

Міністерство охорони здоров'я України
Вищий державний навчальний заклад України
«Українська медична стоматологічна академія»
АКТУАЛЬНІ ПРОБЛЕМИ СУЧАСНОЇ МЕДИЦИНИ
ВІСНИК Української медичної стоматологічної академії
Том 17, вип.2 (58), 2017

Contents

INFLUENCE OF DIFFERENT CARBON-BASED SORBENTS ON FUNCTIONING OF NITRIC OXIDE CYCLE IN RATS GASTRIC MUCOSA UNDER COMBINED NITRATE-FLUORIDE INTOXICATION.....	7
Akimov O.Ye., Kostenko V.O.....	7
TYPICAL PATTERNS OF STRUCTURAL ABNORMALITIES IN ERYTHROCYTE MEMBRANE UNDER PHYSICAL EXERTION OF VARIOUS INTENSITY IN DEVELOPMENT OF GENERAL BODY ENDURANCE.....	8
Baskevich O.V., Popel' S.L., Gaz Yu.R., Sobetov B.G.....	8
BUILD-UP OF BIOFILMS BY MICROORGANISMS IN EAR PIERCING	9
Bondarenko O.V., Mishina M.M., Yaschenko M.I., Demin E.V.	9
PECULIARITIES IN MENSTRUAL CYCLE AND REPRODUCTIVE PERFORMANCE IN TAEKWONDO FEMALE ATHLETES.....	11
Bugaevskij K.A., Mihalchenko M.V.....	11
MORPHOLOGICAL CHANGES IN LIVER AND GALL-BLADDER OF RABBITS INFECTED WITH HELICOBACTER PYLORI	13
Hruzynskiy O.V.....	13
SHORT-LATENT AUDITORY EVOKED POTENTIALS IN DIAGNOSIS OF EXPERIMENTAL HYPOACUSIS	15
Deeva Yu.V., Vasiliev A.V., Nebore I.Ya.....	15
COMPARATIVE CHARACTERISTICS OF SYSTEMIC NEUROGLIAL STRUCTURE IN MAMMALIAN BRAIN	16
Makarenko O. M., Kovtun A. M., Petrov F. I.....	16
INFLUENCE OF POLYPHENOL COMPOUNDS ON METABOLISM OF SULFUR-CONTAINING AMINO ACIDS AND HYDROGEN SULFIDE IN LIVER OF MALE AND FEMALE RATS UNDER HYPERHOMOCYSTEINEMIA.....	18
Melnik A.V., Zaichko N.V.	18
HISTOMORPHOLOGICAL ASSESSMENT OF STRUCTURAL BONE COMPONENTS IN RATS WITH SKELETAL TRAUMA UNDER CORRECTION WITH NANOPARTICLES	19
Panasiuk Ya. V.....	19
TOCOLYTIC ACTIVITY OF 8-SUBSTITUTED 7- β -HYDROXY-2-(2-METHYLPHENYLOXY) PROPYLXANTHINES.	21
Samura I.B., Grigorieva L.V., Romanenko N.I.	21

EFFICIENCY OF CARBACETAM USE FOR RESTORATION OF COGNITIVE DISTURBANCES IN EXPERIMENTAL BRAIN INJURY	22
Starodubskaya O. O.	22
INTERACTION BETWEEN AUTO STRAINS OF AERO COCCI AND OPPORTUNISTIC MICROORGANISMS IN VITRO	24
Stepansky D. A., Kremenchutsky G. N., Koshevaya I. P.	24
ANTISTREPTOCOCCUS ACTIVITY OF ANTIBIOTICS AND ANTISEPTICS.....	26
Faustova M.O., Nazarchuk O.A., Ananieva M.M.1	26
CLINICAL AND MORPHOLOGICAL PROGNOSTIC CRITERIA OF WELL-DIFFERENTIATED SQUAMOUS CELL LUNG CARCINOMA OF CENTRAL LOCATION	27
Fileiko B.N., Royko N.V., Proskurnya S.A.....	27
КЛІНІЧНА ТА ПРОФІЛАКТИЧНА МЕДИЦИНА	28
THERAPEUTIC EFFECT OF IMPROVED CHEMORADIOTHERAPY IN PATIENTS WITH LOCALLY SPREAD SQUAMOUS CELL CARCINOMA OF PHARYNX AND PHARYNGOLARYNX.....	28
Zhukova T.O., Vasko L.N., Nestulya K.I.....	28
PECULIARITIES OF UTEROPLACENTAL HEMODYNAMICS AND FETOPLACENTAL ARTERIAL BLOOD FLOW IN WOMEN WITH MULTIFETAL PREGNANCY.....	33
Babinchuk O.V.	33
LAPAROSCOPIC CORRECTION OF UNCOMPLICATED INGUINAL HERNIA IN CHILDREN	35
Baybakov V. M.	35
INFLUENCE OF COMPUTER LOAD ON TEAR QUALITATIVE COMPOSITION	37
Bezkorovayna I.N., Ryadnova V.V., Voskresenska L.K., Nakonechnyi D.O.	37
PECULIARITIES OF PREDICTING POSSIBLE COMPLICATIONS OF POST-TERM PREGNANCY AND POST-DATED DELIVERY	38
Bohuslavskaya N. Yu.	38
REVIEW OF CHEMOTHERAPY MODES IN TREATING GASTRIC CANCER	39
Bondar V.G., Gasmi Mohamed Mehdi	39
MODEL OF PREDICTING DILATATION OF LEFT HEART CHAMBERS FOLLOWING OLD MYOCARDIAL INFARCTION WITHIN 6 MONTH OBSERVATION UNDER CONCOMITANT OBESITY	41
Borzova-Kosse S. I., Kravchun P. G., Ryndina N. G.	41
PATHOGENETIC THERAPY OF ACNE AND PATHOMORPHOLOGICAL CHANGES IN SKIN DURING SANOGENESIS	42
Hubina-Vakulik H.I., Bronova I.M.....	42
INFLUENCE OF ISOENZYME OF P450 2D6*4 CYTOCHROME SYSTEM GENE POLYMORPHISM ON METOPROLOL SUCCINATE EFFICACY IN TREATMENT OF PATIENTS WITH CHRONIC HEART FAILURE CONCOMITANT OBESITY	45

Gasanov Yu. Ch.	45
PREDICTORS OF PSYCHOSOCIAL MALADJUSTMENT IN WOMEN WITH SOMATOFORM AUTONOMIC DYSFUNCTION OF CARDIOVASCULAR SYSTEM.....	47
Herasymenko L.O., Isakov R.I., Gryn K.V.	47
EFFECTS OF COMBINED INHALATION THERAPY ON COURSE OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND COMORBID ANXIETY DISORDERS	48
Gopko O. F., Prikhodko N. P. Kryvoruchko I.H.....	48
PATHOGENETIC MECHANISMS OF DISORDERS OF PULMONARY ARTERY STIFFNESS UNDER COMORBID CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ESSENTIAL HYPERTENSION	50
Dotsenko S.Ya., Yatsenko O.V.....	50
ASSESSMENT OF DYNAMICS OF CLINICAL AND LABORATORY PARAMETERS THROUGH THE TREATMENT OF PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND COMORBID OSTEOARTHRITIS...	51
Zhdan V. N., Khaymenova G. S., Ivanitsky I. V., Volchenko G. V., Tkachenko M. V.	51
RETROSPECTIVE STUDY OF PECULIARITIES OF BONE DAMAGES IN MIDDLE FACIAL AREA OF INPATIENTS AND APPROACHES TO THEIR TREATMENT.....	52
Nazarevych M. R.	52
IMPROVEMENTS IN MANAGEMENT OF COMORBID CORONARY HEART DISEASE AND HYPERTENSION IN ELDERLY PATIENTS.....	54
Potiazhenko M.M., Ishcheikin K.Ye., Nastroha T.V., Lulka N.O., Kitura O.Ye.	54
PREVALENCE OF IMPAIRMENT OF INNER EAR FUNCTIONS WHILE PERCEIVING SOUNDS OF HIGH FREQUENCIES RANGE IN PATIENTS WITH AUTOIMMUNE THYROIDITIS IN STAGE OF EUTHYREOSIS DEPENDING ON SEX.....	55
Naumenko A.N., Deeva Yu.V., Tarasenko N.V., Kobylak N.N.....	55
EFFECT OF ESTROGENS UPON CLINICAL PICTURE OF MICROVASCULAR ANGINA PECTORIS IN WOMEN...	56
Ovcharenko L.K., Tsyganenko I.V.....	56
ASSESSMENT OF SPONDYLOGENIC PECULIARITIES IN YOUNG PATIENTS WITH CIRCULATORY VERTEBROBASILAR INSUFFICIENCY	58
Nekrasova N.	58
PSYCHOLOGICAL PECULIARITIES OF WOMEN WITH UTERINE LEIOMYOMA	59
Pavlovskaya M. A.	59
COGNITIVE AND BEHAVIOURAL CORRECTION OF CARDIOVASCULAR RISK: ESTIMATION OF ITS EFFICIENCY FOR PATIENTS WITH REACTIONS OF MENTAL DEADAPTATION AND SOMATOGENIC ASTHENIUM SYMPTOM COMPLEX	61
Panchenko N.S.....	61
IMPAIRMENTS IN LIPID PEROXIDATION - ANTIOXIDANT DEFENCE SYSTEM IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND PNEUMOCONIOSIS OF OCCUPATIONAL GENESIS	62

Pylypenko N. O.	62
TACTICS OF OPEN ABDOMEN PROCEDURE IN INTEGRATED TREATMENT OF PERITONITIS	63
Podlesniy V.I., Lavrenko D.A., Lysenko R.B.....	63
BIOCHEMICAL MARKERS OF PARAVERTEBRAL MUSCLES IN PATIENTS WITH HERNIAS AND LUMBAR SPINE STENOSIS	65
Radchenko V. O., Skidanov A. G., Morozenko D. V., Perfiliev O. V., Piontkovsky V. K.....	65
FEATURES OF THERAPEUTIC RESPONSE IN PATIENTS WITH PARANOID SCHIZOPHRENIA UNDER CANNABINOID CONSUMPTION	67
Skrypnykov A.M., Kydon' P.V.	67
IMPACT OF CHANGES IN CYTOKINE PROFILE OF INTRAOCULAR FLUID ON RETINA AFTER CATARACT PHACOEMULSIFICATION	68
Steblovska I. S.	68
REHABILITATION OF CHILDREN WITH INFANTILE CEREBRAL PALSY BY CHANGING IN MOTORIAL STEREOTYPE.....	69
Strashko Ye. Yu.	69
SORTILIN IN DEVELOPMNT OF VARIOUS TYPES OF DISLIPIDEMIA IN PATIENTS WITH CORONARY HEART DISEASE AND DIABETES MELLITUS 2 TYPE	70
Sypalo A.O.,Kravchun P.G., Kadykova O.I.....	70
PHARMACOGENETIC TESTING IN OVERCOMING EPILEPSY PHARMACORESISTANCE	72
Tantsura L.M., Koliada O. K., Pylypets O.Yu., Tretyakov D.V., Tantsura Ye.O.	72
MULTIMORBIDITY AS INTEGRAL RISK FACTOR FOR PROGRESSING OF ARTERIAL HYPERTENSION IN PATIENTS WITH STABLE ANGINA AND COMBINED OSTEOARTHRISIS AND OBESITY.....	73
Teslenko Yu.V.	73
CLINICAL AND MORPHOLOGICAL CHARACTERISTICS OF PAPILLARY THYROID MICRO CARCINOMA ASSOCIATED WITH NODULAR AND PROLIFERATIVE LESIONS OF THYROID	75
Tkachenko R. P., Golovko A. S., Kuryk O. G., Gubar O. S.	75
LIVER FIBROSIS DEVELOPMENT IN PATIENTS WITH NON-ALCOHOLIC STEATOSIS AND STEATOHEPATITIS AGAINST THE BACKGROUND OF COMORBID OBESITY AND PATHOLOGY OF BILIARY TRACT	77
Filippova A.Yu.	77
CHARACTERISTICS OF CHANGE OF PRO- AND ANTI-INFLAMMATORY CYTOKINES INDICATORS OF CHILDREN WITH DIFFERENT LEVELS OF PHYSICAL DEVELOPMENT AFFECTED BY COMMUNITY-ACQUIRED PNEUMONIA DURING TREATMENT	79
Frolova T.V., Okhapkina O.V., Borodina O.S.....	79
APPLIED SOCIOMEDICAL ASPECTS OF HEALTH-PRESERVING MANAGEMENT AND REGIONAL HEALTH PROGRAMS IN THE STRUCTURAL AND FUNCTIONAL MODEL OF MEDICAL CARE FOR PATIENTS WITH BRONCHOPULMONARY DYSPLASIA.....	80

Shipko A.F.....	80
X-RAY-ANATOMICAL FEATURES MEDIAL WALL AND ALVEOLAR RECESS OF MAXILLARY SINUS IN PATIENTS UNDERGOING SUBANTRAL BONE AUGMENTATION	82
Shkorbotun Y.	82
BASIC BIOCHEMICAL PARAMETERS OF CARBOHYDRATE METABOLISM IN CHILDREN WITH ATOPIC PATHOLOGY.....	84
Shmulich O.V.	84
СТОМАТОЛОГІЯ	85
HARD DENTAL TISSUES IN CHILDREN OF LUTSK CITY	85
Bezvushko Ye.V., Lahoda L.S.....	85
MORPHOLOGICAL AND ROENTGENOGRAPHIC CHARACTERISTICS OF NEUROGENIC SIALOADENITIS BY SIALOGRAPHY FINDINGS	86
Veretilnik A. V. , Rubalov O. V., Veretilnik V. A.....	86
SPECIFIC FEATURES OF CLINICAL MANIFESTATIONS OF SIALADENITIS IN PATIENTS WITH DIABETES MELLITUS TYPE II	88
Korolenko I.A., Rybalov O.V.....	88
RESULTS OF EVALUATION OF PATIENTS' LIFE QUALITY IN COURSE OF ORTHOPAEDIC CORRECTION OF TMJ MENISCUS DISLOCATION	90
Lunkova Yu.S., Bereziy N. V., Novikov V. M.....	90
ASYMMETRY IN SIZE AND SHAPE OF ARTICULAR HEADS A CAUSE OF COMPRESSION AND DISLOCATION DYSFUNCTION OF TEMPOROMANDIBULAR JOINT	91
Novikov V.M., Rybalov O.V., Yatsenko P.I., Yatsenko O.I.....	91
LEVEL OF SECRETORY IgA IN ORAL FLUID AFTER DENTAL IMPLANT PLACEMENT WITH APPLYING MAGNETOTHERAPY	93
Olekshy P.V., Lapovets L.E., Ushtan S.V., Goritsky V.M.	93
ASSESSMENT OF MICROBIOCENOSIS IN PERIODONTAL POCKETS OF PATIENTS WITH GENERALIZED PERIODONTITIS AND CONCOMITANT HELMINTHIASIS AFTER COMPLEX THERAPY	94
Savel'eva N.	94
CORRELATION BETWEEN BITE ANOMALIES AND PHYSICAL DEVELOPMENT OF CHILDREN	97
Smolyar N.I., Miskiv A.L., Gutor T.G.	97
IMPACT OF TRAUMATIC INJURIES OF MAXILLOFACIAL REGION IN CHILDREN ON QUALITATIVE PROPERTIES OF ORAL FLUID.....	98
Tkachenko P., Belokon S. A., Lokhmatova N. M. Popelo Yu.V.....	98
MANIFESTATIONS OF STRESS REACTIONS IN CHILDREN WITH TRAUMATIC INJURIES OF MAXILLOFACIAL AREA.....	100
Tkachenko P. I., Dobroskok V. A., Belokon S. A., Gogol, A. M., Popelo Yu. M.....	100

