gewichtreduzierende Programms erreichen. Es erhöht ihre Effektivität bei Errungenschaft von besten und stabilsten Ergebnisse.

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**FUNCTIONAL CARDIO-RESPIRATORY RELATIONSHIP
IN SPONTANEOUSLY HYPERTENSIVE RATS
IN EXPERIMENTAL RESEARCH**

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The problem of intersystem relations remains ongoing in physiology. Optimum intersystem collaboration guarantees the reliable functioning of the organism. The clearest example of somato-vegetative interdependence is the well-known cardio-respiratory relationship (CRR). The links between the respiratory and cardiovascular systems are confirmed by many facts: second-line (respiratory wave) blood pressure, registered by blood; phase-related changes in heart rate when lung-internal pressure is lowered and raised (Muller and Walsaw tests); respiratory arrhythmia in heart function; respiratory and pulse rhythm in parasympathetic and sympathetic efferent nerves; heart rhythm and diaphragm nerve and expiratory neuron activity in the oblongata, etc.

At the same time, some CRR manifestations, and its mechanisms, especially in various illnesses, are plainly under-researched. Our studies have investigated comparative aspects of CRR in control laboratory rats and clean-line spontaneously hypertensive rats (SHR).

Acute experiments on Wistar line rats with normal blood pressure have shown that the underlying efferent impulsing in the renal, large and sympathetic cervical nerves has non-grouping, low-amplitude (10-15 μ V) and higher-amplitude (approx. 25 μ V) variations, and variations which group according to pulse and respiratory movement rhythms. Respiratory groupings usually arose at the start of diastole and inspiration, and disappeared at the end of inspiration and the cardiac systole. The total frequency of these sometimes reached 200 or more per second, but was often lower.

The main characteristic of the neurograms of spontaneously hypertensive rats at 5-16 weeks of postnatal ontogenesis is the absence of clear synchronization of background charges, and often an ongoing stream of impulses. As a result of new low-amplitude and higher-amplitude frequency potentials, the underlying impulse frequency usually exceeds 250 beats per second, i. e. 1.5–2 times as fast as the control rats.

Nerve disconnection was carried out to analyze the neurograms in more detail. This showed that the frequency of spontaneous potentials in the postganglion fibers of the nerves of control rats with blood pressure of up to 110 Hg mm ranged from 0.5 to 1.8 impulses/second, with a mean of 1.2–1.8 impulses/second. In hypertensive rats (blood pressure 150–165 Hg mm) this figure was 1.5–3.7 impulses/second. In addition, the spontaneously hypertensive rats showed higher fiber recruitment in the nerve stems.

The intensiveness of the overall neurogram correlates well with average blood pressure. There is every reason to suppose that the activity of the sympathetic nervous system is significantly increased during the onset of genetic hypertension. As shown by analysis, hypersympathicotonia does not simply accompany arterial hypertension, but provokes it. This is amply confirmed by experiments using chemical sympathectomy. Our experiments on 7 control rats and 10 SHR using standard levels of intra-abdominal guanetidin/isobarin (20 mg/ kg daily for 12 days) in the tail, using cuffs with blood pressure sensors, in newborn rats measured systemic blood pressure.

The graph shows that the blood pressure of SHR with sumpathectomy increases considerably more slowly as the rats' age increases, but still continues to increase faster than that of rats with normal blood pressure. Both the control rats and the SHR showed good correlation between respiratory rate and heart rate in ontogenesis. This, sympathectomy (destruction of the sympathetic ganglia), together with a reduction in sympathetic vasoconstrictive flow, significantly hinders the increase of blood pressure, although it does not prevent it altogether. According to our observations, renal denervation, which leads to increased defiltration capacity, slows the increase in blood pressure more effectively.

The data in the literature lead us to the conclusion that SHR become caught in a vicious circle: hypersympathicotonia leads to a decrease in kidneys' filtration capacity, which leads to a disruption to the intersystem relationship, which leads to increased blood pressure, which leads to a disruption to the function of the baroreflex, which leads to hypersympathicotonia.

That the reactivity of the baroreceptor/sympathetic reflex is lower in SHR than in control animals is confirmed by experiments using functional loads (noradrenaline test, short-term occlusion of the carotid artery, hemorrhagia). This hyporeactivity increases with the age of the unhealthy animals, reflecting not only lower sensitivity of the SHR's baroreceptor mechanisms, but also a core disruption to the function.

The tachycardia reaction to short-term constriction of the trachea is typically more marked in healthy rats than in SHR. This is more evidence of lower CRR in the unhealthy animals.

The link between blood circulation and external respiration is sometimes ambiguous,

and can show up in ways particular to individual functional states of the organism under physical and respiratory stress and with cardiovascular illnesses, which clearly indicates the wide variety of mechanisms which can be involved and combined in these systems. In general, respiratory rate is primarily linked to heart rate, and is regulated automatically.

The main conclusion to be drawn from our research is that SHR's CRR is preserved, but reduced, which is not due to age alone. Respiratory rate depends mainly on heart rate.

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K. Akhanchikova

**CHANGES OF RHEOLOGICAL INDICATORS OF ERYTHROCYTES
IN ARTERIAL HYPERTENSION, COMPLICATED
WITH MYOCARDIAL INFARCTION AND STENOCARDIA**

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It is shown that in the case of arterial hypertension, rheological properties of the main carriers of oxygen and metabolites in blood are disordered, though, in case of cerebral ischemic affections these changes are absent. With appearance of the newest methods of erythrocytes' plastic properties research there also appeared a possibility to specify our conceptions about an intensity degree of hemodynamic disorders in the case of vascular system diseases.

Material and methods

In our research were 12 men, who suffered from an arterial hypertension, complicated with stenocardia, and 12 patients with myocardial infarction, 6 women and 6 men. A control group was 15 healthy patients of proper age, 12 men and 3 women. We have examined main rheological determinants of erythrocytes by straight adequate methods in whole blood. Deformability was examined by diffracting osmoscany method, aggregative properties – with the help of piezodynamic method in a microcuvette on installations. The methods used let us estimate not only integral indicators of erythrocytes' deformability and aggregation, but also assess sphericity (S/V ratio), internal viscosity of erythrocytes, aggregations' solidity and the speed of their spontaneous formation in whole equalized blood. The blood was taken from ulnar vein on an empty stomach in the morning into test tubes with heparin at 150 units/ml.

Results of research

Deformability index was heightened in both groups of patients. An Omy indicator's decrease in both groups of patients is noticed: (159±8) mOsm with arterial hypertension and myocardial infarction and (157±9) mOsm – with stenocardia against (148±7) mOsm in healthy people ($p < 0,05$). Subject to this proviso, a slight decrease of O' indicator is

mentioned: (397 ± 9) mOsm and (393 ± 10) mOsm accordingly against (404 ± 12) mOsm in control. Regarding spontaneous aggregation, both minimal (an indicator U_0) and maximum (O_q) aggregates' solidities to mechanical destruction increase, which leads to reliable increase of aggregation index from $(1,2 \pm 0,4)$ rel.units in control to $(2,3 \pm 0,5)$ rel. units in the case of infarction ($p < 0,01$) and $(1,8 \pm 0,3)$ rel. units ($p < 0,05$) with stenocardia. Change of Omyn indicator is less pronounced, but increase of deformability, in comparison with men, is more significant. Strength properties of erythrocytes' aggregations and the speed of their spontaneous formation are higher among women. So, the aggregation speed among women, who suffer from myocardial infarction, increases in 12%, while among men – only in 5%.

Discussion

Our research have shown an absence of significant changes of erythrocytes' deformability among patients, who suffer from arterial hypertension with myocardial infarction and bouts of stenocardia, but, reliable change of erythrocytes' sideview with decrease of S/V ratio (change of Omyn indicator) is mentioned, that is swelling of red cells, and also a tendency to dehydration of hemoglobin (O' indicator), that is decrease of internal viscosity of erythrocyte. Regarding sex differences in dynamics of disease, we can presuppose that correction of deformative properties of erythrocytes among women occurs in a more pronounced way, in comparison with men. Though, a risk of ischemic affections, due to a heightened aggregation status among women, is higher.

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CHANGES OF RHEOLOGICAL INDICATORS OF ERYTHROCYTES IN PATIENTS WITH ISCHEMIC STROKE

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An ability of erythrocytes to deformation and aggregation plays a significant role in pathogenesis of an ischemic stroke. Numerous research of ischemic affections of vascular system show deterioration of rheological properties of blood and, particularly, of erythrocytes. With appearance of the newest methods of erythrocytes' plastic properties research there also appeared a possibility to specify our conceptions about an intensity degree of hemodynamic disorders in the case of some diseases.

Material and methods

We observed 12 men, who had been in a rehabilitation period in a clinic after an ischemic stroke; a control group consisted of 15 healthy patients. We have examined main rheological determinants of erythrocytes by straight adequate methods in whole blood.

Deformability was examined by diffracting osmoscany method, aggregative properties – by piezodynamic method in a microcuvette. The methods which were used let us estimate not only integral indicators of erythrocytes' deformability and aggregation, but also assess sphericity (S/V ratio), internal viscosity of erythrocytes, aggregations' solidity and the speed of their spontaneous formation in whole equalized blood.

Results of research

An Omyn point, being true to osmolality of acquisition by erythrocytes an isovolemic sphere, has a tendency to shift into hyperosmotic field in patients: (148±7) mOsm in healthy people against (154±18) mOsm in ill ones. Deformability index in the control is (0,642±0,058) rel. units, and in ill patients – (0,580±0,054) rel. units (p=0,013). Hemoglobin dehydration (O' parameter), leading to increase of internal viscosity of an erythrocyte's contents, and, consequently, contributing noted decrease of deformability with this disease, is not denoted. A value of the 1st minute, or deformability index, being true to Omyn, is (0,065±0,024) rel. units in healthy people, and in ill patients (0,180±0,063), p<0,05.

An increase of both minimal (Uo parameter) and maximum (Uq parameter) solidities of erythrocytes' aggregates in a microcuvette is noticeable. A speed of spontaneous aggregation, estimated by steepness of a right side of an aggregogram, is (0,056±19) C⁻¹ among healthy people and among ill ones (0,134±35) C⁻¹, p<0,001.

Discussion

Erythrocytes of the patients, who had ischemic stroke, have a lower deformability and S/V ratio, also low steadiness to a hypotonic lysis, that is they are more subject to destruction on busy parts of blood flow. Moreover, a deterioration of hemodynamics conditions among such patients at the cost of sharp increase of aggregation properties, which contributes blood viscosity increase. In conclusion of this research we should maintain that a hemodynamics condition in patients with ischemic stroke undergoes a serious tension as a result of decrease of a deformability of the main mass of oxygen carriers and dramatic increase of their aggregation properties. A possibility of both pre-capillary, as a result of aggregates' durability decrease and post-capillary thrombosis because of dramatic growth of erythrocytes' aggregation speed.

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THE CHARACTERISTICS OF BIOCHEMICAL VALUES OF THE BLOOD OF RATS EXPOSED TO A STRESSFUL SITUATION (RUNNING ON A TREADMILL)

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The rats of Vister and WKY type, which are hypertensive controlling animals of the

type SHR, were examined for biochemical and physiological blood values during an exposure to a stressor (forced running on a treadmill at a speed of 14 m/min for 30 min every day for 1-2 weeks). Control animals were kept in usual inhabiting conditions.

After exposure to the stressor hematocrite volumes, concentration of erythrocytes in the blood, hemoglobin content, 2.3 DPA, the activity of ACH-ASE and concentration of glucose, cholesterol and triglycerides in the blood plasma were measured in all the animals. All experimental animals, which were exposed to a stressor, appeared to have an increased tendency to increased erythrocyte torori duality based levels on a certain increase in hemoglobin dehydration and internal viscosity levels, and, besides, a certain rate of decrease in formation of erythrocyte aggregation. The trained animals appeared to have a decreased tendency to decreased hemoglobin concentration and number of erythrocytes in blood as compared to the control animals.

The rats of SHR type showed an increase in the concentration of 2.3 BPG in erythrocytes, which indirectly gives an evidence of hypoxia signs. The content of ATP in erythrocytes, the activity of ACH-ASE and the concentration of triglycerides, cholesterol and glucose were not significantly changed in the blood plasma of these identical animals.

The rats of VISTER type had a tendency to decreased hematocrit volumes and a tendency to decreased concentration of cholesterol and triglycerides in the blood, hemoglobin concentration and number of erythrocyte, besides, the concentration of glucose in blood plasma and ACH-ASE activity of erythrocytes.

The information obtained indicates that exposing VISTAR rats to physical effects decreases oxygen (transport properties of the blood) to some extent. The WKY rats, on the contrary, show a tendency to increased biochemical blood values, which emphasizes a useful effect of running on a treadmill on a physical condition of these animals.

The observed tendency to increased hemoglobin dehydration and internal erythrocyte viscosity may possibly lead to a decrease in the speed of blood movement in the capillaries, which is the result of adaptation to hypoxia during running exercises.

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THE HYPOTHESIS OF ENERGY-MEDIATED INTERACTIONS

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On the basis of the analysis of quantum-mechanical interactions of physical fields of objects the versions of the models based on a recognition uniform in the installed cause and effect network of interrelations are created. It is stated that these interrelations form certain infinite energy-information a field.

Problem of connection of the person to this information field a problem of a threshold of sensitivity and an optimum parity of superlow-power signals and information noise. To solve this problem the offered scientific hypothesis is developed.

Despite the different interpretations biofield structure of biological objects, recognized the existence of the phenomenon of bio-energy interaction operator with pertsepiant, for example, with bioenergetic therapy massage by targeting a non-contact power distribution operator in the body through its pertsepiant biofield structure. In this case there is an active direct interaction with the operator pertsepiant. It is also known phenomenon of bio-energy interaction operator with a photograph pertsepiant through targeted distribution of the energy operator on the photo pertsepiant. In this case, the active influence of the operator on the photo pertsepiant. It is also known phenomenon of the energy impact of photos of the operator directly on pertsepiant. This is carried out bio-energy impact statement through his photograph on pertsepiant.

Essence of the suggested hypothesis is the assumption that a previously unknown phenomenon mediated bioenergetic interaction operator and as a result pertsepiant boxer location of their energy in the area of energy impact. It is known that photographs of the operator and pertsepiant (their energy) are respectively the energy operator and photographed pertsepiant and, consequently, for an opposite finding photos in the area of the energy impact of the interaction energies. We also know that the photos of the operator and retain pertsepiant energy relationship, respectively, with the operator and pertsepiant. Accordingly, taking into account the quantum-mechanical nature of the interaction of physical fields of animate and inanimate objects, it is assumed, and mediated bioenergetic communication operator and pertsepiant through the energy of their interaction energy.

As the energy of biological objects can serve not only photographs but also objects and biological objects on extended interaction between an operator and pertsepiant. Energy resources can be introduced into the zone of impact energy, for example, to full contact. It should be noted that the photographs have the energy information on the status of the operator and pertsepiant at the (current) time. All this specifies that there is also an operative biopower interoperability.

The scientific significance of the hypothesis is that the first time assumed the existence of mediated bioenergetic interaction operator and pertsepiant with the direct interaction of their energy. The hypothesis extends the idea of a unified physical picture of the world, the relationship of phenomena and objects of nature. The proposed hypothesis can be used in the construction of new concepts of treatment. The practical significance of the hypothesis associated with the development on its basis new methods of treatment, simplifying the treatment process through the implementation of bioenergy-mediated interaction operator and pertsepiant. A hypothesis is a logical step in understanding the principles of universal energy-interaction in nature. It is a serious contribution to the development of bioenergetic medicine, enabling the restoration of health in its entirety by using the unique abilities of the individual

DAS MODELL DER GESUNDHEITSKULTURBILDUNG FÜR DEN INVALIDE IN EINEM REHABILITATIONSPROZESS

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Die Invalidität ist die Sozialerscheinung, die keine einzige Gesellschaft vermieden werden kann. In der ganzen Welt sind jene oder andere Körpermöglichkeiten in jeder zehnten Person beschränkt. Von ihnen sind 470 Millionen Menschen im arbeitsfähigen Alter. Diese Daten sind ein schlüssiger Beweis des Ausmaßes von dem Invaliditätsproblem.

In der Ukraine sind heute die 2,64 Millionen Invaliden. Jeder 18. Bürger ist der Invalide, ein Mensch, der die Hilfe und die Unterstützung nicht nur im Geldäquivalent, sondern auch in architektonischer Zugänglichkeit des Lebensraums, in der Versorgung von technischen Mittel, in der Ausbildungsmöglichkeiten, in fachlichen Wissens, in der Arbeitsvermittlung, in gesundheitlicher und kultureller Betreuung.

Außerdem kommen die Frage der Arbeitsvermittlung und Integration in die Gesellschaft heute unter den gegenwärtigen Umständen für die Invaliden große Bedeutung zu.

Daher soll das System der Rehabilitation für die Invaliden nach der Wiederherstellung des Sozialstatus, der Erreichung der materiellen Lage und der Sozialadaptation orientiert sein. Es ist möglich, wenn die Gesundheit des Invaliden als soziales Problem betrachtet wird, und philosophisches Herangehen liegt der Entscheidung sozialen Problems zugrunde, wie die Harmonie in der menschlichen Existenz zu erreichen, oder wie die Entwicklung der allseitig harmonischen Persönlichkeit zu gewährleisten.

Und es erfordert neue grundsätzliche Herangehen, die aus der Notwendigkeit folgen müssen, den Invaliden in das eigene Gesundheitsbewusstsein einzuschalten. Der Invalide muss selbst Wert auf das eigene Gesundheitsbewusstsein legen und muss aktiv für es kämpfen. Das wird zu der schnellen Integration des Invaliden in die Gesellschaft auf einem optimalen Realisierungsniveau von den Sozialfähigkeiten und den Möglichkeiten der Person beitragen.

Das von uns vorgeschlagene Formierungs- und Selbstverbesserungsmodell der Gesundheitskultur des Invaliden ist bestimmend bei der Wegauswahl und der Rehabilitationsmethoden, und fördert die Formierung optimalen Entsprechens für die Bedürfnisse des Invaliden, den Möglichkeiten der Gesellschaft und den konkreten Bedingungen, in denen sie sich verwirklichen.

Die Formierung der Gesundheitskultur sollte das Teil der sozialkulturellen Rehabilitation und die Grundlage der gemeinsamkulturelle Persönlichkeitsentwicklung von dem Invaliden werden. Die Formierung der Gesundheitskultur wird in der Weltanschauung, den Werte, dem Charakter der Tätigkeit und der Kommunikation,

dem Verhalten und gesunder Lebensweise usw. widerspiegelt.

Die wichtigste Voraussetzung für die persönliche Selbstverwirklichung ist die Formierung der Gesundheitskultur. Es bietet die Möglichkeiten der Erkenntnisbeständigkeit, d. h. die Integrationsausbildung der persönlichen Eigenschaften, die determinierenden Fähigkeiten einer Person zu erlangen und Kenntnisse für die Lösung neuer Erkenntnisaufgaben ohne unmittelbare fremde Hilfe schöpferisch zu erwerben.

Das vorgeschlagene Modell der sozialkulturellen Rehabilitation trägt zu der persönlichen Selbstverwirklichung des Invaliden bei. Der persönliche Selbstverwirklichung des Invaliden ist ein Prozess der zielgerichteten bewussten Formierung der Grundlage für gesunde Lebensweise, die auf adäquater Selbsterkenntnis und der Selbstbeurteilung begründet wird.

Die Verwendung logischer Operationen des Denkens für die richtungsweisende Informationsverarbeitung ist die Grundlage dieses Modells. Das sind die Vergleichsoperationen (der Vergleich von zwei oder mehreren Objekte und die Suche nach ihren gemeinsamen und unterscheidenden Züge); die Identifizierungsoperationen (die Festlegung der Ähnlichkeit für die Objekte und die Erscheinungen mit den bereits vorhandenen Normalen beim Bewusstsein); die Reihenfolgenoperationen (die Festlegung der Reihenfolge der ununterbrochenen Wiederholung eines nach dem anderen); die Serienoperationen (die Festlegung der Gesetzmäßigkeiten in der Reihenfolgen, in der Anordnungsdynamik der Objekte, in der Steigerung oder der Verringerung irgendeiner Erscheinung).

Das Selbstverbesserungsmodell der Gesundheitskultur ist die Gesundheitsverwaltung durch adäquates Verhalten der Person. Das Vorhandensein der Trägheit für die Rückkopplung ist die Besonderheit dieser Verwaltung, deshalb hat die Korrektur gesunder Lebensweise den aufschiebenden Effekt. Außer der Motivation zum Selbstverbesserungsprozess der Gesundheitskultur muss der Invalide das Allgemeinwissen haben, das ermöglicht, seinen Zustand selbst zu korrigieren und die Fertigkeiten die Gesundheitserhaltungstechnologien zu haben.

Also trägt die Anwendung des Modells von der Gesundheitskulturbildung in einem Rehabilitationsprozess zu der persönlichen Selbstverwirklichung und der Erhöhung des Gesellschaftstätigkeitsniveaus von den Invaliden bei. Das ermöglicht den persönlichen Sozialisierungsprozess zu beschleunigen, die Sozialerfahrung in der Einführung der wertmäßigen Orientierung umzugestalten, und dazu wird das zu der Selbstverwirklichung und der Selbstäußerung beizutragen.

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STIFFNESS OF ARTERIAL WALL IN PATIENTS WITH ARTERIAL HYPERTENSION DEPENDING ON A STATE OF ANXIOUS DISTURBANCES

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Introduction. Arterial hypertension (AH) is one of the urgent medical problems because it accelerates the development of arteriosclerosis and is a risk factor of development of vascular disorders. Despite the fact that AH is metabolically greatly connected with obesity, dislipidemia and other risk factors, the functional correlation of stiffness of the vascular wall and psycho-emotional status is not sufficiently studied.

Objective. The aim of our study is to estimate the indices of analysis of pulse-wave shape and the function of endothelium in patients with AH depending on a state of anxious disturbances.

Material and Methods. We examined 202 patients (96- males, 106 – females) with AH II and III stages. They were divided into 2 groups according to the hospital scale of anxiety and depression HADS. The 1st group consisted of 98 patients (age $55,0 \pm 0,2$) without the signs of anxiety and the 2nd group - 104 patients (age $56,0 \pm 0,2$) with moderate and obvious alarm disorders. Besides the general clinical examination, the analysis of pulse-wave shape and the test of reactive hyperemia for estimation of endothelium function with photoplethysmographic device *AngioScan -1* was assessed according to stiffness index of the large arteries (SI), reflection index of the resistant arteries (RI), augmentation index (Alp), type and amplitude of pulse-wave, shift of phases between channels (C2-C1) before and after occlusion.

Results. During the time of analysis of pulse-wave shape the average meaning of SI in the 1st group (the level of anxiety $4 \pm 0,08$ scores) was $6,68 \pm 0,06$ m/sec., RI – $32,79 \pm 4,8\%$, Alp $-27,26 \pm 4,5\%$. Herewith the type of wave “A” was observed in 84% of patients which showed the highest degree of vascular stiffness, however in the type of wave “B” it was 16%, showing the smaller vascular elasticity. Dysfunction of endothelium was observed in 98% of patients and it was characterized by the increase in $1,82 \pm 0,02$ times of pulse-wave amplitude after occlusion and by the shift of phases between the channels (C2 -C1) before and after occlusion - $5,3 \pm 0,3$ m/sec. During the analysis of pulse-wave shape it was marked the increase SI till $7,9 \pm 0,3$ m/sec ($p=0,001$), RI – $46,34 \pm 4,8\%$ ($p=0,05$), Alp – $40,45 \pm 4,8\%$ ($p=0,05$) in the 2nd group (the level of anxiety $9 \pm 0,08$ scores ($p=0,001$) in compare with the 1st one. The type of wave “A” was revealed in 100% of cases. Dysfunction of endothelium was marked in all examined patients. It was more expressed and showed smaller increase of amplitude of pulse-waves ($1,42 \pm 0,2$ times; $p=0,05$) and smaller shift between the channels (C2 –C1) before and after occlusion $-4,3 \pm 0,2$ m/sec ($p=0,001$).

Conclusions. Thus, it was noted the increase of stiffness of arterial wall and dysfunction

of endothelium in patients suffering from arterial hypertension with moderate and expressed alarm disorders. It must be taken into account while developing the individual rehabilitative programs and undertaking the physical social expertise.

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METABOLIC SYNDROME: PSYCHOSOMATIC CORRELATION

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The term “Metabolic Syndrome” was introduced in the 90s. It mainly describes a morbid condition manifested as a group of metabolic disorders, including hyperinsulinemia, impaired glucose tolerance, low level of HDL-C and arterial hypertension. These disorders escalate and develop irreversibly in their final stage and provoke severe complications. So far Metabolic Syndrome has not been sufficiently researched as a comprehensive problem. There are no universally recognised diagnostic criteria and therapeutic approaches. Systemic disorders typical of Metabolic Syndrome are non-specific in character and it may only be defined as the combination of diseases like atherosclerosis, fatty hepatosis, insulin resistant diabetes mellitus and arterial hypertension accompanied by abdominal obesity. In addition, researchers do not follow a systematic approach, which would enable them to create a model of this disease. Hence their findings can not be integrated into a consistent concept.

Publications report that Metabolic Syndrome is often accompanied by mental diseases. The best known disorders in this group are endogenous depression, dysthymia and deadaptation. Most of the studies indicate that metabolic disturbances are primarily caused by chronic stress, which provokes affective as well as metabolic disorders initialised through the Hypothalamic-Pituitary-Adrenal (HPA) system.

The results of studies covering patients with Metabolic Syndrome combined with mental disorders indicate that X Syndrome is in fact a psychosomatic problem. The predominant mental diseases affecting patients with metabolic disorders are depression and schizophrenia. The triggers of cascading metabolic changes are still not identified. There is no common viewpoint on the structure of mental pathology associated with metabolic disturbances. Neither has anyone answered the question about the primacy of metabolic disorders with regard to patients with schizophrenia, since there were just few patient surveys in this group.

Metabolic Syndrome presents a complicated problem due to its “multiplex” nature, which requires contemporary and comprehensive examination of patients as well as the united efforts of physicians, endocrinologists, cardiologists, neurologists and psychiatrists applying instrumental and laboratory methods. This will allow to define prevailing disorder mechanisms and change approaches to diagnostics and treatment.

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FAILURE BACK SURGERY SYNDROME (FBSS)

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The relapse of pain after microdiscectomy at the lumbar spine level until is one of the most urgent problem of the surgical treatment the nerve root compression syndrome.

Patients and methods. Since 2007-2010 the 151 patients was admitted to our hospital at postoperative period after standard microdiscectomy, which was done without the any of instrumental technique. All patients were divided into 2 groups. At the first one we include 97 patients with reflex-pain syndrome without the clinic of the radiculopathy. And 54 patients had recidivating of the nerve root compression syndrome. All of them underwent the first operation at 1988 to 2005 years. Among all well known reasons of radiculopathy we detected these: recurrence of the herniated disc – 21 cases, with instability of operated segment – 11 cases, spondylolistesis - 5 cases, and recurrence of the herniated disc in combination with spondyloarthrosis – 17 cases. The epidural fibrosis was detected in all cases. The results were assessed by Oswestry's Disability index and Mac Nab outcome scale. Patients were followed for an average of 1.2 years at the first group and 1.5 years at the second (minimum 6 months in both groups).

In the first group we used the sequential denervation of facet joints and intervertebral discs (of course only the upper-and lower from operated) in combination with standard complex of conservative treatment, which includes the epidural blocks. The procedure of denervation consists from the introduction the mixture of anesthetic agent and ethanol in correlation 2:1. Such introduction in the region of facet joints and(or) into the intervertebral disc provoked the reflex-pain syndrome, which patient recognize and immediately arrest the pain, because of 96% ethanol, which can "coagulate" facet joint's nerve or fibrous ring. This fact prove for us and patient: this pain depended on facet joints and(or) intervertebral disc. We always started with facet joints and after 5-7 days (if the pain wasn't provoked) we continue with intervertebral discs.