STRUCTURAL AND FUNCTIONAL ACID RESISTANCE AND ROLE OF ITS COMPONENTS IN PROMOTING DENTAL ENAMEL CARIES RESISTANCE	102
Udod O.A., Voronina G.S.	102
ГУМАНІТАРНІ ПРОБЛЕМИ МЕДИЦИНИ ТА ПИТАННЯ ВИКЛАДАННЯ У ВИЩІЙ МЕДИЧНІЙ ШКОЛІ.....	103
DEVELOPMENT OF MORAL MAKE-UP OF DOCTORS DURING THEIR PROFESSIONAL TRAINING	103
Aslamova M. V.	103
INDEPENDENT WORK OF STUDENTS AS IMPORTANT STAGE OF SELF-IMPORTANT IN LEARNING CHEMISTRY AT HIGH SCHOOL	104
Bekus I. R., Kyryliv M.V., Demyd A.Ye., Krynytska I.Ya., Bojko L.A.....	104
DEVELOPMENT OF PHILOSOPHICAL AND LEGAL KNOWLEDGE OF FUTURE DOCTORS BY USING INFORMATION TECHNOLOGIES.....	105
Bilanov A.S., Zinchenko N.O.	105
PSYCHOHYGIENIC MEASURES TO IMPROVE STUDENTS' ENVIRONMENT.....	106
Golovkova T.A., Onul N.M.	106
MODERN BIOETHICAL ASPECTS AND INTERNATIONAL LAW	107
Lurie K.I.....	107
DISTANCE LEARNING IN POST-GRADUATE EDUCATION OF MEDICAL INTERNS.....	109
Minjko L.Yu.	109
THE REHABILITATION OF THE ATO PARTICIPANTS IN THE PRACTICE OF THE GENERAL PRACTITIONER ...	110
Naumenko L., Borisova I., BerezovskyV.	110
PECULIARITIES OF ETHICAL COMMUNICATION AND DEONTOLOGICAL BEHAVIOUR WITH HANDICAPPED INDIVIDUALS IN PRACTICE OF SOCIOMEDICAL EXPERTS	112
Naumenko L., Borisova I., Berezovsky V., Concur V., Krutikova N., Guzenco B.....	112
КЛІНІЧНИЙ ВИПАДОК.....	113
CASE OF CYSTIC FIBROSIS IN PRACTICE OF PATHOLOGIST.....	113
Sakal A.A., Tovazhnyanska V.D., Titov Ye.V., Dolga O.V.....	113
ОГЛЯДИ ЛІТЕРАТУРИ.....	114
CLINICAL APPLICATION OF IRON OXIDE NANOPARTICLES	114
Vazhnicha Ye.M., Devyatkina T.A., Devyatkina N.N.....	114
MODERN PRINCIPLES OF NON-MEDICAL PROPHYLAXIS OF ACUTE DISORDERS OF CEREBRAL CIRCULATION	117
Delva M.Yu.	117
TUMOUR NECROSIS FACTOR ALPHA AS PROINFLAMMATORY CYTOKINE AND ITS IMPORTANCE IN DEVELOPMENT OF TYPE 2 DIABETES	119
Dombrovska N.S.	119

HORMONAL REGULATION OF LACTATION AND HYPOGALACTIA (ANALYTICAL REVIEW).....	124
Kuznietsov V.G., Makarenko O.M.	124
NANOTECHNOLOGIES IN MEDICAL DIAGNOSIS	125
Mykytiuk O.Yu., Mykytiuk O.P.	125

INFLUENCE OF DIFFERENT CARBON-BASED SORBENTS ON FUNCTIONING OF NITRIC OXIDE CYCLE IN RATS GASTRIC MUCOSA UNDER COMBINED NITRATE-FLUORIDE INTOXICATION

Akimov O.Ye., Kostenko V.O.

Key words: sodium nitrate, sodium fluoride, NO-synthase, nitrate reductase, nitrite reductase.

The article deals with the influence of the suspensions of the sorbent "Carboline" and hydrolytic lignin on the functioning of the cycle of nitric oxide in gastric mucosa of rats under combined nitrate-fluoride intoxication. Experiments were conducted on 53 adult rats of Wistar line. To simulate nitrate-fluoride intoxication solutions of sodium nitrate and sodium fluoride were intragastrically administered in dose 500 mg / kg and 10 mg / kg respectively. To evaluate the functional state of the nitric oxide cycle the overall activity of NO-synthases, arginases, nitrate-nitrite reductases, nitrite content and peroxy nitrite were measured. It was found out that suspension of sorbent "Carboline" is more effective for correction of changes in the operation of nitric oxide cycle in rat gastric mucosa caused by fluoride component of nitrate-fluoride intoxication. Hydrolytic lignin suspension is more effective for the correction of changes in the of nitric oxide cycle in rat gastric mucosa caused by nitrate component nitrate-fluoride intoxication. Suspension of sorbent "Carboline" is more effective for preventing the accumulation of nitrite ions in the body under nitrate-fluoride intoxication.

References

1. Nazarenko E.A. Problemy zabrudnennya ftorydamy hruntiv i vod heokhimichnoyi provintsiyi (na prykladi Poltav's'koyi oblasti) / E.A. Nazarenko, YU.B. Nikozyat', O.D. Ivashchenko // Ekolohichna bezpeka. – 2014. – №1. – S. 59 – 63.
2. Stasyuk O.A. Vplyv skevendzheriv peroksynitrytu na oksylyval'ni protsesy u tkanyakh slynnnykh zaloz bilykh shchuriv za umov spil'noho nadlyshkovoho nadkhodzhennya nitratu ta ftorydu natriyu / O.A. Stasyuk, V.O. Kostenko // Aktual'ni problemy suchasnoyi medytsyny: Visn. Ukrayins'koyi med. stomatol. akademiyi. - 2012. – T.16, - №5-6. - C.30-33.
3. Shraybman H.N. Spektrofotometrycheskye metodyky opredelenyya peroksynitryta y nytryta / H.N. Shraybman, E.P. Dyahyleva, A.V. Skybyna // Vestnyk KemHU. – 2011. - №45. – C.200-206.
4. Akimov O. Ye. Functioning of nitric oxide cycle in gastric mucosa of rats under excessive combined intake of sodium nitrate and fluoride / O.Ye. Akimov, V.O. Kostenko // Ukr. Biochem. J. – 2016. -Vol. 88, - № 6, - P. 70-75.

5. Fina B.L. Fluoride increases superoxide production and impairs the respiratory chain in ROS 17/2.8 osteoblastic cells / B.L. Fina, M. Lombarte, J.P. Rigalli [et al.] // PLOS ONE. – 2014. – Vol. 9. – № 6. – P 1-6.

6. Lundberg J.O. The nitrate-nitrite-nitric oxide pathway in physiology and therapeutics. / J.O. Lundberg, E. Weitzberg, M.T. Gladwin // Nat. Rev. Drug Discovery. – 2008. – № 7. – R.156–167.

TYPICAL PATTERNS OF STRUCTURAL ABNORMALITIES IN ERYTHROCYTE MEMBRANE UNDER PHYSICAL EXERTION OF VARIOUS INTENSITY IN DEVELOPMENT OF GENERAL BODY ENDURANCE

Baskevich O.V., Popel' S.L., Gaz Yu.R., Sobetov B.G.

Key words: erythrocyte, membrane, physical exercise, endurance.

The article deals with the general regularities and characteristics towards the alteration in the structure and functions of the erythrocyte membrane during physical exertion of varying intensity. Based on the relevant literature and our own research data we can conclude there are typical patterns of structural abnormalities in erythrocyte membranes during physical exertion of varying intensity that develops in the course of overall endurance training. It is assumed that the universality in the response of the circulating erythrocyte pool to a variety of physical activities is considered as evolutionarily determined reaction and as adaptation remodelling of micro relief and microelement composition of peripheral blood cells.

References

1. Belousova O.D. Struktura tsitoplazmaticheskikh membran i khimicheskiy sostav eritrotsitov v ranniy period ranevykh povrezhdeniy po dannym skaniruyushchey zondovoy mikroskopii / O.D. Belousova, [i dr.] // Voen.-med. zhurn. – 2013. – T. 334, № 1. – S. 19–24.

2. Kononenko V.L. Flikker eritrotsitov 1. Teoreticheskiye modeli i metody registratsii / V.L. Kononenko // Biologicheskiye membrany. – 2009. – № 5 (26). – S. 352–369.

3. Krol' A.A. Bystrye lokal'nyye kolebaniya poverkhnosti eritrotsita cheloveka / A.A. Krol' [i dr.] // Tsitologiya. – 1989. – № 5. – T. 31. – S. 563–567.

4. Laytkhill Dzh. Volny v zhidkostyakh / Dzh. Laytkhill: per. s angl. - M. : Nauka, 1981. – 345 s.

5. Kravets Ye.B. Membrany eritrotsitov pri metabolicheskom sindrome / Ye.B. Kravets, Ye.A. Stepovaya, T.YU. Koshchevets [i dr.] // Problemy endokrinologii. – 2009. – № 5. – S. 23–26.

6. Mironov V.L. Osnovy skaniruyushchey zondovoy mikroskopii / V.L. Mironov. – M. : Tekhno-Tera 2004. – 144 s.

7. Nazarenko G. I. Klinicheskaya otsenka rezul'tatov laboratornykh issledovaniy / G. I. Nazarenko. – 2005. – 520 s.

8. Ebner A. Normal and pathological erythrocytes studied by atomic force microscopy / A. Ebner, H. Schillers, P. Hinterdorfer // Methods mol. biol. – 2011. – № 736. – P. 223-241.

9. González-Alonso J. ATP as a mediator of erythrocyte-dependent regulation of skeletal muscle blood flow and oxygen delivery in humans / J. González-Alonso // *J Physiol*. – 2012. – Vol. 590, № 20. – R. 5001–5013.
10. Krueger M. Deformability and stability of erythrocytes in high-frequency electric fields down to subzero temperatures / M. Krueger, F. Thom // *Biophysical J*. – 1997. – Vol. 73, № 5. – P. 2653-2666.
11. Peterson M.A. Theoretical and phase contrast microscopic eigenmode analysis of erythrocyte flicker amplitudes / M.A. Peterson, H. Strey, E. Sackmann // *Journalde physique II France*. – 1992. – Vol. 2, № 5. – P. 1273.
12. Smith J. A. Exercise, training and red blood cell turnover / J. A. Smith // *Sports Med*. – 1995. – Vol. 19. – P. 9–31.
13. Susan L.R. Apoptosis, Pyroptosis and Necrosis: Mechanistic description of dead and living eukaryotic cells / L.R. Susan, B.T. Cookson // *Infect, and Immunity*. – 2005. – Vol. 73, № 4. – R. 1907–1916.
14. Müller R.K. History of Doping and Doping Control / R.K. Müller. – *Experimental Pharmacology: NewYork*, 2009. – 423 p.
15. Szygula Z. Erythrocytic system under the influence of physical exercise and training / Z. Szygula // *Sports Med*. – 1990. – Vol. 10. – P. 181–197.

BUILD-UP OF BIOFILMS BY MICROORGANISMS IN EAR PIERCING

Bondarenko O.V., Mishina M.M., Yaschenko M.I., Demin E.V.

Key words: bacteria, suppurative inflammation, biofilm, piercing, steel products, titanium, silver and gold.

This article describes the ability of different types of microorganisms to build up biofilms using ear piercing posts and ear rings made of different types of metals during the 60 days of the observation. It has been established that the use of products for ear piercing made of silver and gold reduces the risk of inflammatory processes and decreases optical density of biofilms within 60 days of the observation as one of the factors of pathogenicity and resistance to antimicrobial agents.

References

4602/5000

1. Oleskyn A.V. Kolonyal'naya orhanyzatsyya y mezhklyetchnaya kommunykatsyya u mykroorhanyzmov / A.V. Oleskyn, Y.V. Botvynko, E.A. Tsavkelova // *Sorosovskyy obrazovatel'nyy zhurnal*. – 2003. – T.2, № 7. – S.24-32.
2. Protasova M.O. Doslidzhennyya struktury bioplivok, sformovanykh bakteriyamy tsykladu sirky na metalevykh matrytsyakh / M.O. Protasova, V.H. Lazaryev, I.P. Kozlova // *Mikrobiolohichnyy zhurnal*. – 2006. – T.68, № 5. – S. 80 – 86.

3. Purish L.M. Dynamika suktsesiynykh zmin u sul'fidohenniy mikrobniy asotsiatsiyi za umov formuvannya bioplivky na poverkhni stali / L.M. Purish, L.H. Asaulenko // Mikrobiol. zhurnal. – 2007. – T.69, №6. – S.19 – 25.
4. Shub H.M. Materyaly k élektyvnomu kursu «Mykrobnye soobshchestva» /H.M. Shub, Y.H. Shvydenko, E.A. Pronyna, N.V. Beloborodova // Saratovskyy nauchno-medytsynskyy zhurnal. – Tom 6.– 2010.– № 2.– S. 245–247.
5. Bekhalo V.A. Ymmunobyolohycheskye osobennosty bakteryal'nykh kletok, vkhodyashchykh v sostav «medytsynskyykh byoplenok» / V.A. Bekhalo, V.M. Bondarenko, E.V. Sysolyatyna, E.V. Nahurskaya // Mykrobyolohyya. – 2010. – № 4. – S. 97–107.
6. Vorobyey YE. S. Bakterial'ni bioplivky. Quorum sensing – «vidchuttya kvorumu» u bakteriy v bioplivkakh / YE. S. Vorobyey, O. S. Voronkova, A. I. Vinnikov // Visnyk Dnipropetrovs'koho universytetu. Biolohiya. Ekolohiya. – 2012. – Vyp. 20, t. 1. – S. 23–27.
7. Moshkevych I.R. Mykrobnye byoplenky pry smeshannykh ynfektsyyakh: avtoref. dys. na zdobuttya nauk. stupenya kand. med. nauk: spets. 03.00.07 «Mikrobiolohiya» / I.R. Moshkevych – Sankt-Peterburh, 2007. – 27s.
8. Fadeev S.B. Formyrovanye byoplenok vzbudytelyamy ranevoy ynfektsyy y flehmon myahkykh tkaney. / S.B. Fadeev, N.V. Nemtseva, N.B. Perunova, O.V. Bukharyn // Khyrurh. – 2010. - №1. - S. 11-18.
9. Chebotar I.V. Bacterial resistance to antibiotics in biofilms / I.V. Chebotar, A.N. Mayansky, E.D. Konchakova [et al.] // Clinical Microbiology and Antimicrobial Chemotherapy. – 2012. – 14 (1). – P. 51-58.
10. Dobrokhot'skyy O.N. Épydemyolohycheskoe znachenye byoplénok v tekhnicheskyykh systemakh / O.N. Dobrokhot'skyy, YU.N. Khomyakov, T.Y. Khomyakova // Zhyzn' bez opasnostey. Zdorov'e. Profylaktyka. Dolholetye. – 2008. – № 4. – S. 78–80.
11. Khmel' Y. A. Quorum Sensing rehulyatsyya ékspresyy henov – perspektyvnaya myshen' dlya sozdannya lekarstv protyv patohennosty bakteryy / Y. A. Khmel', A. Z. Metlytskaya // Molekulyarnaya byolohyya. – 2006. – T. 40. – S. 195–210.
12. Khrenov P.A. Obzor metodov bor'by s mykrobnymy byoplénkamy pry vospalytel'nykh zabolevanyyakh / P.A. Khrenov, T.V. Chestnova // [Elektronnyy resurs]: Vestnyk novykh medytsynskyykh tekhnolohyy. – Rezhym dostupu: <http://medtsu.tula.ru> – 2013. – №1.
13. Myroshnychenko Y.Y. Assotsyatsyya mykroorhanyzmov, uchastvuyushchykh v formyrovanny byoplénky obrastannya na polymernykh materyalakh / Y.Y. Myroshnychenko, YA.V. Zachynyaev, A.V. Zachynyaeva // Ymmunopatolohyya, allerholohyya, ynfektolohyya. – 2009. – №1. - S. 27.
14. Mohylivs'ka N.M. Osoblyvosti formuvannya bakterial'nykh bioplivok na poverkhni kholesteatom pry khronichnykh hniynykh serednikh otytakh / N.M. Mohylivs'ka, V.H. Voytsekhovs'kyy, YU.O. Sushko [ta in.] // Annals of Mechnikov Institute. – 2011. - №4. – S.284-288.