All patients of the second group were reoperated. In this series we prefer ventrolateral retroperitoneal approach to the lumbar vertebra. In all cases we added this approach with anterior foraminotomy. The technique of this surgery have some differ from standard anterior stabilization case. After removing residue of nucleus pulposis we drilled the slot (20-22 mm.) in the adjacent surfaces of the lumbar vertebra. From this slot it become more easier to remove disc's hernia (because of good vision and epidural fibrosis absence) and then resect the most lateral part of posterior inferior border of the upper lumbar vertebra. It will be anterior foraminotomy. In the end of surgery the Nickel-Titan implant drive in the slot to obtain the segmental stabilization.

We prefer this method because it allows us to solve the biggest part of problems in one surgery: to remove disc's hernia, open the upper level of the lateral recess, obtain the segmental stabilization, to allow of no more progressing of epidural fibrosis.

Results. In the first group excellent results were achieved in 34 (35%) cases, good – 51 (52.5%), satisfactory – 9 (9.5%), fair (without changes) – 3 (3%).

Second group: excellent results – 11 (20.3%), good – 26 (48%), satisfactory – 9 (16.6%), fair – 6 (11.1%).

Conclusion. 1) The sequential denervation of facet joints and intervertebral discs allow provoking the reflex-pain syndrome, which patient can recognize and immediately arrest the pain. This procedure can prove the fact that chronic pain after standard microdiscectomy (failure back surgery syndrome) may be depending on the pathology of facet joints and intervertebral discs. 2) The ventrolateral retroperitoneal approach to the lumbar vertebra with anterior foraminotomy can be recommended for the surgery of the herniated disc relapse.

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VALUE OF INSPECTIONS OF LIKOR AT A SYPHILIS

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Possibility of involvement of the central nervous system in the syphilitic process recognized. In modern conditions syphilis of the nervous system characterized clinically mainly blurred and low-symptom forms, lack of pathognomonic symptoms. This greatly complicates timely diagnosis of neurosyphilis. The development of syphilitic lesions of the nervous system may contribute to the presence of chronic infections, intoxications (especially alcohol and drug), immunological disorders, brain injuries and inflammatory diseases of the central nervous system in history. In addition, the cause of neurosyphilis may be insufficient treatment of early syphilis. At the same time, not diagnosed and promptly treated neurosyphilis can not be responsible for the serological resistance and slowed down a negative serological tests.

The aim was to study the quantitative and qualitative changes in the cerebrospinal fluid of patients with long-lasting positive serological reactions after treatment of syphilis.

Materials and methods. The selection criteria for the study were: transferred syphilis, for specific treatment, maintained a positive serological tests for syphilis.

All patients were assessed neurological status. In order to exclude specific lesions of the nervous system of patients underwent lumbar puncture.

In the CSF were determined by cell count, protein, sugar, chlorides, globulin reaction Pandey, colloidal reaction Lange and serological reactions (CFT cardiolipin and treponemal antigen in dilutions of 1:5, 1:1, and with whole FTA - C, TPHA and ELISA detection of specific immunoglobulin M and G).

Results and discussion. Beginning in 2000, we conducted a comprehensive survey of 242 individuals with serological resistance and delayed negative serological tests.

Compromised somatic anamnesis of these patients was found in half the cases, a third of patients had neurological premorbid. Of those surveyed in 58 (24%) patients were identified early neurosyphilis. Of these, 43 (74,1%) have a history of treatment for early latent syphilis, 12 (20,7%) - secondary syphilis, 2 (3,5%) - the primary seropositive and 1 (1.7%) had treatment independently.

The study found that among patients with neurosyphilis identified the main part is composed of patients with asymptomatic forms (42.8%), 28.6% accounted for by patients with meningeal form of neurosyphilis, and 14, 3% were persons with meningovascular forms.

Conclusions. These data indicate that most neurosyphilis occurs in persons initially diagnosed with early latent syphilis, while among all forms of neurosyphilis was dominated by asymptomatic forms. The clinical experience shows the usefulness of inspection of liquor in patients with latent forms of syphilis before the start of specific therapy, as well as the need for careful examination of persons with long-lasting positive serological reactions to identify neurosyphilis even in the absence of specific clinical symptoms of CNS.

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HEART IS THE EXAMPLE OF PUMP STATION DESIGN

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The heart (figure 1) is intended for blood pumping. Similar technical apparatus is less reliable than heart. Therefore it is interesting to understand the reasons of this high reliability and apply more interesting decisions in engineering design.

The heart valves prevent backflow of blood. Similar technical apparatus is called as non return valves. Atrium and ventricles pump blood and acts as pump chambers. Veins and arteries can be considered as pipelines. Using technical drawing symbols we have produced hydraulic scheme of heart which is shown in figure 2. Such kind of hydraulic pump stations will have high reliability.

The pump chambers are installed one after one. Series connection of pump chambers gives the possibility to decrease every chamber differential pressure. Pump chambers can have two input lines. It decreases input hydraulic resistance and create good conditions for chamber filling.

There are non-return valves between pump sections as well as in input and output heart lines. That is why there is possibility to have some pressure in the output heart line when heart chambers and non-return valves 4 and 9 are in trouble.

The lungs can be considered as the hydraulic resistors. The hydraulic resistors are installed in parallel. In this case the result hydraulic resistor is less then every resistor separately. The right (1...6) and the left (7...12) heart parts are worked from opposite sides of hydraulic resistors. It helps to decrease maximum heart pressure.

The heart has not natural frequency because of asymmetrical design and flexible pump chambers walls. This reason prevents vibration from internal reasons and decrease vibration amplitude from external one.

Non-return valves and flexible pump chamber walls permit to pump blood when pump station is compressed periodically with the help of relatively small force.

Thus the hydraulic and pneumatic pump stations will be more effective and reliable if designers will:

- use pump chambers not with only one input line but with two ones;
- use pump chambers of asymmetrical design and with flexible pump chamber walls;
- use several pump chambers instead of one;
- plan to install non-return valves in the pump chambers lines;
- provide for flexible lines instead of rigid ones;
- use series connection of pump chambers;
- plan to install load transfer between the pump chambers;
- install greatest hydraulic resisters in parallel unit;
- install pump chambers from opposite sides of the greatest hydraulic consumers;
- provide ability to manually fluid pumping.

Four pump chambers are used in heart instead of one. It gives the possibility to have section pump stations mass which is smaller than one chamber pump station having the same power. The more chambers are in the pump station the simpler pump station manufacturing, maintenance and repairing. Four pump chambers are contained in one case. This case is drive. It helps to decrease pump chambers sizes.

Blood vessel flexibility eliminates cavitations. In addition to R. McNeil Alexander [2] wrote that flexible aortic damps pressure oscillation. Because of this pressure oscillation and blood velocity are decreased.

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- install greatest hydraulic resisters in parallel unit;
- install pump chambers from opposite sides of the greatest hydraulic consumers;
- provide ability to manually fluid pumping.

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**INTRARENAL PARENCHYMAL BLOOD FLOW IN PATIENTS
WITH NON-HODGKIN MALIGNANT LYMPHOMAS
AT DIFFERENT STAGES OF ITS PATHOGENESIS**

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Doppler sonography of renal parenchyma seems a rather promising diagnostic technique because kidney due to its functional and anatomic properties is a perfect model for the examination in studying systemic diseases, in particular of patients with hemoblastosis, as well as for the dynamic monitoring of the treatment process.

The purpose of this research is to study the blood flow in the renal parenchyma in patients with non-Hodgkin malignant lymphomas at various stages of the pathogenesis and the effect of the treatment on the progress of the disease.

Two groups (totaling 61 patients aged from 31 to 60) of patients suffering from non-Hodgkin malignant lymphomas (NHML) before and after polychemotherapy (PCT) and achieving of clinical hematological remission (CHR): 1st group - 40 patients with NHML with low-grade malignancy (LGM) and the 2nd group - 21 patient's with NHML with high-grade malignancy (HGM) of the disease. Each of the studied groups was subdivided into two subgroups, i.e., A - I-II stages of the disease, B -III-IV stages of the disease. The control group was represented by 33 healthy people.

Doppler examination of intrarenal blood flow in lobar arteries was performed on "LOGIC 400" (USA) yielding: maximum systolic velocity of the blood flow - V_{\max} (cm/s), enddiastolic velocity of the blood flow - V_{\min} (cm/s) and the resistance index RI (Pourcelot). The computer processing of the material was based on the application software Statistica 8.0[®] for Windows.

On analyzing the initial changes in the renal parenchymal blood flow we found that the degree of misperfusion (decrease in V_{\max} and rise in RI) depends not only on the stage of the disease, but also on the degree of lymphoma malignancy while the influence of the stage of the disease is more significant than the degree of lymphoma malignancy and attains its maximum for the patients of the subgroup 2B. After PCT and attaining CHR in patients I-II of the disease stages (subgroups 1 A and 2 A) the studied indices do not differ from the control parameters. The patients with lymphomas of the III-IV stages (subgroups 2 A and 2 B) after PCT and attaining CHR there is no normalization of parenchymal blood flow, although there is its positive improvement observed (increase in V_{\max} and drop in RI).

Patients with NHML there is initial misperfusion of parenchymal blood flow in kidneys. The degree of the blood flow establishment after the treatment completion is more manifested in patients with the initial stages of the progress of non-Hodgkin malignant lymphomas and with low-grade malignancy.

The method of Doppler sonography is of great clinical significance because the state of parenchymal blood flow in the kidney indirectly characterizes the state of the blood flow in malpighian tufts and, consequently, the filtration function of the kidneys. The application of ultrasonic investigation with Doppler examination of renal arteries is of great clinical significance because it is highly informative, accessible, noninvasive and harmless for patients.

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**HEPATOPROTECTIVE AND LYMPH CORRECTION ACTIONS
OF FUNCTIONAL FOOD "PIKSIL"**

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Constancy of internal environment of organism, his endo-ecological space, is supported by the lymphatic system, being one of the basic dedicated and self-regulating systems, that occupies an important place in the complex estimation of mechanism of the biological action on the organism of different destabilizing factors.

In the conditions of chronic exogenous intoxication a liver is most often struck - one of major organs of maintenance of homeostasis and detoxication of organism, and also her regional lymphatic apparatus. Metabolism of steroid hormones comes in hepatocytes, and if the presence of pathological process in a liver, may be violation of hormonal balance and, accordingly, processes of impregnation, offensive and flow of pregnancy. The lymphatic river-bed of liver drains her interstitial space. In the conditions of pathology - the role of river-bed increases considerably. The origin of failure in-process lymphatic river-bed at any states of organ always creates pre-conditions for development of endogenous intoxication. In the conducted experiment on the females of rats and their posterity (to pregnancy the model of chronic toxic hepatitis was created by complex influence of industrial ecotoxin factories – tetrachlormethane and 5% alcohol) morphological research of liver, her interstitial spaces (periportal spaces of Malla) and hepatic lymphatic nodes is conducted. At physiological pregnancy expansion of interstitial spaces is educed in the lobules of liver of mother (per sinusoidal spaces of Disse and periportal spaces of Malla), that can be explained by an edema and difficulty of lymphatic outflow from an abdominal region at pregnancy. Morphological picture of liver of mother at the pregnancy, complicated by chronic intoxication specific: the extended sine waves, diffuse and nodal leukocyte infiltration of parenchyma of liver, extended interstitial spaces of Malla (testify to stagnation of lymph and worsening of drainage function of the lymphatic system of organ), periportal scleroses, heterospecific macrophage granulosomes round central veins, in composition that macrophages,

desmococytes, much lymphocyte is revealed.

Research of liver at the pregnancy, complicated by chronic intoxication on a background a correction educed the effect of “metabolic lymph stimulation” (expansion of periportal spaces of Malla) preparation of “Essentiale” at the level of tissue microregion of liver, providing the speed-up restructuration of organ. Analogical changes are educed in the liver of posterity from this group of rats: restructuration and activating processes of reparation, action of lymph correction in the lymphatic region of liver. In an experiment for the correction of chronic intoxication for pregnant animals the functional food “PikSil” was used. That is complex of bioflavonoid of medicinal plants: flowers of chamomile, balm, hips, grass of st.-john’s-wort and turn, sheets of bearberry and birch, fruits of fennel. This functional food was used as monotherapy and in a combination with “Essentiale”. Research of interstitial spaces (periportal spaces of Malla) in the liver of mothers with the complicated chronic intoxication on a background application of the functional food “PikSil” showed diminishing of sizes of interstitium during the pregnancy as compared to an analogical index at the correction of “Essentiale” and at physiological pregnancy. The obtained data can testify that in the conditions of application of the functional food “PikSil” at the complicated pregnancy a lymph dynamic effect develops and drainage of interstitial space is accelerated at the level of tissue microregion of liver. Introduction of the functional food “PikSil” to the females at the pregnancy, complicated by chronic intoxication, hepatoprotective and lymph correction actions renders, assists renewal of structural-functional mutual relations in hepatic lymphatic nodes and liver for a mother and posterity.

Thus, combined introduction of “Essentiale” and functional food “PikSil” renders lymph correction action on hepatic lymph nodes and tissue micro district of a liver at the expense of activation of mechanisms metabolic and dynamic lymph stimulation.

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DIE ROLLE DER HIRUDOTHERAPIE FÜR DIE GEBURT GESUNDER UND TALENTIERTER KINDER

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Die demographische Situation in Russland an der Grenze zwischen dem XX und XXI Jahrhunderten kann man ohne Übertreibung kritisch nennen: Die Bevölkerung sproduktion bleibt seit 1992 von seiner Abnahme etwa auf 1 Mio. Mensch im Jahr zurück.

Laut medizinischen statistischen Angaben ergibt sich die Zahl von gesunden Kindern im Land nach verschiedenen Regionen von 2 bis zu 7 %. Schwache Gesundheit der Vorschulkinder (in 1994 waren nur 15 % der Kinder als gesund anerkannt) wird eine von Schwierigkeiten beim ihrer Anpassung zu den Schulbelastungen. Während neun

Jahre der Schulbildung (von 1 bis 9 Klasse) nimmt die Zahl von gesunden Schülern 4-5 Mal zurück, was nur 10-15 % von der Gesamtzahl der Schüler bildet.

Um diese komplexen Probleme zu lösen, ist nur eine Erhöhung des Lebensstandards der Bevölkerung ungenügend. Heute fürchten viele junge Frauen ein krankes Kind zu gebären, deshalb wird das Problem der medizinischen Versorgung bei Geburt der gesunden Nachkommenschaft außerordentlich aktuell.

Die existierende Kontrollmethoden über Gesundheit von schwangeren Frauen und Geburtshilfe dienen nur dafür, um ein Risiko von einer Geburtsverletzung beim Neugeborenen zu verringern. Jedoch sehen wir heute in keinen traditionellen Praktiken, im Unterschied von uns entwickelten, einen deutlichen und wissenschaftlich-rechtfertigten System der Partnervorbereitung zur Empfängnis eines gesunden Kindes. Viele zukünftige Mütter rauchen und nehmen Alkohol zu sich, manchmal bleibt diese Gewohnheit im Laufe der Schwangerschaft.

Eine Lösung zum Problem der Geburt von gesunden Kindern zu finden, ist heute nur bei Beachtung einiger grundlegender Prinzipien möglich:

- Die hohe moralische Verantwortung der Eltern auf Gesundheit zukünftigen Kinder. Geburt des Kindes soll ein frohes erwartete Ereignis sein (die Kinder sollen nicht zufällig sein);

- Eine medizinische Vorbereitung von Ehepaaren, ihre Gesundheit vor Empfängnis auf Grundlage der heilpraktikerischen Technologien.

Die führende Rolle von Hirudotherapie in unserer Methode liegt daran, dass diese Methode mehr als 20 Arten von Heileffekte hat, sowie mit einer Reihe wichtigen Erfindungen auf diesem Gebiet für die letzten Jahre verbunden ist:

Solche wie Energy-Information Effekt (1993), neurotrophische Faktoren (1996), akustischer (wellen-) Effekt (2001), Desintoxin Effekt (2003), Negentropie Effekt (Erhöhung des Reihen Niveaus im Organismus eines Menschen) (2005), Aqa-Struktur Effekt (2010)

Die angebotene Technologie wurde während 18 letzten Jahren entwickelt und hat sich gut bei der Behandlung von kinderlosen Ehen bewährt. Kinder, die von "unfruchtbaren Paaren" geboren wurden, hatten nicht nur hohen Gesundheitsniveau (die Einschätzung nach Apgar-Score: 8-10 Grade) sondern auch guten Dynamik der physischen und geistigen Entwicklung. Sie übertrafen die Altersgenossen bei Erhaltung der Gesundheit von seiner Mütter.

Nach unserer Methodik worden während die letzten 15 Jahre in Russland etwa 2000 Kindern mit den besten Zahlen nach der Apgar-Score geboren.

Die Hirudotherapie ist eine traditionelle Methode für Russland, es ist in der Heilpraxis anderer Länder bekannt und es ist einer Richtung der Ayurvedischen Praxis, der als altertümlichsten Methode der Heilung bekannt ist.

**ZUR FRAGE DES ENTZIFFERNS DER NATUR DES ENERGIE-
INFORMATIONSEFFEKTES DURCH DIE HIRUDOTHERAPIE**

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Früher haben wir zum ersten Mal festgestellt, dass eine Einwirkung des medizinischen Blutegels auf einen Menschen Energie-Informations-Natur hat. Als experimentale Beweise waren die Experimente verwendet, in die eine Einwirkung des medizinischen Egels mit Hilfe der Thermo-Punktur Test (Akabane-Test), der Methode von Gas-Entladungs-Visualisierung (GEV) oder mit dem Kirlian-Effekt bewertet wurde.

In diesen Experimenten war es festgestellt, dass eine Zunahme von leuchtender Fingerfläche eines Menschen nach der Einwirkung medizinischen Egels unter Anwendung vom Kirlian-Effekts könnte als feiner diagnostischer und prognostischer Test in der ärztlichen Praxis verwendet sein. Infolge dieser Arbeit war es vorgeführt, dass man individuelle Antwort eines Menschen auf die Einwirkung medizinischen Egels nach vier Typen einstufen kann:

- die Normergie Variante – bildet eine Zunahme von leuchtender Fingerfläche (+ oder - 1 %);
- die Hyperergie Variante – bildet eine Zunahme von leuchtender Fingerfläche bis zu 10 %;
- die Superergie Variante – bildet eine Zunahme von leuchtender Fingerfläche mehr als 10 %;
- die Hipoergie Variante – sinkt eine Zunahme der Fläche mehr als 1 %.

In der Arbeit Professors K.G.Korotkov (2003) sind die Charakteristiken von Oberfläche menschlichen Haut, die die Parameter GEV beeinflussen, genannt:

- Ungleichartigkeit von strukturellen Oberfläche und Umfang;
- oberflächliche und voluminöse Leitfähigkeit (unter Berücksichtigung der Besonderheiten von biologisch aktiven Punkten);
- Feuchtigkeit- und Verschmutzung Stufe der Oberfläche;
- Gasbestand der Umgebung über Oberfläche;
- eigene Gasentwicklung des Objektes.

Aufgrund zahlreicher Experimente mit medizinischem Blutegel als Heiltechnologien sind wir zum Schluss gekommen, dass wichtigste von obengenannten Daten den strukturellen (oder Cluster-) Wasserzustand der Epithelzellen auf der Fingerhaut ist. Genau dieses Wasser bleibt auf Oberfläche der Finger bei Schwitzen, und strukturelle Zustand dieses Wassers leistet den wesentlichen Einfluss auf Charakter das GEV -Grammen.

Als wesentlicher Argument zugunsten solchen Urteils ist unsere Arbeit mit Professor der Tjumener Universität Namens L.P.Semichinoj. Es war die induktive Dielektrisch-Methode verwendet. Wasserszustand nach dieser Methode wird mit der Größe der Frequenz charakterisiert, wo der Maximum von Tangens des Winkels der Dielektrischer-Verluste ($\text{tg}\delta$) im untersuchten Objekt beobachtet wird. Je niedriger Frequenz ist, desto mehr Umfang der Cluster aus Wassermolekülen im gegebenen Objekt gibt. Also ist die

Stufe der Strukturiertheit des Wassers höher. Die Experimente waren auf den Fröschen durchgeführt.

Das besondere Interesse an einer Frosch besteht darin, dass auf Frequenzabhängigkeit tgd ihrer Stoffe die Extremums gibt, die Gemeinsamkeit ihres Wasser-Zustandes mit Tieren verschiedenen Evolutionsniveaus charakterisiert, wobei am meisten Niederfrequenz Extremums auch den Säugetieren eigen ist.

Eine Gemeinsamkeit mit Säugetieren zeigt Frosch auch darin, dass ein Stresszustand bei ihr (wegen des Verbleibs außer dem gewöhnlichen Umfeldes innerhalb von einigen Tagen) zum Erscheinen zusätzlichen Extremum tgd bei ihren Stoffen auf selben Frequenz ~200kHz als auch bei einer Maus zeigt. Da dieser Extremum tgd nach dem Girudotherapie Prozess bei Stoffen des Frosches verlorengeht, so kann man sehr begründet die Schlussfolgerung über heftige Abschwächung des Stresszustandes des Tieres und Erhöhung der Stufe von Wasser Strukturiertheit in seinen Stoffen nach der Blutegels Einwirkung ziehen.

Gerade aus diesem Grund passier heftige Senkung der tgd Größe bei Stoffe des Frosches. Die Moleküle des Wassers, das sich in festverbundenen Zustand mit schwachem elektromagnetischem Wirbelfeld der induktiven Messzellen, wo untersuchte Tier sich befindet, orientieren, nicht können. Die vorliegende Schlussfolgerung wird sich damit vollständig übereinstimmen, dass Senkung von Größe tgd der Stoffe des Frosches nach Girudotherapie sehr bedeutend (mehr als in 2 Mal) mit Senkung ihrer Dielektrisch-Durchdringlichkeit begleitet wurde.

Es ist sehr Wahrscheinlich, dass genau strukturelle Veränderungen des Wassers bei Menschen- und Tieren Stoffen von der Einwirkung Girudotherapie biologische- und Heileffekte dieser Behandlungsmethode abhängig sind.

Wir schlagen vor, dieser zum ersten mal aufgedeckte der Veränderung des Wasser Zustandes Prozess in Stoffen einer Tiere unter der Handlung Girudotherapie als Aqua-Struktur Effekt oder Aqua-Kommunikation Effekt zu nennen.

Der vorliegende Effekt kann als von chemischen Reagenzien, die ein Blutegel im Stoffen des Tieres einführt, als auch von rein physischen akustischen (Wellen-) Effekt der Hirudotherapie, der zum ersten Mal von uns (A.I.Kraschenjuk, D.I.Frolov, 2001) aufgedeckt ist, bedingt sein. Welcher Effekt überwiegt, ist noch schwierig zu sagen. Jedoch kann man über die wesentliche Bedeutsamkeit der akustischen Wirkung der Hirudotherapie in gegebenen Erscheinung über der auffallenden Nähe der Frequenzen, auf die überwiegende akustische Ausstrahlung Blutegels geschieht und Maxima tgd der Stoffe aller Tiere beobachtet, sagen.

Wir werden bemerken, dass die hohen Bedeutungen tgd für Stoffe der Tiere auf Frequenzen 50 - 250 kHz den Frequenzbereich bezeichnen, auf die maximale Absorption wie elektromagnetischen als auch akustischen Wellen erreicht wird. Deshalb soll akustische Ausstrahlung des Blutegels auf diesen Frequenzen unbedingt biologisch aktiv sein.

Also gibt die durchgeführte Forschung eine physische Begründung den beobachteten Heileffekten der Girudotherapie und bezeichnet die Perspektivität für Erweiterung ihrer Nutzung.

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PECULIAR PROPERTIES OF NUTRITION OF MODERN STUDENTS OF SAMARA ACCORDING TO THE DATA OF A SOCIOLOGICAL INVESTIGATION

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The main value of man is his health, which, unfortunately, in the population of our country is continuously deteriorating. It is noted the widespread increase of digestive diseases, cardiovascular, endocrine systems, the increase of cancer diseases (Volodin V.V, 2006). Of particular concern is the health of today's youth. One of the key factors in the complex health promotion is good nutrition. A wide range of products with a lot of preserve agents and a long shelf life, fast-food, all sorts of nutritional supplements, the introduction of foods with genetically modified food-stuffs, advertising in the media of different diets help to reduce the food quality of modern man, and especially of young people.

The aim of our study was to assess dietary intake of 543 students (419 girls and 124 boys aged 16-22 years) of 1-4 courses of two universities in Samara. The results of investigations have shown that only 50% of girls and 60% of boys receive a three meals nutrition a day. About 5% of students eat only once. 56-59% of young people always have breakfast. For most students (67% of girls and 58,5% of boys) breakfast consists of a sandwich and a cup of tea or coffee. Porridge in the morning diet is for 14% of girls and 23% of boys. 6% of girls and 10% of boys like to eat for breakfast meat dishes. There are low levels of dietary carbohydrates with a share of digestible mono-and disaccharides accounted for more than 40% while the amount of amyloid compounds, such as bread, cereals are actually absent. Only half of girls and 68.5% of boys have in the daily diet bakery products, every fifth student consumes them at least three times a week. In the widely discussed scientific literature there are mechanisms of antitumor effect of starch, it is known its ability to alter the microbial composition of the colon, starch dextrines cause a reduction in cholesterol level and low density lipoprotein as well as and putrefactive metabolites in the intestine of humans. Low consumption of stuff-foods containing starch may adversely affect the human body. There are detections of low consumption by students of foods rich in fiber and pectin substances: fresh fruit and vegetables in the diet on a daily basis are only for every second girl and 40.3% of boys. Most students (62%) prefer salads with mayonnaise. Daily consumed ketchup is for 16% of young people and 9,3% female students. Young people consume fish infrequently: each second - at least once a week. The results of evaluation of nutrition quality have shown that the modern student does not get all the necessary macronutrients insufficiently. The consumption of protein quantity varies from 26 to 120 grams per day. In this case every fifth student uses the protein in an amount less than the protein minimum. It was revealed that most young people seem to be consuming a sufficient amount of fats. However, the main source of fat is, unfortunately, mayonnaise and chocolate, the content of the diet of vegetable

oil - a source of polyunsaturated fatty acids - is very low. Butter is consumed by only 31% of girls and 47% of boys. In addition, 7% of the students have shares of lipids in the diet less than 30.0 grams per day. Thus, we can say with certainty that the nutrition of today's students is not well balanced. It is stated that there is frequent lack of breakfast and reduction of the number of meals per day, reduction of the total daily caloric intake, lack of protein, vegetable fats and carbohydrates (such as polysaccharides and dietary fibers and pectin substances). In this regard, it is important to perform the formation of the students responsible attitude towards health, education and promoting healthy lifestyles, including training hygienic principles of healthy nutrition.

T.V. Kulemsina

**DIE KOMPLEMENTÄRE MEDIZIN IN DER UKRAINE:
ASPEKTE DES UNTERRICHTS**

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Während 10 Jahre funktioniert ein Lehrgang für komplementäre Medizin in der Nationalen Medizinischen M. Gorki Universität Donezk. Die Notwendigkeit eine solche Abteilung zu organisieren, war davon herbeigerufen, dass eine Notwendigkeit zur praktischen Einführung von Prinzipien der Integralmedizin in der medizinischen Literatur der letzten Jahre breit besprochen wurde. In deren Grundlage liegt das Systemhergehen an Gesundheit und Behandlungsprozessen.

Der Prozess des Unterrichtens der komplementäre Medizin basiert sich auf typischen Arbeitsprogrammen, die vom Ministerium für Gesundheitswesen der Ukraine genehmigen sind. Es sind auch Arbeitslernprogramme und -Pläne, die von Mitarbeitern des Lehrgangs entsprechend den Forderungen des Bologna Prozesses mit der obligatorischen Anwendung von methodischen Materialien und anschaulichen Hilfsmitteln in druck- und elektronischen Ansicht auf ukrainischen, russischen und englischen Sprachen entwickelt sind.

Der Prozess des Unterrichtens der komplementären Medizin verwirklicht sich in zwei Etappen. Bei Diplomvorbereitung werden solche Studiendisziplinen wie Phytotherapie, Homöopathie und Reflextherapie den Studenten von 8ten und 10ten Semester nach den Berufen die "Humanmedizin", "Pädiatrie", „medizinische Prophylaxe“, "Stomatologie", "Pharmazie" unterrichtet.

An postgradualer Etappe sind Fortbildungskurse in Form von thematischen Verbesserungen, Spezialisierung und Vorqualifikationsvorbereitung nach den Berufen "komplementäre Medizin" und "Reflexotherapie". Die Ärzte, die an solchen Kursen ausgebildet werden, treffen seine Auswahl gezielt, da sie hinter ihren Schultern eine bestimmte klinische Erfahrung haben.

An postgradualer Etappe mit Ärzten im Praktikum und den Ärzten-Kursteilnehmern werden die Integrationswege jedes von komplementären Heilmethoden zu jedem traditionellen Methoden sowie Möglichkeit ihrer wirksamen Kombination ausführlich betrachtet. Dank solcher Analyse kann man den traditionellen Heileinfluss gezielt so gewährleisten, dass die Effektivität und die Qualität von speziellen ärztlichen Betreuungen sich erhöhen.

Prinzipiell in der Überlassung des Lehrmaterials ist an beiden Etappen ein Hinweis darauf, dass jede der komplementären Methoden der Behandlung unter anderem seine charakteristische Merkmale, Anweisungen und Nebenwirkungen zur Anwendung hat. Es wird auch darauf angewiesen, was keine Neuheit für Geschichte der Heilmethoden, die von 200 bis zu 6000 Jahren hat, ist, dass bis zum heutigen Tag die Methoden an verschiedenen Medizingebieten der Welt verwendet sind. Es zeigt ihre hohe Effektivität zugunsten des Einordnens der untraditionellen Heilmethoden zu den Traditionellen. Solche Methoden, aus welchen komplementäre Medizin besteht, wie Z.B. Reflexotherapie, Manualtherapie, Homöopathie, Phytotherapie, Irisdiagnostik, Hirudotherapie, werden schon längst im System der Heil- und Rehabilitationsveranstaltungen in der Welt in dieser oder jener Interpretation verwendet. Und die Name "Komplementäre" haben sie deswegen bekommen, dass die Geschichte ihrer Bildung mit anderen Ländern verbunden ist, und die Methoden und das Herangehen kein Standard sind.

Auf diesen Prinzipien ist auch das Lehrmaterial über die wissenschaftlichen Entwicklungen der Komplexschemen von medizinischer, physischer, psychologischer Rehabilitierung von traumatisierten Patienten, unter denen Kinder im Alter von 1 Jahr sind, einschließlich die, die komplizierten operativen Angriffen haben, gegründet.

Der Organisation dieser zwei Systeme bei Ärzten Vorbereitung in der Bildungseinrichtung des IV Akkreditierung Niveaus spielt die bedeutende Rolle bei eine Integration der komplementären Methoden der Behandlung an allgemeine System des Gesundheitswesens

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**MORPHOLOGICAL PECULIARITIES OF MUCOUS MEMBRANE
IN CHRONIC GASTRITIS IN CHILDREN**

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Despite significant achievements in studying pathogenesis, diagnostics and treatment of diseases of digestive tract, they remain widespread among children. More than 50% of adult population of economically developed countries suffer from chronic gastritis and gastroduodenitis the development of which begins at children's age. The aim of the present research was to study morphological features of chronic gastroduodenitis

(HGD) at children of Karaganda.

154 children at the age from 5 to 17 under gone the treatment at hospitals of Karaganda were examined. The diagnosis was verified on the basis of the generally accepted laboratory and tool methods of diagnostics. The estimation of morphological changes of mucous membrane of stomach was made according to the requirements of the International Sydney classification (1990).

The control group was consisted of 25 almost healthy children of the same age.

According to the examination results, 42,8 % of children were boys, 57,2 % were girls. Children of high school age (57,2 %) prevailed among the examined children. In 48,1 % of cases duration of disease among the examined children lasted more than 5 years. Accompanying diseases were revealed in 75,3 % of cases; vegetative-vascular dystonia, cerebral residual-organic pathology, functional cardiopathy, biliary dyskinesia, etc. prevailed among the diseases.

Clinical symptomatology HGD was characterised by painful (82,6 %), dyspeptic (76 %) and asthenovegetative (at two thirds of children) syndromes. Psychological features in the form of suspiciousness, lack of self-confidence, irritability were marked in 56,4% of cases. Indications of polyhypoavitaminosis and a lack of microelements in the form of skin dryness and exfoliation, dullness and increased brittleness of hair, the change of nail plates (striation, brittleness, etc.) were noticed in children in 65,6% of cases.

An objective survey of oral cavity revealed nearly at all the children the following symptoms: tongue coated with white fur, its dryness, smoothness of nipples, and prevalence of crimson shade of mucous. Palpation of the organs of digestive tract found out local morbidity in the pit of stomach in 82,6 %, in 61,7 % morbidity was also defined in right hypochondrium, and in 22,7 % in left hypochondrium, in 11,7 % morbidity was defined in intestines course .

According to the morphological investigation, endogastritis (42,2 %), erosive gastritis (31,8 %), gastratrophia (18,8 %) were observed more often, hyperplastic (3,2 %) and autoimmune (3,8 %) gastrites were much less often ascertained. Phlogistic changes in stomach were combined with motor-evacuator infringements in the form of duodenogastric reflux in 22 %. The revealed features also comprised: endoscopic symptoms of parasitic disease in 26,6 %, semination *Helicobacter pylori* in 94,8%, hemorrhage in the form of "islets" in 55%, dotty hemorrhage in 38% .

Thus, the revealed morphological changes of mucous membrane in chronic gastritis among examined children were the leading ones, defined the severity of illness and tactics of treatment of examined children. The long experience of disease, presence of 2, in some cases 3 accompanying diseases in examined children, prevalence of erosive, atrophic forms with symptoms of parasitic disease are the features of chronic gastroduodenitis in examined children.

ELECTROEXCITABILITY OF DENTAL PULP IN VARIOUS SOMATIC PATHOLOGIES

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Introduction

It is known that in various systemic diseases there may be changes in dental pulp that reduces the threshold of its electroexcitability and can be viewed as pathology, although teeth are clinically healthy. Such diversity between the clinic and indices of the pulp electroexcitability threshold may mislead a doctor in the choice of treatment even in superficial lesions of hard tissues, where the reaction of the pulp decreases instead of keeping within the normal range.

The aim of our research was to study the pulp electroexcitability threshold of sound (intact) teeth in patients with systemic somatic pathology.

Materials and methods

Against (the background of) the systemic pathology the diseases with possible involvement of various structures of the pulp (blood vessels, nerves, stroma) were chosen to determine the threshold of the pulp electroexcitability in sound teeth.

943 measurements of the threshold of the pulp electroexcitability in sound teeth were carried out among 159 persons at the age of 20-60 years. 101 patients had the pathology of the internal organs and 58 - were somatically healthy. The patients with a somatic pathology were divided into 4 groups depending on their underlying diseases. The first group included 24 patients at the age of 41-60 years with the diseases of the cardiovascular system (hypertension, coronary heart disease (CHD), heart defects), where 118 teeth were examined; The second group included 23 patients at the age of 20-30 years with neurological disorders (disseminated sclerosis, transverse myelitis, craniocerebral injury), where 78 teeth were examined; and the third group numbered 23 patients at the age of 41-60 years with connective tissue diseases (systemic lupus erythematosus, gouty arthritis, spondylarthritis, rheumatoid arthritis, ankylosing spondylitis, polyarthritis), where pulp electroexcitability threshold was estimated in 92 teeth, and the fourth group included 31 patients with insulin-independent diabetes of the second type, where 135 teeth were examined.

As the examined groups of patients were of different ages (20-30 years and 41-60 years) they were compared according to their age periods.

Pulp electroexcitability threshold was measured in the main sensitive points with elektrodontotester CAP 2.0 Aveyron (2006 release, Russia) by Rubin's technique (1976).

Statistical processing was conducted with the programme Statsoft Statistica ver.6.0

Findings

It was established that in patients with no somatic pathology the threshold of the pulp electroexcitability was on average 9.3 mA ($p < 0,001$), in patients with cardiovascular diseases it was 6.6 mA ($p < 0,001$), in patients with neurological disorders the threshold

averaged 11.12 mA ($p < 0,001$). But in the patients with connective tissue diseases this index was -4.3 mA ($p < 0,001$). And in patients with diabetes the threshold of the pulp electroexcitability significantly decreased and averaged 18.4 mA ($p < 0,001$).

Conclusion

Thus, in patients with systemic disorders it is necessary to take into account the changed reactivity of the pulp and not to expand the scope of surgical interventions.

E.A. Luginina

STUDY OF MEDICINAL PROPERTIES OF SOME MACROMYCETES IN RUSSIA

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About 40 species of macromycetes are traditionally used in folk medicine of Russia. 29 species are used as anti-swelling and anti-cancer agents (*Agaricus campestris*, *Albatrellus ovinus*, *Amanita muscaria*, *Boletus edulis*, *Coltricia perennis*, *Fomes fomentarius*, *Lactarius deliciosus*, *Morchella esculenta*, *Pycnoporus cinnabarinus*, *Suilus gravillei* and others), 14 species are known for their antibacterial properties against different bacteria (*A. ovinus*, *Clavulina rugosa*, *C. coralloides*, *F. fomentarius*, *Lactarius piperatus*, *Lariciformes officinalis*, *Lenzites betulina*, etc.), 14 species – blood-stopping and wound-healing used fresh or in decoctions (*Calvatia gigantea*, *C. rugosa*, *C. coralloides*, *Fomitopsis pinicola*, *Lycoperdon perlatum*, *Ramaria Formosa*, etc.) 13 species have anti-inflammation activity (*A. ovinus*, *C. gigantea*, *F. pinicola*, *M. esculenta*, *Russula foetens*, *Suilus luteus*, etc.). 11 species are traditionally used as tonics (*A. ovinus*, *B. edulis*, *Discina ancilis*, *Morchella vulgaris*, *Sarcosoma globosum*, etc.); 9 species are used in case of cardiac diseases (*B. edulis*, *F. fomentarius*, *L. officinales*, *Phallus impudicus*, etc.); 10 – for gastro-intestinal diseases (*A. campestris*, *A. muscaria*, *D. ancilis*, *M. esculenta*, *Ph. impudicus*, *Verpa bohemica*, *Inonotus obliquus* etc.). The other groups of usage are respiratory and lung diseases (9 spp), joint illnesses (8 spp), decrease of cholesterol concentration (7 spp), anti-oxidative action (6 spp), immune-modulation activity (6 spp), sedative (5 spp), diseases of urinal system (4 spp), eye disorders (3 spp), analgetics (3 spp), anti-allergic agents (2 spp), liver-protection (2 spp).

8 most widely spread species of aphyllorphoroid fungi that are used by the population for medicinal purposes were examined for antibacterial activity and toxicity: *Hericium ramosum*, *Laetiporus sulphureus*, *Flammulina velutipes*, *Hydnum rufescens*, *Coltricia perennis*, *Albatrellus ovinus*, *Fomitopsis pinicola*, *Piptoporus betulinus*. Antibacterial properties were investigated by disc-diffusion method using cultures of *Bacillus cereus* ATCC10720, *Staphylococcus aureus* ATCC25178, *Escherichia coli* 803, *Pseudomonas aeruginosa* PA26, *Yersinia pestis* EV. Significant antibacterial effect was marked for *F. pinicola* and *P. betulina*. At peroral injection of water decoctions during 7 days no

lethal cases of white mice were marked. There was definite worsening (refusal to food, slow reactions for outer irritants) for *A.ovinus* decoction. At discontinuance of injection the conditions of the animals got normal. Experiments aiming to evaluate the influence of water decoctions on «luminous» bacteria *E.coli* SG139 showed that after 2 minutes from injection of *F.velutipes* и *P.betulinus* decoctions there was definite luminescence oppression.

Biotesting with seeds of rye (“Iren”), leaf mustard and white haricot. As a result allowed to define that *F.velutipes* is absolutely toxic to plants. *F.pinicola* and *P.betulinus* did not impede of rye and mustard seeds’ germination and their fixation on substratum; haricot seeds did not form sprouts.

Thus, the most strongly marked antibacterial properties were revealed for *F.pinicola* and *P.betulinus*. The most toxic for animals is *A.ovinus*, *F.pinicola* and *P.betulinus*- for bacteria, *F.velutipes* –for plants. However received data need further studies and analyses.

G.I. Lukina

CLINICAL MANIFESTATIONS OF DIGESTIVE SYSTEM DISEASES IN THE ORAL MUCOSA

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Many clinicians are concerned about possible relationship between the esophagus, stomach, and duodenal ulcer diseases and the oral cavity.

Aim of this study is to research the clinical condition of the oral mucosa in patients with diseases such as gastroesophageal reflux disease (GERD), chronic gastritis, peptic ulcer, duodenal ulcer, dysfunction of the bile duct, chronic pancreatitis.

Inspection of the oral cavity was performed in 205 patients who sought help from a gastroenterologist and a dentist. Age and sex of the patients were not limited. From among all the surveyed men were 45,5%, women - 54,5%. Biting the cheeks and tongue while eating was observed in patients with erosive and ulcerative lesions of the esophagus, as well as in patients with diseases of the gallbladder and pancreas. Burning and pain in the tongue appearing in patients of all these groups. Abundant patches on the tongue in patients was periodically frequent, especially in patients with diseases of the gallbladder and pancreas. The emergence of aphthous ulcers in the oral mucosa periodically observed in 21,4% patients. From the revealed drought without damaging of epithelium integrity of the red portion area seen in 17,4% patients. Sometimes (1.6%) there were flakes, cracks in the red portion, which is characteristic dry form of exfoliative heylitis. Angularly cheilitis was observed in 6,6% cases. Swelling of the oral mucosa was observed in patients in all groups surveyed (30,8% of cases). This feature occurred in 100% cases in patients with the most severe form of GERD. Biting cheek mucosa was found in 12,8% patients. Cyanosis of the oral mucosa of patients was determined in 11,5% cases. Chronic recurrent aphthous stomatitis was found in 9% patients. The exception was the group of patients

with nonerosive reflux disease (NERD), where chronic recurrent aphthous stomatitis has not been found. Hyperkeratotic thickening of the epithelium of the mucous membrane of cheeks in the form of plaques was observed in 6,9% cases. However, this feature was absent in patients with NERD. Lichen planus was diagnosed in 7,5% patients. Process of increasing keratinization whisker papillae and papillary apparatus of the tongue changes was in 14% cases. Size increasing of patients's filiform papillae was always observed with an ample coating on the tongue.

Conclusions.

1. Clinical manifestations in the oral mucosa in diseases of the esofagogastroduodenal and holetsistopankreatic zones are characterized by symptoms such as: drought, hypersalivation, atrophy of the papillary apparatus, the presence of abundant plaque marks of teeth on the mucous membrane of cheeks and on the lateral surface of the tongue, the trauma of the oral mucosa as a result of biting, the centers of desquamation, the phenomenon of hyperkeratosis, the presence of papules and aphthous ulcers.
2. Changes in the oral mucosa have a tendency to increase the diversity and frequency of occurrence in correlation with the severity of pathology of the digestive system.

Lily Luzina-Chju

FACIAL NERVE NEURITIS: AN INTEGRATIVE APPROACH

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Introduction

Facial nerve neuritis is a widely spread pathology of the peripheral nervous system. It causes a lot of discomfort. The aetiology of this pathology varies greatly; in some idiopathic cases it is not clear which makes treatment complicated.

Objectives

The aim of our research is to show that applying complex therapy based on the TCM for treating facial nerve neuritis is efficient and safe.

Methods

We suggest combining corporal and auricular acupuncture with tapping on clustered needles, moxibustion, blood-letting, Sujok. This complex therapy helps to relieve and even remove the symptoms by strengthening the yin energy and improving its circulation, removing pathological Cold, stimulating blood circulation, releasing muscle tension.

Results

Our results are encouraging for the use of complex therapy for treating facial nerve neuritis. We are going to present a number of cases of successful treatment.

Conclusions

We can come to the conclusion that complex therapy can be applied as a complement or as an alternative of the medication treatment. It offers a possible cure for many patients suffering from facial nerve neuritis. We have not found out any contraindications.

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AN INTEGRATIVE APPROACH TO TREATING THYROID PATHOLOGY

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Purpose

Thyroid diseases are very common. In some regions up to 70 % of adults suffer from different thyroid disorders. The problem is becoming more and more urgent, especially in pregnant women. Thyroid pathology can cause infertility or lead to a miscarriage and health problems in the baby. There is need for research into non-medication therapy of thyroid diseases.

Methods

Our approach is inspired by the modern integrative medicine and based on the TCM. We combine different methods to enhance the effect of the treatment. C o r p o r a l and auricular acupuncture accompanied by moxibustion and the su jok therapy can be applied as an alternative or as a complement of the vicarious hormonal therapy.

Results

The results are encouraging for the use of acupuncture for preventing and treating thyroid diseases. In our patients the characteristic clinical manifestations of hypo and hyper functional thyroid gland conditions diminished after the treatment. Repeated ultrasound examinations showed positive changes in the thyroid gland. The organ's structure improved. There were positive changes of the patients' thyroid hormonal status. Many of the patients recovered their mental and emotional calm.

Conclusion

We can come to the conclusion that our complex therapy is an organ-friendly approach to treating thyroid pathology, especially in women having fertility problems.

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THE USE OF SYNTHETIC MATERIALS FOR SURGICAL CORRECTION OF FEMALE GENITAL PROLAPSE

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Despite a great number of ways to correct genital prolapse and uroclepsia (more than 300 types of surgery) new methods are still being developed due to high rate of recurrences (between 2,3 and 33 %). The reason for high rate of recurrences is initial disorder of connective tissue diagnosed at 50% patients with genital prolapse. This factor brought up the idea to use synthetic material to replace fascial

structures of pelvic floor. Age of women has been between 42 and 74. Women occupied at physically demanding jobs were of 28%. The obstetric accidents constitute 43% of patients. Obesity diagnosed at 24% of women, varicosity was in 52%. The period of disease duration was between 3 and 10 years. In cases of kulti vaginal prolapse or in laparoscopic hysterectomy at the second stage we carried out MESH- sacrovaginal suspension (n=11). The method of vaginal extraperitoneal colpopexy is provided to 92 patients. For cystocele plasty we used transobturator access by fixation of free prosthesis parts with distal and proximal parts arcus tendineus according to Prolift anterior method (Johnson & Johnson, USA) in original modification; back wall of vagina was supported by prosthesis led through lig.sacrospinosus according to Prolift posterior method with the help of original transforator. In case of uterus prolapse (full or partial) vaginal hysterectomy was made combined with Prolift total. When we defined stress incontinence we made suburethral fixation with transobturator sling TOT (Johnson & Johnson, USA). This method was successfully applied to 57 women. We cut prosthesis by ourselves from polypropylene with soft index depending on focalization, form and size of fascia defect correcting genital prolapse for 62 women. The efficiency of operative treatment was evaluated within the period between 6 months and 5 years given subjective and objective criteria for recovery of anatomic parameters and functional indicators (absence of dyspareunia, constipation pains). We can state that operative treatment of pelvic prolapse and stress urinary incontinence by using synthetic materials is very efficient. We observed complete recovery of anatomical structures, pelvic floor functions and absence of recurrences. All patients were satisfied with surgery results and improvement of their quality of life. We would like to emphasize that sling surgeries are easy to carry out, there are no hemorrhagic and communicable complications, and aftercare period decreases significantly.

Summary: The prolene mesh prosthesis with soft index is today the best synthetic material in terms of physical and biological characteristics for operative treatment of prolapse and abasement of genitals. Short-term results showed the safety of mesh prosthesis fixation with pelvis dense structures - membrana obturatorium, arcus tendineus, lig.sacrospinosus. It can be used in vaginal extraperitoneal colpopexy with Prolift original set for correction of genital prolapse. Vaginal extraperitoneal colpopexy under Prolift method could be a good alternative for other types of operative treatment of genital prolapse due to low traumatism and use solely vaginal access; this method can also be applied to patients with severe extra genital disorder.

HOW LOW-PROTEIN DIET BALANCED WITH ESSENTIAL AMINO AND KETO ACIDS AND HIGH-NUTRIENT MIX DECELERATES ADVANCE OF RENAL IMPAIRMENT IN THE PRESENCE OF PRE-DIALYTIC CHRONIC KIDNEY DISEASE CAUSED BY SYSTEMIC ILLNESSES

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Research objective. To evaluate effect of low-protein diet (LPD) balanced with essential amino and keto acids and high-nutrient mix on deceleration of renal impairment advance in patients suffering from systemic illnesses along with pre-dialytic stages of chronic kidney disease (CKD).

Materials and methods. 48 patients with 3rd or 4th stage of CKD caused by systemic illnesses (in 35 cases by systemic lupus erythematosus, 13 cases - by various forms of systemic vasculitis) were included in the research. The patients were divided into 3 groups according to the level of protein consumption and to the correlation between vegetable and animal proteins.

The 1st group consisted of 18 patients with 3rd and 4th stages of CKD, they were on diet Nr. 1 which included 0,6 g/kg of protein per day – 0,4 g/kg of animal protein per day and 0,2 g/kg of food vegetable protein per day.

The 2nd group consisted of 20 patients with 3rd and 4th stages of CKD, they were on diet Nr. 2 with the same total protein content but with higher vegetable protein content – 0,3 g/kg per day – due to adding high-purity soy protein (isolate) into food. The patients from both groups were prescribed an optimal complex of 0,1 g/kg of all essential amino and keto acids per day.

The 3rd group (comparison group) consisted of 10 patients with 3rd and 4th stages of CKD. The patients from the comparison group were on a normal diet (protein consumption from 1,1 g/kg to 1,3 g/kg per day) during the observation period (24-48 months) according to their personal motivation.

The patients' nutritional status was evaluated on the basis of anthropometric data and other evaluation parameters. Protein consumption and caloric value of food were calculated on the basis of 3-day diet diary.

Results. Nutritional status disorders were detected in almost half of 48 patients with systemic illnesses and 3rd and 4th stages of CKD (50%). Both options of low-protein diet were tolerated well, they provided nutritional disorders correction in the patients who had had the disorders before the research began and prophylaxis of nutritional disorders in the rest of the patients of the 1st and the 2nd groups. Along with the renal impairment progression in the patients of the 3rd group (control), the frequency of nutritional status disorders grew by 1,5 times (from 40% to 60%). Drop in glomerular filtration rate (GFR) was registered in the patients who had been on low-protein diet for a year and more,

especially with addition of high-nutrient mix.

Conclusion. Early (on pre-dialytic stage) limitation of protein consumption (0,6 g/kg per day) along with adding to dietary intake essential amino and keto acids and high-nutrient mix affect positively nutritional status of patients with CKD and provides decrease of GFR.

L.Yu. Milovanova
Yu.S Milovanov

PLACE OF PARICALCITOL IN NEPHROPROTECTIVE STRATEGY FOR PRE-DIALYTIC CHRONIC KIDNEY DISEASE CAUSED BY SYSTEMIC ILLNESSES

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Introduction. Nephroprotective strategy on pre-dialytic stages of chronic kidney disease (CKD) is aimed at maximal reduction of proteinuria (microalbuminuria) and at the same time at blood pressure normalization, as the former and the latter are the most significant factors of glomerulosclerosis progression. Early systematic use of calcitriol combined with blocking agents of renin-angiotensin system (RAS), erythropoietin preparations and hypolipidemic drugs plays an especially important role in proteinuria level reduction.

The research objective was to do a comparative analysis of how calcitriol and paricalcitol affect proteinuria level reduction and prophylaxis of secondary hyperparathyreosis (SHPT) in patients with systemic illnesses and 3rd or 4th stage of CKD.

Patients and methods. 50 patients with 3rd or 4th stage of CKD caused by systemic illnesses (in 35 cases by systemic lupus erythematosus, 15 cases - by various forms of systemic vasculitis) were included in the research. They were divided into 2 groups. The 1st group consisted of 28 patients (8 with the 3rd stage and 20 with the 4th stage), they were given 0,25 µg of calcitriol per day. The 2nd group consisted of 22 patients (9 with the 3rd stage and 13 with the 4th stage), they were prescribed to take 1 µg of paricalcitol per day. Calcitriol and paricalcitol were used for nephroprotection at intact parathyroid hormone (PTH) level in blood over 65 pg/ml with allowance for phosphocalcium metabolism characteristics. Patients of both groups were prescribed blocking agents RAS, erythropoietin preparations, iron preparations and statins. 11 patients of the 1st group and 12 patients of the 2nd group underwent Doppler ultrasound examination of carotid arteries at the beginning and at the end of the research period.

Results. Before calcitriol and paricalcitol treatment proteinuria level made up 1,2±0,6 g/day in the 1st group and 1,3±0,4 g/day in the 2nd group, while intact PTH level was correspondingly 75±17,4 pg/ml and 80±16,6 pg/ml. Combined affection of carotid arteries with calcinosis/ atherosclerosis was detected in 27,3% of patients in the 1st group and 33,3% of patients in the 2nd group.

The patients tolerated calcitriol and paricalcitol quite well. As a result, after three

months of this treatment intact PTH level became normal in those patients who originally had the high level. In the patients who took paricalcitol, proteinuria level dropped faster ($p < 0,05$) and arterial hypertension abated to a greater extent ($p < 0,01$) than in those who took calcitriol. Within the same period neither hypercalcemia nor advance of calcinosis/ atherosclerosis were detected in 4 patients of the 2nd group with calcinosis/ atherosclerosis. Among the patients who took calcitriol, on the contrary, hypercalcemia was detected in 27,3% of patients, advance of calcinosis/ atherosclerosis – in 3 patients who had been diagnosed with calcinosis/ atherosclerosis during screening.

Conclusion. Use of paricalcitol on pre-dialytic stages of CKD caused by systemic illnesses with hyperparathyreosis leads not only to normalization of intact PTH level but to evidential abatement of daily proteinuria and arterial hypertension.

S.Yu. Milovanova
Yu.S. Milovanov

**PECULIARITIES OF KIDNEY AFFECTIONS WHICH
ACCOMPANY CHRONIC HEPATITIS
AND CRYOGLOBULINEMIA**

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Research objective. To establish peculiarities of kidney affection clinical and morphological pictures of patients suffering from cryoglobulinemia along with chronic hepatitis C (CH-C) in order to facilitate diagnosing and assessment of prognosis and optimize treatment methods.

Materials and methods. Two groups of patients were examined: a group of 64 patients suffering from cryoglobulinemia and a group of 62 patients without cryoglobulinemia. Patients of both groups are comparable in terms of sex, age and disease duration. Liver biopsy was done to 63 patients, histologic activity index (HAI) and histologic sclerosis index (HSI) were determined according to the METAVIR scale.

Clinical pictures of 48 patients with cryoglobulinemic kidney affection were analyzed, 15 of these patients underwent morphological examination of kidney tissue which included semiquantitative estimation of activity (histologic activity index) and fibrosis degree (histologic sclerosis index) according to H.A. Austin (1983).

Results. The patients suffering from CH-C along with cryoglobulinemia had a wider range of systemic affections than the patients without cryoglobulinemia. More severe forms of skin affections (ulceronecrotic changes), joint affections (arthritis development), kidney affections (nephrotic syndrome, acute nephrotic syndrome, fast-evolving renal insufficiency) and nervous system affections (neuropathy with motor disturbances) were present only in patients with cryoglobulinemia, which allows to regard cryoglobulinemia as an indicator of poor prognosis. We have discovered an evidential direct correlation

between cryocrit value (> 5%) and such phenomena as severity of systemic manifestations (of purpura), Meltzer triad, neuropathy, Raynaud's phenomenon, kidney affections, which is correspondingly as follows: $p < 0,01$; $p < 0,01$; $p < 0,01$; $p < 0,001$; $p < 0,001$.

Analysis of liver biopsy material showed that patients with cryoglobulinemia had a more marked fibrosis (3 to 6 points) than patients without cryoglobulinemia; the difference has been proven ($p < 0,01$); most of the patients of the second group (80%) had a milder form of fibrosis (0 to 2 points).

Average age of 48 patients suffering from cryoglobulinemic glomerulonephritis (GN) was $43,9 \pm 12,2$ years old, while duration of chronic hepatitis C from supposed contamination to beginning of kidney affection made up $197,05 \pm 18,5$ (from 50 to 324) months.

15 patients underwent kidney biopsy, most of them (13 patients) were diagnosed with cryoglobulinemic mesangiocapillary glomerulonephritis, 2 of them – with mesangioproliferative glomerulonephritis.