15. Raffa R.B. Bacterial communication (“quorum sensing”) via ligands and receptors: a novel pharmacologic target for the design of antibiotic drugs / R.B. Raffa, J.R. Iannuzzo, D.R. Levine, K.K. Saeid [et al.] // J Pharmacol Exp Ther. – 2004. - №312(2). – R.417-423.
16. Pershyn H.N. Metody éksperimental’noy khymyoterapyi: Praktycheskoe rukovodstvo. / Pershyn H.N. - M.: Medytsyna, 1971. - 539s.
17. European Convention for the protection of vertebrate animals used for experimental and other scientific purposes // Strasbourg. Council Treatu Series. - 1987. - №123. - 52 r.
18. Prykaz Mynzdrava «Ob unyfykatsiy mykrobiolohycheskykh (bakteryolohycheskykh) metodov yssledovanyya, prymenaemykh v klynyko-dyagnostycheskykh laboratoryyakh lechebno-profylaktycheskykh uchrezhdeny» ot 22.04.85 № 535.
19. O’Toole G.A. Biofilm formation as microbial development / G.A. O’Toole, H.B. Kaplan, R. Kolter // Ann Rev Microbiol. – 2000. - № 54. – R. 49–79.
20. Patent UA № 47944, G09V 23/00. Tsyhanenko A.YA., Mishyna M.M., Kurbanov R.A. Sposib vidtvorenniya bioplivok mikroorhanizmiv in vitro. Patent na korysnu model’ № 47944, MPK G09B23/00, KHNMU, Zayavl.12.10.2009, № u200910353; Opubl. 25.02.2010, Byul. № 4, 2010.
21. Lapach S.N. Statystycheskye metody v medyko–byolohycheskykh yssledovanyyakh s yspol’zovanyem Excel / S.N. Lapach, A.V. Chubenko, P.N. Babych - K.: MORYON, 2000. - 320 s.
22. Metodyka statystycheskoy obrabotky medytsynskoy ynformatsyy v nauchnykh yssledovanyyakh / [V.P. Osypov, E.M. Luk’yanova, YU.H. Antypkyn y dr.] – K.: planeta lyudey, 2002. – 200s.

PECULIARITIES IN MENSTRUAL CYCLE AND REPRODUCTIVE PERFORMANCE IN TAEKWONDO FEMALE ATHLETES

Bugaevskij K.A., Mihalchenko M.V.

Key words: female athletes, taekwondo, reproductive performance, menstrual cycle, hyperandrogenism.

The article presents the results of the study aimed to identify possible impairments of the reproductive performance in female pubertal and adolescent athletes involved in Taekwondo. It was determined that the values of the sexual dimorphism index in the study group were as follows: andromorphic somatotype was identified in 3 (11,54%) athletes, mesomorphic somatotype was identified in 12 (46,15%), gynecomorphic somatotype was in 11 (42,31%) athletes. It was found that 20 (76,92%) of athletes had various menstrual disorders. 18 (69,23%) athletes were registered to have menstrual irregularities by the hypomenstrual syndrome type with symptoms of oligo-opsomenorrhea. 14 (53,85%) female athletes were revealed to have impaired phasing of puberty manifested by early menarche, pubarche and thelarche. The assessment of the degree of hirsutism by Ferriman-Gallvey scale demonstrated that moderate manifestations of hyperandrogenism were found in 4 (15,39%) athletes, moderate hyperandrogenism was diagnosed in 7 (26,92%), and expressed hyperandrogenism was in 1 (3,85%) athlete. Combined disorders of

the reproductive performance including combinations of 2 or 3 types of disorders were diagnosed in 21 (80,77%) athletes.

References

1. Abiyev Z.A. Postroyeniye mikrotsiklov trenirovochnykh nagruzok v podgotovitel'nom periode godichnogo tsikla podgotovki tkhekvondistov 13-15 let: diss...kand. ped . nauk : spets. 13.00.04 «Teoriya i metodika fizicheskogo vospitaniya, sportivnoy trenirovki, ozdorovitel'noy i adaptivnoy fizicheskoy kul'tury» / Abiyev Z.A. ; FGBU FNTS VNIIFK. – Moskva, 2015. – 152 s.
2. Ageyev V.V. Povysheniye effektivnosti trenirovochnogo protsessa sportsmenok pri zanyatiyakh tkhekvondo v podgotovitel'nom periode : avtoref. dis. na soiskaniye nauchnoy stepeni kand. ped. nauk : spets. 13.00.04 «Teoriya i metodika fizicheskogo vospitaniya, sportivnoy trenirovki, ozdorovitel'noy i adaptivnoy fizicheskoy kul'tury» / V.V. Ageyev; VNIIFK. – Moskva, 1999. – 24 s.
3. Belik S.N. Vliyaniye sportivnoy deyatel'nosti na reproduktivnoye zdorov'ye devushek / S.N. Belik, I.V. Podgornyy, YU.V. Mozhinskaya // Sborniki konferentsiy NITS Sotsiosfera. – 2014. – № 33. – S. 103–111.
4. Bugayevskiy K.A. Narusheniya menstrual'nogo tsikla, giperandrojeniya i zanyatiya sportom / K.A. Bugayevskiy // Mediko-fiziologicheskiye osnovy adaptatsii i sportivnoy deyatel'nosti na Severe: sbornik materialov nauchnykh trudov Vserossiyskoy mezhdunarodnoy nauchno-prakticheskoy konferentsii. – Syktyvkar, 6-9 oktyabrya 2015. – S. 13–15.
5. Vershinin M.A. Kontseptsiya kompleksnogo sportivnogo otbora v tkhekvondo / M.A. Vershinin, S.V. Vandyshev // Fundamental'nyye issledovaniya. – 2013. – № 11-4. – S. 751-756.
6. Zyryanova Ye.A. Vliyaniye intensivnykh fizicheskikh nagruzok na funktsiyu reproduktivnoy sistemy u sportsmenok / Ye.A. Zyryanova, Ye.I. Marova, A.V. Smolenskiy // Akusherstvo i ginekologiya. – 2008. – № 1. – S. 6–8.
7. Kalinina I.A. Giperandrogennyie narusheniya reproduktivnoy sistemy u sportsmenok / I.A. Kalinina. – M. : VNIIFK, 2003. – 198 s.
8. Karpov M.A. Individualizatsiya uchebno-trenirovochnogo protsessa yunykh tkhekvondistov na etape nachal'noy sportivnoy spetsializatsii: DKPN / M.A. Karpov. – Chelyabinsk, 2001. – 162 s.
9. Kashkarov V.A. Tkhekvondo (VTF): Uchebnaya programma dlya DYUSSH, SHVSM i SDYUSHOR / V.A. Kashkarov, A.V. Vishnyakov. – M. : RID LGPU, 2001. – 72 s.
10. Kochetkova Ye.F. Osobennosti i problemy polovogo dimorfizma v sporte / Ye.F. Kochetkova, O.N. Oparina // Sovremennyye nauchnyye issledovaniya i innovatsii. – 2014. – № 7. – C. 15-20
11. Litvinova O.V. Zdorov'yesberegayushchaya napravlennost' pri razrabotke metodiki provedeniya trenirovochnykh zanyatiy po tkhekvondo / O.V. Litvinova, V.A. Bomin // Aktual'nyye problemy fizicheskogo vospitaniya i fizkul'turnogo obrazovaniya v Vostochnoy Sibiri»: materialy Vserossiyskoy nauchno-prakticheskoy konferentsii studentov i molodykh uchenykh (26 aprelya 2013 g.). – Irkutsk : izd-vo OOO «Megaprint». – 2013. – T. I. – S. 267-270.

12. Lopatina L.A. Antropometricheskaya kharakteristika devushek po klassifikatsii Dzh. Tannera / L.A. Lopatina, N.P. Serezhenko, ZH.A. Anokhina // Fundamental'nyye issledovaniya. – 2013. – № 12-3. – S. 504–508.
13. Mel'nikov A.S. Morfologicheskiye pokazateli taekvondistok razlichnykh let obucheniya / A.S. Mel'nikov, R.V. Levkov // Aktual'nyye problemy ognevoy, taktiko-spetsial'noy i professional'no-prikladnoy fizicheskoy podgotovki: II Mezhdunarodnaya nauchno-metodicheskaya konferentsiya. – Mogilov, 28 noyabrya 2014 g. – S. 105-110.
14. Mikhaylovskaya M. Osobennosti metodiki razvitiya skorostno-silovykh kachestv u tkhekvondistok 12 15 let v razlichnykh fazakh OMTS / M. Mikhaylovskaya, A. Koshcheyev, N.V. Bachinskaya // Pedagogika, psikhologiya i mediko-biologicheskiye problemy fizicheskogo vospitaniya i sporta. –2008. – № 1. – S. 105-107.
15. Nikityuk D.B. Indeks massy tela i drugiye antropometricheskiye pokazateli fizicheskogo statusa s uchetom vozrasta i individual'no-tipologicheskikh osobennostey konstitutsii zhenshchin / D.B. Nikityuk, V.N. Nikolenko, S.V. Klochkova // Voprosy pitaniya. – 2015. – № 4. – S. 47–54.
16. Radziyevskiy A.R. O narushenii menstrual'nogo tsikla zhenshchin-sportsmenok v period adaptatsii k bol'shim fizicheskim nagruzkam [Elektronnyy resurs] / A.R. Radziyevskiy, M.P. Radziyevskaya, T.G. Dyba // Rezhim dostupa: <http://www.sportzal.com> (data obrashcheniya 21.01.2016).
17. Saraykin D.A. Funktsional'noye sostoyaniye organizma yunykh sportsmenov na raznykh etapakh trenirovochnogo protsessa : tkhekvondo : dis. ... kand. biol. nauk : spets. 03.03.01 «Fiziologiya» / Saraykin Dmitriy Andreyevich ; Chelyab. gos. ped. un-t. - Chelyabinsk, 2012. – 162 s.
18. Simakov A.M. Aktual'nyye voprosy podgotovki v tkhekvondo na nachal'nom etape uchebno-trenirovochnogo protsessa / A.M. Simakov, S.Ye. Bakulev, V.A. Chistyakov // Uchenyye zapiski universiteta imeni P.F. Lesgafta. – 2014. – № 1 (107). – S.148-155.
19. Terzi M.S. Fiziologicheskiye osobennosti adaptivnykh protsessov u podrostkov pri zanyatiyakh tkhekvondo : avtoref. dis. na soiskaniye nauchnoy stepeni kand. biol. nauk : spets. 03.00.13 «Fiziologiya» / M.S. Terzi; CHGPU. – Chelyabinsk, 2003. – 24 s.
20. Shulika YU.A. Tkhekvondo. Teoriya i metodika. Sportivnoye yedinoborstvo / YU.A. Shulika. – Rostov n/D. : Feniks, 2007. – 800 s.

MORPHOLOGICAL CHANGES IN LIVER AND GALL-BLADDER OF RABBITS INFECTED WITH HELICOBACTER PYLORI

Hruzynskiy O.V.

Key words: HP-infection, cholelithiasis, gall-bladder, liver, protein-hydropic dystrophy and lymphoid infiltration.

It has been found out that degenerative changes and inflammatory infiltration of varying severity are the most typical in the gall-bladder of the rabbits infected with *Helicobacter pylori*. In addition, there is capillaries congestive plethora. Lymphoid infiltration is minimal and of diffuse nature. The biopsy contains single blood neutrophilic granulocytes. Extrahepatic bile ducts expansion is observed as well. In histological sections we can see single-duct and multi-duct cells, as well as the areas with desquamated epithelial cells. High-grade pseudoadenomatosis was found in some animals, adenomyosis was observed in the muscle membrane in some cases as well. Sometimes superficial epithelium intussus ceptum some times deepened to the muscle layer. Protein-hydronic degeneration in the liver parenchyma was minimally expressed in the control group of rabbits, and lymphoid infiltration of portal tracts was a background condition in one case, and moderate in the other. Pathological changes in the gall-bladder of rabbits deliberately infected with *H. Pylori* are interconnected and interdependent and involved both the tissue (gall-bladder, liver) and cellular (surface epithelium of the gall-bladder mucous coat) levels. Being an extremely important link in the epithelium functioning, mucin formation significantly increases when gall-bladder is infected and that is a response to the irritation.

References

1. Silva Cíntia Presser Association of the Presence of *Helicobacter* in Gallbladder Tissue with Cholelithiasis and Cholecystitis / Cíntia Presser Silva, Júlio Carlos Pereira-Lima, Adriana Gonçalves Oliveira [et al.] // *Clin. Microbiol.* – 2003. – Vol. 41 (12). – R. 5615–5618.
2. Xuanetal S. Y. Association between the presence of *H. Pylori* in the liver and hepatocellular carcinoma: a meta-analysis / S. Y. Xuanetal // *World J. Gastroenterol.* - 2008. - Vol. 14, № 2. - P. 307-312.
3. Yoshimuraetal M. A case of acute gastric mucosal lesions associated with *Helicobacter heilmannii* infection / M. Yoshimuraetal // *Helicobacter.* - 2002. - Vol. 7, № 5. - P. 322-326.
4. Blahovyeshchens'ka O.B. Khelikobakterioz i stan zakhysnoho slyzovoho bar'yeru shlunka u khvorykh na vyrazkovu khvorobu dvanadtsyatypaloyi kyshky u poyednanni z patolohiyeyu zhovchovyvidnykh shlyakhiv ta yikh korektsiya / O.B. Blahovyeshchens'ka // *Visnyk farmatsiyi.* - 1999. - № 1 (19). - S. 118-120.
5. Kopanski Z. The effect of *Helicobacter pylori* infection and duodenogastric reflux on the histology of gastric mucosa in peptic ulcer / Z. Kopanski // *Folia Med. Cracov.* - 1998. - Vol. 37, № 1-2. - P. 3-14
6. Ito Kyoko Adherence, Internalization, and Persistence of *Helicobacter pylori* in Hepatocytes / Kyoko Ito, Yoshio Yamaoka, Hiroyoshi Ota, Hala El-Zimaity [et al.] // *Dig. Dis. Sci.* - 2008. - Vol. 53(9). - R. 2541–2549.
7. Ysaeva H.SH. Vozmozhnoe uchastye bakteryy roda *Helicobacter* v patoheneze hepatobilyarnykh zabolevanyy / H.SH. Ysaeva // *Rossyyskiy zhurnal gastroénerolohyy, hepatolohyy, koloproktolohyy.* - 2008. - № 4. - S. 14-22.
8. Laryn A.K. Opredelenye mykrobnoy flory pyhmentnykh zhelchnykh kamney na osnove analiza hena 16S rybosomal'noy RNK / A.K. Laryn, P.L. Shcherbakov, L.A. Kharytonova [y dr.] – *Ros. zhurn. gastroénerol., hepatoloh., koloproktoloh.* – 2009. – № 5 (19). – S. 31-34.

9. Wadström Torkel. Chronic Helicobacter Infection of the Human Liver and Bile Are Common and May Trigger Autoimmune Disease / Torkel Wadström, Åsa Ljungh // *Current Gastroenterology Reports*. - 2002. - № 4. - R. 349–350.
10. Klyaryt-skaya Y.L. Znachenye bakteryy roda Helicobacter u patsyentov s khronycheskoy virusnoy patolohyey pecheny / Y.L. Klyaryt-skaya, V.V. Kryvoy, Matrau Syfallakh // *Kryms'kyy terapevtychnyy zhurnal*. - 2013. - № 2. - S. 130-135.
11. Myungetal S.J. Detection of Helicobacter pylori DNA in human biliary tree and its association with hepatolithiasis / S.J. Myungetal // *Dig. Dis. Sei.* - 2000. - Vol. 45, № 7. - P. 1405-1412.
12. Monstein H.J. Identification of Helicobacter pylori DNA in human cholesterol gall stones / H.J. Monstein, Y. Jonsson, J. Zdolsek [et al.] // *J. Gastroenterol.* - 2002. - Vol. 37 (1). - R. 112-119.
13. Fox J.G. Hepatic Helicobacter species identified in bile and gallbladder tissue from Chileans with chronic cholecystitis / J.G. Fox, F.E. Dewhirst, Z. Shen [et al.] // *Division of Comparative Medicine*. - 1998. - Vol. 114 (4). - P. 755-763.
14. Abayli B. Helicobacter pylori in the etiology of cholesterol gallstones / B. Abayli, S. Colakoglu, M. Serin [et al.] // *J. Clin. Gastroenterol.* - 2005. - № 39 (2). - P. 134-137.
15. Laboratornye zhyvotnye. Razvedeniye, sodержanye, yspol'zovaniye v éksperymente / [Y.P. Zapadnyuk, V.Y. Zapadnyuk, E.A. Zakharyya y dr.]. - Kyev : Vyshcha shkola. Holovnoe yzd-vo, 1983. - 383 s.

SHORT-LATENT AUDITORY EVOKED POTENTIALS IN DIAGNOSIS OF EXPERIMENTAL HYPOACUSIS

Deeva Yu.V., Vasiliev A.V., Nebore I.Ya.

Key words: acute sensorineural hearing loss (SNHL), short-latent auditory evoked potentials, audiometry.

The paper presents the results of the study of the auditory function in animals (*Meriones unguiculatus*) under conditions of experimental acute sensorineural hearing loss. Gerbils with simulated acute sensorineural hearing loss of vascular genesis according to the data of short-latent auditory evoked potentials demonstrated significant changes in auditory function compared to intact control group animals.

References

1. Shydlovs'ka T.V. Zahal'ni pryntsyipy diahnostyky i likuvannya khvorykh z sensonevral'noyu pryhlukhuvatytyu / T.V. Shydlovs'ka, T.A. Shydlovs'ka // *Zhurnal vushnykh, nosovykh i horlovykh khvorob*. - 2005. - № 4. - S. 2-17.
2. Mitin YU.V. Vyznachennya stanu voloskovykh klityn vnutrishn'oho vukha u khvorykh na tsukrovyy diabet II typu za danymy otoakustychnoyi emisiyi / YU.V. Mitin, YU.V. Dyeyeva, T.M. Holubok-Abyzova // *Zhurnal vushnykh, nosovykh i horlovykh khvorob*. - 2008. - № 3. - S.162.

3. Thirumala P.D. Brainstem Auditory Evoked Potentials' Diagnostic Accuracy for Hearing Loss: Systematic Review and Meta-Analysis / P.D. Thirumala, G. Carnovale, Y. Loke [et al.] // J. Neurol. Surg. B Skull Base. - 2017. – Vol. 78 (1): - P. 43-51.
4. Slugocki C. Simultaneously-evoked auditory potentials (SEAP): A new method for concurrent measurement of cortical and subcortical auditory-evoked activity / C. Slugocki, D. Bosnyak, L.J. Trainor // Hear Res. – 2017. – Vol. 345. – P. 30-42.
5. Van de Heyning P. Electrically evoked compound action potentials are different depending on the site of cochlear stimulation / P. Van de Heyning, S.L. Arauz, M. Atlas [et al.] // Cochlear Implants Int. – 2016. – Vol. 17 (6). – P. 251-262.
6. Brill S. Site of cochlear stimulation and its effect on electrically evoked compound action potentials using the MED-EL standard electrode array / S. Brill, J. Müller, R. Hagen [et al.] // BioMedical Engineering OnLine. - 2009. – Vol. 8. – P. 40.
7. Taniguchi M. Apoptotic hair cell death after transient cochlear ischemia in gerbils / M. Taniguchi, N. Hakuba, K. Koga [et al.] // Neuroreport. – 2002. - Vol. 13. – P. 2459-2462.
8. Bohne B.A. Processing and analyzing the mouse temporal bone to identify gross, cellular and subcellular pathology / B.A. Bohne, G.W. Harding // Hear. Res. – 1997. - Vol. 109. – P. 34-45.
9. De Felice C. Non-functioning posterior communicating arteries of circle of Willis in idiopathic sudden hearing loss / C. De Felice, B. De Capua, R. Tassi [et al.] // Lancet. – 2000. - Vol. 356. – P. 1237-1238.
10. Deeva J. Diagnostical value of otoacoustical emission indicase for evaluation of the results of glicerol test in patients with diabetes II, hearing loss and tinnuitis / J. Deeva, K. Kilbas, K. Vasilenko [et al.] // Abstract-book of 10 European of Audiology Societes (EFAS) Congress. - June, 22-25 2011. – Warsaw, Poland – P. 157.

COMPARATIVE CHARACTERISTICS OF SYSTEMIC NEUROGLIAL STRUCTURE IN MAMMALIAN BRAIN

Makarenko O. M., Kovtun A. M., Petrov F. I.

Key words: mammals, brain astrocytes, oligodendrocyte, microgliaocytes.

The article describes the results of the comparative study of the composition and quantity of gliocytes (astrocytes, oligodendrocyte and microgliaocytes) as well as the glial indices of evolutionarily young sensorimotor area of the cerebral cortex and phylogenetically different paraventricular, ventromesial nuclei, and lateral hypothalamic area in albino rats. The results obtained support the hypothesis about the relationship between the evolutionary process in the development of various segments and structures of brain, and cell neuroglial content of these segments. Older types of gliocytes (microgliaocytes) make up much more larger part in the structure of phylogenetically older (ancient) formations of midbrain and glial cells arising at later stages of evolution (e.g., oligodendrocyte) form much larger share in the phylogenetically more recent segments and structures of the brain (e.g., sensorimotor cerebrocortex).

References

1. Abdurasulova I. N. Rol' immunnykh i glial'nykh kletok v protsessakh neyrodegeneratsii / I. N. Abdurasulova, V. M. Klimenko // Med. akad. zhurn. - 2011. - T. 11, №1.- S. 12–29.
2. Astapova V.M. Atlas «Nervnaya sistema cheloveka. Stroyeniye i narusheniya». / V.M. Astapova, YU.V. Mikadze. 4-ye izdaniye, pererab. i dop.— M., 2004. — PER SE — 80 s.
3. Vasil'yev YU.G. Gomeostaz i plastichnost' mozga / YU.G. Vasil'yev, D.S. Berestov. — Izhevsk : Izhevskaya GSKHA, 2011. — 216 s.
4. Dumbay V.N. Struktura i funktsii glii / V.N. Dumbay. — Stavropol' : Izdatel'stvo Yuzhnogo federal'nogo universiteta, 2007. — S. 4-10.
5. Makarenko A.N. Metod modelirovaniya lokal'nogo krovoizliyaniya v razlichnykh strukturakh golovnogogo mozga u eksperimental'nykh zivotnykh / A.N. Makarenko, N.S. Kositsin, N.V. Pasikova, M.M. Svinov // Zhurnal vysshey nervnoy deyatel'nosti. — 2002. — T. 52 (6). — S. 765-768.
6. Makarenko A.N. Izucheniye neyrono- i gliogial'nykh preobrazovaniy v kletochnykh sistemakh golovnogogo mozga v norme i pri modelirovanii tserebrovaskulyarnoy patologii / A.N. Makarenko, V.N. Bibikova, N.N. Tereshchenko, S.I. Savos'ko // Aktual'ni problemi suchasnoy meditsini: Visnik Ukraïns'koï medichnoï stomatologichnoï akademii. - 2014. — T.14, Vip. 1. - S. 100-106.
7. Makarenko A.N. Izmeneniya v glial'noy sisteme sensomotornogo tserebrokorteksa belykh krysov pri eksperimental'nom vosproizvedenii tserebrovaskulyarnoy patologii / A.N. Makarenko, A.N. Kovtun, V.V. Krivonos, S.I. Chernaya // Fundamental'nyye problemy neyronauk. Funktsional'naya assimetriya. Neyroplastichnost'. Neyrodegeneratsiya : Mat. Vseross. Nauch. Konferentsii s mezhdunar. uchastiyem (18-19 dekabrya 2014). — Moskva, 2014. — S.599-614.
8. Sem'yanov A.V. Neyron-gliial'noye vzaimodeystviye v mozge / A.V. Sem'yanov, V.B. Kazantsev. - Nizhniy Novgorod.: Izdatel'stvo Nizhegorodskogo gosudarstvennogo universiteta im. N.I. Lobachevskogo, 2007. — 107 s.
9. Sukhorukova Ye. G. Strukturnaya organizatsiya astrotsitov neokorteksa krysov i cheloveka, sodержashchikh glial'nyy fibrillyarnyy kislyy belok : Avtoref. dis. kand. med. nauk., spets. 03.03.04 «Kletochnaya biologiya, tsitologiya, gistologiya» / Ye. G. Sukhorukova — Sankt-Peterburg, 2011. — 22 s.
10. Luskin M. B. Neurons, Astrocytes, and Oligodendrocytes of the Rat Cerebral Cortex Originate from Separate Progenitor Cells: An Ultrastructural Analysis of Clonally Related Cells / M.B. Luskin, J.G. Parnavelas, J.A. Barfield // J. Neurosci. — 1993. — Vol. 13, № 4. — P. 1730–1750.
11. Paxinos G. The Rat Brain in Stereotaxic Coordinates, 6th Edition. / G. Paxinos, C. Watson - Academic Press, 2006. — 456 r.

INFLUENCE OF POLYPHENOL COMPOUNDS ON METABOLISM OF SULFUR-CONTAINING AMINO ACIDS AND HYDROGEN SULFIDE IN LIVER OF MALE AND FEMALE RATS UNDER HYPERHOMOCYSTEINEMIA

Melnik A.V., Zaichko N.V.

Key words: genistein, quercetin, hyperhomocysteinemia, hydrogen sulfide, blood, liver, enzymes.

Polyphenolic compounds possess antioxidant, anti-inflammatory and endothelioprotective properties. Their influence on the metabolism of sulfur-containing amino acids and hydrogen sulfide (H₂S) in rats of both sexes under conditions of hyperhomocysteinemia (HHC) is still unclear. Therefore, the purpose of our study was to assess the effect of genistein and quercetin on the metabolism of homocysteine, cysteine and H₂S in the liver of rats of both sexes under conditions of HHC. HHC was modelled by administering thiolactone D, L-homocysteine intragastrically (100 mg / kg body weight) for 28 days. Some animals receiving homocysteine thiolactone were administered genistein (2.5 mg / kg body weight) or quercetin (25 mg / kg body weight) intragastrically for 28 days. In the liver, we evaluated the activity of homocysteine utilization enzymes, cysteine and H₂S synthesis, and in the blood serum by the content of homocysteine, cysteine and H₂S. It turned out that genistein inhibited the development of homocysteinemia, hypercysteinemia, H₂S deficiency in blood, induced by HHC. Along with this, genistein prevented the decrease in the rate of utilization of homocysteine in the reactions of transsulfuration, degradation of cysteine, and synthesis of H₂S in the liver of female and male rats against the background of HHC. At the same time, quercetin corrected only the H₂S content and the activity of its synthesis in the liver under HHC. Thus, of the polyphenols used, only genistein effectively prevented the negative effect of HHC on the metabolism of homocysteine, cysteine and H₂S in the liver of female and male rats.

References

1. Andrushko I.I. Biokhimichni porushennya v krovi, miokardi i sudynniy stintsy v umovakh eksperymental'noyi hiperhomotsysteyinemiyyi, yikh patohenetychne znachennya ta mozhlyvosti farmakolohichnoyi korektsiyi / I.I. Andrushko, A.P. Korol', T.V. Talayeva // Krovoobih ta hemostaz. – 2011. – №3-4. – S. 52–58
2. Zaichko N. V. Vyznachennya vmistu hidrohen sul'fidu v syrovattsi krovi / N. V. Zaichko, N. O. Pentyuk, L. O. Pentyuk, A. V. Mel'nyk // Visnyk naukovykh doslidzhen'. - 2009. - №1. - S. 29-32.
3. Voloshchuk N.I. Henderni vidminnosti v utvorenni hidrohen sul'fidu ta realizatsiyi yoho vazorelaksuyuchoho efektu za umov vvedennya dyklofenaku natriyu ta henisteyinu u shchuriv / N. I. Voloshchuk // Zhurnal AMN Ukrayiny. – 2010. - T. 16, № 1. - S. 138-148.
4. Mel'nyk A. V. Aktyvnist' enzymiv syntezu hidrohen sul'fidu v nyrkakh shchuriv / A. V. Mel'nyk, O. O. Pentyuk // Ukr. biokhim. zhurnal. - 2009. - T.81, №4. - S.12-22.
5. Chiang P. K. Activation of methionine for transmethylation. Purification of the S-adenosylmethionine synthetase of bakers' yeast and its separation into two forms / P. K. Chiang, G. L. Cantoni // J. Biol. Chem. - 1977. - Vol. 252, №13. - R.4506-4513.

6. Gaitonde M. K. A spectrophotometric method for direct determination of cysteine in the presence of other naturally occurring amino acid / M. K. Gaitonde // *Biochem. J.* - 1967. - Vol. 104, №2. - P.627-633.
7. Zhen P. Genistein attenuates vascular endothelial impairment in ovariectomized hyperhomocysteinemic rats / P. Zhen, Q. Zhao, D. Hou, T. Liu [et al.] // *J Biomed Biotechnol.* - 2012. - Rezhym dostupu: <http://dx.doi.org/10.1155/2012/730462>
8. Goldstein J. L. Cystathionine synthase activity in human lymphocytes: induction by phytohemagglutinin / J. L. Goldstein, B. K. Campbell, S. M. Gartler // *J. Clin. Invest.* - 1972. - Vol. 51, №4. - R.1034-1037.
9. Stangl G. I. Homocysteine thiolactone-induced hyperhomocysteinemia does not alter concentrations of cholesterol and SREBP-2 target gene mRNAs in rats / G. I. Stangl, K. Weisse, C. Dinger [et al.] // *Exp. Biol. Med. (Maywood).* - 2007. - Vol.232, №1. - R.81-87.
10. Lai W.K. Homocysteine-Induced Endothelial Dysfunction / W.K. Lai, M.Y. Kan // *Ann Nutr Metab.* – 2015 - Vol. 67, №1. - R. 1-12.
11. Orłowski M. Partial reaction by g-glutamylcysteine synthetase and evidence for an activated glutamate intermediate / M. Orłowski, A. Mrister // *J. Biol. Chem.* – 1971. – Vol. 246, № 23. – P. 7095–7105.
12. Wenzel U. Protective effects of soy-isoflavones in cardiovascular disease: identification of molecular targets / U. Wenzel, D. Fuchs, H. Daniel // *Hamostaseologie.* – 2008. - Vol. 28, № 1-2. - R. 85-88.
13. Kopecká J. Restoring assembly and activity of cystathionine b-synthase mutants by ligands and chemical chaperones / J. Kopecká, J. Krijt, K. Raková [et al.] // *J Inherit Metab Dis.* - 2011. - Vol. 34, № 1. - R. 39-48.
14. Stipanuk M. H. Catabolism of cyst(e)ine by rat renal cortical tubules / M. H. Stipanuk, J. De la Rosa, L. L. Hirschberger // *J. Nutr.* – 1990. – Vol. 120, № 5. – R. 450–458.
15. Driggers C.M. Structure-Based Insights into the Role of the Cys-Tyr Crosslink and Inhibitor Recognition by Mammalian Cysteine Dioxygenase / C.M. Driggers, K.M. Kean, L.L. Hirschberger [et al.] // *J Mol Biol.* - 2016. - Vol. 428, №20. - R. 3999-4012.

HISTOMORPHOLOGICAL ASSESSMENT OF STRUCTURAL BONE COMPONENTS IN RATS WITH SKELETAL TRAUMA UNDER CORRECTION WITH NANOPARTICLES

Panasiuk Ya. V.

Key words: osteoregeneration, osteoresorption, bone defect, nanoaquachelates, lovastatin, nanoparticles.

The article presents the results obtained by histological study of tibial bone in rats that were subject to traumatic bone defect in the proximal part with following treatment with lovastatin, lovastatin nanoparticles, nanoaquachelates and their combination. A pronounced trend in promoting the development of productive infiltrative-inflammatory process in the early stages of osteoregeneration is observed under the combined application of nanomaterials. This approach promotes callus formation in the animals within the normal terms.