Morphologic assessment of kidney affection severity showed that most patients with HCV-infection suffered from a more severe proliferative form of nephritis, i.e. mesangiocapillary glomerulonephritis (high degree of fibrosis - histologic sclerosis index equal to $17 \pm 1,02$).

29 out of 48 patients (60,4%) suffering from GN with HCV-infection and cryoglobulinemia had a latent form of GN with a moderate uretic syndrome, 9 of them (18,6%) had a nephritic syndrome (NS), 10 of them (21,0%) – an acute nephritic syndrome.

Most of the patients were diagnosed with arterial hypertension – 29 out of 48 patients with a moderate uretic syndrome (average systolic blood pressure/diastolic blood pressure - $165,6 \pm 5,3 / 108,9 \pm 5,4$ mm of mercury column), 9 patients with NS (systolic blood pressure/diastolic blood pressure - $162,5 \pm 13,15 / 97,5 \pm 7,5$ mm of mercury column). 13 patients were diagnosed with creatinenemia ($3,02 \pm 0,55$ mg/dl), while 4 of them had a fast-evolving GN.

Conclusion. Treatment results analysis showed that in case of cryoglobulinemic vasculitis with severe kidney affection it is necessary to prescribe immunosuppressive therapy in combination with plasmapheresis or cryopheresis and afterwards – viricides. A new approach which implies use of rituximab may be preferable according to the results obtained so far, but for final conclusion further clinical testing is needed.

Persisting cryoglobulinemia should be viewed as a criterion for a serious diagnosis in patients with CH-C and an indication for antiviral therapy to prevent possible severe affections of organs, first of all kidney affections.

**DYNAMICS OF THE ADAPTATION CHARACTERISTICS
IN THE PATIENTS WITH ADAPTATION DISORDERS DURING
THE APPLICATION OF ACTIVATION LIGHT-ACOUSTIC
TECHNOLOGY «NEURODISK»**

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Objectives

Development and introduction of the complimentary to psychopharmacotherapy methods of non-official psychopathology correction is an important direction of psychiatric researches.

Methods

For the purpose of the analysis of adaptation reaction during the application of activation light-acoustic technology «Neurodisk» 71 patients with adaptation disorders (F43.2) were examined. Applied technology «Neurodisk» is a psychophysiological program on CD using influence of color-acoustic matrix «Anti-stress» together with algorithms of physiological reactions of adaptation (Garkavi et al.- Garkavi L.H. et al. "Anti-stress reactions and activation therapy". «Philanthropist»: Ekaterinburg, 2003 - 335 P. (1). The program was used during the month daily.

The adaptation reaction level was analyzed by apparatus «Pulse-Anti-stress» which assesses the mentioned characteristics in the ratings of 3 levels: «stress», «activation» and «training» as the conditions reflecting the influence of nonspecific factors of severe (by Selye), moderate and slight (by 1) power correspondingly. Additionally we assessed responsiveness of every level (in %, by 1). Psychiatric psychopathological method was also used.

Results

There was improvement of adaptation reaction in the studied patients besides the positive dynamics of psychiatric status. Before the correction the most of patients all – 71 man. The subjects indicators have improved cognitive and emotional activity, improved rhythms of visual perception. In all cases, it was noted improvement of the adaptation status was evaluated. If prior to the correction in all subjects adaptation the status was defined as the reaction of the “stress”, then after the reaction has changed in 61 people (16 person - activation, at 43 persons - training, 2 persons increased activation), in 10 people has improved level of responsiveness (stress softer level).

Conclusions

The results indicate to the perspectives of color-acoustic technology «Neurodisk» application for the psycho-physiological status improvement of the patients with studied disorders.

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M.V. Grushina

**PLATELET AGGREGATION DISORDERS IN PATIENTS
WITH CHRONIC GLOMERULONEPHRITIS COMBINED
WITH ISCHAEMIC HEART DISEASE, THEIR MANAGEMENT**

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One of the main reasons of premature death of patients with chronic glomerulonephritis are cardiovascular disorders, which are known as acute and chronic types of ischaemic heart disease. It is impossible to eliminate existences of common hypercoagulative mechanism which is the basis for coronary arteries affection and glomerular microclotting formation.

The aim of research was estimation of pathological processes of clotting in patients with chronic glomerulonephritis and added chronic ischemic heart disease and determination of possibilities of management of such disorders by the use of liposomal remedies and interval normobaric hypoxic therapies in such combined pathology.

Methods and Results. 200 patients with chronic glomerulonephritis and concomitant ischaemic heart disease were included into this research. The general criteria of patients in research were presence of clinical, laboratory and/or morphological signs of chronic glomerulonephritis, mesangial proliferative, mesangiocappillary, focal and segmented types of glomerulonephritis without clinical and laboratory activity and nephrotic syndrome, chronic glomerulonephritis with arterial hypertension 1-2 degrees, chronic types of ischemic heart disease (stable angina 1-3 classes and painless myocardial ischemia), normal function of kidneys. The selected patients are divided into 4 groups according to age, sex and durations of both diseases.

After randomization and realization of complex of initial researches, the first group (50 patients) got the standard antianginal medications (nitrates, antagonists of calcium, statins, antiplatelet agents, beta-blockers, angiotensin-converting enzyme inhibitors) with daily 50-60 minute interval normobaric hypoxic therapy at 11-12% oxygenating respiratory mixture. Second group (50 patients) got the same management, but in combination with liposomal remedies. "Lipin" in a dose 0,5 gr. on 50 ml of physiological solution of sodium chloride IV in the morning, and "Lipoflavon" - in the evening (produced by "Biolek", Kharkiv, Ukraine).

For preparation of solution of "Lipoflavon" content of one bottle (solvent) carefully poured in another small bottle (lyophilizate), which was intensively shaken off during one minute to formation of homogeneous emulsion with next intravenous introduction. Additionally in the day-time 0,5 gr. "Lipin" was given to patents by inhalation with help ultrasonic nebulizer. The third group (50 patients) got triple therapy: standard antianginal medicines, interval normobaric hypoxic therapy and liposomal remedies according to the same scheme. A fourth group (group of comparison) got medicamental antianginal therapy only. All actual results of researches compared with fifty healthy people of analogical age and sex (control group).

Results. Patients with such combined pathology had the laboratory signs of hypercoagulative syndrome which showed up from one side in worsening viscosity properties of blood , and from other - the increase in number of platelets with hyperadhesion features. Influence of the different management on the state of platelet adhesion showed ability to diminish the percent of thrombocytes with increased adhesion with used liposomal remedies (2 group), but greater results showed up at combination of this treatment with interval normobaric hypoxic therapy

Conclusions. The patients with chronic glomerulonephritis and concomitant ischaemic heart disease have development of laboratory signs of hypercoagulative syndrome. Application in the complex treatment liposomal remedies showed decrease in blood viscosity viscosity of blood, red blood cell and platelet count in their hyperaggregation and hyperadhesive states. A maximal antiplatelet result was in patients with combined renocardio pathology after combined therapy with using of standard antianginal medicines, normobaric hypoxic therapy and liposomal remedies

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L.A. Titova

CLINICAL EFFICACY OF BRONCHIAL ASTHMA ASSOCIATED WITH GASTROESOPHAGEAL REFLUX DISEASE COMBINED WITH LASER THERAPY

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Introduction. Association of bronchial asthma (BA) and gastroesophageal reflux disease (GERD) leads to reciprocal deterioration of both diseases. This research is about laser therapy efficacy for treatment of patients with bronchial asthma associated with gastroesophageal reflux disease. The combination of low intensity laser radiation of different wavelength and methods has been used.

Materials and methods. Research was done in Voronezh hospital № 20. There were 60 patients with association of moderate and severe uncontrolled BA and GERD. They were divided into four groups. Patients of main group (19 patients) received pharmacotherapy, supravenuous laser therapy (wavelength 0,63 micrometer, power 5 milliwatt, exposition 15 minutes) and laser irradiation (wavelength 0,89 micrometer, power 5 watt, frequency 80 Hz) on region of adrenal glands and epigastric region in 3 minutes. There were 10 diurnal procedures. 2 group (15) received pharmacotherapy and placebo. 3 group (21) received only pharmacotherapy. 4 group (12 healthy persons) were for estimation of normal data of indices. Standart clinical, X-ray, functional studies including spirometry, endoscopy, pH, biochemical and laboratory tests were carried out before treatment, after 12-14 days and 1, 6 and 12 months after treatment. Vegetative state was examined by data of heart rhythm variability with ECG recorder «VALENTA MN-08». Adrenal cortex hormones were analyzed by immunoenzyme automated method with apparatus «Emmulite».

Results. In 12-14 and 28-30 days after beginning of treatment there was a positive dynamic of most clinic and laboratory parameters: decrease of dyspnea from $2,74 \pm 0,04$ to $2,21 \pm 0,04$ at 12-14th days and to $2,2 \pm 0,15$ at 28-30th days ($p < 0,05$), patients noticed significant improvement of cough at 28-30th days ($p < 0,05$), towards the end of period of treatment intensity of such symptoms as heartburn (47%), eructation (21%), dysphagia (9,8%) and it's connection with changing of pose (29,5%) was decreased ($p < 0,05$). At 28-30th days of treatment significant increase of cortisol, testosterone and estradiol level in blood was detected. Evident increase of vegetative reactivity (SDNN) in 46,7% ($p = 0,0002$) and decrease of parasympathetic activity (rMSSD) in 31,8% ($p < 0,05$) occurred. Beneficial dynamic of test indices had continued after 6 and 12 months. Invalid dynamic of clinic and laboratory data was in placebo group. In 3th group there weren't significant changes of tested indices.

Conclusion. Experimentation has shown that combination of basic pharmacotherapy and repeated courses of laser therapy has the best efficiency and the most evident beneficial effect on clinical course of BA associated with GERD because of alternate action and activation of adaptive and compensatory response. This method of treatment influences on different parts of pathogenesis of BA and GERD. Consequently, introduced method of treatment makes it possible to increase effectiveness of therapy, shorten patient's stay in hospital, corrects level of hormones and vegetative imbalance as well as reduces drugs dose.

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IDENTIFICATION OF VIRUS ANTIGENS IN GASTRAL MUCOSA IN PATIENTS WITH CHRONIC GASTRITIS

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The role of herpes infection in gastroduodenal diseases remains to be defined.

The aim of the study was to evaluate the prevalence of herpes virus infection in children and adults with chronic gastritis.

Materials and methods: 103 children at age of 7–17 and 49 adults at age of 18–78 suffering from chronic gastritis were examined. The chronic gastritis was diagnosed by endoscopic and morphological examination. Biopsies were obtained from the mid antrum and mid corpus. Biopsies were placed in 10% formalin and routinely embedded in paraffin blocks, then cut and stained in each local centre. The stained slides were examined by pathologist using the updated Sydney classification. Virus antigens were determined by immunohistochemical methods. Polyclonal antibody to herpes simplex 1 and 2 type (Dako), monoclonal antibody to early antigen of cytomegalovirus and monoclonal antibody to antigen (latent membrane protein) of EBV (Novocacra) were used as primary antibody. Peroxidase –labelled streptavidin biotin complex were used

for detection of virus antigens on deparaffined sections. Peroxidase activity was visualized with a standard diamino-benzidine reaction. Brown granules were found in structures of gastroduodenal mucosa as a result of reaction.

Results: Virus antigens at 70% gastric biopsies from children and 65,3% from adults were found (EBV: children-44,8%, adults-40%, $p>0,05$; herpes simplex: children-34,9%, adults-26,5%, $p>0,05$; cytomegalovirus: children-16,5%, adults-18,4%, $p>0,05$; 2 mixed infections: children-22,3%, adults-16,4%, $p>0,05$, 3 mixed infections: children-1,9%, adults-2%, $p>0,05$). Virus antigens detected in both biopsies (antral and fundal) at all patients.

EBV antigens in the form of a mono-infection detected in 28,1% of children and 26,7% of adults ($p>0,05$), herpes simplex antigens in the form of a mono-infection detected in 6,7% of children and 14,3% of adults, ($p<0,05$), cytomegalovirus antigens in the form of a mono-infection not detected in children and at adult detected in 20,2% of cases ($p<0,05$).

Herpes simplex antigens in a stomach mucous had mainly perineural localization. It was marked also diffuse colouring of gastric epitheliocytes cytoplasm. EBV antigens in a stomach mucous had mainly perivascular localization. Cytomegalovirus antigens detected mainly in glandular cells of gastric mucous, thus in glands quite often there were signs of huge metamorphosis.

At positive VEB antigens children, more often, than at children without virus infections the expressed activity of a gastritis as in a mucous membrane of a body of a stomach (38% and 6,6%, $p<0,05$), and in antral department (38% and 10%, $p<0,05$) was marked. At adults with VEB antigens in a gastric mucous, more often, than at patients without virus infections it was marked not only the expressed activity of a gastritis in a mucous membrane of a body (46,2% and 6,3%, $p<0,05$), and antral department of a stomach (46,2% and 9,4%, $p<0,05$), but less often detected weak activity in fundal mucous (15,6% and 56,2%, $p<0,05$) and antral departments (23,1% and 50%, $p<0,05$) also. Herpes simplex antigens did not influence activity of a gastritis at children and at adults. At the cytomegalovirus antigens positive adult patients more often, than at adults without virus infections in antral gastric mucous high activity of a gastritis (28,6% and 9,4%, $p<0,05$) was marked.

Conclusions: 1. The association between virus infection and chronic gastritis in children and adult were demonstrated. There was no difference in overall herpes virus infection prevalence between children and adult.

2. Epstein-Barr viruses and cytomegaloviruses influence a degree of activity of a chronic gastritis both at children, and at adults.

3. Availability of the mixed infections requires search of methods of differential diagnostics with cross reaction of antigens different a herpes-viruses and a Mixed-infections.

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SANITATION AND REHABILITATION OF STUDENTS WITH BRONCHOPNEUMONIA

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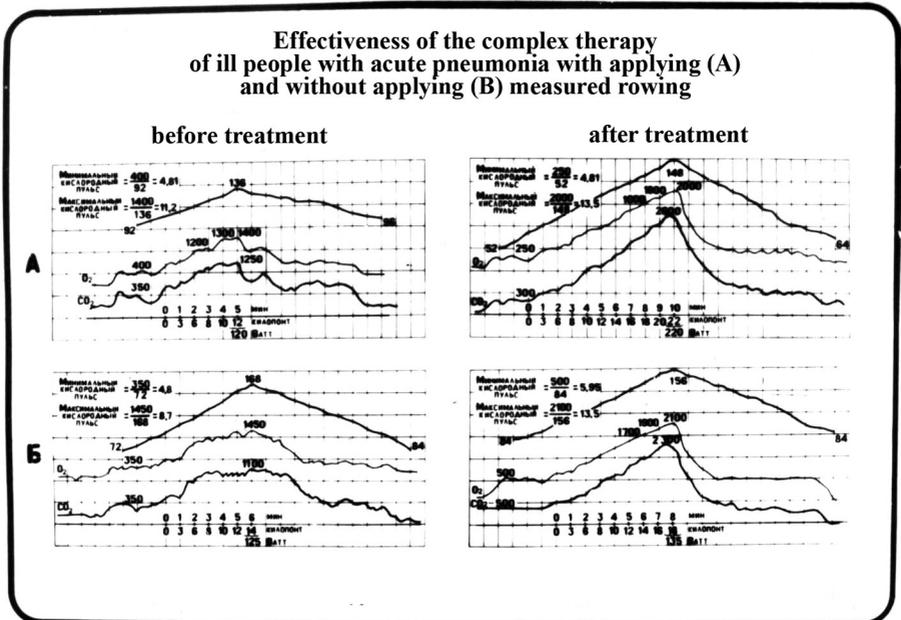
The method of sanitation and rehabilitation of students suffered from bronchopneumonia was developed by the academician V.G. Paschenko in the scientific-research department of Luhansk Taras Shevchenko National University.

Our method is realized with the help of medical rowing held with the load in kilograms (kgm), in minutes during the period as well as during the day or the whole course. It is carried out in combination with medical swimming that does not exceed 3400 meters more than 16 cycles during two months.

We propose to use V.G. Paschenko's training simulator (the Ukrainian patent number 80049) for medical rowing in the ionized room saturated with negative ions. The concentration is 500-5000 ions in one cm³, air moisture is 30-40% with using a balsam of fir.

This program proposed and developed by us consists of two-month medical swimming (3400 meters) and two-month medical and sanitation rowing (the load is 97600 kgm).

While applying medical and sanitation rowing we got the following results:
- improvement of student health;



- sleep and appetite becomes better;
- dry rales and harsh breathing disappear from the lungs;
- vital lungs capacity increases to 350 ml;
- the force of expiratory muscles of expiration increases to 80 millimeters of mercury;
- work capacity improves.

The research results showed that usage of medical and sanitation rowing simultaneously with medical swimming, that is adequate with functional abilities of students were ill with pneumonia, activates the mechanism of physiological functions adaptation, raises the reserve abilities of the respiratory and cardiovascular systems.

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COMPUTER-AIDED TRAINING OF DOCTORS AT CLINICAL DEPARTMENTS

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Educational technologies based on structuring students' intellectual activity are traditionally used in Tomsk school of medical thought. They include theory of diacrisis as a basis for studying clinical tasks, decomposition of doctors' thinking according to the ways of reasoning (classifying, use of statistics, recognition by analogy, logical deduction, systems analysis), simulation exercises, modeling clinical settings, modeling teaching material acquirement structure.

Computer system model for doctors' training by method of situational problems solution is offered in the report. Besides standard function of establishing problem conditions and getting the solution, the project contains operations aimed at developing in students skills of professional comment on clinical presentation. The project is unique because its goal is to create a system for realizing intuition potential of students in the part of a doctor's thinking in which a patient's image is perceived and completed to a recognizable clinical presentation sufficient for identification and making a decision within a single stage, in contrast to lengthy situation analysis .

As a structural basis for clinical situation description we have chosen frame. According to its content the frame corresponds to case history (CH) and is subdivided into five enclosed frames: factographic part of case history, comment on clinical presentation, treatment protocols, problem-solving protocol and epicrisis. Each frame consists of named slots, each slot consists of four facets: current slot value, value type, default value, reference to a trigger. At the beginning of a problem solving the first frame slots are filled in while value facets of the others are empty. Problem solving is programmed as a process of going through factographic part with breakpoints in which a student must answer questions on the basis of incomplete information and record his/her arguments in empty value facets. If a student has any difficulties he/she can turn for help either to computer

knowledge base or to a teacher. Computer help is given through default slot values and pilot programs attached to them, a teacher's help – through interactive procedures attached to slots. Help mechanism is determined by the following purpose: elaborate and implement the computer-based method of teaching how to make medical decisions when the subject deals with fundamentally incomplete set of conditions and has to make it complete by cut and try method or to come to understanding of the situation by way of insight. The task is to limit random search at the moments of decision making, giving students inducer facts which, like in brainstorming, initiate correctly oriented stream of free associations in his/her consciousness. Prerequisites for implementation of the project are examples of creativity activation systems in the fields where decision making requires heuritic and intuition.

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**ESTIMATION OF RISK OF CARDIOVASCULAR DISEASES
IN THE YOUTH ENVIRONMENT**

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Urgency. Preventive maintenance of infringements of cardiovascular system possesses the important role among actions for preservation of health of the population. The major condition of preservation and health improvement is the healthy way of life which formation makes a basis of primary preventive maintenance of diseases. Comprehensive planning of improving actions, correction of negative influence of risk factors are possible only after studying of prevalence of these factors among students, an estimation of a way of life of youth taking into account a functional condition of cardiovascular system.

Research objective: to estimate the contribution of various risk factors of a cardiovascular pathology to a deviation of a state of health and processes of adaptation at students of VSMA of N.N.Burdenko.

Materials and methods. The research program included complex anthropometrical, physiological and psychological inspection of students of 1-6 courses in number of 80 persons. Among them, 38 students of the 1 course (18 young men and 20 girls) and 42 students of the 6 course (13 young men and 29 girls). For revealing of behavioural risk factors for chronic noninfectious diseases the questionnaire defining prevalence of smoking, the alcohol use, food habits, level of physical activity was used. The express estimation of a functional condition of heart with the subsequent dispersive analysis is made with application of computerised system "Cardiovizor-06C". Statistical processing of the received results is made with the use of classical methods of parametrical and nonparametric statistics.

Results of research. At an estimation of behavioural risk factors it is revealed, that 75 % of students are smokers. Low physical activity and high indicators of prevalence of superfluous weight of a body and adiposity is noted. The superfluous weight of a body is more frequent for young men (27,5 %), than for girls (7,2 %). At girls in 11,8 % of cases deficiency of weight of a body, and at young men of 2,89 % has been revealed, their weight of a body and the index of weight of a body were authentically more low in comparison with age and sexual specifications. Adiposity of I degree 2,6 % of students of young men and 1,45 % of students of girls suffer.

Knowledge of respondents of figures of the arterial pressure makes 58 %. 34 % know, that they have propensity to labile arterial pressure. Thus overwhelming majority of respondents are not treated and do not focus the attention on a “wrong” way of life and presence at their life the risk factors to health.

At the indicator analysis “a myocardium Index” it has been established, that it authentically did not differ in groups of the 1 and the 6 courses ($p < 0,05$). Average values of an indicator “Myocardium” for students of the 1 course have made $11,81 \pm 2,11$ %, for students the 6 course $13 \pm 1,65$ %. The majority of students both the 1 course, and the 6 course had values of an index of a myocardium < 15 % that corresponds to absence of pathological changes. Meanwhile at the overwhelming majority of students values of the indicator “Myocardium”, were grouped around the top border of norm, and average values of an indicator in group healthy “Myocardium” have made $9,07 \pm 4,11$ %, for students of the 1 course and $7,25 \pm 1,12$ % for students the 6 course accordingly. Prethreshold infringements in heart work (an indicator “Myocardium” from 15 % to 27 %) were observed at 12 students of the 1 course that has made 32 % from the general number of the surveyed and 16 students the 6 course - 52 % accordingly. According to screening of a pathology of cardiovascular system the 8 % already have the expressed forms of a pathology. So for the 3 students of the 1 course the indicator of “Myocardium” more than 27 %, testifying to a pathology of heart with characteristic “a heart portrait” with prevalence of red tones has been noted.

The most interesting data we have received at the analysis of correlation communications between level of glucose and internal environments of an organism. So the fat maintenance in an organism did not render essential influence on level of glucose and only with indicator increase AG (by data of bioimpedencemetria) there were weak positive correlations ($r=0,48, > 0,05$). At the same time, glucose level in direct ratio increased in process of increase of weight of bones.

Thus, screening on revealing of the pathology of cardiovascular systems in the youth environment allows to allocate group which for the purpose of correction of metabolic infringements and the prevention of development of a metabolic syndrome need to go through the standard clinic inspection in the future.

M.N. Petrova

METABOLIC SYNDROME AND GOUT IN YAKUTIA

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Background. Now gout is considered as important medical problem that is connected with the received data about influence of hyperuricemia on progressing of atherosclerotic defeat of vessels. Gout is metabolic disease, and hyperuricemia — one of the major components of a metabolic syndrome. The close interrelation between purine exchange disorders and hypertriglyceridemia is found out. Communication between hyperuricemia and insulin resistance is proved. Hyperuricemia it is independent risk factor of cardiovascular diseases and also disease complications, therefore, hyperuricemia diagnostics and gout treatment are an actual problem of therapy. The official data of gout in Republic of Sakha (Yakutia) are absent. This is a preliminary report on incidence of gout requiring hospitalization 2007-2010.

Methods. A research project has been initiated to determine the incidence and characteristics of gout in Yakutia from 2007-2012. Patients hospitalized in the department of rheumatology of Yakut City Hospital are being studied by means of a questionnaire developed by the Institute of Rheumatology (Moscow), which includes questions on anamnesis, form of gout, and specifics of treatment. Data also being collected include: laboratory measures (glucose, HDL-C, LDL-C, TC, TG, creatinine, urea, uric acid, TP, bilirubin, ALT, AST, GGTP, alkaline phosphatase, creatine kinase); urinalysis, on admission plus daily analysis of urine (creatinine, protein, uric acid); radiographic assessment of feet and wrists; ultrasound of kidneys.

Results. 2007 – 13 patients were registered, including 8 with secondary gout. The tophaseus form was observed in 5 patients. 2008 – 12 patients; 5 with secondary gout. The tophaseus form was observed in 2 patients. 2009 – 8 patients; 6 with secondary gout. 2010 – 6 patients; 2 with secondary gout. The tophaseus form was observed in 1 patient.

Conclusion. The research proceeds. Results will be used for characterization of incidence and diagnostic features of gout in the Republic of Sakha (Yakutia) with the goal of standardizing guidelines for diagnosis and treatment of gout, assuring optimal care for these patients.

V.A. Pogodina

WAY OF LIFE OF PEOPLE OF THE YOUNG AGE, INFLUENCING INDICATORS OF HEALTH OF THE POPULATION OF THE CITY OF NOVOSIBIRSK

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According to the official statistics, from the end of the 20th century disease of the young population grows in the Russian Federation faster, than in previous years. The

reforming which has occurred in Russia in the nineties of the last century, has led to changes not only in indicators of health of youth, but also in system of factors. On the foreground there are factors of a way of life. The shown tendencies of sharp deterioration of health of «generation of reforms» need research, the analysis and judgment. Research of factors of a way of life of young men will allow estimating influence of a way of life on indicators health of the population of the Russian society.

The purpose - to define and investigate structural components of a way of life of the young people influencing indicators of health of the population of Novosibirsk.

Materials and research methods. The research conducted on 200 fourth year students of Novosibirsk state medical university (NSMU) and doctors and patients of Novosibirsk Municipal polyclinic Nr. 13, accordingly 44 and 96 persons. From 340 persons at the age from 19 till 35 years, it is revealed 218 (64,1 %) women and 122 (35,9 %) men. Information gathering was carried out by a selective method by means of questioning. In the questionnaire mainframes of the questions, concerning behavior of young men on a way of life, the competence of a healthy way of life were considered. Processing of materials of research was carried out by means of program Microsoft Office Excel 2007.

Results. The opinion of the young population has been revealed: 1) on a question: whether you have chronic disease of a noninfectious origin? Have answered - Yes, I have – 299 (87,9 %) respondents; 2) on a question: Do you know how to live a healthy lifestyle? With yes answered 145 (42,6 %) of the cohort; 3) on a question: whether you live a healthy life? With yes responded 159 (46,7 %) people; 4) on a question: what components enter into concept? The basic components were enlisted: - a balanced diet; - optimal movement pattern; 306 (90,0 %); 5) on a question: How you estimate relations between the doctor and the patient? Answers were: partial trust and understanding – 290 (85,3 %) respondents; 6) on a question: What qualities do you appreciate in a doctor? The answer: ability of the doctor to explain how to live a healthy lifestyle – 283 (83,2 %) of the cohort.

Conclusions: 1. Structural components influencing the lifestyle of adults in the age from 19 till 35 years are medical, social-personal and economic one. The social-personal component is characterized by a low level of development since only less than half (from 42,6 % to 46,7 %) of the young people are able to live young men a healthy way of life due to their inability to establish causal links, although a considerable part (90 %) respondents are informed on a healthy way of life. 3. The economic component has low degree of development, that is the population of young age in its parts (from 83, 2 % to 85, 3 %) do not trust the doctor, however assume that the doctor should have high enough professional degree in carrying out a healthy way of life. 4. The medical component also specifies a low degree of its development, which is confirmed by a chronic noninfectious disease in the majority (87,9 %) respondents. 5. Young men are the basic part of all population of Novosibirsk, therefore, the structural component of their way of life will influence indicators of health of all population of a city of Novosibirsk.

A.G. Polyakova
I.E. Malisheva

**EHF-PUNCTURE IN REHABILITATION OF PATIENTS
WITH ORTHOPEDIC PATHOLOGY**

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Introduction: Among the orthopaedic chronic disease the hip joint pathology and scoliosis are the most common. The majority of patients with this pathology become disabled and this determines social significance of this problem. In rehabilitation of patients with orthopaedic pathology an important place is occupied by correction disorders of microcirculation and regional blood flow. At present one of the modern methods of acupuncture EHF-puncture (extremely hi frequency) are widely used in treatment.