References

1. Balasundaram G. An overview of nano-polymers for orthopedic applications. Review / Balasundaram G., Webster T.J. – *Macromol Biosci.* -2007. – V.10;7(5). – P. 635-642.
2. Chang Y.T. Effects of osteoporosis and nutrition supplements on structures and nanomechanical properties of bone tissue / Y.T. Chang, C.M. Chen, M.Y. Tu [et al.] // *J Mech Behav Biomed Mater.* – 2011. – V.4(7). – P. 1412-1420.
3. Jiang L. Enhancement of osteoinduction by continual simvastatin release from poly(lactic-co-glycolic acid)-hydroxyapatite-simvastatin nano-fibrous scaffold / L. Jiang, H. Sun, A. Yuan [et al.]. // *J Biomed Nanotechnol.* – 2013. – V.9(11). – P. 1921-1928.
4. Zhao S. In vitro and in vivo evaluation of the osteogenic ability of implant surfaces with a local delivery of simvastatin / S. Zhao, F. Wen, F. He [et al.]. // *Int J Oral Maxillofac Implants.* – 2014. – V.29(1). – P. 211-220.
5. Soares E.A. Metabolic and structural bone disturbances induced by hyperlipidic diet in mice treated with simvastatin / E.A. Soares, R.D. Novaes, W.R. Nakagaki [et al.]. // *Int J Exp Pathol.* – 2015. – V.96(4). – P. 261-268.
6. Nair M. Applications of Titania Nanotubes in Bone Biology / M. Nair, E. Elizabeth // *J Nanosci Nanotechnol.* – 2015. – V.15(2). – P. 939-955.
7. No Y. J. Nanomaterials: the next step in injectable bone cements / Y.J. No, S.I. Roohani-Esfahani, H. Zreiqat // *Nanomedicine (Lond).* – 2014. – V.9(11). – P. 1745-1764.
8. Saiz E. Perspectives on the role of nanotechnology in bone tissue engineering / E. Saiz, E.A. Zimmermann, J.S. Lee [et al.]. // *Dent Mater.* – 2013. – V.29(1). – P. 103-115.
9. Sousa D. N. Behavioural and cognitive effects of simvastatin dose used in stimulation of bone regeneration in rats / D.N. Sousa, W.M. Santana, V.M.Ferreira, W.R. Duarte // *Acta Cir Bras.* – 2014. – V.29(3). – P. 151-157.
10. Jiang J. The effects of improved metabolic risk factors on bone turnover markers after 12 weeks of simvastatin treatment with or without exercise / J. Jiang, L.J. Boyle, C.R. Mikus [et al.]. // *Metabolism.* – 2014. – V.63(11). – P. 1398-1408.
11. Panasyuk YA. V. Vykorystannya kombinatsiyi nanoakvakhelativ metaliv i nanochastynok lovostatynu dlya stymulyatsiyi reparatyvnoho osteohenezu v shchuriv / YA. V. Panasyuk, K. S. Volkov, M. M. Korda // *Klinichna ta eksperymental'na patolohiya.* - 2016. - T. 15, № 5(2). - S. 53-59.
12. Panasyuk YA. V. Biokhimichna kharakterystyka posttravmatychnoho reparatyvnoho osteohenezu pry zastosuvanni nanoakvakhelativ metaliv. / YA. V. Panasyuk, M. M. Korda. // *Litopys travmatolohiyi ta ortopediyi* – 2015. - №1-2. - S. 19-21.
13. Panasyuk YA. V. Vplyv lovostatynu na reheneratsiyu kistkovoyi tkanyny v shchuriv. / YA. V. Panasyuk, M. M. Korda. // *Medychna khimiya* – 2015. - T. 16, № 3. - S. 36-40.

14. Panasyuk YA. V. Vplyv nanochastynok lovastatynu na osteoreheneratsiyu pry travmatychnomu kistkovomu defekti u shchuriv. / YA. V. Panasyuk, M. M. Korda. // Visnyk Vinnyts'koho natsional'noho medychnoho universytetu. – 2016. – T. 20, № 1 (1). – S. 32-36.

15. Pat. № 108637 Ukrayina, MPK (2016.01), A61K 33/00, A61P 19/00, B82Y 5/00. Sposib stymulyatsiyi reheneratsiyi kistkovoyi tkanyny akvakhelatamy Ag, Cu, Zn, Mg, Ca. / Korda Mykhaylo Mykhaylovych, Pavlyshyn Andriy Volodymyrovych, Kaplunencko Volodymyr Hryhorovych, Panasyuk Yaroslav Viktorovych; vlasnyk Ternopil's'kyy derzhavnyy medychnyy universytet imeni I.YA. Horbachevs'koho MOZ Ukrayiny. – № u201600773; zayavl. 01.02.2016; opublik. 25.07.2016, byul. № 14. – 2 s.

TOCOLYTIC ACTIVITY OF 8-SUBSTITUTED 7- β -HYDROXY-(2-METHYLPHENYLOXY) PROPYLXANTHINES

Samura I.B., Grigorieva L.V., Romanenko N.I.

Key words: methylxanthines, myometrium, aminophylline, gynipral.

Noncarrying of pregnancy is still extremely urgent challenge in modern obstetric and gynaecologic practice, making up 10-25% of all cases of desired pregnancies. The research was carried out find out new nontoxic tocolytic agents among 8-substituted 7- β -hydroxy-(2-methylphenyloxy) propylxanthines, to study the mechanism of their action, and to investigate their acute possible toxicity, influence on the contractile activity of myometrium in experiments in vivo. Our results have shown that the compounds under the study demonstrate tocolytic activity that ranges from 10,2 to 41,6%. The most perspective compound in this series, 7- β -hydroxy-(2-methylphenyloxy) propyl-8-aminoxanthine in a dose of 59,8 mg/kg, results in a decrease in both amplitude and frequency of contractile activity of the rats by 41,6 and 22,8% respectively. Tocolytic activity of 7- β -hydroxy-(2-methylphenyloxy) propyl-8-aminoxanthine has exceeded the reference drugs aminophylline, gynipral and instenon under in vivo condition of acute experiment that suggests the studied compound has direct spasmolytic action and significant therapeutic spectrum. 7- β -Hydroxy-(2-methylphenyloxy) propyl-8-aminoxanthine as a nearly non-toxic compound with tocolytic properties can be a perspective compound for the synthesis of new effective medicines for prevention and treatment of threat of premature birth.

References

1. Doklinichni doslidzhennya likars'kykh zasobiv / Za red. O.V. Stefanova. – K. : Vydavnychyy dim "Avitsena", 2001. – 528 s.
2. Zhuk S.Y. Rehulyatsyya rodovoy deyatel'nosti y profylaktyka ee narushenny / S.Y. Zhuk // Visnyk asotsiatsiyi akusheriv-hinekologiv Ukrayiny. – 2001. – № 4 (14). – S. 58-70.
3. Zyhanshyn A.U. Farmakolohycheskaya kharakterystyka R2-retseptorov v matke cheloveka / A.U. Zyhanshyn, A.P. Zaytsev, A.F. Shamsutdynov // Byul. éksperyment. byol. – 2002. – № 3 (133). – S. 298-300.

4. Korkhov V.V. Vlyyanye ynstenona na sokratytel'nyuyu deyatel'nost' matky v éksperymente / V.V. Korkhov, E.V. Menhal, E.A. Lesyk, M.A. Petrosyan // Éksperyment. y klyn. farmakol. – 2000. – № 4 (63). – S. 32-34.
5. Lapach S.N. Statystyka v nauke y byznese / S.N. Lapach, A.V. Chubenko, P.N. Babych. – K. : «Moryon», 2002. – 640 s.
6. Temits'ka I.I. Nevynoshuvannya vahitnosti u rizni termyny yak rezul'tat vplyvu suputn'oyi ekstrakhenital'noyi patolohiyi / I.I. Temits'ka, A.V. Semenyak // Medychnyy forum. – 2016. – № 7 (07). – S.187-190.
7. Acharya S. The use of a combination of Pentoxifylline and Tocopherol in women with a thin endometrium undergoing assisted conception therapies a report of 20 cases / S. Acharya, E. Yasmin, A.H. Balen // Human Fertility. – 2009. – № 4 (12). – P. 198-203.
8. Azimi A. Hypothesis: Pentoxifylline explores new horizon in the treatment of preeclampsia / A. Azimi, S.M. Ziaee, P. Farhadi, M.M. Sagheb // Medical hypotheses. – 2015. – № 4 (85). – P. 468-474.
9. Borea P.A. The A3 adenosine receptors: history and perspectives / P.A. Borea, K. Varani, F. Vincenzi, P.G. Baradeli [et al.] // Pharmacological reviews. – 2015. – № 1 (67). – P. 74-102.
10. Katzung Bertram G. Basic and Clinical Pharmacology. Textbook / Bertram G. Katzung, Susan M. Masters, Anthony J. Trevor. – [13ed.]. – San-Francisco, California, The McGraw-Hill Companies, 2015. – 1245 p.
11. Lédée-Bataille N. Combined treatment by pentoxifylline and tocopherol for recipient women with a thin endometrium enrolled in an oocyte donation programme / N. Lédée-Bataille, F. Olivennes [et al.] // Human Reproduction. – 2002. – № 5 (17). – P. 1249-1253.
12. Letur-Könirsch H. Successful pregnancies after combined Pentoxifylline-Tocopherol treatment in women with premature ovarian failure who are resistant to hormone replacement therapy / H. Letur-Könirsch, S. Delanian // Fertility and Sterility. – 2003. – № 2 (79). – P. 439-441.
13. Mohammadi A. Adenosine deaminase G22A polymorphism and recurrent spontaneous abortions / A. Mohammadi, M. Bonyadi, M. Khalajkondori, S. Taghavi // Iranian Journ. Reproductive Medicine. – 2015. – № 4. – P. 64-64.
14. Teh W.T. The Impact of Uterine Radiation on Subsequent Fertility and Pregnancy Outcomes / W.T. Teh, S. Stern, S. Chander, M. Hickey // Biomed. Res. Int. – 2014. – № 8. – P. 482-490.

EFFICIENCY OF CARBACETAM USE FOR RESTORATION OF COGNITIVE DISTURBANCES IN EXPERIMENTAL BRAIN INJURY

Starodubska O. O.

Key words: traumatic brain injury, cognitive disturbances, Carbacetam

Numerous researches demonstrate development of cognitive disturbances at the traumatic brain injury (TBI) not only in the acute period, but also for several years after a trauma. Damage of the highest functions

of a brain is observed at a third of patients from mild TBI, and at victims with a medium-weight and severe injury – more permanent and expressed disturbances develop. Carbacetam is a new GABA-benzodiazepine modulator of a receptor complex, derivative by β -Carboline which efficiency is intensively investigated at TBI.

The goal of given study was to investigate the efficiency of Carbacetam use for restoration of cognitive functions in experimental TBI. Methods. The research is conducted on white not purebred rats males; modeling of TBI carried out by V. N. Elsky & S. V. Ziablitsev (2005) technique. Included in control group 16 rats, experienced groups with TBI made 48 animals: the 1st group – with Carbacetam administration (5 mg/kg), the 2nd group – with Actovegin administration (16 mg/kg), group of comparison – with administration 1 ml of physical solution, intraperitoneal within 10 days after trauma. Cognitive disorders are investigated on techniques: the open field, a mink reflex, an eight-hose labyrinth in 7 and 30 days after trauma. Results and discussion. TBI results essential oppression of cognitive functions what indicators of tests of all experienced groups both through 7, and in 30 days after a trauma testified to. Renewal of indicators happened only under the influence of drugs: Carbacetam effectively renewed indicators of an approximate motor performance to reference level in 30 days after trauma. Also restoration of educational and research activity, emotionality, uneasiness and memory on indicators of tests with a mink reflex and an eight-hose labyrinth was observed. Efficiency of Carbacetam action in quantitative expression was more such an Actovegin. Conclusions. Results of Carbacetam efficiency investigation in experimental TBI showed restoration within 30 days of indicators of an approximate motor performance, educational and research activity and memory which doesn't concede efficiency of an Actovegin.

References

1. Yel'skiy V.N. Modelirovaniye cherepno-mozgovoy travmy / V.N. Yel'skiy, S.V, Zyablitsev – Donetsk: Izdatel'stvo «Novyy mir», 2008. – 140 s.
2. Zakharov V.V. Kognitivnyye narusheniya u bol'nykh s cherepno-mozgovoy travmoy / V.V. Zakharov, Ye.A. Drozdova // Nevrologiya, neyropsikhiatriya, psikhosomatika. – 2013. – № 4. – S. 88-93.
3. Kazakov V.Ye. Faktory riska vzniknoveniya psikhicheskikh narusheniy v otdalennom periode cherepno-mozgovoy travmy / V.Ye. Kazakov // Mezhdunarodnyy nevrologicheskiy zhurnal. – 2013. – № 7 (61). – S. 169-172.
4. Kozak D.V. Vpliv karbatsetamu na dinamiku pokaznikov tsitolizu ta vmist tsirkulyuyuchikh imunnikh kompleksiv v umovakh politravmi / D.V. Kozak / Visnik naukovikh doslidzhen'. – 2014. – № 2. – S. 80-82.
5. Kozak D.V. Dinamika sindromu yendogennoi intoksatsii v umovakh politravmi ta yogo korektsiya karabtsetamom / D.V. Kozak // Zdobutki klinichnoi i yeksperimental'noi meditsini. – 2015. – № 2-3. – S. 58-60.
6. Nemkova S.A. Diagnostika i korektsiya kognitivnykh narusheniy u detey s posledstviyami cherepno-mozgovoy travmy / S.A. Nemkova, N.N. Zavadenko, O.I. Maslova, G.A. Karkashadze // Pediatricheskaya farmakologiya. – 2014. – T. 11, № 3. – S. 54-60.

7. Khobzey N.K. Epidemiologiya invalidnosti vsledstviye cherepno-mozgovykh travm v Ukraine / N.K. Khobzey, Ye.G. Pedachenko, V.A.Golik, A.P. Guk, N.A. Gondulenko // Ukraïna. Zdorov'ya natsiï. – 2011. – № 3 (19). – S.30-34.
8. Shkol'nik V.M. Kognítivní rozladi u víddalenomu periódí cherepno-mozkovoï travmi yak prichina obmezhennya zhittédíyal'ností poterpílikh / V.M. Shkol'nik, G.D. Fesenko, V.A. Golik, S.A. Pogorêlova, V.Í. Pashkovs'kiy, A.P. Guk // Ukrvíks'kiy neyrokhírurgíchniy zhurnal. – 2015. – № 2. – S. 5-10.
9. Shcherbakova T.N. Izucheniye protivootchnogo deystviya fenibuta i novykh proizvodnykh GAMK / T.N. Shcherbakova, P.A. Ozerova // Farmatsiya i farmakologiya. – 2015. – № 3 (10). – S. 72-75.
10. Draper K. Cognitive functioning ten years following traumatic brain injury and rehabilitation / K. Draper, J. Ponsford // Neuropsychology. – 2008. – Vol. 22 (5). – P.618-625.
11. Rabinowitz A.R. Cognitive sequelae of traumatic brain injury / A.R. Rabinowitz , H.S. Levin // Psychiatr. Clin. North Am. – 2014. – Vol. 37 (1). – P.1-11.
12. Tsaousides T. Cognitive rehabilitation following traumatic brain injury: assessment to treatment / T. Tsaousides, W.A. Gordon // Mt. Sinai J. Med. – 2009. – Vol. 76 (2). – P. 173-181.

INTERACTION BETWEEN AUTO STRAINS OF AERO COCCI AND OPPORTUNISTIC MICROORGANISMS IN VITRO

Stepansky D. A., Kremenchutsky G. N., Koshevaya I. P.

Key words: normal micro flora, Aerococci, autosymbionts, antagonism.

Normal micro flora of the human body is a combination of various biocenoses that occupy numerous ecological niches in the skin and mucous membranes of cavities connected with the environment. *Aerococcus viridans* possess a number of useful properties. A series of experiments was carried out in order to study the interaction of auto strains on *Aerococcus* Gr+ and Gr– bacteria. While studying the deferred antagonism it was shown that the test organisms reacted on the presence of the growing metabolic products of autostrains *Aerococcus* in environment in different ways. Moreover, there were variations even within the same species. Autostrains *Aerococcus*, unlike *Staphylococci* and *E. coli*, showed no sensitivity to the action of the *Pseudomonas* active principle. *Aerococci* expressed antagonistic properties in relation to *Pseudomonas*. Growing *Pseudomonas* colonies usually have no pigment. Experiments have shown that *Aerococci* are strong antagonists and findings point out the need for further in-depth study of autostrains *Aerococcus* use.

References

1. Glushanova N. A. Vzaimootnosheniya probioticheskikh i indigennykh laktobatsill khozyaina v usloviyakh sovmeznogo kul'tivirovaniya in vitro / N.A. Glushanova, B. A. Shenderov // Zhurnal mikrobiologii, epidemiologii i immunologii. – 2003 - № 2. – S. 56–61.
2. Il'in V. K. Kolonizatsionnaya rezistentnost' organizma v izmenennykh usloviyakh obitaniya / V.K. Il'in, A.I. Volozhin, G.V. Vikha. – M. : Nauka, 2005. – 271 s.

3. Solov'yeva N.V. Korrektsiya disbioticheskikh narusheniy pri zabolevaniyakh zheludochno-kishechnogo trakta i pecheni biologicheski aktivnymi dobavkami s probioticheskim deystviyem / N.V. Solov'yeva, S.N. Leykhter, T.A. Bazhukova [i dr.] // *Obzory po klinich. farmakologii i lekarstvennoy terapii.* — 2013. — T. 8. — S. 48-57.
4. Kremenchutskiy G. N. Rol' mikroekologii organizma cheloveka i printsipy yeye korrektsii / G. N. Kremenchutskiy, S. A. Ryzhenko, S. I. Val'chuk. — Dnepropetrovsk : Porogi, 2003. — 230 s.
5. Ob unifikatsii mikrobiologicheskikh metodov issledovaniya, primenyayemykh v kliniko-diagnosticheskikh laboratoriyakh lechebno-profilakticheskikh uchrezhdeniy: Prikaz № 535 MZ SSSR ot 22.04.1985. M., 1985. - 56 s.
6. Rizhenko S.A. Vpliv zhivoi kul'turi *Aerococcus viridans* na faktori ímunologíchnoi reaktivnosti organizmu lyudini in vitro / S.A. Rizhenko, S.Í. Val'chuk // *Odes. med. zhurnal.* — 2003. - № 5 (79). — S. 108-111.
7. Ryzhenko S.A. Vliyaniye A-bakterina na gomeostaz organizma cheloveka pri razlichnykh patologicheskikh sostoyaniyakh / S.A. Ryzhenko // *Sb. materialov mezhdunar. nauch.-prakt. konf. pamyati G.I. Goncharovoy «Probioticheskiye mikroorganizmy – sovremennoye sostoyaniye voprosa i perspektivy ispol'zovaniya» / pod red. V.A. Aleshkina.* — Moskva, 2002. — S. 41-42.
8. Michail S. Clinical efficacy of probiotics: review of the evidence with focus on children / S. Michail, F. Sylvester, G. Fuchs, R. Issenman // *J. Pediatr. Gastroenterol. Nutr.* — 2006. - Vol. 43, № 4. — P. 550–557.
9. Glushanova N.A. The relationship of probiotic lactobacilli and indigenous host in a co-culture in vitro / N.A. Glushanova, B.A. Shenderov // *J. Epidemiol. Microbiol. Immunol.*- 2003. - № 2. — P. 56–61.
10. Il'in V. K. Autoprotiotiki kak sredstvo profilaktiki infekcionno - vospalitel'nyh zabolevanij u cheloveka v iskusstvennoj srede obitanija / V.K. Il'in, A.N. Suvorov, N.V. Kirjuhina // *Vestnik RAMN.* - № 2. — R. 56 - 62.
11. Shenderov B.A. Probiotic (symbiotic) bacteria languages / B.A. Shenderov // *Anaerobe.* — 2011. — Vol.17 (6). — P. 490-495.
12. Shumikhina I. Su1381 Autoprotiotic: Place in the Prevention of Postinfectious Irritable Bowel Syndrome / I. Shumikhina, Z. Sundukova, O. Solovyeva, V. Simanenkov // *Gastroenterology.* - 2015. — Vol. 148 (4). — P. S-492.
13. Simanenkov V. Tu1779 Personalized Therapy of Gastrointestinal Diseases With Symbiotic Bacteria / V. Simanenkov, A. Suvorov, Z. Sundukova // *Gastroenterology.* - 2014. — Vol. 146 (5). — P. S-841.
14. Steinhoff U. Who controls the crowd? New findings and old questions about the intestinal microflora / U. Steinhoff // *Immunol. Letters.* — 2005. — Vol. 99, Issue 1. — P. 12-16.
15. Kirjavainen P.V. The ability of probiotic bacteria to bind to human intestinal mucus FEMS / P.V. Kirjavainen, A.C. Ouwehand, I.E. Solauri [et al.] // *Microbiol. Lett.* - 1998. — Vol. 167, № 2. — R. 185–189.

ANTISTREPTOCOCCUS ACTIVITY OF ANTIBIOTICS AND ANTISEPTICS

Faustova M.O., Nazarchuk O.A., Ananieva M.M.1

Key words: horosten, dekasana, Streptococcus sanguinis, sensitivity, antibiotics.

The results of studying the influence of modern antiseptics dekasana and horosten against Streptococcus sanguinis clinical strains, obtained from patients with inflammatory diseases of the oral mucosa are presented in the article. The sensitivity of the studied microbial cultures to the aforementioned drugs was detected by serial dilutions according to the standard procedure. In addition, much attention was paid to Streptococcus sanguinis sensitivity to antibiotics of different pharmacological groups and the emergence of these strains' resistance to them. The aim of study was to investigate antimicrobial activity of dekasana and horosten against clinical strains of Streptococcus sanguinis and determination of their minimum inhibitory and bactericidal concentrations (MIC, MBC). It was found that the studied clinical strains are resistant to macrolides and linkosamins action. In turn, dekasana and horosten demonstrate pronounced antibacterial effect against Streptococcus sanguinis that makes them promising in the treatment of bacterial infections in dentistry.

References

1. Hauser-Gerspach. Adhesion of Streptococcus sanguinis to dental implant and restorative materials in vitro / Hauser-Gerspach, Eva M. Kulik, R. Weiger [et al.] // Dental Materials Journal. – 2007. –V. 26 (3). – P.361-366.
2. Kreth J. Streptococcal Antagonism in Oral Biofilms: Streptococcus sanguinis and Streptococcus gordonii Interference with Streptococcus mutans/ J. Kreth, Y. Zhang, M.C. Herzberg // Journal Of Bacteriology. – 2008. - V.190, No. 13. -P. 4632–4640.
3. Oral microbiology / [P. D. Marsh, M. V. Martin, O. Lewis, D. Williams]. – [5th Edition]. - Churchill Livingstone, 2009. - 232p.
4. Paik S. Identification of Virulence Determinants for Endocarditis in Streptococcus sanguinis by Signature-Tagged Mutagenesis / S. Paik, L. Senty, S. Das [et al.] // Infection And Immunity. – 2005. - V. 73, No. 9. - P. 6064–6074
5. Ge X. Identification of Streptococcus sanguinis genes required for biofilm formation and examination of their role in endocarditis virulence / X. Ge, T. Kitten, Z. Chen [et al.] // Infection And Immunity. – 2008. - V. 76, No. 6. - P. 2551–2559
6. Ge Y. Streptococcus mutans and Streptococcus sanguinis colonization correlated with caries experience in children / Y. Ge, P. W. Caufield, G. S. Fisch, Y. Li // Caries Res. – 2008. – V. 42. - P.444-448.
7. Caufield Page W. Natural history of streptococcus sanguinis in the oral cavity of infants: evidence for a discrete window of infectivity / P. W. Caufield, A. P. Dasanayake, Y. Li [et al.] // Infection And Immunity. – 2000. - V. 68, No. 7. - P. 4018–4023.

8. Horinouchi Sueharu. A complex attenuator regulates inducible resistance to macrolides, lincosamides, and streptogramin type b antibiotics in *Streptococcus sanguis* / S. Horinouchi, W.H. Byeon, B. Weisblum // *Journal of bacteriology*. – 1983. - V. 154, No. 3. - P. 1252-1262.
9. Paliy H.K. Doslidzhennya chutlyvosti zbudnykiv hniyno-zapal'nykh zakhvoryuvan' do suchasnykh antymikrobnnykh preparativ / H. K. Paliy, O. A. Nazarchuk, H. H. Nazarchuk [ta in.] // *Zhurnal vushnykh, nosovykh i horlovykh khvorob*. – 2014. – № 1. – S. 52-57.
10. Bereza B. M. Protymikrobna efektyvnist' antyseptykiv u mistsevomu likuvanni zakhvoryuvan' porozhnyny rota / B. M. Bereza, P. O. Kravchuk, V. M. Burkot // *Dovkillya i zdorov'ya : Vseukrayins'ka nauk.-prak. konf.*, 25 kvit. 2014 r. : materialy konf. – Ternopil', 2014. – S. 79-80.
11. Nazarchuk O.A. Chutlyvist' klinichnykh shtamiv *S. aureus* do antybakterial'nykh preparativ / O. A. Nazarchuk, H. H. Nazarchuk, D. V. Paliy, V. V. Sukhlyak // *Ukrayins'kyy medychnyy chasopys*. – 2012. – № 3 (89). – S. 107–109.
12. Sukhlyak V.V. Mikrobiolohichne obgruntuvannya efektyvnosti dekanu u patsiyentiv iz zakhvoryuvannam slyzovoyi obolonky porozhnyny rota / V. V. Sukhlyak, D. V. Paliy, H. M. Poberezhna, N. S. Skryban // *Biomedical and Biosocial Anthropology*. – 2012. – № 18. – S. 95–98.
13. Paliy H.K. Novyy preparat horosten dlya antyseptyky ruk / H.K. Paliy [ta in.] // *Biomedical and biosocial anthropology*. – 2010. - №15. – S. 16-19.
14. Nakaz MOZ Ukrayiny «Pro zatverdzhennya metodychnykh vkazivok «Vyznachennya chutlyvosti mikroorhanizmiv do antybakterial'nykh preparativ» vid 05.04.2007 r. № 167.

CLINICAL AND MORPHOLOGICAL PROGNOSTIC CRITERIA OF WELL-DIFFERENTIATED SQUAMOUS CELL LUNG CARCINOMA OF CENTRAL LOCATION

Filenko B.N., Royko N.V., Proskurnya S.A.

Key words: well-differentiated squamous cell lung carcinoma, morphology, prognosis.

The paper presents the analysis of clinical and morphological features of the course of well-differentiated squamous cell lung carcinoma of central location. The study was aimed at the substantiation of prognostic clinical and morphological criteria for the high differentiated squamous cell lung carcinoma of central location. The findings showed that male population constituted 94,4% of patients with well-differentiated squamous cell lung carcinoma. This index exceeds the data of incidence rate in Ukraine and worldwide, since the histogenetic type of tumor is not taken into account in the generalized data while analyzing the group of non-squamous lung carcinoma or squamous cell carcinoma without specifying the degree of differentiation. The analysis of clinical and morphological indices of high differentiated squamous cell lung carcinoma has revealed the absence of a distinct predictive value of macroscopic characteristics of this histogenetic type of central cancer. Central lung cancer, the development of which is clearly correlated with the primary, lobar or segmental bronchi, is characterized by the three major clinical-and -morphological forms of growth: nodose-peribronchial, nodose-cavernous and nodose-bifurcated.

References

1. Byuleten' natsional'noho kantser-reyestru Ukrayiny № 17 – «Rak v Ukrayini, 2014-2015» / Pid red. O. O. Kolesnik. – K.: Natsional'nyy instytut raku, 2016. – 142 s.
2. Fylenko B.M. Histotopohrafichni osoblyvosti ploskoklitynnoho raku leheni z orohovinnyam tsentral'noyi lokalizatsiyi / B.M. Fylenko, N.V. Royko, S.A. Proskurnya // Zbirnyk materialiv mizhnarodnoyi naukovo-praktychnoyi konferentsiyi «Medychna nauka ta praktyka na suchasnomu istorychnomu etapi». – Kyiv, 2014. – S. 12-14.
3. Fylenko B.M. Morfolohichni ta morfometrychni osoblyvosti ploskoklitynnoho raku leheni / B.M. Fylenko // Visnyk problem biolohiyi ta medytsyny. – 2012. – Vyp. 4, Tom 2. – S. 210-212.
4. Fylenko B.N. Ymmunohystokhymycheskaya kharakterystyka prolyferatyvnoy aktyvnosti y apoptoza ploskokletochnoho raka lehkykh (obzor lyteratury) / B.N. Fylenko, N.V. Royko, A.P. Stepanchuk, S.A. Proskurnya // Wiadomosci Lekarskie. – 2016. – Tom LXIX, nr 2 (cz II). – P.289-294.
5. Kharchenko V.P. Bronkhyoloal'veolyarnyy rak / V.P. Kharchenko, H.A. Halyl-Ohly, E.A. Kohan [y dr.] // Arkhyv patolohyy. – 2000. – № 62 (3). – S. 10-16.
6. Global Cancer Facts & Figures 2007 / [M. Garcia, A. Jemal, E.M. Ward et al.] – Atlanta, GA: American Cancer Society. – 2007. – 52 r.
7. Stellman S.D. Smoking and lung cancer risk in American and Japanese man: an international case-control study / S.D. Stellman, T. Takezaki, L. Wang [et al.] // Cancer epidemiology, biomarkers and prevention. – 2001. – Vol. 10. – P. 1193-1199.
8. World Health Organization Classification of Tumours. Pathology and Genetics of tumours of the lung. Pleura. Thymus and Heart / [W.D. Travis, E. Brambilla, H.K. Muller-Hermelink, C.C. Harris]. – Lyon: IARC Press, 2004. – 344 p.

КЛІНІЧНА ТА ПРОФІЛАКТИЧНА МЕДИЦИНА

UDC 616.22-006.04-08

THERAPEUTIC EFFECT OF IMPROVED CHEMORADIOTHERAPY IN PATIENTS WITH LOCALLY SPREAD SQUAMOUS CELL CARCINOMA OF PHARYNX AND PHARYNGOLARYNX

Zhukova T.O., Vasko L.N., Nestulya K.I.

Higher State Educational Establishment of Ukraine "Ukrainian Medical Stomatological Academy", Poltava Region Clinical Oncologic Dispensary

Larynx cancer and laryngopharynx in the general structure of oncopathology occupies the sixth place. Overall and disease-free survival of patients hospitalized for diseases with III-IV stage is 27 and 11 months [H. Hauswald et al., 2011]. Thus, we can conclude that oncological marker Bcl-2 is one of the mechanisms of low tumor sensitivity to chemo radiation impact, but on the other side is an important predictive marker for possible sensitivity to SCCL and SCCLPH. In our case, this threshold is 20,0% and is common to totally selection where the best response to treatment of oncological process that allows rely on the figure during the choosing of tactics of treatment. Probably, when tumor markers expression mp53 an average of 60,0% had recurrence garden 1 YEAR surveillance and disease progression. With regard to the positive manifestations of oncological process treatment: surveillance 2 YEAR end and at the time of observation, complete and partial responses, stabilization, it expression of tumor markers mp53 averaged 57,0%. Thus, taking expression mp53 tumor markers in 60,0%, as last high threshold, we can offer CRT, which offered 2 subgroup. Thus, it may be noted that the higher the level of Ki-67 expression those earlier relapse occurs. However, the higher expression Ki-67, the better the response of tumor to CRT surveillance at our investigation also confirmed the direct dependence on expression Ki-67, higher expression Ki-67, the better surveillance, dependence on these can be based on choosing method of treatment, the known expression of oncological markers. Thus, we can offer to enter into the necessary diagnostic examination of patients with SCCL and SCCLPH assessment expression of oncological markers mp53, Ki-67, Vcl-2 for the selection of tactics and method of therapy.