Aim of the study: to find out the influence of EHF-puncture on the processes of microcirculation and regional blood flow in experiment and clinic among other methods of the complex treatment of the patients with orthopedic pathology.

Set of patients: we studied EHF-puncture in experiment (10 volunteers) and in rehabilitation of 65 patients with joint pathology and 45 children with crania-vertebral pathology (aged 4-76).

Methods: EHF-radiation frequency range was 53-78 MHz, radiation power was 0,2-1,0 mWt. The EHF-puncture was performed at acupuncture points under control of electropuncture diagnostics.

Microcirculation was studied using thermodiagnostic methods. The blood flow state was estimated by the results of rheoencefulography.

Results and discussion: no complications were observed. Symmetric increase of luminescence on the average $1,5^{\circ}$ was registered since the first minute of EHF-radiation, the maximal warming up (on the average 3°) was marked 15 minutes after the beginning of EHF- radiation. In 70 % of patients a significant decrease of blood flow gradient between healthy and sore hemispheres and neutralization of reduced blood supply of vertebrabazilar zone after the course of EHF-puncture ($p < 0,02$) were registered.

Conclusion: EHF-radiation produces a homeostatic effect on the organism, processes of microcirculation and regional blood flow in particular. As the results of rehabilitation including EHF-puncture in patients with orthopedic pathology have shown high effectiveness of this method. It can be recommended to include in the rehabilitation complex.

**THE COMPLEX ASSESSMENT OF HUMAN BLOOD
PATHOGENIC FACTORS, INDUCED BY CHEMICALS, DRUGS
AND UNFAVORABLE ENVIRONMENTS**

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The preventive medicine based on early diagnostics and prophylaxis of difference diseases, human treaction on allergens, hazards effects of some environmental factors (plant poisons, drug, physicalagents, etc).These demand development new prognostic methods for evaluation potential dangerous for population health, including developmental health. In this publication we demonstrate the complex express methods to estimate the human blood cyto-, geno- and embryotoxic factors have been worked out. The complex approach consists of the simultaneous usage of three models: mice preimplantation embryos C57Bl/CBA (from cleavage stage up to blastocysts formation, 1-5 days of development); rat postimplantation embryos (head fold stage – 27-30 pairs of somites, 9,5-11,5 days of development) and culture of human peripheral blood lymphocyte. Mice preimplantation embryos are simultaneously cytological and embryological test-model being both few-cell selfdetermined system and integrated organism. Basing on the model it is possible to estimate both cytotoxic and embryotoxic effects after pathogenic influence. Rat postimplantation embryos are the most sensitive model to the pathogenic influence. The early laboratory animal embryos ability to in vitro development in human blood sera brought to the working out of cyto-, geno- and embryotoxic factors estimation methods. The presence of patogens leads to inhibition of embryo development, cyto- and genotoxic (mutagenic) effects. Embryotoxicity, embryoletality, teratogenesis (dismorphogenesis), dynamic disorders, cytotoxic and genotoxic effects are the main criteria for the estimation of distortions embryo development and lymphocyte culture after pathogenic influence. At first were worked out conditions for the optimal development of pre-and postimplantation embryos in sera from blood donors, as well as methods to identify potential genotoxic factors by using culture human peripheral blood lymphocyte and methods for detecting frequency of sister chromatid exchanges (SCE) and micronuclei. To evaluate the cytotoxicity used the cytokinesis block-micronucleus assay using lymphocyte culture of human blood. A significant advantage of a comprehensive assessment of embryo-, cyto-and genotoxic factors is the use of the same blood sample in the different tests. Secondly stage of investigation carried out testing a comprehensive system for detection and prediction embryopathogenic risks associated with childbirth in ecologically disadvantaged regions with hemolytic disease of newborns, as well as factors arising in the humans blood after acute poisoning (including suicide attempts). The results of the testing indicate the

possibility of identifying and comprehensive assessment of toxic factors in the blood of people in order to predict risk of pathogenic effects for human embryo and its genetic apparatus. Experience accumulated material presented in the form of guidelines on the identification and assessment of cyto-, geno-, embryotoxic factors in human blood. In perspective test system will be supplemented by the fourth model: murine embryonic stem cells that will provide earlier prediction embryopatological changes by identifying the expression of genes controlling the basic embryonic morphogenetic processes. There will also be added to the battery assessing mutagenic effects using comet-assay and other modern molecular genetics techniques.

S.E. Postnov

ACCELERATED ORGANISM RESTORATION AFTER AN INTENSE LOAD IN SPORT

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Experimental check of a biophysical model of a living organism, taking into account physical parameters of human body liquid, was tested within the limits of elaboration of a technique for accelerated sportsman organism restoration after intense training load. The obtained experimental data have proved the hypotheses and conclusions regarding biophysical model.

Besides, a number of independent problems have been solved. Here are some of the solutions found:

- Physical definition of incomplete restoration of an organism has been given and proved, the extreme case called "chronic incomplete restoration syndrome" has been elicited.

- A technique for diagnosing the above-listed conditions of a sportsman's organism has been worked out.

- Diagnostics and restoration methods have been tested on volunteer sportsmen – submaster sportsmen and masters of sports. Efficiency of the technique has been proved on the examples of volunteer world-class masters of sports and merited masters of sports, among them Russian national light athletics team members and candidates.

It is known that intense training load is accompanied with drastic decrease of amino acid and carbohydrate content in a sportsman's organism. This is the consequence of intense muscle activity. Energy needed for this activity is worked out in any living organism in the course of oxidative reactions. During recovery of an organism, on the contrary, compensatory reactions prevail. Redox reactions are accompanied with redistribution of electrons among reducing and oxidizing atoms. Degree of electron activity in redox

reactions can be regulated by way of changing value of redox potential, to be more precise - redox potential of aqueous medium where reactions proceed. Human body liquid (blood, plasma, intercellular liquid, etc.) are characterized by a negative value of redox potential. This indicator of chemical activity obviously plays an important role in vital activity of an organism. For example, arterial blood and venous blood differ from each other according to this characteristic.

The proposed technique for acceleration of organism restoration after training load is meant for regulating physical parameters of a sportsman body liquid and improving redox potential of organism aqueous medium, making compensatory reactions prevail.

Gas discharge visualization technology (GDV) lets control current condition of a sportsman's organism and select an individual regimen of restoration. The principal parameter of a sportsman's condition which was checked with the help of GDV-camera was the area of glow in GDVgram of fingers (GDV-f). In a long series of measurements of sportsmen's GDV-f a direct relation between value of this parameter and functional condition of an organism was found out. For example, the parameter value declined during training and recovered after restoration. In some cases GDV-camera signal fell down to almost zero ("total breakdown"), for example after a heat and especially after a contest. Measurements were taken according to the following technique: area of fingers GDVgrams was measured during heats as soon as a 800 m sprinters had covered 600 m and stopped there to avoid organism acidulation. Measurements were as well taken before the heat and one time per hour in the course of several hours after the heat. In the second case – before a contest and immediately after it. A sharp decrease of the parameter value was registered. Thus, during heats its value decreased 1,5-2,5 times, while after contests – 2,5-4,0 times. Obviously, the bigger decrease during contests was caused by stress loads as well as extra 200 m which were not run by the sportsmen during heats. Sportsmen were observed after contests and it was noted that recovery process in a sportsman's organism doesn't start until fingers GDVgram area value has reached a certain level. This level is individual and, as we believe at the moment, depends on natural abilities of an organism. But original level (before contest) and speed of restoration is in direct relation with level and degree of a sportsman's preparedness. This correlation was discovered by comparing results of measurements of submaster sportsmen and merited masters of sports who have experience of contest participation.

Degree of restoration incompleteness was registered on the basis of GDV-grams as follows. GDV-f value was lower next day before training than before the training the previous day. The value changed 1,3-1,8 times. When the sportsmen were asked how they were, 100% of them replied "good" or "excellent". If training process was not corrected, after several training sessions the regarded parameter value went down faster and faster before each following training session. Maximal decrease was registered among submaster sportsmen, especially among very hard-working sportsmen, as coaches said.

Let us regard an example: GDV-f value of a well prepared sportsman is 20-22

thousand arbitrary units, after training session it falls down to 8-10 thousand units. The value of a sportsman who suffers from chronic incomplete restoration syndrome before training session can be 100-200 units, that is 100-200 times lower than the value of a fit sportsman. However, 100% of sportsman said they felt quite well or well. It should be noted experienced sportsmen - world-class masters of sports and merited masters of sports – answered the question “How are you?” in the same manner. In order to get a sportsman’s organism out of this dangerous situation, one should change training process by way of easing-off together with GDV-diagnostics and traditional physiotherapy. But this takes a long time during which no full value training sessions are possible.

To accelerate restoration processes, including the case of chronic incomplete restoration of an organism, there was elaborated a technique based on correction of human body liquid properties and aimed at accelerated recovery of its electron-donor properties.

This conception has been realized thanks to a preparation called “Awoda” obtained by way of extracting water from boundary layer. Awoda is produced by way of separation of mineral water into boundary layer water – water located near surfaces - and the rest of water – bulk water. Intake procedure – irrigation of oral cavity with pump doser. One-time dose for an average human being 0,1-1,0 ml, for a sportsman after training session – 5-10 ml. The elaborated technique and Awoda preparation allow to completely restore a sportsman’s organism for the second training session during the day within the limits of training pattern 2 – 2 – 1 (two training sessions on the first day, two sessions on the second day, one training session on the third day). For 40% of sportsmen it was an adaptative training process. It should be noted that Awoda contains no additives and turns into ordinary water in a sportsman’s organism. In the open air, according to readings of instruments, physical parameters of Awoda become the same as those of the original mineral water within 14-15 days. Awoda, according to the conclusions resulting from research conducted by the leading institutes of Academy of Medical Sciences of the Russian Federation on human cell cultures, animals and volunteers, is characterized by heightened biological activity, in particular by powerful antiviral and immune stimulating action on all levels, including cellular one. Awoda application together with pharmaceuticals or health improving preparations and physio procedures open up a promising course in the field of biomedical technologies. Restoration process can be controlled with diagnostic systems, such as GDV-camera, blood test, etc. On the basis of blood test results individual daily therapeutic dose of Awoda can be determined.

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PATHOGENIC FACTORS, INDUCED BY CHEMICALS, DRUGS
AND UNFAVORABLE ENVIRONMENT**

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The preventive medicine based on early diagnostics and prophylaxis of difference diseases, human reaction on allergens, hazards effects of some environmental factors (plant poisons, drug, physical agents, etc). These demand development new prognostic methods for evaluation potential dangerous for population health, including developmental health. In this publication we demonstrate the complex express methods to estimate the human blood cyto-, geno- and embryotoxic factors have been worked out. The complex approach consists of the simultaneous usage of three models : mice preimplantation embryos C57Bl/CBA (from cleavage stage up to blastocysts formation, 1-5 days of development); rat postimplantation embryos (head fold stage – 27-30 pairs of somites, 9,5-11,5 days of development) and culture of human peripheral blood lymphocytes. Mice preimplantation embryos are simultaneously cytological and embryological test-model being both few-cell selfdetermined system and integrated organism. Basing on the model it is possible to estimate both cytotoxic and embryotoxic effects after pathogenic influence. Rat postimplantation embryos are the most sensitive model to the pathogenic influence. The early laboratory animal embryos ability to in vitro development in human blood sera brought to the working out of cyto-, geno- and embryotoxic factors estimation methods. The presence of pathogens leads to inhibition of embryo development, cyto- and genotoxic (mutagenic) effects. Embryotoxicity, embryoletality, teratogenesis (dismorphogenesis), dynamic disorders, cytotoxic and genotoxic effects are the main criteria for the estimation of distortions embryo development and lymphocyte culture after pathogenic influence. At first were worked out conditions for the optimal development of pre- and postimplantation embryos in sera from blood donors, as well as methods to identify potential genotoxic factors by using culture human peripheral blood lymphocyte and methods for detecting frequency of sister chromatid exchanges (SCE), micronuclei, comet-assay. To evaluate the cytotoxicity used the cytokinesis block-micronucleus assay using lymphocyte culture of human blood. A significant advantage of a comprehensive assessment of embryo-, cyto- and genotoxic factors is the use of the same blood sample in the different tests. At the second stage of investigation carried out testing a comprehensive system for detection and prediction embryopathogenic risks associated with childbirth in ecologically disadvantaged regions with hemolytic disease of newborns, as well as factors arising in the humans blood after acute poisoning (including suicide attempts). The results of the testing indicate the possibility of identifying and comprehensive assessment of toxic factors in the blood of

people in order to predict risk of pathogenic effects for human embryo and its genetic apparatus. In perspective test system will be supplemented by the fourth model: murine embryonic stem cells that will provide earlier prediction embryopatological changes by identifying the expression of genes controlling the basic embryonic morphogenetic processes.

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METABOLIC SYNDROME AND THE COMPLEX ADAPTIVE SYSTEM EXHAUSTION: MODERN APPROACHES TO THEIR PREVENTION AND TREATMENT

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Ability to respond to environmental changes is a fundamental property of all living things from bacteria to human society. If life is an ability to adapt, a loss of such ability brings the threat of death. In the course of biological evolution, the ancient adaptive mechanisms do not disappear but become an integrated part of a complex adaptive system presented in mammalia as a triad including the brain, immune and endocrine systems. The body is secured against stressors, chemical agents, and infection until the work of all three systems is well equalized. Such balance may be disturbed by age due to repeated episodes of stress and hypothalamic-pituitary-adrenal (HPA) axis activation. Multiple episodes of stress, which are survived by an individual throughout his life lead to gradual depletion of HPA axis that is manifested by both basal cortisol level decrease and the reduction of stress-induced cortisol response. As a result, the cells (dendritic cells, macrophages, endothelial and epithelial cells, as well as adipocytes) deprived of glucocorticoid control begin to produce high amounts of pro-inflammatory factors. Thus, the development of such symptoms as chronic fatigue, fever, fibromyalgia, joint pains, and skin disorders is a consequence of central and/or local imbalance of cytokines including the pain mediator IL-8 and pro-inflammatory cytokines TNF- α , IL-1 β , and IL-6. So, cortisol presenting in the blood in low concentration is not able any more to control inflammation, and regulatory T cells (Tregs) become a principal anti-inflammatory instrument of the immunity. This mode of regulation of inflammatory reaction being more slow and rough does not allow to fine tune immune system and each new environmental challenge promotes further Treg accumulation that leads to stable immunosuppression. It is quite possible that this fact may hold the key why old age is the greatest cancer-risk factor in humans.

Another consequence of stress may be obesity associated both with alteration of feeding behaviour and decrease of sex and thyroid hormone production. Lipid

metabolism disorder is accompanied by overload of adipocytes with fat. Such adipocytes produce high amount of pro-inflammatory cytokines and the immune system begin to perceive adipose tissue as an inflammatory focus. Consequently adipose tissue is infiltrated by macrophages, which particularly produce TNF- α . The latter binds with TNF receptor on the surface of adipocyte and owing to competition with insulin receptors for secondary messengers makes the cell insulin resistant. Such adipocytes lose the ability to glucose utilization and in consequence of energy deficiency they are incapable of further fat accumulation. A part of the adipocytes undergoes lipolysis creating favourable conditions for visceral obesity. The alterations described above are significant components of metabolic syndrome, which predisposes individuals to an increased risk of developing many diseases, including atherosclerosis, coronary disease, diabetes, and non-alcoholic fatty liver disease.

For the purpose of the prevention and/or damping of unfavourable effects of permanent stress modern pharmacology proposes a number of approaches, which are based on following principles: (1) elimination of surplus Treg number; (2) compensation of HPA axis exhaustion; (3) lipid metabolism normalization. Different methods of Treg depletion have been proposed. In our opinion the therapy with low (non-cytotoxic) doses of alkylating drugs are most promising among them. With the view of supporting depleted HPA axis replacement hormone therapy in the form of alternated course of prednisolone (0.3 mg/kg body weight every other day) may be recommended. Chronic treatment with 14-membered ring macrolide antibiotics may be also used. We believe that the restoration of HPA axis and decrease of surplus activity of Tregs may promote lipid metabolism normalization. With the same purpose the treatment with angiotensin-converting enzyme blockers such as prestarium or enalapril may be worthwhile

A.L. Razlivinskikh

**THE USE OF MODERN INFORMATION TECHNOLOGY
FOR ENHANCEMENT OF EFFICIENCY OF PUBLIC HEALTH
ORGANIZATION**

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There is no secret for anyone that Russian public health infrastructure is in crisis dating back tens of years. According to the opinions on most researchers, there are two main causes of this crisis: lack of health care financing and stagnation of its management system. In chronic shortage of financing, material and other resources that are necessary for effective functioning of system the public health management gets the special role in this context. Its main objective is to provide accessible and qualitative medical care while minimizing the financial cost.

One the elements of achieving this objective is an integrated management system of

medical organization that has been created, implemented in "City Clinical Hospital Nr.1, the city of Togliatti, Samara region. Availability of information system in the hospital has allowed us to receive the electronic patient's medical record and to have a real picture of a material costs condition of material costs on providing hospital care (actual expenses on treatment). Within the frame of a common information space FOR THE FIRST TIME there was realized the binding of financial elements of revenue and expenditure parts of service to the patient. In real-time mode of real time the management personnel of medical institutions (Deputy Chief Doctors) have possibility of carrying out of monitoring, both medical process and financial component (costs of drug therapy, clinical researches etc.) that allows to manage establishment expenses. The account of quantity and amount of Drugs and Medical Products enables prescribing physician prescribe medicines based on a list of drugs available in stock without leaving their desks by using of electronic medical record information. The criteria developed by our specialists became one of the elements of information system allowing to estimate labour intensity and work effort of medical personnel of a hospital and to pursue a policy of effective material stimulation of staff. In the "City clinical hospital Nr. 1" there has been developed and used methods of funds distribution for incentive payments to medical staff based on assessment model of hospital care quality. The technology of automated medical care examination put into practice became an element of work quality evaluation of the personnel in the hospital.

Above-listed action items have reduced the number of unreasonable expenses for researches; the quantity of incorrect prescribing (or non-prescribing) cases and errors at filling of documents as well.

Despite all organizational-economic actions in our medical organization, directed on decrease in expenses, chronic deficiency of means on the Program of State Guarantees of Rendering of Free Medical Aid that has led to growth in the volume of paid medical services and patients' expenses on drugs. Unfortunately, the current public health situation in the region contributes to the formation of ideas about system of the state guarantees as a formal declaration that discredits the state and its institutes of social protection.

Gerhard Reichel

BOTULINUMTOXIN-THERAPIE DER ZERVIKALEN DYSTONIEN (TORTICOLLIS SPASMODICUS)

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Die idiopathischen zervikalen Dystonien (ZD) sind als häufigste umschriebene Dystonie des Erwachsenenalters durch unwillkürliche, abnorme Kopfbewegungen und/oder ungewolltes Einnehmen unterschiedlicher Kopfstellungen gekennzeichnet. Die Behandlung der ZD mit Botulinumtoxin (Btx) hat sich in den 25 Jahren seit

der Erstbeschreibung als Methode der Wahl durchgesetzt. Die Responderrate liegt in offenen und doppelblinden Studien zwischen 58% und 85%, meist unter 70%. Die klinische Erfahrung zeigt, dass die Hauptursachen für primäres Therapieversagen oder unzureichenden Therapieerfolg in der nicht optimalen Auswahl der injizierten Muskeln, in der unzureichenden Abstimmung der Gesamtdosis und der Verteilung dieser Dosis auf die einzelnen Muskeln liegen. Zur Auswahl der zu behandelnden Muskeln bei den unterschiedlichen Formen der ZD gibt es bislang keine einheitliche Expertenmeinung; Studien liegen dazu nicht vor. Neben einer manifesten Depression oder einem laufenden sozialmedizinischen Rechtsverfahrens kann nach unseren Erfahrungen die falsche Auswahl der zu injizierenden Muskeln der wichtigste Faktor des Therapieversagens der Btx-Behandlung einer ZD sein.

Um diesem Problem näher zu kommen wurden von uns 78 Patienten mit gesicherter primärer ZD im Rahmen der Erstdiagnostik untersucht. Es wurden getrennt die Stellung von Hals und von Kopf in den Ebenen seitliche Kippung, Drehung sowie Beugung nach hinten oder vorn klinisch bewertet. Bei allen erfolgte eine CT der Halsweichteile mittels Schichten in Höhe der HWK 1 bis HWK 7, sowie das Knochenfenster von der Schädelbasis bis HWK 7. Magnetresonanztomografisch wurden die HWS und die Halsweichteile in T1 und T2 mit einer Schichtdicke von 2 mm sowie in T1 gekippt zur tiefen Nackenmuskulatur untersucht. Zum Vergleich wurden die MRT-Bilddaten von 50 Patienten nachträglich ausgewertet, die keine ZD hatten. Es erfolgte die Messung der größten Durchmesser und die Beschreibung der Form aller im Halsbereich erfassbaren Muskeln einschließlich der kleinen Nackenmuskulatur sowie die Stellung der HWK zueinander.

Es zeigte sich, dass bei seitlicher Beugung und bei Rotation bei 1/5 der Patienten die Störung nur Muskeln betraf, die auf Kopfgelenke wirken (Latero- bzw. Tortikaput), und bei einem weiteren 1/5 nur Muskeln betraf, die auf die HWS wirken (Latero- bzw. Tortikollis). 3/5 wiesen beide Störungen auf; allerdings mit unterschiedlicher Betonung von -kaput- und -kollis-Beteiligung. Somit ergab sich ein diesbezügliches Verhältnis von 1:1:3.

Die Stellung der HWK 1, 2 und 3 zueinander und zur Schädelbasis wurde im CT-Knochenfenster in Winkelgraden erfasst und erlaubt eine Differenzierung zwischen Tortikollis (alle 4 Ebenen weisen gleichen Drehwinkel auf) und Tortikaput (die Ebenen Schädelbasis und HWK 1 weisen untereinander den gleichen Drehwinkel auf, aber zu HWK 2 und HWK 3 ist dieser different). Eine besondere Rolle kommt dabei offensichtlich dem M. obliquus capitis inferior beim Tortikaput zu, er war bei 73% der Patienten mit ZD deutlich seitendifferent.

Schlussfolgerungen für die Praxis

1. Die Differenzierung in -kaput- und -kollis-Typen ist zwingend, da für beide Gruppen unterschiedliche Muskeln verantwortlich und damit zu behandeln sind.
2. Bei einer seitlichen Neigung ist die Differenzierung zwischen Laterokollis und

Laterokaput klinisch möglich.

3. Ein seitlicher Shift tritt immer dann auf, wenn auf einer Seite ein Laterokollis und auf der Gegenseite ein Laterokaput besteht.

4. Bei einer Drehung ist die klinische Differenzierung zwischen Tortikollis und Tortikaput am ehesten durch Vergleich der Stellung des Kehlkopfes zum Manubrium sterni möglich. Bei Unsicherheiten empfehlen sich CT-Schnitte auf den Ebenen C_3 und C_7 oder das Knochenfenster zwischen C_0 und C_3 . Anhand des Vergleichs der Unterkiefer- und Wirbelstellung der unterschiedlichen Ebenen erfolgt die sichere Differenzierung zwischen Tortikollis und Tortikaput.

5. Die Analyse der Vorwärtsneigung - Differenzierung zwischen Anterokollis und Anterokaput - gelingt klinisch bei seitlicher Betrachtung der Winkel zwischen HWS und BWS bzw. zwischen HWS und Schädelbasis. Das Gleiche gilt für die Analyse der Rückwärtsbeugung, der Differenzierung zwischen Retrokollis und Retrokaput.

6. Ein sagittaler Shift nach vorn bedarf keiner weiteren Diagnostik: Er ist eine Kombination aus Antekollis und Retrokaput, klinisch gut erkennbar und meist durch eine beiderseitige dystone Aktivität der Mm. sternocleidomastoidei bedingt.

7. Bei Berücksichtigung der hier genannten Klassifikation der ZD werden Injektionen mit BTX in nicht dystone Muskeln vermieden.

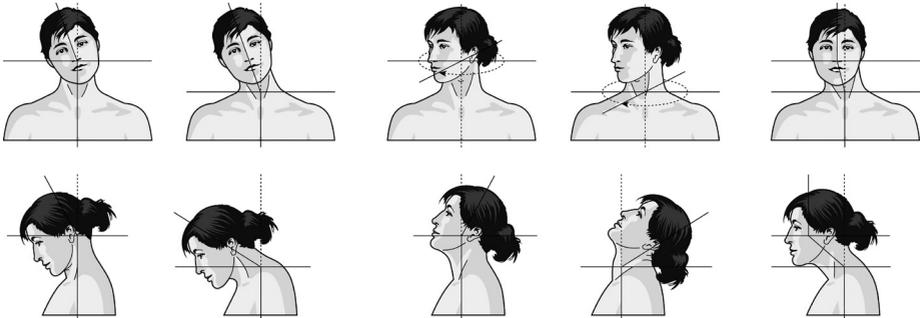


Abb. Die 8 Grundformen und 2 kombinierten Formen der zervikalen Dystonien. Obere Reihe von links: Laterokaput, Laterokollis, Tortikaput, Tortikollis, lateraler Shift (Kombination aus Laterokollis und kontralateralem Laterokaput). Untere Reihe: Antekaput, Antekollis, Retrokaput, Retrokollis, sagittaler Shift nach vorn (Kombination aus Antekollis und Retrokaput).

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ANDRAGOGIC APPROACH IN TRAINING FOR DOCTORS

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Advanced training for doctors includes updating of professional knowledge; improvement of professional competencies and skills, which help to handle work situations correctly; forming psychological and pedagogical readiness and professional communicative competence. Modelling education process on the basis of andragogics principles lets a student as a subject of educational activity perceive things in a more profound way. This shows how andragogic principles affect training process of adults. We have singled out the requirements for doctors who want to participate in advanced training: Basic modern medical knowledge; search for expedient approaches to professional problems solution; striving for professional and personal perfection; motivation for ongoing renovation of knowledge; communicative competence in relations with patients and colleagues; creating professional image. A medical specialist image in contemporary society is evaluated on the basis of his/her professional competence and communication skills. Professional competence of a doctor comprises a stably high level of knowledge, skills and competencies, personal characteristics which are important to the profession and allow to work efficiently in the chosen field. Further improvement of professional competence depends directly on ever changing social and economic situation and integration of modern training methods into working activity. Within the limits of educational activity attention should be focused on modern methods of training which promote forming of basic medical and communication skills and competencies of a doctor. Currently we actively use problem-oriented methods like problem solving training, analysis of a concrete situation, role-playing games and business games, which inspire motivation for acquiring knowledge, skills and competencies – and this is one of objectives of the ongoing education. Motivation for studying improves efficiency of the studying activity. We have singled out the prerequisites for successful studying process. The studies program reflects the need of a doctor for development of communicative competence and psychological culture. Education forms and methods encourage development of communication competencies, psychological features as well as promote a favourable psychological climate - all this is important for professional communication. We are in favour of social and psychological climate encouraging personal development [goodwill, feeling of safety (no aggression and readiness to help), working efficiency, initiative, cheerful mood and optimism]. Taking into consideration the fact that students in this training are adults, we have added the following characteristics to our model: freedom of actions in training process management,

equality of students and teachers, awareness for the training process. Nowadays, we can see certain changes and a rising trend for use of innovative pedagogical techniques in many medical universities of Russia which offer postgraduate programs for doctors.