Key words: expression of tumour markers Ki-67, Bcl-2 and mp53, squamous cancer of larynx and laryngopharynx, chemoradiotherapy.

This article is the part of the initiative research work of Higher State Educational Establishment of Ukraine "Ukrainian Medical Stomatological Academy": "Congenital and acquired morphological disorders of dentofacial system, organs and tissues of the head and neck, their diagnosis, surgical and conservative treatment» (№ state registration 0111 U 006 301).

Introduction

Cancer of larynx and laryngopharynx ranks the 6th position in the general structure of cancerous diseases. Overall five-year survival time among the patients with the diseases caught in III-IV stage ranges from 11 to 27 months [3, 6]. The growth of laryngeal and laryngopharyngeal cancer over the past decade made up 30.7% in men and 17,6% in women [4]. In Ukraine the incidence of cancer of larynx and laryngopharynx is 5.6 per 100 thousand population, mortality rate caused by laryngeal and laryngopharyngeal cancer is 3,2 per 100 thousand population. Cancer of this localization constitutes 1,3% of all malignant tumours of upper respiratory and digestive passages [6]. According to the relevant data the disease severity of these patients is caused primarily by the volume o cancerous expansion: 70,0% of patients who were hospitalized were diagnosed to have the disease in stage III-IV [6, 7, 8].

This is clearly evident from the fact that in Ukraine among the patients with the disease diagnosed first, 47,7% have stage III and 11,7% have stage IV. In Poltava region, stage III was diagnosed in 66,7% and stage IV – in 6,0% of the patients. In Ukraine, 27,1% did not live up to a year, while in Poltava region this proportion equalled about 23,5%. There is low detection of this pathology during prophylactic check-ups in Ukraine, about 17,6% of cases, and 9,5% of cases in Poltava region that has negative impact on the

outcomes of the diseases [6]. Moreover, the surgical intervention in the stage does not allow us to estimate radio sensitivity of tumours, i.e. to evaluate the response of the patient to the conservative treatment and to avoid surgery [5].

Low values of remote treatment results after remote gamma-therapy (RGT) as a separate approach in the cancer treatment necessitate in searching for effective ways in overcoming tumour radio-resistance and protecting healthy tissues. For this purposes, the variety of treatment options can be recommended, including a combination of radiotherapy and chemotherapy, though complications following this treatment are quite common, up to 57%. The sequence of radiotherapy and chemotherapy as well the efficiency of various schemes of chemotherapy are still disputable.

Despite definite success in this particular field, the results presented in numerous researches are discussible and demand in-dept careful studying. According to various available sources, the patients with locally spread squamous cell carcinoma of pharynx and pharyngolarynx (stage III-IV) have to undergo combined treatment including induction chemotherapy (IC), radiotherapy (RT) with or without surgical intervention. But reasonable uniform methods and approaches regarding the diagnosis and treatment of the patients with cancer of larynx and laryngopharynx do not exist [5, 6]. Thus, the studies aimed at the development of new techniques and to improve existing methods of therapy for cancerous patients, especially in cases of patients' refusal from the surgical operations, as well as in cases when a surgery is contraindicated. The aim of this study is to increase efficiency of treatment of patients with locally spread squamous cell carcinoma of pharynx and pharyngolarynx by improving chemoradiotherapy based on the level of expression of immunohistochemical markers as a factor that reflects ongoing efficiency chemoradiation therapy and predetermines the further course of the disease.

Materials and methods

All patients involved in the study of (n = 108) had almost identical outgoing data, which significantly did not differ. Thus, at the moment of finishing medical check-up the information about of each patient included age, sex, volume of cancer extension by TNM and the stage of the disease, verification of tumour, tumour differentiation degree and histological characteristics, tumour localization, tumour growth form, the term when treatment started.

Patients were divided by blind method into two groups depending on the type of treatment offered to each group, which, in turn, was divided into two subgroups. The patients in group I underwent the following treatment. The patients of the I group, 1 subgroup, received RCT by the standard technique in static mode directed on tumour and regional lymph nodes by conventional fields in 2 stages with the three-week break between the phases SD_{2,6Hr} to TAD 65 - 70Hr. The patients of the I group, 2 subgroup received RCT in static mode on tumour and regional nodes by conventional fields in 2 stages with the three-week break between the stages of multi fractionation daily dose SD_{2,6Hr} (1,3Hr+1,3Hr) to the TAD 65 - 70Hr. Patients of group II were divided into 1 and 2 subgroups and received the following treatment. The 1 subgroup received poly chemotherapy (PCT) in 2 stages of metronome mode: cisplatin, 5-FU with a three-week break. After three weeks of break we started irradiating the classic fractionation in static mode in two stages with a break of 3 weeks of SD_{2,6Hr} (1,3Hr+1,3Hr) to TAD 65 - 70Hr.

The patients of subgroup 2, group II, received poly chemotherapy (PCT) in metronome mode: cisplatin, 5-FU (two repeated courses with intervals of 3 weeks of (like in first subgroup). After three weeks of break we

began irradiation in two stages in static mode with multi-fractionation daily doses. at the first stage of radiation therapy along with irradiation was performed third course PCT. Keeping the interval of 3 weeks to lower the response to radiation, we conducted the second phase of GCT mode multi fractionation with daily doses SD 2,6Hr (1,3Hr 1,3Hr +) to the TAD 65 - 70Hr (106 - 115.5 ed.TDF respectively). The methods of treatment differed from the group I as the patients of group II received CRT, and in previous study we evaluated the level of expression of tumour markers Ki-67, Bcl-2 and mp53.

Results

Analyzing the results obtained from the treatment in I group we took into account the frequency of full and partial regression. They were not the same in both subgroup in I group. Complete regression in the group I made up 6 cases (19,35%) to 3 (12,0%) and differed in 1.6 times ($p < 0,05$), whereby 1 subgroup indicators were slightly higher than in the 2 subgroup. Partial regression also showed better result in 1 subgroup, but it did not differ significantly: 8 (25,82%) to 6 (24,0%) 1 and 2 subgroups respectively. As for the process stabilization, the picture changed, and 2 subgroup showed better result in 1,86 times: 9 (36,0%) to 6 (19,35%) in 2 and 1 subgroup respectively. Progression index also showed better results, 11 (35,48%) to 7 (28,0%) in subgroups 1 and 2, respectively.

During this investigation we evaluated direct effect of the treatment depending on the process of cancer extension (T). The effect obtained by DGT at stage T2 was higher than at T3. Thus, a complete regression at T2 was 4 (16,67%), while at T3, it was 5 (15,63%); partial regression at T2 made up 9 (37,50%), while at T3, it was 5 (15,63%). However, regarding the stabilization process, at T2, the figures were better, 10 (41,67%) to 5 (15,63%) at T3. Results of progression differed, and at T2 it was 1 (4,16%), and at T3 it was 17 (53,12%). This confirmed the significance of stage in outcome prognosis and expectations and the fact that result does not depend on method of dose selection, and a separate use of DGT is insufficient to overcome the oncological processes. We noticed the survival in both subgroups did not differ and was 17 (54,84%) 1 subgroup against 18 (72,0%) 2 subgroup for a year period. Disease-free process during 1 year was registered in 11 (35,48%) patients vs. 8 (32,0%) patients in the subgroup 1 and 2, respectively. Three-year overall survival did not differ significantly: 5 (16,13%) 1 subgroup vs. 6 (24,0%) 2 subgroup, while the course without relapse differed: 1 (3,23%) to 5 (20,0%) in 1 and 2 subgroups, respectively.

We also analyzed the consequences and responses caused by irradiation in both subgroups of I group. It may be noted that the use of RGT in the multi fractionation mode daily dose ($p = 0,05$) reduces skin reaction at T3 in 4 times in comparison with standard RGT fractionation mode: 16,0% vs. 64,51% in 2 and 1 groups, respectively. The mucous membrane of larynx and hypopharynx, this figure is even better: 10,34% of group 2 vs. 55,56% of group 1, i.e. radiation reaction at stage 3 in 2 subgroup is lower than in 1 group in 5 times. We can conclude that multi fractionation dose helps to decrease the radiation reactions that is important, but does not contribute in overcoming cancerous process. In general, the results obtained showed that a separate RGT, regardless of the method of dose administration and concerning tumour responses to treatment, has no difference. These results demonstrate the necessity of finding new methods to combat cancer.

Analyzing the results concerning tumour response to the treatment in II group that total regressions were different, and in 1 subgroup they were 6 (22,22%) compared to 12 patients (48,0%) in 2 subgroup that was 2,16 times better in the 2 subgroup. Partial regressions had no significant difference. Stabilization process

observed in subgroup 1 vs. subgroup 2 made up 8 (29,63%) to 4 (16,0%), that was in 1.85 times better in the treatment proposed for the subgroup 2 .

The results of total survival showed that all patients received in both groups received the treatment reached one year survival period. 17 (62,96%) patients in subgroup 1 had no relapses vs. 22 (88,0%) patients in subgroup 2. During the 2nd year of the observation, the survival in 1 subgroup total was 17 (62,96%) cases compared with 23 (92,0%) cases in subgroup 2, that was in 1,46 times better than in the 1 subgroup. The patients without recurrence in 2 subgroup prevailed as much as twice this value in 1 subgroup, 13 (52,0%) to 7 (25,93%), respectively. During the 3rd year of the observations 20 (80,0%) patients of the 2 subgroup survived vs. 5 (18,52%) patients in subgroup 1.

Disease-free period for the 3 year was significantly different and constituted 9 (36,0%) cases vs. 4 (14,81%) in 2 and 1 subgroup, respectively. Summarizing the data obtained, we can conclude, the treatment method proposed to patients of subgroup 2 was the most effective. This conclusion was also confirmed by the findings of immunohistochemical tests. Drawing the conclusion regarding the dependence of cancer process on the expression Ki-67, Bcl-2 and mp53 performance we can trace mean values of tumour markers in the subgroups, shown in Fig. 1.

Figure 1. Indicators of oncologic markers expression in subgroups.

Figure 1 shows that there is no significant difference in the results of expression in both subgroups. But based on the results obtained by comparing the course of the cancerous process in the subgroups and their responses to the treatment methods, the treatment scheme were proposed to the subgroup 2 was assesses as more effective. Thus, we can conclude that cancer marker Bcl-2 is one of the mechanisms of low tumour sensitivity to chemo radiation impact, but on the other side it is an important predictive marker for possible sensitivity to chemo radiotherapy for spread squamous cell carcinoma of pharynx and pharyngolarynx. In our case, this sensitivity threshold makes up 20,0% and is common trough all sampling.

Probably, when tumour markers expression mp53 was an average of 60,0%, we registered the disease recurrence and progression during the 1st year. A for the positive manifestations of cancerous process treatment, we should stress the surveillance for the 2 year and at the time of observation, complete and partial responses to the treatment, stabilization, and expression of tumour markers mp53 was an average 57,0%. Thus, taking expression mp53 tumour markers of 60,0% as the highest threshold, we can offer CRT, used for the subgroup 2. As for the level of expression Ki-67, when the average of expression was 54 – 55,0% in both groups, the treatment effect in the subgroup 2 was probably high.

Thus, it may be noted the higher the level of Ki-67 expression the earlier relapse occurs. However, the higher expression Ki-67, the better the response of tumour to chemoradiotherapy and better surveillance, that confirms the direct dependence on expression Ki-67. These results can be taken into account when selecting the proper tactics of treatment.

Thus, we can offer to implement the assessment of expression of cancer markers mp53, Ki-67, Vcl-2 as an important diagnostic test into practice in order to select best tactics of the therapy.

References

1. Vinogradov V.M. Osnovnyye printsipy khimioluchevoy terapii / V.M. Vinogradov // Tr. III s"yezda onkol. i radiol., stran SNG. - 2004. - S.329-330.
2. Gladilina I.A. Otdalennyye rezul'taty mul'tifraktsionirovannogo oblucheniya bol'nykh rakom gortanoglotki III- IV stadii zabolevaniya / I.A. Gladilina, B.M. Aliyeva, G.V. Goldobenko // Voprosy onkologii. - 2000. - №1. - T 46. - S. 44-49.
3. Lyubayev V.L. Zlokachestvennyye novoobrazovaniya golovy i shei / V.L. Lyubayev, T.D. Tobolinovskaya // Entsiklopediya klinicheskoy onkologii. – M., 2004. – S. 140–179.
4. Lyubayev V.L. Perspektivy lecheniya zlokachestvennykh opukholey golovy i shei / V. L. Lyubayev // Vestn. ros. onkol. nauch. tsentra RAMN. – 2006. – T. 17, № 2, pril. 1. – S. 35.
5. Kulagin R.N. Ekspressiya r53 kak prognosticheskiy marker v ploskokletochnom rake gortani / R.N. Kulagin // Rossiyskaya otorinolaringologiya. – 2012. – № 6. – S. 92–96.
6. Rak v Ukraїnı, 2014-2015: Zakhvoryuvanıs', smernıs', pokazniki dıyal'nostı onkologıchnoı sluzhbi / [Z.P. Fedorenko, A.V. Gaysenko, L.O. Gulak ta ın.]; pid red. ı.B. Shchepotına – K.: Natsional'niy ınstitut raku, 2015. – 107s.
7. Tkachev S.I. Khimioluchevaya terapiya mestnorasprostranennogo ploskokletochnogo raka golovy i shei / S.I. Tkachev, S.B. Aliyeva // Vestn. Ros. Onkol. Nauch. Tsentra RAMN. - 2006. – V.17, №2, pril. 1. - S. 51-52.
8. Hutcheson K.A. Functional outcomes after chemoradiotherapy of laryngeal and pharyngeal cancers / K.A. Hutcheson, J.S. Lewin // Current oncology reports. – 2012. – Vol. 14 (2). – P. 158–165.
9. Liu W-S. Secondary primary cancer in patients with head and neck carcinoma: the differences among hypopharyngeal, laryngeal, and other sites of head and neck cancer / W-S. Liu, Y-J. Chang, C-L. Lin [et al.] // European Journal of Cancer Care. – 2014. – Vol. 23, № 1. – P. 36–42.
10. Maruo T. Laryngeal sensation and pharyngeal delay time after (chemo)radiotherapy / T. Maruo, Y. Fujimoto, K. Ozawa [et al.] // European archives of oto-rhino-laryngology: official journal of the European Federation of Oto-Rhino-Laryngological Societies (EUFOS): affiliated with the German Society for Oto-Rhino-Laryngology - Head and Neck Surgery. – 2014. – Vol. 271(8). – P. 2299–2304.

PECULIARITIES OF UTEROPLACENTAL HEMODYNAMICS AND FETOPLACENTAL ARTERIAL BLOOD FLOW IN WOMEN WITH MULTIFETAL PREGNANCY

Babinchuk O.V.

Key words: monochorionic diamniotic twin pregnancy, dichorionic diamniotic twin pregnancy, resistance index, pulsatility index, amniotic fluid index.

The aim of the paper was to identify the main peculiarities of utero-placental hemodynamics and fetoplacental arterial blood flow in women with multifetal pregnancy. 114 patients were involved in the study that was carried out in the maternity home №1 of municipal enterprise «Regional Prenatal Centre» during the period from 2013 to 2015. The diagnosis of multifetal pregnancy was established by objective examination and was confirmed by ultrasound investigation. All patients were subdivided into 2 groups depending on chorionicity: the first group included 49 (42,98%) patients with 3 monoovular twins, which included monoamniotic (6 women) and diamniotic (43 people); the second one included 65 (57,02%) patients with dichorionic-diamniotic twins, as chorionicity and amniotic type determine the course of pregnancy and its consequences, prenatal diseases and mortality. Studying the state of utero-placental-fetal circulation, it was determined that the uncomplicated course of multifetal pregnancy, indices of blood flow in the umbilical artery demonstrated a trend towards the decrease in resistance index, pulsatility index and systolic-diastolic ratio during the development of pregnancy, and the growth in blood flow indices indicated the increase in peripheral resistance. While studying the blood flow in uterine arteries the index of blood flow at monoovular multifetal pregnancy during the progression of gestation did not reduce but increased that suggested the pathology of utero-placental circulation even in uncomplicated pregnancy. Studying the blood flow in middle cerebral arteries of the foetuses we found out the physiological course of multifetal pregnancy can lead to the decrease in indices of peripheral resistance while gestation period increase. This is caused by the increase in diastolic component of blood flow. During the pathological course of multifetal pregnancy we observed significant decrease in indices of cerebral blood flow that indicated the redistribution of blood supply for better oxygen supply of brain in cases of hypoxia. Comparing the values of amniotic fluid indices of foetuses from different chorionicities we revealed a tendency toward the moderate decrease in amniotic fluid in both foetuses with monochorionic type of placentation in relation to the foetuses of dichorionic placentation type that can negatively affect fetal development and the future childbearing.