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«ACTIVE» METHODS OF TEACHING DOCTORS IN RUSSIA

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Technology of teaching (conceptuality, systemicity, manageability, efficiency) is interpreted by us as a complex integrated system comprising multitude of operations and actions, which provide the definition of purposes of the study, thematic informational-disciplinary and organizational aspects aimed at acquiring knowledge, professional competences and skills and forming personal qualities of the students stipulated by the purposes of the study. The modern stage of the study is characterized by integration into the study a process of „active” methods of teaching. Module teaching is an organization of the process of study so that the curriculum is divided into modules (completed and independent units, parts of the information). Module teaching enjoys a certain priority since the contents of the study is distributed according to its topics; the process of the study lies in the system of a subject-subject relationship; encourages the students on independent activities and adequate estimation of the results of the study; enables to build up the study thus raising its efficiency as well as the interaction between teachers and students. If regard lectures as an inseparable part of the curriculum, this means that problem containing lectures enhance the combination of theory and practice. And if a lecture (informative one) – then an activity attributed to monologic output of the material by a teacher and a performative activity of the auditorium, a problem containing lecture on the opposite «suggests not only transmission of the information to the students but also introduces them to objective contradictions of the evolution of scientific knowledge and offers modes to solve them. By integration of conventional and unconventional methods of teaching the focus obviously is made on psychology of the student, which determines the choice of the methods of teaching. In our model we base on mutually correlated levels of scientific analyses of the studying process for adults and the adult himself as a subject of study. These are a personal level, an activity-role level, a processual level. At a personal level we perceive a student as an active participant of the studying process with his own life experience and outlook. An activity-role level accounting for the student’s life experience and outlook determines an educational activity (its structure, goals, organization forms, contents, results

etc.), due to which the further transformation occurs. On the processual level the research of such psychic processes is carried out, that are responsible for perception, reflection, processing, memorizing and answering the studied information. Methods of teaching that we selected, match each other and penetrate into each other since they facilitate of reaching the same goal – solving a problem or finding a solution to a problem; correspond to tasks of the study; most accurately enfold the contents of the study; develop cognitive abilities of the students. Finally we obtained a desired pedagogical effect – activation of the students and their understanding of the educational activity as a necessary step in order to be in line with modern professional educational standards.

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**EINSCHÄTZUNG VON DER EFFEKTIVITÄT
DER KOMPLEXTHERAPIE FÜR DISKULATORE
ENZEPHALOPATHIE ERGÄNZT MIT DER
NEUROADAPTIVEN ELEKTROSTIMULATION IM RAHMEN
VON KURBEHANDLUNG**

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Zerebrovaskuläre Erkrankungen (ZVE) sind wegen hoher Krankheitsrate und schweren Folgen gelten als ein der größten Probleme der gegenwärtigen Neurologie [1]. Aktualität dieses Problems wird durch seine soziale Bedeutung bestimmt: neurologische und psychische Störungen bei zerebrovaskulären Erkrankungen können Behinderung und Letalität der Kranken verursachen. [2,3].

Der Heilfaktor der neuroadaptiven Elektrostimulation (ENS) ist ein zweiphasiges exponentiell gedämpftes elektrisches Kurzimpulssignal mit grosser Ausschlagsbreite. Die Heilwirkung besteht in der Stimulation von den gewissen Hautzonen mit einem angemessenen informationsenergetischen Elektroimpuls nach der gewissen Methode. Unter dem Einfluss der Stimulation lösen sich kompensatorische Reaktionen aus, die das homöostatische Gleichgewicht eines Organismus wiederherstellen [4,5].

Untersucht wurden 120 ältere Patienten von der Kuranstalt mit der diskulatorens Enzephalopathie (Stadium I-II). Der Alter der Patienten variierte von 45 bis 60 Jahren (51,3±3,4). Alle Patienten haben eine Heilstättenkur durchgemacht: radon-, stickstoff- und siliziumenthaltende Wannenbäder; manuelle Nackenzonenmassage; zirkuläre Dusche; Heilgymnastik; Diättherapie; Phytotherapie jeden Tag. Die Patienten wurden in drei randomisierten Gruppen aufgeteilt: 1 – Hauptgruppe aus 60 Personen, die die Heilstättenkur mit der neuroadaptiven Elektrostimulation nach der entwickelten Methode durchgemacht

haben, 2 – Vergleichsgruppe aus 30 Personen, die Heilstättenkur und Magnetfeldtherapie durchgemacht haben, 3 – die Gruppe, die Placebo gegeben wurde - Heilstättenkur und ENS mit dem ausgeschalteten Gerät.

Nach der Behandlung war es in der Hauptgruppe eine positive Dynamik des neurologischen Status zu beobachten: 90% litten weniger an Kopfschmerzen ($p < 0,05$), bei 78,6% wurde Vertigo seltener ($p < 0,05$), bei 95% normalisierte sich das Schallfenster ($p < 0,05$); es waren positive Veränderungen der Lipidenprofilindexe zu beobachten: Gesamtcholesterin hat sich vermindert um 13,2% ($p < 0,05$), Lipoproteine niedriger Dichte um 12,5% ($p < 0,05$), Atherogenitätsindex um 28% ($p < 0,05$); im Rahmen des Testens nach Spielberg wurde Senkung des Niveaus der reaktiven Ängstlichkeit und Persönlichkeitsängstlichkeit um 36,3% ($p < 0,05$) festgestellt (von dem hohen Niveau zu dem mittleren), statistisch zuverlässige Lebensqualitätsverbesserung war zu beobachten: physische Gesundheit (RP) verbesserte sich um 33,3% ($p < 0,05$), emotionelle Gesundheit (RE) um 36,3% ($p < 0,05$), Lebensaktivitätsindexe (VT) um 20,8% ($p < 0,05$). Ergebnisse der Untersuchung des kognitiven Bereichs (MMSE) wurden analysiert und es wurde Reduzierung des kognitiven Defizits und Denkfähigkeitsverbesserung in der Hauptgruppe um 12,8% ($p < 0,05$) festgestellt, in der Vergleichsgruppe um 7,9%; Reoenzephalographieergebnisse zeugten von der Verbesserung der zerebralen Hämodynamik: Pulsblutfüllung ist in dem Kopfschlagadergebiet um 22% ($p < 0,05$) zugenommen, in dem Wirbelarteriengebiet um 24% ($p < 0,05$), diastolischer Wert in dem Kopfschlagadergebiet hat sich um 17% ($p < 0,05$) verringert, in dem Wirbelarteriengebiet um 23% ($p < 0,05$), venöser Ausstrom in dem Kopfschlagadergebiet hat sich um 20% ($p < 0,05$) verbessert, in dem Wirbelarteriengebiet um 43% ($p < 0,05$). 43% ($p < 0,05$). In den Vergleichsgruppen sind diese Indexe auch besser geworden, aber Zuverlässigkeitsgrad war niedriger als in der Hauptgruppe.

Schlussfolgerungen: Ergänzen der neuroadaptiven Elektrostimulation in die Komplexheilstättenkur führt zu Verbesserung der neurologischen Symptomatik, zu Milderung der reaktiven Ängstlichkeit und Persönlichkeitsängstlichkeit, Reduzierung des kognitiven Defizits, Verbesserung der Pulsblutfüllung in allen Gehirngebieten, Milderung des Tonus der kleinen und mittleren Arterien, Verbesserung des venösen Ausstromes und der Lipidenaustauschindexe.

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PSYCHOLOGICAL CHARACTERISTICS AND COGNITIVE FUNCTIONING IN ADOLESCENTS WITH ESSENTIAL ARTERIAL HYPERTENSION

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A personality profile and cognitive functioning was studied in 101 adolescents with essential arterial hypertension (EAH). According to 24 hour ambulatory blood pressure monitoring the adolescents were divided into three groups: 32 patients with white coat

hypertension (WCH), 33 adolescents with labile EAH and 36 with stable EAH. Also, 38 healthy adolescents formed a control group.

According to the results of Stroop-color-word testing, it was estimated that adolescents with stable EAH had decreased cognitive functions compared to the control group, and specifically prolongation of Stroop-effect time (66,4 seconds in stable EAH, 45,4 seconds in control, $p < 0,05$). This indicates that the cognitive processes are “target function” of EAH in adolescents.

The psychological characteristics were studied using Mini-Mult test. Both patients with labile and stable EAH showed appearance of neurotic symptoms (table 1). In labile EAH the characteristics were significantly lower than in other groups. It indicates that adolescents with labile and stabile variants of EAH have different role of psychological factors in EAH development.

Table 1. Some of the Mini Mult test scales in adolescents with EAH and control

Scale	Control group (n=38)	WCH (n=32)	Labile EAH (n=31)	Stabile EAH (n=33)	p
1. hypochondria	50,1±10,3	53,1±9,5	67,5±8,1	56,7±7,6	p 1-3<0,05 p 2-3 <0,05
2. depression	57,6±8,6	67,5±5,9	72,3±10,1	66,2±11,5	p 1-2<0,05 p 1-3<0,05 p 1-4<0,05
3. hysteria	51,4±8,9	57,1±5,2	77,1±10,3	62,8±8,4	p 1-3<0,05 p 1-4<0,05 p 3-2,4<0,05
7. psychasthenia	53,5±8,54	66,1±8,9	72,2±7,9	71,6±9,1	p 1-2<0,05 p 1-3<0,05 p 1-4<0,05
9. hypomania	61,4±10,5	55,3±6,3	43,3±9,7	59,4±9,1	p 1-3<0,05 p 3-4<0,05

Guido Schumacher

**MODERNE MÖGLICHKEITEN UND ERGEBNISSE
DER ONKOLOGISCHEN CHIRURGIE
DES GASTROINTESTINALTRAKTS**

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Die moderne Behandlung von gastrointestinalen Tumoren erfolgt immer interdisziplinär. Nach Komplettierung der Diagnostik wird jeder Patient in einem

Tumorboard diskutiert und die Behandlung festgelegt. Bei Ösophagus, Magen und Rektumkarzinomen wird je nach Stadium eine neoadjuvante Chemo- oder Radiochemotherapie durchgeführt. Nach einem Intervall von ca. 4 Wochen nach Beendigung der neoadjuvanten Therapie wird der Patient operiert. Die Möglichkeiten der chirurgischen Therapie haben sich in den letzten Jahren auch durch die neoadjuvante Therapie verbessert. Die Operation bleibt dennoch die einzige Behandlungsoption mit der Möglichkeit der Heilung. Entscheidend für den Erfolg der Behandlung bleibt die radikale Chirurgie nach den Grundprinzipien der onkologischen Chirurgie mit Erreichen der R0-Situation und kompletter en bloc Lymphadenektomie. Wegen der notwendigen interdisziplinären Abstimmung und des Komplikationsmanagements müssen diese Operationen in einem erfahrenen Zentrum durchgeführt werden.

Beim distalen Ösophagus- und Kardiakarzinom werden auf diese Weise 5-Jahres-Überlebensraten von bis zu 45% erreicht. Beim Kolon- und Rektumkarzinom liegt die 5-Jahres-Überlebensrate bei ca. 70%. Die Behandlung von Lebermetastasen muss durch einen erfahrenen Leberchirurgen erfolgen, da nur so die guten modernen Möglichkeiten ausgenutzt werden können. Auch Metastasen in beiden können meist komplett entfernt werden. Das wird oft möglich, wenn die Operation in zwei Schritten mit einem Intervall von 4-6 Wochen durchgeführt wird. Bei sinnvoller Kombination aus Chemotherapie und Operation werden auch hier 5-Jahres-Überlebensraten von bis zu 50% erreicht. Primär inoperable Lebermetastasen werden zunächst mit Chemotherapie behandelt. Bei Ansprechen kann oft sekundär die Operation erfolgen.

Das Pankreaskarzinom kann heute in großen Zentren mit einer Letalität unter 3% operiert werden. Da noch keine wesentliche Chemotherapie zur Verfügung steht, ist die Operation die einzige Heilungschance.

Wenn eine gute interdisziplinäre Abstimmung, ausreichende Erfahrung der Chirurgen mit hohen Operationszahlen und Einhalten der Prinzipien der onkologischen Chirurgie sowie ein gutes perioperatives Management vorhanden sind, werden die besten Überlebensraten und die geringsten Komplikationen erreicht. Wir präsentieren hier unsere Konzepte und Ergebnisse aus dem Klinikum Braunschweig mit besonderem Fokus auf Lebermetastasen, Ösophaguskarzinome und Pankreaskarzinome.

Zulfiya Serazuiyeva

TECHNOLOGY OF CONSTRUCTIVE TRANSFORMATION OF DNA

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There is a wide spectrum of electromagnetic oscillations in nature. Particles of any matter oscillate, and movement is a result of these oscillations. Human organism, each cell thereof, continuously emits waves, generating a specific spectrum of electromagnetic oscillations, number of which is very large. Life stops, when oscillations stop. In Ancient

China, the acupuncturists, impacting an organism by the needle, have thought that they set microcosm of an ill person to resonance with the macrocosm vibrations. Currently, the scientists consider that all outward things appear from one quantum cloud or conscious field. Discovery of holographic structure of the Universe let us understand that each cell contain information about the whole organism.

According to the opinion of German biophysicist, Professor Fritz Albert Popp, there is a specific sender and receiver of information in the cell nucleus - duplex DNA.

According to data of Russian scientist Peter Goryaev, this is the wave genome. And as far as, because of their high speed, electromagnetic oscillations in transfer of information have obvious priority under biochemical oscillations, it turns out that namely electromagnetic information activates different biochemical processes.

Russian scientists revealed regularities of interaction of the human genetic code with each language and thought of humankind. Using method of linguistic genetics and mathematical linguistics, it was detected that the DNA nucleotide sequence is speech-like structures interacting with the human consciousness and speech. Language of genome (DNA-chromosomes) and the human speech have common roots and universal grammar. Version of genome's work with its peculiar quasi-consciousness is accepted. It was demonstrated that such biocomputer has holographic memory and, respectively, ability to generate and recognize images, particular case of which may be the "Word". It was proved that using the wave genetics it is possible to treat without medicines, just using the information. And since DNA is an oscillating system with its own particular frequency, then it is possible to modulate certain thought and audio information, which will resonate with DNA molecule by forming standing wave, and accumulating, during prolonged period, transform negative diseases programs contained in genes.

In spring 2003, just 50 years after discovery of DNA structure, the scientists have completed general mapping of genes. Recently one new discovery has been made: DNA code is changeable! Human genes are changeable under the influence of external factors, including our thoughts, emotions, and feelings.

It was detected that reasons of many pathological conditions are the field multidimensional energoinformational vortex structures, named holographic solutions. RAMN Academician V.P. Kaznacheev using experimental approach has proved presence of these structures in the protein-nucleic space of living cells. Holographic solutions are brought into the human organism both from the inside and as a result of external receiving of energoinformation. According to data submitted by Academician V.G. Chernoknizhnyi, the pathogenic holographic structures, when entering into chromosomal set of the cell nucleuses, bring to them, as to system recording, changing and transmitting the information about growth and development of the cells, tissues, organs and physiological system of the organism.

In consideration of the latest advances in the field of bio-informational medicine, it is possible to say with assurance that health problems cannot be managed at the biochemical level or solely at the biophysical level. The comprehensive treatment shall be carried out, with involvement of patient himself to the process of recovery. The main idea of

methodology of treatment is that by way of annihilation (destruction) of negative programs using thoughtforms and verbal commands, structuring of the patient's consciousness and creation of new energy matrix or patterns take place, which at the level of DNA molecules responsible for regulation of synthesis of various specific proteins, repair to natural level the protein-nucleic processes in cells; self-regulation processes become active, which result in improvement of the patient's condition.

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MORPHOLOGICAL CHANGEABILITY THE GLANDS OF THE URINARY BLADDER SPHINCTERS IN POSTNATAL ONTOGENESIS

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A research objective was reception macro-microscopic and the morphometric data about glands which are settling down in the field of internal urethral sphincter, right and left ureteric sphincters at people of different age. Macro-microscopy and morphometry methods have studied glands sphincters on 54 total preparations of a urinary bladder received from corpses of people of different age (from newborn till the senile period), without a pathology of bodies to device urine-genital. The glands were painted by 0, 05% methylene blue solution and were investigated with the application of stereomicroscopic-binocular microscope MBS-9. For reception of micro preparations cuts sphincters zones of a bladder in the thickness 5-7 microns were stained with hematoxylin-eosin, azure-2-eosin, with hematoxylin-picrofucsin by Van-Gizon technique. Researches included calculation of arithmetic-mean indicators, their errors. Reliability of distinctions defined a method of confidential intervals. On total preparations, in area sphincters zones of the human urinary bladder, the glands as a rule, have in regular interval and often congestions - «the gland muff» form. The glands in area sphincters zones, as a rule, settle down densely; without dependence from age, length and width of initial department of glands of these zones more than in outside sphincters. Throughout of the postnatal ontogenesis dimensional indicators of glands in sphincters bladder zones essentially changes. Without dependence from age, under our data, in a zone internal urethral sphincters length of initial department 1,2-1,6 times, and width of initial department – in 1,2-1,5 times more than in next (outside) to a zone. Length of initial department of glands in the field of right and left sphincters, under our data, also in 1,2-1,8 times, and their width – in 1,2-1,3 times more than near these sphincters. And these indicators at right and left uretheric sphincters almost correspond each other. The maximum values these indicators reach in 1st period of mature age in the internal urethral sphincter. At the same time, these indicators at right and left uretheric sphincter almost correspond each other that, possibly, are caused by

essentially similar design. Length of initial departments of glands in the internal sphincters a bladder, in comparison with next (out the sphincters) a zone newborn children have more in 1, 2 times, in the early childhood and at teenagers - 1,4 times, a corresponding indicator it is equal in 1st period of mature age - 1,5. The minimum individual indicators of length and width of initial departments in sphincters zones also more than near to them that correspond to great values of average indexes. As in sphincters, and outside sphincters areas, under our data, the maximum values the length and width of initial departments reaches in 1st period of mature age, when this indicator authentically more than at newborn children and at senile age.

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BESONDERHEITEN DER BEHANDLUNG VON ARTERIELLER HYPERTONIE BEI VERFETTUNG

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Wir haben 96 Patienten mit arterieller Hypertonie (AH) von I. – II. Grad im Alter von 20 bis 40 Jahre (Durchschnittsalter betrug 32,4 + 3,5 Jahre) ausgewählt. Bei 76 Patienten (79,2%) war BMI $\geq 25 \text{ kg/m}^2$ und betrug durchschnittlich in der Gruppe $31,2 \pm 1,3 \text{ kg/m}^2$. Nach demographischen und anthropometrischen Ausgangsdaten gab es keine Unterschiede zwischen Untergruppen von Männern (54,2%) und Frauen (45,8%) mit arterieller Hypertonie.

Vor und nach Behandlung (4 Monate) wurde bei allen Patienten Tagesmonitoring des arteriellen Blutdrucks, Untersuchung von Kohlenhydrat- und Lipiden-Blutprofil durchgeführt, Thrombozytenaggregationsaktivität (ThAA) und elektrophoretische Erythrozytenbeweglichkeit (EPhEB), sowie Mg-Gehalt in Haaren eingeschätzt. Selektiver β_1 -Blocker – Bisogamma wurde als Monotherapie nach dem zunehmenden Schema von 2,5 bis 10,0 mg bei 59 Patienten eingesetzt, bei 37 Patienten mit arterieller Hypertonie und „Magnesium-Defizit“ (Mg-Gehalt in Haaren $< 17,0 \mu\text{g/kg}$) wurde Magnerot 3g/Tag zusätzlich zur drucksenkenden Therapie (durchschnittliche Bisogamma-Tagesdosis – 6,1 + 0,6 mg) eingesetzt (siehe Tabelle).

Kennwerte	Vor Behandlung	Nach Behandlung
Systolischer Blutdruck (mmHg)	154,8 \pm 5,2**	136,7 \pm 4,8**
Diastolischer Blutdruck (mmHg)	96,8 \pm 3,8**	84,1 \pm 2,9**
Body Mass Index (kg/m ²)	31,2 \pm 1,3	30,9 \pm 0,9
Nüchtern glukose (mmol/l)	6,3 \pm 0,42*	5,46 \pm 0,21*
$\leq 5,5$ (29 Patienten)	5,29 \pm 0,15	5,1 \pm 0,19
$> 5,5$ (67 Patienten)	6,7 \pm 0,18**	5,6 \pm 0,17**

Kennwerte	Vor Behandlung	Nach Behandlung
IA	3,2 ± 0,29*	2,85 ± 0,28*
≤2,5 (23 Patienten)	2,2 ± 0,15	2,3 ± 0,16
>2,5 (73 Patienten)	3,5 ± 0,16**	3,01 ± 0,12**
Mg in Haaren (µg/kg)	16,2 ± 1,5	17,4 ± 1,4
≥ 17,0 (59 Patienten)	18,1 ± 0,9	17,9 ± 0,5
< 17,0 (37 Patienten)	13,2 ± 1,4*	16,7 ± 1,1*
ThAA (%)	67,4 ± 4,9***	47,2 ± 4,3***
EPhEB (µg \cm\sek ⁻¹ \B ⁻¹)	0,862 ± 0,012**	1,095 ± 0,017**

*p<0,05 **p<0,01 ***p<0,001

Wie es aus Tabelle ersichtlich ist, erfolgte die Senkung des systolischen Blutdrucks im Vergleich zum Ausgangsniveau um 11,7% zum Ende der Untersuchung, diastolischer Blutdruck senkte um 13,1%, d.h., die gezielten Blutdruckniveaus wurden durchschnittlich in der Gruppe nach 4 Monaten der Behandlung erreicht. In Untergruppe mit «Magnesium-Defizit» (Mg-Gehalt in Haaren - 13,2 ± 1,4 µg/kg) hat die Behandlung von arterieller Hypertonie mit Bisogamma in Kombination mit Magnerot praktisch in 90% der untersuchten Fälle zur Senkung des diastolischen Blutdrucks durchschnittlich um 15,6 ± 6,5 mmHg (d.h., um 16,3%, p<0,01) geführt. Senkung von IA um 11% (p<0,05) erfolgte infolge summarischer Änderung des Lipidblutspektrums zugunsten der antiatherogenen Blutzusammensetzung: HDL Cholesterol erhöhte sich um 15,6%, die Senkung von TG-Konzentrationen und LDL Cholesterol erfolgte, entsprechend, um 23,8% und um 6,0%. Im Laufe der 4-Monaten-Beobachtungsperiode wurden keine Änderungen des Blukohlenhydratniveaus in der Richtung seiner pathologischen Erhöhung bezeichnet. Nach durchgeführten Behandlung erfolgte die Senkung von Thrombozytenaggregationsaktivität (ThAA) um 30,0% im Vergleich mit Ausgangswerten; elektrophoretische Erythrozytenbeweglichkeit (EPhEB) erhöhte sich um 27%. ThAA-Senkung und Erhöhung von EPhEB zum Ende der Untersuchung insgesamt für die ganze Gruppe von AH-Kranken bei Behandlung mit Bisogamma und Magnerot ist, möglicherweise, durch Normalisierung des Lipidblutspektrums zugunsten der Antiatherogenität und Blockade von Adrenorezeptoren der Blutzellen vermittelt. Somit, machen metabolische Neutralität (keine «atherogenen und diabetogenen» Effekte), authentische Hypotensions- und Desaggregationsaktivität Bisogamma zum bevorzugten β-Blocker gegenüber anderen Präparaten dieser Gruppe im Programm der Behandlung von Patienten mit arterieller Hypertonie und Body-Mass Index > 25 kg/m² sowie mit Störungen von Lipid- und Glykämie-Blutprofilen.

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RELATIONSHIP BETWEEN ANTI-INFLAMMATORY THERAPY AND HEPATOBILIARY ABNORMALITIES IN CYSTIC FIBROSIS PATIENTS

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Anti-inflammatory therapy is frequent but not obligatory component of cystic fibrosis (CF) lung disease treatment. The study aimed to investigate the clinical course in CF patients who were treated with basic therapy only and those who received an additional therapy with anti-inflammatory drugs. This study involved review of hospital medical records of CF patients (N=183) younger than 19 years. Ninety-six patients were treated with basic therapy only and 87 individuals received besides basic therapy anti-inflammatory treatment with azithromycin (AZ; 48 patients) or prednisolone (PD; 39 patients) in the form of alternated course (0.3-0.5 mg/kg body weight every other day). Plasma levels of ACTH and cytokines (TNF- α , IFN γ , IL-10, TGF- β 1) in CF patients have been compared with those in healthy children. The lower frequency of hepatobiliary abnormalities in the subjects treated with PD or AZ in comparison with patients without anti-inflammatory therapy (WAT) has been demonstrated. Cirrhosis was diagnosed in 38 of 96 WAT patients whereas only 7 of 39 (p=0.007) and 4 of 48 (p=0.01) children treated with PD and AZ, respectively demonstrated such abnormality. Among 38 WAT patients with cirrhosis 24 individuals demonstrated ultrasound changes, 11 – portal hypertension, and 3 – biliary cirrhosis. All studied CF patients revealed the same tendencies to the change to ACTH and blood cytokine levels with the exception of IL-10, which was significantly higher in WAT patients in comparison with normal children and anti-inflammatory drug treated CF individuals. In conclusion, anti-inflammatory therapy restores inflammation control and reduces the frequency of hepatobiliary abnormalities in CF patients.

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MORPHO-FUNCTIONAL HEART PECULIARITIES OF YOUNG SWIMMERS WITH SMALL ANOMALIES OF HEART EVOLUTION

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Small anomalies of heart evolution (SAHE) mean changes of heart structure and arterial vessels which are not resulted in cardiac and vessel function abnormalities. Among the SAHE there are most frequently occurring and most well researched mitral valve

prolapse (MVP) and anomalously located ventriculus cordias chords (ALCh), what in majority of cases, isn't a contra-indication against sport exercises.

The aim of this work was to examine cordic morpho-functional peculiarities as well as indices of exercise performance of the young sportsmen suffering from SAHE.

We've examined 54 young sportsmen (swimmers): 33 boys and 29 girls aged 8-11 years with regular exercise 1-4 years. We've carried out thorough clinical and instrumental check up including standard cardiographic examination, echocardiography, test with physical exercise, examination by doctors-specialists in order to find out phenotypic characteristics and the attendant pathology, and by the evidence, Holter monitoring.

Small anomalies of heart evolution (SAHE) were clearly recognized for 63% of those examined. In the structure of SAHE there were: mitral valve prolapse (MVP) - 24%, anomalously located ventriculus cardiac chords (ALCh) - 16.7%, tricuspid valve prolapse (TVP) - 5.6%, Xiari net in the right atrium cavity - 1.9%, combination of MVP+TVP - 3.7%, MVP+ALCh - 7.4%, ALCh+rudimentary valve - 1.9%, MVP+dilation of Valsava sinuses - 1.9%.

Later on all the young sportsmen were divided into two groups: those with SAHE - 34 and those without SAHE - 20 persons. . Young sportsmen with SAHE much more often suffered from astigmatism, low level of myopia, accommodation cramp, chronic tonsillitis, nasal septum deviation; their electrocardiogram (EKG) showed atrial repolarization process abnormality (both in dormancy and against a background of physical activity), ventricular extrasystole. While carrying out tests against a background of physical activity (veloergometry) the sportsmen with SAHE demonstrated low indices of exercise performance. Besides, young sportsmen with SAHE were characterized by lower indices of ventriculus sinister myocardium mass which proves abnormality of cardiovascular system long duration adaptation for exercise stress.

Ye.N. Sraubayev

ASSESSMENT OF OCCUPATIONAL EXPOSURE AT INDUSTRIAL ENTERPRISES OF KAZAKHSTAN

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Evaluation of occupational risk as measure of likelihood and severity of damage to health consequences as a result of the adverse effects of industrial environment factors and the labor process usually carried out according to their exposure and indicators of ill health.

The most vulnerable is the state of health of the working population. According to WHO data about 25% of illnesses can be linked with the job. In the complex factors that influence the health of working age, the important role played by occupational risks: from 20 to 40% of loss of work caused by diseases, directly or indirectly related to unsatisfactorily working conditions. The problem of occupational risk is closely linked with the assessment of the

health status of the working population in the aluminum industry (Pavlodar aluminum factory, "PAF") in Kazakhstan.

The analysis of workers health indicates the growth of occupational morbidity as all over the country and in leading fields of industries. Virtually all the enterprises operating in Kazakhstan are exposed to numerous occupational hazards: vibration, exercise, etc., which poses a potential danger of their occupational diseases.

There are the pointed questions of the assessment the workers health in the metallurgical industry with the position of occupational risks, find causation risk of production factors influence the health of workers from the industrial environment factors and the development of primary preventive measures. The influence of working conditions and the production activity character in the subjective assessment of health and health workers were confirmed by correlation analysis with the reliability of 95-99%.

The development of science-based approaches to health management model workers of aluminum production from the position of the evaluation of occupational risks and the effects of applying preventive measures aimed at optimizing the work and increase the health professional will reduce morbidity and improve working conditions at industrial enterprises.

The chronometer studies found that 86,5+8,6% of their time engaged in fulfillment of the basic operations technologists chemical processes. The results of hygienic studies of working conditions of workers revealed that their work activity takes place in: dusty (CCK more than 9 mg / m³, exceeding the MCL in 2,7 times), intense noise (exceeding the RC 10 to 18 dBA). Mechanisms are the sources of high noise levels in the workplace. Implementation of the main manufacturing operations is accompanied by considerable energy expenditure. The gainful employment of workers of the main shops and jobs is accompanied by significant sensory load on the visual and hearing aids. The conducted questionnaire survey revealed that the subjective state of health of workers depends on the production of such adverse factors as the impact of noise, dust, heaviness of work, eye strain, attention, hearing, and working posture, emotional stress due to the rapid pace of work. This effect on the occurrence of fatigue in the current (in 32,4%) and at the end of work shift (at 64,9%) and caused a variety of autonomic responses (18,3-36,6%) from various functional systems, which 31% sustained. Influence of working conditions and the nature of production activity in the subjective assessment of health and health workers were confirmed by correlation analysis with the reliability of 95-99%.

The results of complex hygienic studies of PAF working conditions, possible to identify the next major set of adverse vocational factors of production, effects on the body working within a work shift: a high level of gas contamination, industrial noise, adverse climate and heavy labor.

The foregoing convinces of the urgency of the problem, the validity of the methodological decisions on the principles of a systematic approach for evaluating governance in the health of the working population in the light of new scientific knowledge and modern requirements.

Sergey Suchkov

A NEW CONCEPT OF PREDICTIVE MEDICINE ASSOCIATED WITH PRECLINICAL DIAGNOSTICS

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According to expert opinions, about one third of the able-bodied population of our planet belongs to areas of potential risk for diseases. The latter is partially true because of the ageing approaches to health protection which are out of date being addressed primarily to individuals who had developed a disease. Meanwhile, with some of patients living longer, medical care has moved from merely treating the primary condition of the patient to a comprehensive approach that includes the provision of preventive services. Objectively, present-day social patterns demand drastically new approaches to protect our health. In this paradigm, the medical community will have to accept the axiom that the medicine of the 21st century will, first and foremost, be the predictive and preventive one.

The breakthrough in the current mode of thoughts and minds regarding the role and contribution of medicine into public health care dates back to the late 1980's when the advent of genomics, proteomics and nanotechnologies was extensively introduced into the daily practice. Such an introduction has allowed a unique access to biological objects and living structures together with visual control over dynamic growth of lesion foci heretofore inaccessible to the clinician's vision. Scientists are now developing and using diagnostic tests based on genomics and proteomics to predict illnesses and to finalize proper versions of the preclinical diagnosis. And in terms of preclinical diagnostics, for predictive biomarkers I would assume, at least, five uses or impacts:

- 1) to predict the likelihood of developing disease;
- 2) to estimate the length of the asymptomatic period;
- 3) to provide predictive information about disease course, severity, and complications;
- 4) to serve as a warning to avoid potential disease-triggering factors;
- 5) to identify high-risk individuals who might be suitable candidates for preventive intervention trials.

The methodological basis of preclinical diagnostics should include basic algorithms to differ essentially from those employed in traditional clinical strategies, i.e.,

- (1) algorithms for preclinical diagnostics of:
 - (i) multiple sclerosis;
 - (ii) atherosclerosis and large vessel aneurisms;
 - (iii) IDDM1;
 - (iiii) malignant neoplasms and

(2) algorithms for preventive immunotherapy and gene therapy aimed at suppression of the autoimmune inflammation in:

- myelin;

- islets and insulin-producing β -cells.

The realization of the aforesaid approach may lead to a situation when the current model of a relationship between the attending physician and the patient will be gradually replaced by the “medical advisor-healthy individual” model thus initiating a transition from a disease treatment-oriented system to a system in which protecting individual health is the top priority. The trend discussed stimulates a critical dialogue between people, physicians and providers regarding the effect of in-time screening of patients’ relatives and healthy individuals for preclinical (latent or asymptomatic) signs of pathology, many of which may pose no immediate health threat but would develop at different rates as time progresses.

And now, when the governments are creating the national highway systems, they do not tell people in what direction to drive – they just build the roads and set the standards for safety and health security. Let me challenge the audience to start up building an international highway system for personalized medicine based on predictive principles and preventive standards, preclinical diagnostic tools and innovative infrastructure as a whole.

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EXPERIMENTAL AND CLINICAL REASONING OF SUCCINATES USE FOR CHRONIC LIVER DISEASE TREATMENT

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Clinical course of the chronic liver disease in an animal organism caused with viral, toxigenic and drug-induced damage of liver parenchyma is accompanied with cytolysis, cholestasis, enhancement of lipid peroxidation processes, enzyme down-regulation of antioxidant system, energetic metabolism tending to anaerobic glycolysis, consequently resulting in bioenergetic hypoxia and metabolic disorders in liver parenchyma. It has been proved on experimental models of chronic liver disease that substrate antihypoxants like succinate-containing drugs (cytoflavinum, remaksol) produce antioxidant, membrane stabilizing and antihypoxant effects, thus providing cytoprotection. So they can be regarded as promising compositions displaying hepaprotective activity.

Chronic liver disease is characterized with moderately marked activity of the process (45.0%), asthenovegetative syndrome (79.7%) and dyspeptic syndrome (28.3%), psychosomatic disorders (5.8 – 49.3%) such as changes of psychic activity, moderately marked asthenia, anxiety, depression which impede intercourse with the people around.

Clinical efficacy of succinate-containing drugs is down to their hepaprotective activity which leads to attenuation of cytolysis syndrome and cholestasis syndrome, improvement of protein synthetic function of liver, minimization of mezenchimal inflammation syndrome,

depression of lipid peroxidation processes, stabilization of enzymes of the first line of antioxidant defense as well as an increase in physical activity, improvement of patients' mental state and social activity. Stabilization of mezenchimal inflammation syndrome is provided through growth of albumin fraction and decrease of gamma globulin level resulting in minimization of protein imbalance. Depression of lipid peroxidation processes and stabilization of antioxidant status is reached by way of growth of SOD (superoxide dismutase) and catalase stabilization. Succinate-containing drugs encourage an increase in physical activity and mental state improvement, attenuate distress according to anxiety scale and depression, thus activizing patients' social activity.

Thus, pharmacotherapeutic effect of succinate-containing drugs (remaksol, cytoflavinum) on chronic liver disease is down to their hepaprotective activity. Hepaprotective action mechanism is realized through a series of effects: antihypoxant, antioxidant, membrane-protecting and indirect detoxifying effects.

Y.G.Tarasova

INVESTIGATION OF THE CORRELATION BETWEEN CHRONIC GENERALIZED PERIODONTITIS AND INDEXES OF LIFE'S QUALITY AMONG CITIZENS OF THE UDMURT REPUBLIC

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One of the main tasks of the contemporary society is the increasing of the quality of life for the patients with the different chronic diseases.

The inflammatory parodontium disease, particularly the chronic generalized periodontitis (CGP), makes people suffering from the physical and psychological discomfort being the main reason of the early loss of teeth and of the decrease in the dentition functional capabilities. Also this disease leads to the development of the dental pathology, of the infection niduses and to the sensitization of the organism.

One of the most complete tools for the measuring dental pathology influence on the quality of life is the questionnaire LQ ("The type of the influence of the dental health" OHIP-14 (G. Slade, J. Spencer, 1994).

The goal of this research work is the investigation of the connection between the social factors and the clinical indexes (which characterise the chronic generalized periodontitis process) with the OHIP-14-RU indexes by the citizens of the Udmurt Republic.

Materials and Methods In this research paper the validation is made and the psychometric features of the questionnaire of the life's quality (LQ) OHIP-14-RU is fixed. This questionnaire is employed to the group of 182 people living in the Udmurt Republic at the age of $40,7 \pm 7,2$ with the chronic generalized periodontitis (CGP) of the different degree of the disease (106 women and 76 men).

During the interview it's enumerate the next patients' social characteristics: age, sex,

income level, standart of education, labor activity, social position, marital status and harmful habits.

The patients` examination includes the defenition of the main clinical indexes of the chronic generalized periodontitis (CGP) process: the sanitary index size, the depth of the paradontal pockets, the extent of the gum recession, the tooth mobility, gingival hemorrhage degree, PMA index, the extent of the resorption of the bone stock according to the X-ray findings.

For the evaluation of the correlation rate between the examined settings and the LQ indexes it`s defined the correlation of Pirson`s coefficient.

Results and Conclusions The next statement is proved according to the statistical analysys: the questionnaire OHIP-14-RU is found as the quite reliable, valide and susceptible tool for evaluating of the dental operation factors of the patients` LQ with the CGP living in the Udmurt Republic. It reveals that the degree of the CGP disease makes the great influence on the dental indexes of the LQ OHIP-14-RU. Mostly it has impact on the changes of the physical and psychological aspects of human life. The analysis doesn`t reveal the essential correlation connection between the indexes of the LQ OHIP-14-RU and the social characteristics of the examined patients.

However, the correlation analysis between LQ OHIP-14-RU and the clinical indexes (which characterize the course of the CGP) reveal the possitive correlation coefficient mostly of the average force. The most important correlation relations are made in a descending sequence: with the tooth mobility degree (0,70), the sanitary index size(0,69), gingival hemorrhage degree(0,64) and PMA index(0,57). The highest correlation criterias of the listed clinical indexes with the scale of “the Physical discomfort” allow us to use the questions, making the scale OHIP-14-RU, as one of the evaluation criterias of the treatment qulity during the making of the questionnaire of the patients with the CGP side by side with the other methods of the expert`s evaluation.

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NEGATIVE EFFECTS OF USING VITAMIN-MINERAL COMPLEXES IN CHILDREN AND ADOLESCENTS

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Relevance. In recent years, discussed the feasibility of different vitamin-mineral complexes in the prevention and treatment programs for children and adolescents. Among the arguments cited are called: the presence of chronic diseases, poor nutrition, environmental conditions, increased mental workload, psycho-emotional stress, a high

percentage of frequent and long-term ill children. Media sources inform their parents and even doctors sided and very superficial attitude to vitamins, which leads to irrational use.

The purpose of this study was to examine the attitudes of parents to the problem of vitamin-mineral complexes and determination of the frequency of adverse reactions when used in children and adolescents. 100 parents and clinical examination of 100 children were questioned. Among them were 50 girls and 50 boys, age of children can be divided into 4 groups: up to one year - 24 children, from 1 year to 3 years - 40 people, from 4 to 12 years - 16 patients, from 13 to 18 - 20 adolescents. At the same time take into account the child's age, presence of chronic somatic diseases, the reasons for a child to take vitamins, the frequency of acute respiratory infections during the year, the simultaneous use of other drugs, the development of adverse reactions in the form of appearance of pain, allergic reactions, dyspepsia, and dysuric end bladder syndromes.

Results. According to the analysis of responses to the questionnaire, parents' choice was limited to the following vitamins and minerals: "Jungle", "Vitrum", "Duovit", "Revit", "Calcium-D3 Nycomed", "Calcinova", "Complivit", "Centrum", "Alphavit", "Biovital gel", "Picovit", "Sana-sol", "Multitabs". The most popular were "Multitabs" (25%), "Picovit" (19%), "Calcium-D3 Nycomed" (22%). Among the true motives of these drugs the parents were called: the prevention of influenza, common colds, strengthen immunity, prevent hypovitaminosis, calcium deficiency, is rare (3%) - the doctor's recommendations. Among the adverse reactions are the following: 23% - a variety of allergic reactions (rash, flushing, moisture, itching), 37% - manifestations of the urinary tract: bladder syndrome as hematuria, oxalate-calcium crystalluria, phosphaturia, uraturia, dizuric syndrome (thamuria, a rare, painful, intermittent urination, daytime urinary incontinence, enuresis), 9% - pain syndrome (abdominal pain, lumbar region), 31% - dyspeptic syndrome (nausea, vomiting, flatulence, intestinal colic, delayed stool and / or more frequent chairs).

The reasons for the appearance of side effects may include: failure to comply with the age of dosages and duration of admission, the combined use of vitamin and mineral complexes with other drugs, the simultaneous application of these drugs on the individual ingredients or products, causing a cumulative effect, arbitrary selection of vitamin products in the presence of a child's chronic physical diseases, and especially of the urinary system, timeliness choice drug (exacerbation, remission).

Thus there is no doubt the fact that vitamin - mineral complexes - a medication that must appoint and prescribe only doctors, strictly on the testimony, taking into account the child's age, comorbidities, and give detailed instructions on the rules of use (dose, duration).

SURGICAL STRATEGY IN TREATMENT OF RECURRENT INGUINAL HERNIA

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Research objective: improvement of results of treatment of patients with recurrent inguinal hernias at the expense of optimization of a choice of a technique of operation.

Materials and methods: in work classification of recurrent hernias on G.Campanelli, 2006 et al is used.

In research, according to used classification, 173 patients with recurrent inguinal hernias have been included.

At all patients term of supervision after reconstructive operation exceeded two years.

The algorithm of preoperative inspection has been standardized and included obligatory carrying out of ultrasonic of a zone before the executed operative intervention.

Patients have been divided on two groups which authentically aren't differing to compared signs.

The first group included 84 patients with recurrent inguinal hernias. From them 57 patients had type of relapse R3, 11 patients type of relapse R1 and 16 patients with relapse type R2.

From the second group (89 patients), 54 patients had R3 relapse type, 13 patients R1 type of relapse and 22 patients R2 relapse type.

All patients in the first group were it is executed reconstructive hernioplasty on Liechtenstein. In the second group to patients with relapse of an inguinal hernia of type R3 it was carried out reconstructive hernioplasty on Liechtenstein (54 patients), patients with type of relapse R1 and R2 (35 patients) - reconstructive hernioplasty with use synthetic implant an original construction from miniaccess to the defect aponevroza revealed at ultrasonic.

Comparative estimation of efficiency of surgical treatment spent by quantity of complications in the early and remote postoperative period. Among the nearest postoperative complications allocated the following: 1. Infiltrate p/O wounds; 2. A suppuration p/O wounds; 3. Seroma; 4. A hematoma p/O wounds; 5. A sharp delay of urine; 6. A scrotum hypostasis, testicle; 7. Ischemic orchitis; 8. The Vein thrombosis of the bottom extremities;

Complications have arisen at 19 (22,6 %) patients of the first group and at 12 (13,5 %) patients in the second group.

The remote complications - relapse of disease within two years after reconstructive operation in the first group is revealed at 3 (3,6 %) patients, in the second group relapse of an inguinal hernia is revealed at 2 (2,2 %) patients.

Conclusions:

1) Ultrasonic diagnostics is defining criterion in a choice of a technique of

operation.

2) The differentiated approach to surgical treatment of recurrent hernias allows to reduce quantity of the early and remote postoperative complications.

3) Original method hernioplasty is effective in preventing development of inguinal hernia recurrence.

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HYGIENIC CHARACTERISTICS OF THE AIR CAB URBAN TRANSPORT

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The problem of reducing contamination of the breathing zone of drivers is very important. Even relatively small concentrations of toxic substances, especially in combination with other factors of production environment, can have negative effects on the body of drivers and, consequently, reduce traffic safety. It should be noted that the major polluting component of the driver's cab are the engine exhaust gases, which consist of a large number of variety of substances, they can be divided into several groups. Firstly, it is carbon-products (carbon monoxide, hydrocarbons, soot), increasing the concentration of which is mainly the result of incomplete combustion. Secondly, the products of oxidation of nitrogen, which contribute to the formation of high pressure and temperature in the engine cylinders. Third, those substances which in their education due to the presence of different additives and fuel additives (oxides of lead, barium, sulfur, mercaptan, etc.). In the study of air pollution booths urban transport toxic substances was found that their concentration exceeds TLV, reaching in some cases, significant quantities.

Need further careful study of the effect of relatively low levels carboxyhemoglobin on the quality of driving, as insufficient information about the driver's ability to adapt to chronic exposure to low concentrations of carbon monoxide, causing the formation of 2-3% carboxyhemoglobin in the blood.

Different character actions are nitrogen oxides, which irritate the eyes, nose, mouth. In poisoning by nitrogen oxides is characterized by a latent period: a man, a satisfactory feel when dealing with dangerous levels, subsequently seriously ill. Aldehydes present in the exhaust gas mainly in the form of formaldehyde and acrolein, hydrocarbons, soot, sulfur dioxide and hydrogen sulfide as a strong stimulating effect on the mucous membranes. Hydrocarbons, in addition to being toxic themselves, under sunlight react with nitrogen oxides to form ozone and peroxide, which irritate the eyes and upper respiratory tract.

Carcinogens, settling on the particles of dust and soot in the lungs and come in contact with lung tissue. This is one of the reasons that the rapid development of industry and

transport has led to an increase in the proportion of deaths from lung cancer.

Lead compounds are present in the anti-knock additives, and exhaust gases are poisons, affecting all organs and tissues. The danger of lead poisoning is compounded by the fact that they are not slowly eliminated from the body.

Significant impact of toxic substances on the body of drivers makes the need for measures aimed at reducing their concentrations in the air cabin. These activities can be divided into 4 groups as follows: reduction of exhaust gases, reducing pollution by toxic substances roadside zone, preventing contact with toxic substances into the cockpit of the car from all possible sources, the effective removal of toxic substances from the cockpit.

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**· DIE VERVOLLKOMMUNG DES BILDUNGSMONITORINGS
ALS EIN INDIKATOR BEI DER EINFÜHRUNG DES QUALITÄT
SMANAGEMENTSYSTEMS AN EINER HOCHSCHULE**

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Neue Anforderungen der Gesellschaft an Absolventen des Bildungssystems, die von Wissenschaft- und Produktionsentwicklung bedingt sind, fordern eine Erschaffung in den Hochschulen einen modernen Qualitätsmanagementsystem (Abk. QMS) der Bildung, die einer Basis für einen Etalonmodellen des Qualitätsprozesses und Bildungsergebnisse aufgrund der internationalen Standards anliegt. In Kasachstan und in einer Reihe anderer Länder dient die internationale Familie der Standards ISO als normative Grundlage für die QMS Konstruktion in der Bildung. Diese Standarten betrachten die Tätigkeit einer Organisation durch eine Kette zusammengebundenen und integrierten Prozessen. Laut der Methodologie des prozessualen Herangehens muss man im Qualitätssteuerungssystem regelmäßig den Bestand und das Funktionieren der Prozesse, die eine Dokumentierung aufgrund Messungen brauchen, prüfen. Die Ergebnisse von Messungen sollen entsprechend ständig sich ändernden Forderungen von Konsumenten, Tätigkeitsrichtungen und korporativen Strategien zu bewerten. Eine Angemessenheitseinschätzung von realen Prozessen mit dokumentierten Etalon, die unter Berücksichtigung von Produktivität, Stufe des Risikos und Personalkompetenz durchgeführt ist, lässt zu, die Vorstellungen über realisierten Bildungsqualität zu bekommen.

In unserer Hochschule sind die gegebenen Standards 2006 eingeführt und sie funktionieren erfolgreich. Wir sind von der Gesellschaft "NQA" zertifiziert.

Insgesamt war es bei der Einführung QMS in der Hochschule einen der Hauptaufgaben, ein Innenhochschulsystem der Einschätzung von Bildungsqualität zu entwickeln oder zu vervollkommen, das den inneren Audit System, Monitoring der Bildungsqualität, ein Instrument für Messungen, ein Programm-Instrumentalmittel für Datenverarbeitung des

Monitorings, Technologien und Methoden in sich enthält.

Für die Realisierung dieser Aufgabe sind die folgenden Schritte gemacht:

- ständige Erhalten von der Expert- (inneren und äußerlichen) und statistischen Einschätzungen der Qualität des Instrumentariums (ein Prüfung der eingeführten interaktiven pädagogischen Methodikern);
- Studien (Es wird Ausfüllung des Fragebogens nach verschiedenen Kategorien der Zufriedenheit bei Studenten und auch bei grundlegenden Kliniken durchgeführt);
- Datenerfassung und -Verarbeitung;
- Datenanalyse, Skalierung, Bestimmung den Popularitäten wie von Lehrer, als auch des Lehrgangs und der Fakultät in ganzen. (Es ist in der Hochschule ist das System den differenzierten Arbeitslohnes eingeführt);
- Datenintegration nach verschiedenen Skalen;
- Interpretation der Ergebnisse des Bewertungsprozesses. (Mit Ergebnissen dieses Prozesses kann man sich aus Beschlüsse der Vollversammlung, auf der Webseite, in den herausgegebenen informativen Dokumenten ständig bekannt machen).

In Anbetracht dieser Daten gelang es unserer Hochschule die Bildungsqualität zu verbessern. Wir haben einen Kriterium GPA beim Steigen vom Kurs auf Kurs festgestellt, dabei erhöht sich der Grad allmählich je nach dem Anwachsen des Kurses. Das vorliegende System erlaubt uns den innovativen Niveau des Bildungsprozesses und seiner Verbindung mit der Wissenschaft, die Übereinstimmung des Bildungsinhalts zu der Forderungen der professionellen Gesellschaft, das Niveau der Realisierung von Aufgaben der Hochschulbildung von der Hochschule zu bestimmen. Man muss bemerken, dass einige Fragen noch nicht bis zum Ende durchgearbeitet sind. Jedoch sehen wir schon die ersten Ergebnisse des eingeführten Qualitätsmanagementsystems der Bildung. Es erlaubt uns ständig eine Analyse der existierenden Lage in der Hochschule mit Durcharbeitung von korrigierenden Maßnahmen durchzuführen.

Frank Bätje

**EVIDENZBASIERTE MEDIZINISCHE VORSORGE-
UNTERSUCHUNGEN – EVIDENCE-BASED MEDICAL CHECK-
UPS**

PraxisNetzHannover, Hannover, Deutschland
www.PraxisNetzHannover.de

Check Up, Krebsfrüherkennung, Screening, Prophylaxe - Schlagworte, die ein etabliertes System von medizinischer Diagnostik und Therapie beschreiben, welches sich primär an gesunde sprich symptomlose Menschen richtet und in staatlichen Gesundheitssystemen und Solidargemeinschaften 1. die Volksgesundheit verbessern und 2. unnötige Therapiekosten für vermeidbare Krankheitsverschlimmerungen einsparen

sollen. Demzufolge ist dieses System eher von epidemiologischem und sozialökonomisch Wert als von individuellem Nutzen.

Auf spezielle Bedürfnisse einzelner Menschen ausgerichtete Gesundheitsuntersuchungen haben diesen individuellen Nutzen im Fokus, sind konsequenterweise nicht massenhaft anwendbar und zielen ab auf Kinder und Erwachsenen mit individuellen Risikofaktoren (Erbanlagen, Vorerkrankungen).

Das Fachärzte-Netzwerk PraxisNetzHannover ist ein Anbieter unter vielen Ärzten in Kliniken und Praxen, die diesen Bedürfnissen nach individueller Diagnostik entsprechen will, indem die beteiligten Mediziner dem Patienten / Kunden ein auf die persönlichen Bedürfnisse zugeschnittenes ambulantes Untersuchungsprogramm bieten, welches mit der ausführlichen Anamnese beginnt und mit der strukturierten Beratung über Veränderungen des Lifestyles oder therapeutische Empfehlungen endet. Zielpersonen sind gesundheitsbewusste Menschen aus Staaten ohne strukturiertes Gesundheitsvorsorgesystem.

Um diesen Patienten unsinnige Untersuchungsprozeduren zu ersparen, wird das Augenmerk auf die Einheit von Problemerkennung und Problemlösung gelegt. Die diagnostischen Tests sind ausreichend aussagefähig hinsichtlich Sensitivität und Spezifität. Der Patient wird mehreren Medizinerinnen unterschiedlicher Fachrichtungen zugeführt. Ein „Lotse“ mit klassischer deutscher Hausarztfunktion koordiniert die diagnostische Kette und erläutert dem Patienten am Ende die relevanten Resultate und die sich daraus ergebenden Konsequenzen. Der Unterschied zu mit großem Marketing beworbenen Manager-Checks oder Leistungsdiagnostiken in großen Kliniken oder privaten Sanatorien liegt vor allem in der Individualität – und den deutlich niedrigeren Honorarkosten.

Frank Bätje
Helmut Lill
Jürgen Kopp

ZEHN-JAHRE EXTRAKORPORALE STOSSWELLENTHERAPIE (ESWT) BEI PSEUDARTHROSEN - TEN YEARS EXPERIENCE WITH SHOCKWAVE THERAPY (ESWT) FOR IMPAIRED BONE HEALING

Praxis für Extrakorporale Stosswellentherapie, (ESWT), Hannover, Deutschland; www.eswt-hannover.de

Klinik für Unfall- und Wiederherstellungschirurgie, Hannover, Deutschland

Klinik für Plastische und Handchirurgie Diakoniekrankenhaus Friederikenstift, Hannover, Deutschland; www.friederikenstift.de

Einleitung: Unverheilte Knochenfrakturen werden nach drei Monaten als verzögerte Knochenbruchheilungen und nach sechs Monaten als Pseudarthrosen bezeichnet. Im durchschnittlichen Patientengut in Staaten mit gut organisiertem Traumamanagement

resultieren diese Knochenheilungsstörungen in Häufigkeiten von z.B. 4,5% an der Klavikula , 4,3% nach Tibiaumstellungsosteotomien oder allgemein max. 7%. Operative Korrekturingriffe gelten als Therapiegoldstandard spätestens im Pseudarthrose-Stadium. In ausgewählten Fällen führen wir auch nicht-invasive Extrakorporale Stosswellentherapien durch und erwarten dadurch Knochenstoffwechselstimulationen, die denen operativer Eingriffe ähnlich sind.

Materail und Methoden: Seit 2001 haben wir mehr als 450 ausgesuchte Knochenheilungsstörungen frühestens drei Monate posttraumatisch bzw. nach letzter Osteosynthese mittels fokussierter hochenergetischer Stosswellentherapie mit oder ohne computerassistierte Navigation ambulant behandelt. Überwiegend jene Patienten, die Arbeitsunfallopfer waren, wurden fachunfallchirurgisch nachuntersucht oder mittels Fragebogen kontrolliert.

Ergebnisse: Ausreichend stabile Frakturheilungen und weitere Therapieerfolgskriterien wurden unabhängig von der Art der primären Behandlung in 80% nach zwei bis sechs Monaten festgestellt. Delayed und non-unions, atrophe und hypertrophe Formen sowie Zustände nach einfachen oder Trümmerfrakturen, Osteotomien oder Arthrodesen kleiner und großer Knochen wurden zusammengefasst, weil sie dem üblichen Spektrum entsprechen.

Schlussfolgerung: Die ESWT wird nur in einigen Staaten und dort auch nicht flächendeckend für die operationsersetzende Frakturbehandlung eingesetzt. Unsere retrospektiven Fallkontrollen am eigenen Patientengut weisen auf ermutigende Therapieerfolge und gänzliche fehlende Komplikationen hin und liegen im Trend jener Studien höherer Evidenzgrade, die in den ESWT-Zentren in Österreich, Taiwan oder Kolumbien publiziert worden sind. In Deutschland wird die ESWT nur ausnahmsweise von institutionellen Kostenträgern bezahlt, obwohl die Gesamtkosten sehr deutlich geringer sind als für stationäre Operationen in Narkose. Außerdem existieren geeignete Stosswellentherapiegeräte nur punktuell und spezialisierte Ärzte noch seltener. In Hannover können alle in Frage kommenden Fälle zeitnah versorgt werden.

Frank Bätje

FLUGRETTUNG: INTENSIVMEDIZINISCHE SEKUNDÄR-TRANSPORTE – AIR AMBULANCE: INTENSIVE CARE SECONDARY TRANSPORT

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Medizintourismus, Sekundärtransport, Intensivverlegung, internationale Rückholung - Schlagworte, die die gesamte Logistik um weite und sehr weite Wege vom Patienten zum Arzt seines Vertrauens beschreiben.

Spezialisten in Kliniken und Praxen in Hannover und Umgebung bieten exklusive

ärztliche Leistungen an, die auf Ärzte und Patienten im Ausland eine magnetisierende Wirkung ausüben. Dieser Nachfrage kommen hiesige Unternehmen dadurch nach, dass sie komfortable und hochtechnisierte Transportmittel anbieten, um auch notfallmäßigen Situationen möglichst zeitnah gerecht zu werden.

Das Flugunternehmen AEROWEST Ambulanz am Airport Hannover in Kooperation mit ASSISTANCE - medical consultation ist jederzeit in der Lage, Kranken aus dem Ausland Ambulanzflugzeuge zu schicken, in denen spezialisierte Rettungsassistenten, Intensivkrankenpfleger und Notärzte selbst künstlich beatmete oder anderweitig intensivpflichtige Kranke von fast allen Flughäfen der Welt abholen und kompetent nach Hannover transportieren können. Die notfallmedizinische Flugzeugausrüstung entspricht dem hohen Standard deutscher Notarztwagen.

Um Überflugrechte, Landegenehmigungen, Tankstopps etc. brauchen sich die ausländischen Patienten und deren behandelnde Ärzte nicht zu kümmern: Alle medizinisch und logistisch relevanten Details von A wie Arzt-zu-Arzt-Gespräch über N wie Nationalität bis Z wie Zwischenlandung klärt die Bodencrew vom AEROWEST Ambulanz und ASSISTANCE, bevor die Maschinen anheben.

Die Flugzeuge bieten neben den Piloten, dem Notarzt und dem Paramedic einem liegenden Patienten und bis zu zwei Mitreisenden Platz und fliegen mit Geschwindigkeiten bis zu 560 km/h, wodurch beispielsweise Moskau oder Kiew innerhalb weniger Stunden ohne Zwischenlandung erreicht werden können. Die zentralasiatischen Flughäfen sind weiter entfernt und bedingen zumeist eine Zwischenlandung zwecks Tankstopp.

Die Kosten für den Patientenlufttransport werden vor jedem Einsatz vereinbart und hängen ab vom erwarteten Treibstoffverbrauch, den ausländischen Flughafen-Landegebühren, eventuellen Dolmetscher-Diensten und außergewöhnlich teuren medizinischen Leistungen während des Fluges.

AEROWEST Ambulanz ist für dringende Intensivtransporte jederzeit ansprechbar unter +49 511 737 000

ASSISTANCE – medical consultation unterstützt Bemühungen für Konsiliardienste im Ausland sowie medizinische Betreuung vor Ort und ist erreichbar unter +49 171 4633871

Igor Akszjonovics

POSSIBLE PERSPECTIVES OF USING THE BIOPHYSICAL EFFECTS OF ABIEM IN DIAGNOSTICS

Eger, Hungary

The purpose of this research is to study the possibilities of using the biophysical and optical effects of the ABIEM device (Dr. Igor Akszjonovics, the International Patent publication WO/2006/070213 DEVICE FOR TRANSFERRING BIOLOGICAL ENERGY INTO BIOMECHANICAL ENERGY). The biophysical effects were captured by ordinary digital photography and slow motion video shooting. The research

was conducted on water, minerals, the ABIEM device and patients. The prerequisite for conducting these experiments was to create optimal conditions for the performance of this device. First of all, the experiment was conducted in a dark room with dim lighting and a certain level of humidity, using special mirrors (similar to Kozyrev mirrors). The length of the impact varied from 30 to 45 minutes.

The experiments created unique results:

1. Light emission (glowing) of the ABIEM device and its elements, light emission from the minerals and water.
2. The effect of creating optical energy conglomerates having a spherical form (which may be compared to the form and the structure of the "ORB" effects).
3. The effect of light emission (glowing) of the patient's body, whose form can be compared to the above-mentioned optical conditions. It is important to mention that the research was conducted without the presence of any electromagnetic field.

The analysis of the optical light emission from a human body allows us to draw an analogy between it and different captured light emissions of the ABIEM device, minerals and water. It is important to note that this light emission has its own peculiarities: its uniformity, intensiveness, integrity, quantity as well as the presence of circular and radial lines and filling of the spherical form by different geometrical elements (ellipsoids, spheres, etc.). It is important to note that these elements are present in various statistically proven combinations of different energy conditions of healthy and sick patients.

R.T. Dzumasheva

**LUNGENMORPHOLOGIE VON RATTEN BEI
DER EINWIRKUNG VON URANERZSTAUB**

*Kasachische National Medizinisches Universität, benannt nach
S.D. Asfendiyarov, Almaty, Kasachstan*

Bei der Einwirkung von Staubproduktionsfaktoren gehören die Lungen zu den am meisten gefährdeten Organen. Der Grund dafür ist, dass das Atmungssystem ein Haupthindernis des Körpers darstellt, wo sich die überwiegende Mehrheit aller, in bewegter Luft enthaltenen giftigen Substanzen, niederlässt. Gleichzeitig existieren keine experimentellen Untersuchungen, die eine Aufdeckung der Veränderungsmechanismen im Lungengewebe beim Einatmen von Uranerzstaub zum Ziel haben.

In diesem Zusammenhang wurde bei unseren Studien die Dynamik der Umstrukturierung des Lungengewebes bei chronischer Einwirkung von Uranerzstaub, in einer Abhängigkeit von der Dosis, bei den Ratten untersucht.

Materialien und Methoden:

Die experimentellen Untersuchungen wurden bei 120 weißen männlichen Ratten mit dem Körpergewicht von 120 bis 180 g durchgeführt. Es wurden die Auswirkungen

von Uranerzstaub beim Einatmen untersucht, deren Konzentrationen die Maximale Arbeitsplatz-Konzentration (MAK-Wert) um fünf-, zehn- und fünfzigfache übersteigt. Die Bearbeitung von Versuchstieren mit dem Uranerzstaub erfolgte in speziellen Zellen. Die Kontrollgruppe bestand aus den Ratten, die in den gleich beschaffenen Zellen gehalten wurden, nur ohne die Uranerzstaubeinwirkung.

Den Tieren wurden die Gewebeproben nach 7, 30, 60, 90 und 120 Tagen seit dem Versuchbeginn entnommen. Die Struktur des Lungengewebes wurde mit Hilfe von der Lichtmikroskopie nach den Standardverfahren untersucht.

Untersuchungsergebnisse:

Im Großen und Ganzen stellte man schon beim Einatmen von Uranerzstaub in kleinen Dosen, die den fünften und zehnten MAK-Wert entsprachen, unterschiedlich ausgeprägte diszirkulatorische, hyperplastische, atrophische und fibroplastische Prozesse fest.

Die Anpassung der Atmungsorgane an die ständige Einwirkung von Uranerzstaub zeigte sich durch die Entwicklung von den schrittweise voranschreitenden Ereignissen, wie Verbreitung von Bronchialepithel, Atrophie des Alveolarepithels, emphysematösen Erweiterung der Alveolen, Hyperplasie des peribronchialen lymphatischen Gewebes, Fibrose und Sklerose, sowie eine Anzählung vom interstitiellen Lungengewebe in Pigmentablagerungen.

Ungeachtet der einheitlichen Veränderungen, die in den Lungen der Ratten nach der Einwirkung von 5-ten und 10-ten MAK-Wert-Dosis festgestellt wurden, unterschied sich ihr Ausprägungsgrad sowie bei den Versuchsgruppen, als auch bei den Beobachtungszeitpunkten.

Bei der Erhöhung der Uranerzstaubdosis bis zu 50-zigsten MAK-Wert war die Antwortreaktion der Lungen nicht eindeutig und hing stark von der Dauer der Uranerzstaubeinwirkung ab.

Es stellte sich heraus, dass bei einem früheren Versuchszeitpunkt, nach 3 und 7 Tagen, das Einatmen von 50-zigsten MAK-Wert der Uranerzstaubdosis eine schädigende Wirkung auf die Schleimhaut der Bronchien und Alveolen mit der Entwicklung einer herdartigen serologisch-desquamativen Lungenentzündung zeigt, die von folgenden diszirkulatorischen Störungen, wie eine ungleichmäßige Blutgefäßfülle und das Ödem der interalveolären Wände, begleitet wurde.

Bei späteren Versuchszeitpunkten, nach 30 und 60 Tagen, stellte man in den Lungen fortgeschrittene fibroplastische Prozesse mit der Entwicklung der peribronchialen und perivaskulären Sklerose, sowie die Pigmentierung der Lungen fest. Progressives Atemnotsyndrom wurde von der Entwicklung eines Emphysems des Lungengewebes, einer zystischen Erweiterung der kleinen Bronchien und Bronchiolen, sowie einer produktiven Entzündung des Lungenstromas begleitet.

G.G. Kapanova
R.T. Dschumascheva
K.K. Toguzbaeva
G.G. Bedelbaeva

**DIE KOMPETENZORIENTIERTE BILDUNG IN KASNMU
ALS EINE KOMPONENTE VON DER MODERNISIERUNG
DER MEDIZINISCHEN BILDUNG**

*Die kasachische nationale medizinische Universität Namens
S.D.Asfendijarov, Almaty, Kasachstan*

Heute ist die Qualität zum Hauptfaktor geworden, der die Prioritäten des Fortschritts in den hochentwickelten Ländern der Welt bestimmt. Die Aktualität der Probleme von Erhöhung der Bildungsqualität hat wichtigen Charakter, da gerade ihm eine führende Rolle für Versorgung von Reproduktion der notwendigen Qualifikation der Bevölkerung, dessen Bildungsniveau der erfolgreichen Entwicklung der Gesellschaft und der Wirtschaft garantiert, gehört. Also wird für die Erhöhung der sozialen und wirtschaftlichen Bildungseffektivität, für die Entwicklung der Personalressourcen des Gesellschaftes unvermeidlich ein kompetentes Herangehen gefordert sein.

Unter Berücksichtigung den Obengenannten würden die folgenden Fragen entstehen:

1. Mit welchen begrifflichen (inhaltsreichen) Problemen ist die Einführung des kompetenten Herangehens verbunden und auf welchen Weise kann eine Lösung gefunden sein;
2. Welche planmäßige Verwaltungsbedingungen sind für wirksame Realisierung des kompetenten Herangehens nötig.

Insgesamt zeigt sich das kompetente Modell der Fachkraft als sehr komplizierter viel-Ebenen Bildung.

Wir haben die Kompetenz in verschiedenen Bereichen, die zur Grundlage modernen Bildungsstandards geworden sind, analysiert und haben unseren Kompetenzbereichen erfunden, welchen ein Absolvent unserer Universität ergreifen soll. In diesem Zusammenhang haben wir wesentlich 5 Hauptkompetenzbereiche gewählt:

1. Das Wissen (die wissenschaftlichen Grundlagen der Medizin zu verstehen und seine Wissen in die Praxis umzusetzen zu können);
2. Er soll hochqualifiziert bei Erweisung einer ärztlichen Betreuung jedes Patienten zu sein (Erfahrungen sammeln): Die klinische Fertigkeiten, praktische Manipulationen, Patientenuntersuchungen, eine Führung der Patienten, Propaganda des Gesundheitsverhaltens und eine Erkrankungsprophylaxe, die Prinzipien der sozialen, gemeinsam medizinischen und klinischen Fertigkeiten, das Treffen von Entscheidungen u.a.;
3. Er soll über die hohen kommunikativen Fertigkeiten zu verfügen;
4. Er soll einen Anwalt der Gesundheit sein;
5. Es ist eine ständige Selbstvervollkommnung und Entwicklung (Eine Bildung durch das ganze Leben): Der Arzt soll seine Wissen im Laufe ganzes Lebens erhöhen,

um den modernen Forderungen von der wissenschaftlichen Grundlagen der Medizin zu entsprechen;

Um gegebenen Herangehens der Kompetenz entsprechend zu übernehmen, waren alle typische Programme revidieren und alle lern-methodische Komplexe der Disziplinen ergänzen. Es ist eine Kompetenz-Matrix für Kursen und Unterrichten geschaffen, wo jeder Kompetenzbereich sein Aneignungsniveau nach den Zielen und den Aufgaben des Faches bekommen hat. Bei Benotung der Errungenschaften einer Studenten sind aller 5 Kompetenzen berücksichtigen.

Insgesamt hat die Analyse der ausländischen Erfahrung in einer Reihe von Ländern (die USA, Kanada, die Niederlande, Australien, Finnland u.a.) nach der Einführung den kompetenten Herangehen in einer Gruppe mit den hochentwickelten Bildungssystemen eine Reihe von typischen Tendenzen gezeigt: Die Prioritätspräferenz der Bildungsqualität; das Streben zu maximal möglichen Operationalisieren und Konkretisierung von Kompetenzen; die Minimierung des Kompetenzverzeichnis; eine breite Nutzung der multidimensionalen pädagogischen Messungen unter den Bedingungen einer Kombination von Einschätzungen, die auf den quantitativen und qualitativen Niveaus der Messung bekommen sind.

V.A. Koschevnikov
E.V. Koschevnikov
T.V. Bauer

**· DIE MÖGLICHKEITEN NIEDRIGEN TEMPERATUREN
· BEI DER BEHANDLUNG CHIRURGISCHEN ERKRANKUNGEN
· IN KINDER- UND ERWACHSENEN PRAXIS**

· *AGMU, Barnaul, Russland*

In den letzten Jahren werden niedrige Temperaturen auf verschiedenen medizinischen Gebieten zum Heilziel immer breiter verwendet. Eine lokale Anwendung von niedrigen Temperaturen ist mit Ausnutzung von speziellen Apparaten und Kryogensystemen, die auf dem flüssigen Stickstoff arbeiten, verbunden. Dessen Temperatur des Kochens beträgt -196° . Bei Behandlung werden die portative Kryogenapparate verwendet: MAK – 1, KA – 02 in der eigenen Modifikation und komplizierte mit elektronischen Füllung AK – 1, AK – 2, Krioelektronika – 2 u.a.

In der Kinderchirurgie wird die Kryogen Behandlungsmethode bei einfachen, kavernen, gemischten Hämangiomen verwendet. Hautdecken- und Schleim – Hämangiomen, oft treffende qualitätsgerechte Gemäßbildungen geben 50 % unter den übrigen Tumoren von weichen Stoffen bei Kindern. Obwohl die gutartig sind, verfügen Hämangiome über schnell fortschreitende Größe. Wenn die sich vergrößern, zerstören sie die umgebenden Stoffe und bringen bedeutenden kosmetischen Schaden für den Kind, besonders auf Gesichtsfächen. Die Behandlung muss man mit 3 – wöchentliche Alter beginnen. Bei tief liegenden Hämangiomen kann die Kryogenmethode mit Sklerosierungsbehandlung

unten Einleitung in Tumortiefe von 70 ° des Spiritus kombiniert werden.

Die angeborenen Pigmentgeschwülste treffen sich bei Kindern viel seltener als Hämangiome. Die Pigmentbildungen sind von 0,2 cm bis zu 3 cm, seltener treffen sich umfangreichere Aufschlagsfläche. Die angeborenen Pigmentbildungen im Kindesalter werden mit gutartigem Bild bemerkt. Im Laufe der Geschlechtsreifung erscheint die Gefahr von bösartigen Nävi. Die Kryogenmethode bei Kindern wird bei Behandlung begrenzt-vegetieren Dermatosen breit verwendet: einfache flache Warzen, Genitalwarzen, plantare Hyperkeratose. Die Methode ist in Behandlung von Ohrenmuschel Fibromen, hypertrophisch Keloid Narben wirksam. Bei erwachsenen Patienten wurde Kryogenmethode bei Behandlung von Papillomen, des Hautthornes, Leukoplakie, des Haut Basalzellkarzinom I-II Stadiums verwendet.

Die Krebsdiagnostik wurde mit Hilfe von histologischen Untersuchungen bestätigt. Die Behandlung ist einmalig, verfügt über schönen kosmetischen Effekt, wird stationär durchgeführt. Es ist eine vergleichende Einschätzung der Behandlung mit Nahe-Focus-Röntgen Therapie durchgeführt. Die Methode ist rentabel und hat keine Gegenanzeigen. Mit Hilfe der Kryogenmethode kann man das Vulva Jucken beseitigen, die begrenzte Formen von Dermatosen heilen. Das besondere Interesse stellt Akne Ausschlag. Es zeigt sogar bei einer Kur von 15 Kryooanwendungen zwei Male pro Woche bei 11-12 Sitzung, dass jeder Patient eine positive Wirkung bemerkt. Aufgrund der wissenschaftlichen Entwicklungen sind zwei Labore, eine beim Kinderchirurgie Lehrgang, andere in eigener Variante aufgrund der Kooperation und der gebührenpflichtigen Bedienung der Bevölkerung gegründet. Es sind die planmäßige ökonomisch vorteilhafte Strukturen gefunden, wobei die Bedienung-Qualität wächst. In der Stadt Barnaul ist ein kriokosmetischen Zentrum "Garant" für Physik-chirurgische Methoden der Behandlung geschaffen. Es ist einer von wenigen Forschungs- und Produktionsinstitutionen in Russland, die auf gebührenpflichtige Grundlage lizenziert sind. In 24 Jahren sind in dieser Institution mehr als 55 Tausend Kinder und Erwachsenen mit verschiedenen Erkrankungen nicht nur aus Region Altai behandelt worden.

An der staatlichen medizinischen Altaiuniversität ist eine Problemkommission für die Kinderchirurgie geschaffen, eine Abteilung beschäftigt sich auf Thematik der wissenschaftlichen Forschungen über Kriologie.

In Zukunft werden einige wissenschaftliche Forschungen mit Ausnutzung der Kryogenmethode in Augenheilkunde, Dermatologie, Nierenlehre, Stomatologie, Geschwulstlehre, Kosmetologie, Combustologie, Traumatologie, Arthrologie, Chirurgie, Kinderchirurgie durchgeführt. Alles wurde auf dem 15. Weltweiten Kongress der Internationalen Gesellschaft von Kryochirurgie besprochen, der am 1-4. Oktober 2009 in Sankt Petersburg zum ersten Mal in Russland ging.

O.V. Timofeeva
V.A. Grojsman
E.P. Sakjev
L.P. Raslivinskich

DIE METHODE DER STOSSWELLENTHERAPIE ALS EINE WIRKSAME UND SICHERE METHODE IN DER BEHANDLUNG DER CHRONISCHEN HERZINSUFFIZIENZ ISCHÄMISCHER GENESE. (EINIGE ERGEBNISSE DER FORSCHUNG DER STATIONÄREN PATIENTEN)

Das städtische klinische Krankenhaus No.1 Togliatti, Russland

Die chronischen Herzinsuffizienz (CHI) wird heute zum schweigende Epidemie im ein und zwanzigsten Jahrhundert angenommen. Zurzeit wird es bewiesen angenommen, dass die Koronare Herzkrankheit ein Hauptgrund der Herzinsuffizienz ist. Es kann verschiedene Mechanismen der Entwicklung und des Fortschreitens CHI bei Koronare Herzkrankheit sein, aber ihre Besonderheit ist eine ständige Teilnahme an diesem Prozess der Koronarmangelhaftigkeit. Die häufige Episode von Ischämie Erscheinens und - Verschwindens verlängern die systolische Dysfunktion auf diesen Gebieten. Anderer Mechanismus von systolischer Dysfunktion bei Patientinnen mit CHI ist mit der Senkung der Myokardperfusion unten Bedingungen der ständig herabgesetzten Koronarblutung verbunden. Die bekommenen Daten zeigen, dass die Myokard-Hibernation unvermeidlich mit einer Nekrose enden wird, wenn die Koronarblutung nicht wachsen wird.

Entsprechend den Empfehlungen ASS/ANA nach der Diagnostik und der Behandlung CHI Patientinnen mit systolische Dysfunktion von linken Ventrikel und mit Hibernation Myokard ist eine chirurgische myokardiale Revaskularisation vorgeführt. Leider ist bei vielen solchen Patientinnen eine chirurgische Behandlung wegen hohen Risikos bei perioperativen Komplikationen unmöglich. Sehr aktuell ist eine Nutzung nichtinvasive Technik zur Behandlung, die sicher und wirksam genug Myokardperfusion verbessern. Eine von diesen Behandlungen ist die Methode der Stoßwellentherapie. Ein Hauptziel der Methode ist eine Neoangiogenese in den Myokard Problemzonen dank des Auswurfes der angiogenen Wachstumsfaktoren Reihe, einschließlich endothelialen Wachstumsfaktoren von Gefäßen, zu provozieren. Es wird mittels der Anwendung des niedrig-intensiven Ultraschall nach einem bestimmten Schema der Behandlung erreicht.

Die neue Methode war in Arbeit der kardiologischen Abteilung "des Städtischen klinischen Krankenhauses No.1", Togliatti, seit Dezember 2007 eingeführt. Das Personal des Krankenhauses ist für eine Arbeit mit dem Apparat von schweizerischen Kollegen ausgebildet, die bei dem Anfang die Methode der Stoßwellentherapie standen. In der Russischen Föderation sind wir einer der ersten, wer begonnen hat, die neue Methode in der klinischen Praxis zu verwenden.

In der kardiologischen Abteilung "des Städtischen klinischen Krankenhauses №1» war eine Forschung durchgeführt, wo 20 Patienten mit CHI ischämischer Genese und Auswurffraktion (EF) 30-40 % aufgenommen waren. CHI hat durchschnittlich 5 Jahre gedauert. Bei allen Patienten beim Forschungsanfang sowie nach 6 und 12 Monaten nach

Stoßwellentherapie würde eine komplexe klinische und instrumentelle Untersuchung durchgeführt. Eine Toleranz zur physischen Belastung wurde mit Hilfe 6 minutenlanger Gehens Prüfung bewertet.

Auf dem Hintergrund der Stoßwellentherapie haben wir eine bedeutsame Senkung der funktionalen Klasse CHI von $2,4\pm 0,6$ bis zu $1,8\pm 0,7$ zum 6ten Monat nach dem Behandlung Abschluss und ohne Verschlechterung zum 12ten Monat der Beobachtung bekommen. Eine Stoßwellentherapie Anwendung hat zur EF Senkung bei Stenokardie von $2,5\pm 0,7$ bis zu $2,1\pm 0,6$ zum 6ten Monat und bis zu $2,0\pm 0,7$ zum 12ten Monat nach Ende der Stoßwellentherapie Anwendung gebracht. Eine funktionale Verbesserung auf Stoßwellentherapie Hintergrund vereinigte sich mit einer deutlichen Vergrößerung von linken Ventrikel EF von $34,4\pm 5,0$ bis zu $36,3\pm 8,2$ und $38,6\pm 8,9$ zum 6ten und 12ten Beobachtungsmonaten entsprechend. Laut Angaben der Prüfung 6 minutenlanges Gehens war die standhafte Toleranz Vergrößerung zur physischen Belastung bemerkt. Man möchte darauf aufmerksam machen, dass die Stoßwellentherapie Anwendung sicher sowie ohne irgendwelche Nebenerscheinungen war.

Die bekommenen Ergebnisse zeigen hohen Effektivität und Sicherheit von der Stoßwellentherapie bei Patientinnen mit Herzinsuffizienz ischämischer Genese.

F.I. Vassilenko

**KOMPLIZIERTE FORMEN VON ZEREBRALEN HIRNSCHLÄGEN.
DIE BESONDERHEITEN DER KLINIK, DER DIAGNOSTIK
UND DES VERLAUFS**

*Staatliche Universität für Körperkultur des Uralgebiets,
Tscheljabinsk, Russland*

Die zahlreiche klinische Beobachtungen und Experiment-Ergebnisse zeigen, dass die klinischen Erscheinungsformen, Verlauf und Ergebnis eines Hirnschlags nicht nur von seinem Charakter, Schwierigkeit, Lokalisation des Prozesses, sondern auch von einer ganzen Reihe der Faktoren bedeutend abhängen ist: die Zustände des Kranken vor Gehirnkatastrophe, des Vorhandenseins von begleitenden Erkrankungen, sowie von anschließende Komplikationen. Es gibt allen Grund zu glauben, dass die Komplikationen meistens einer der Gründe für ungünstigen Krankheitsverlauf des Hirnschlags oder des Todesfalls sind.

Insbesondere kann darauf die Tatsache bezeichnen, dass der Parallelismus zwischen der Größe der Läsionen des Gehirns, seiner Lokalisation und Schwierigkeiten, dem Verlauf Charakter und Ergebnissen des Hirnschlags bei weitem nicht immer existiert. Außerdem bei der Autopsie sehen wir ziemlich große (mehr als 10 mm im Durchmesser) zystischer Hohlräume, die histologisch bestimmt die Hirnschlags Folge sind. In ihren Wänden befindet sich Hämosiderin, die eine Blutung beweisen. Dabei entspricht

die objektive Anamnese der Erkrankung den klinischen Erscheinungsformen nicht. Es werden die verlegten Hirnschläge oder die Schädelhirntraumata nicht bemerkt. Und neurochirurgischen Manipulationen auf einem Gehirn, manchmal auch mit der Entfernung seiner umfangreichen Fläche wegen verschiedener pathologischer Prozesse, zum entsprechenden Änderungen, neurologischen Manifestationen oft nicht führen. Es erklärt sich, ungeachtet auf Spezialbetriebs und Komplexität der Morphologie und der Funktionen des Nervensystems, in der Praxis von den großen kompensatorischen Möglichkeiten des Gehirns, der sogenannte « stille Zone » hat.

Zurzeit sind Kriterien, nach denen eine Dysfunktion und Entwicklungsstörungen der pathologischen Prozessen im Organismus zu unmittelbaren Erscheinungsformen des Hirnschlags ordnen soll, und welche zu seinen Komplikationen gehören, noch nicht entwickelt sind. In der modernen Neurologie ist zu dieser Frage in Mehrheit von Literatur-Quellen keine Aufmerksamkeit zugeteilt.

Offenbar ist es nötig zu Hirnschlags Komplikationen die pathologischen Prozesse, die mit einem Hirnschlag entsprechend der Nevrizm Theorie patogenisch verbunden sind, jedoch nicht seine obligatorische Erscheinungsform bei vorliegenden Form und Lokalisation der des Gehirnschadens, zu ordnen. Es ist klar, dass Entwicklung von Komplikationen beim Hirnschlag der Erkrankung wesentlich schwerer macht und seine klinischen Erscheinungsformen, Verlauf und Prognose zu verschlimmern kann, sowie die zusätzliche spezifische Maßnahme auf verschiedenen Behandlungs- und Rehabilitierungsebenen des Patienten fordert. Der Gehirnhrnschlag mit seiner Komplikation folgt als qualitativ andere Form der Erkrankung, so genannten kompliziert Schlaganfall zu betrachten.

So werden die komplizierten Formen des Schlaganfalls mit Besonderheiten der Pathogenese von pathologischen Prozesse im Organismus, der klinischen Erscheinungsformen, Hämodynamik, Homöostase, vegetativ-somatischen Prozessen, Verlauf, Ergebnis, engen Zusammenhang des Hauptgemäßprozesses im Nervensystem mit der sich entwickelnden Komplikation auf verschiedenen Erkrankung Ebenen charakterisiert. Deshalb darf man nicht diese pathologischen Prozesse wie begleitende behandeln.

Zum Beispiel wird bei Hirnschlag, der solche Komplikationen wie Lungenentzündung oder Myokardinfarkt hat, solche Positionen wie Ätiopathogenese, Diagnostik, Klinik, Verlauf, als auch des begrifflichen Herangehens der Entwicklung und der Realisierung der Methoden der Prophylaxe, Behandlung, rehabilitations- und sozialen Maßnahme auf verschiedenen Ebenen der Krankheit betrachten.

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

International Forum “Euro-ECO - Hanover 2011”:
Environmental and Engineering Aspects for Sustainable Living

21 - 22 November 2011
ANDOR Hotel Plaza, Hanover, Germany

Objective: consolidation of efforts of state and non-governmental organizations of European countries in order to preserve natural resources, to share the international experience and to set up a module of joint work in the sphere of environmental policy under the conditions of the modern industrial society.

Closely connected economic and legal aspects will be also discussed. Special attention is to be paid to developing environmental mentality in students alongside with drawing educational environmental programs for the countries of Eastern Europe.

Scientists, experts and specialists in environment, ecology and economics, law and public health, as well as representatives of politics and business are cordially welcome to attend.

Deadlines:

Deadline for submission of abstracts: October 10, 2011

On-line Submission: info@eu-eco.eu

Application Deadline (specifying a form of participation: abstract, oral presentation, poster, no presentation etc): October 10, 2011.

The best accomplishments in the field of ecology and their authors are to be rewarded with diplomas and medals of the European Academy of Natural Sciences.

Venue: ANDOR Hotel Plaza located in Hanover downtown, 100 m from the Railway Station.

Languages: German, English, Russian: simultaneous translation

During the Forum a number of professional excursions and a tour of Hanover as well and social events and will be offered.

With questions or enquiries please contact:

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