References

1. Tudela F. The association between maternal height and pregnancy outcomes in twin gestations / F. Tudela, S. Gupta, A. Rebarber [et al.] // *J. Matern. Fetal Neonatal Med.* – 2016. – № 29 (23). – P. 3796-3799.
2. Maruotti G.M. First-trimester ultrasound determination of chorionicity in twin gestations using the lambda sign: a systematic review and meta-analysis / G.M. Maruotti, G. Saccone, M. Morlando [et al.] // *Eur. J. Obstet. Gynecol. Reprod. Biol.* – 2016. – № 202. – P. 66-70.
3. Shebl O. The role of mode of conception in outcome of twin pregnancies / O. Shebl, T. Ebner, A. Sir [et al.] // *Minerva Gynecol.* – 2009. – № 61 (2). – P. 141-152.
4. Stirrup O.T. Patterns of Second- and Third-Trimester Growth and Discordance in Twin Pregnancy: Analysis of the Southwest Thames Obstetric Research Collaborative (STORK) Multiple Pregnancy Cohort [Electronic resource] / O.T. Stirrup, A. Khalil, F. D'Antonio [et al.] // *Fetal Diagn Ther.* – 2017. - Vol. 41, No. 2. - Access mode: <https://www.ncbi.nlm.nih.gov/labs/articles/27622538/>.
5. Treyvaud K. The influence of multiple birth and bereavement on maternal and family outcomes 2 and 7 years after very preterm birth / K. Treyvaud, A.C. Aldana, S.E. Scratch [et al.] // *Early Hum Dev.* – 2016. – № 100. – P. 1-5.

6. Sichinava L.G. Ul'trazvukovaya, diagnostika v taktike vedeniya beremennosti i rodov pri mnogoploдии / L.G. Sichinava, O.B. Panina, S.A. Kalashnikov // Akusherstvo i ginekologiya. – 2001. – № 6. – S. 5-9.
7. Levytska K. Placental Pathology in Relation to Uterine Artery Doppler Findings in Pregnancies with Severe Intrauterine Growth Restriction and Abnormal Umbilical Artery Doppler Changes / K. Levytska, M. Higgins, N.J. Sebire // Am. J. Perinatol. – 2016. – Sep.20. – P. 642-647.
8. Wei J. Complications in multiple gestation pregnancy: A cross-sectional study of ten maternal-fetal medicine centers in China / J. Wei, Q.J. Wu, T.N. Zhang [et al.] // Oncotarget. – 2016. – № 7 (21). – P. 797-803.
9. Chang Y.L. Increased Fetal Plasma Erythropoietin in Monochorionic Twin Pregnancies With Selective Intrauterine Growth Restriction and Abnormal Umbilical Artery Doppler / Y.L. Chang, A.S. Chao, H.H. Peng [et al.] // Twin Res Hum Genet. – 2016. – № 19 (4). – P. 383-388.
10. Bracero L.A. Ultrasound and histological measurements of dividing membrane thickness in twin gestations / L.A. Bracero, C. Huff, M.J. Blitz [et al.] // Ultrasound Obstet. Gynecol. – 2016. doi: 10.1002/uog.17337.
11. Pourali L. Obstetrics and perinatal outcomes of dichorionic twin pregnancy following ART compared with spontaneous pregnancy / L. Pourali, S. Ayati, S. Jelodar [et al.] // Int. J. Reprod. Biomed. (Yazd). – 2016. – № 14 (5). - P. 317-322.

LAPAROSCOPIC CORRECTION OF UNCOMPLICATED INGUINAL HERNIA IN CHILDREN

Baybakov V. M.

Key words: inguinal hernia, laparoscopy, children.

Objectives: to increase the effectiveness of surgical treatment of children with uncomplicated inguinal hernias by improving operational tactics. During the period from 2013 to 2016 at the surgical department of Municipal Medical Centre named after prof. M.F. Rudnev, Dnipro, 187 laparoscopic procedures were performed by the proposed method over the uncomplicated inguinal hernias in children (boys - 102, girls - 85). All the children were under the age of 5 years. The basis of the model proposed for surgical treatment of the task to improve the known method of laparoscopic correction uncomplicated inguinal hernias in children (herniogrrophy PIRS) was set. On the background of an inguinal hernia of testicular blood flow disorders in boys and disorders of vascularisation of the ovary in girls are risk factors for infertility in the reproductive period. Among the measures aimed at restoring drainage systems disorders of testicular inguinal hernias in males, and the preservation of ovarian vascularisation in girls with surgical intervention, it is dominated by the use of pathogenetically grounded method of surgical correction of pathology at the level of the deep inguinal ring with the use of modern laparoscopic technique. Ultrasonic method of study using Doppler technology is a highly effective way to assess both anatomical parameters with regard to the

size of the testis in boys and ovaries in girls, vessels, parenchyma state of reproductive organs, and functional parameters.

References

1. Akbashev R.N. Laparoskopicheskoe lechenye ushchemlënnnykh pakhovykh hryzh u detey : avtoref. dys. na coyskanye uchenoy stepeny kand. med. nauk : spets. 14.00.35 «Det-skaya khyrurhyya» / R.N. Akbashev. – Ufa, 2006. – 23 s.
2. Akhtemiychuk YU.T. Topografo-anatomichne obgruntuvannya khirurhichnykh operatsiy / YU.T. Akhtemiychuk, P.M. Skoreyko // Ukrayins'kyi morfologichnyy al'manakh. – 2005. – T. 3, № 3. – S. 3-8.
3. Horbatiuk O. M. Diahnostyka sudynnykh rozladiv yayechna u ditey pry yoho khirurhichniy patolohiyi / O. M. Horbatiuk : materialy konf. prysvyachenoyi 30-richchyu kliniky sudynnoyi khirurhiyi u L'vovi [«Aktual'ni pytannya anhiolohiyi»], (m. L'viv, 5-7 zhovtnya 2000 r.). – L'viv, 2000. – S. 74.
4. Horbatiuk O. M. Zahal'ni zakonomirnosti patohenezu cholovichoyi neplidnosti, obumovlenoyi patolohiyeyu vahinal'noho vidrostka ocherevyny / O. M. Horbatiuk // Urolohiya. – 2000. – № 2. – S. 47-49.
5. Hrytsulyak B. V. Stan makro- ta mikrotsyrkulyatornoho rusla i parenkhimy yayechna v umovakh pryamoyi pakhvynnoyi hryzhi u cholovikiv reproduktyvnoho viku / B. V. Hrytsulyak, V. B. Hrytsulyak, O. YE. Khallo // Halyts'kyi likars'kyi visnyk. – 2010. – № 1. – S. 26-27.
6. Hrytsulyak B. V. Strukturno-funktsional'ni osoblyvosti krovonosnoho rusla i parenkhimy yayechna ta nad'yayechna u cholovikiv vikom 75-90 rokiv / B. V. Hrytsulyak, V. B. Hrytsulyak, O. I. Hotyur // Naukovyy visnyk Uzhhorods'koho nats. un-tu. Seriya «Medytsyna». – 2013. – Vyp.1(46). – S. 12-15.
7. Dronov A. F. Éndoskopicheskaya khyrurhyya u detey / A. F. Dronov, Y. V. Poddubnyy, V. Y. Kotlobovskyy. – M. : HÉOTAR-Medya, 2002. – 437 s.
8. Bozhedomov V. A. Patohenez snyzhenyya fertyl'nosti pry autoymunnykh reaktsyyakh protyv spermatozoydov / V. A. Bozhedomov, M. A. Nykolaeva, Y. V. Ushakova [y dr.] // Akusherstvo y hynekolohyya. – 2012. – T. 8, № 2. – S. 64-69.
9. Stal'makhovych V. N. Éndoskopicheskoe yly otkrytoe pakhovoe hryzhesechenye / V. N. Stal'makhovych : materyaly Rossyyskoho sympozyuma det-skykh khyrurhov [“Khyrurhyya patolohyy polovoho razvytyya u detey”], h. Saratov 24-26 aprelya, 2007 h. – Saratov, 2007. – S. 48.
10. Yatskiv O. H. Prychyny i formy cholovichoho neplidyya ta metody diahnostryky eyakulyatu yak osnovnoho pokaznyka cholovichoho zdorov'ya / O. H. Yatskiv, A. T. Tarnovs'ka // Visnyk L'vivs'koho universytetu. Seriya «Biolohichna». – 2012. – Vyp. 60. – S. 4-20.
11. Carneiro P. M. Occurrence of contralateral inguinal hernia in children following unilateral inguinal herniotomy / P. M. Carneiro, L. Rwanyuma // East. Afr. Med. J. – 2004. – Vol. 81, № 11. – P. 574-576.
12. Owings E. P. A new technique for laparoscopic exploration to find contralateral patent processus vaginalis / E. P. Owings, K. E. Georgeson // Surg. Endosc. – 2000. – Vol. 14, № 2. – P. 114-116.

13. Schier F. Direct inguinal hernias in children: laparoscopic aspects / F. Schier // *Pediatr. Surg. Int.* – 2010. – Vol. 16, № 8. – P. 562-564.

14. Tan H. L. Laparoscopic repair of inguinal hernias in children / H. L. Tan // *J. Pediatr. Surg.* – 2001. – Vol. 36, № 5. – P. 880-833.

INFLUENCE OF COMPUTER LOAD ON TEAR QUALITATIVE COMPOSITION

Bezkorovayna I.N., Ryadnova V.V., Voskresenska L.K., Nakonechnyi D.O.

Key words: computer load, tear native crystallography, crystallographic characteristics.

The article presents the results of examination of 60 students aged 19 to 26 years. Students received the dosed computer load lasting 60, 90, 120 and 240 minutes. The load for 60 minutes resulted in little significant changes in crystallographic characteristics in crystallogram, and the ability to tear production was preserved that pointed out the safety of computer operating for this time interval. 90 minute load is accompanied with the increase in the number of pathological crystallographic features by 19%, and the ability to tear production stays unchangeable that indicated the initial imbalance between the tear components. 120 and 240 minute period is accompanied by the presence of cruciform salt crystals in the central area and impaired tear production that is the evidence of considerable imbalance between tear components.

References

1. Artyukhov I.P. Otsenka sostoyaniya zdorov'ya studentov vysshikh uchebnykh zavedeniy goroda Krasnoyarska / I.P. Artyukhov, D.S. Kaskayeva // *Sibirskoye meditsinskoye obozreniye.* - 2014. - № 6. - S. 61–64.

2. Brzheskiy V. V. Sleznyaya zhidkost' - biologicheskiy material dlya diagnosticheskikh issledovaniy / V.V. Brzheskiy, Ye.Ye. Somov // *Aktual'nyye problemy detskoj oftal'mologii: Nauch. materia-ly.* - SPb., 1995. - S. 28-31.

3. Zavgorodnyaya N.G. Tsitologicheskiy status kon'yunktivy i izmeneniya kachestvennogo sostava slezy u patsiyentov s sindromom «sukhogo glaza» posle instillyatsiy sovremennykh topicheskikh ftorkhinolonov / N. G. Zavgorodnyaya, A. A. Brizhan' // *Zaporozhskiy meditsinskiy zhurnal.* – 2014. - 3 (84). – S. 52-58.

4. Kozina Ye.V. Donozologicheskaya diagnostika sindroma «sukhogo glaza» u studentov meditsinskogo vuza / Ye.V. Kozina, S.F. Sinyapko, V.T. Gololobov, P.M. Balashova, I.A. Kokh, T.F. Kochetova // *Tikhookeanskiy meditsinskiy zhurnal.* – 2015. - №3. - S.42-45.

6. Kochina M.P. Rezul'taty otsenki funktsional'nogo sostoyaniya pol'zovateley informatsionnykh tekhnologiy s ispol'zovaniyem faktornykh modeley / M.P. Kochina, N.P. Poletova // *Svít meditsini ta biológíi.* - № 4. - 2009. - S.123.

7. Moshetova L.K. Sovremennoye predstavleniye o sleznoy zhidkosti, znacheniiye yeye v diagnostike / L.K. Moshetova, O.A. Volkov // *Klinicheskaya oftal'mologiya.* - 2004. -T. 5. – № 4. – S. 138-139.

8. Somov Ye.Ye. Zritel'nyye i inyye narusheniya u pol'zovateley personal'nykh komp'yuterov: Klinicheskaya oftal'mologiya / Ye.Ye. Somov - M.: Med. press-inform, 2012. - S.389-396.

PECULIARITIES OF PREDICTING POSSIBLE COMPLICATIONS OF POST-TERM PREGNANCY AND POST-DATED DELIVERY

Bohuslavskaya N. Yu.

Key words: prolonged pregnancy, discriminant analysis, Wilks' Lambda, prognosis.

The aim of the study is to evaluate clinical and prognostic role of homocysteine in women during prolonged pregnancy. In order to achieve the aim of the study the analysis of case histories of 96 pregnant women who delivered their babies between 41-42 weeks of gestation for the period of 2013 – 2015. The control group involved 41 pregnant women who did not differ from the group of the comparison but had deliveries in the period of 37-40 weeks. The patients were divided into 2 groups depending on gestation period: the first group contained 41 patients with deliveries in the period of 37-40 weeks; the second one included 96 patients who had deliveries between 41-42 weeks of gestation. The average age of pregnant women in the group of post-term pregnancy was 27,54 years, ranging from 15 to 45, and the age of control group of patients was 27,9, ranging from 15 to 45 as well. The age of pregnant women in all groups ranged from 15 to 45 years, and the mean age was $27,29 \pm 0,40$. All women of the second group demonstrated the high morbidity in comparison with the control group. The evaluation of anamnestic data determined that the major part of the patients of the second group (53,13%) and a quarter of pregnant women of the first group (24,39%) suffered from extragenital diseases. Multiple linear discriminant analysis was used to develop differential algorithm for prognosis of possible complications of post-dated pregnancies. The procedure of this analysis included the selection of the most informative signs performed by step-by-step variable inclusion. According to the results of linear discriminant analysis the most pronounced discriminant ability was characteristic for the following signs: post-termed pregnancy (beyond 41 weeks of gestation), high level of blood homocysteine, abnormality in hormonal profile of fetal-placental complex, high pulsatility level of arteries of navel cord at Doppler imaging, negative outcomes of previous pregnancies (Wilks' Lambda = 0,071, F = 32,41 p <0,01). Gynaecological anamnesis and the presence of extragenital conditions were similar to statistical significant values (p > 0,05). This discriminant model demonstrated high sensitivity (more than 90%) that enables to diagnose and determine the possibility of complications occurrence with high accuracy. This method also contributes not only in detecting the patients of risk group but can recommend to chose proper specialized care. Further investigations of potential determinants of the development of complications during prolonged pregnancy are required.

References

1. Rosati P. A comparison between amniotic fluid index and the single deepest vertical pocket technique in predicting adverse outcome in prolonged pregnancy / P. Rosati, L. Guariglia, A.F. Cavaliere [et al.] // J. Prenat. Med. – 2015. – Vol. 9 (1-2). – P. 12-15.
2. Akay N.Ö. Comparison of low-dose oxytocin and dinoprostone for labor induction in postterm pregnancies: a randomized controlled prospective study / N.Ö. Akay, D. Hızlı, S.S. Yılmaz [et al.] // Gynecol. Obstet. Invest. – 2012. – Vol.73 (3). - P. 242-247.

3. Wang M. Common questions about late-term and postterm pregnancy / M. Wang, P. Fontaine // *Am. Fam. Physician.* – 2014. – Vol. 90 (3), № 1. – P. 160-165.
4. Vitale S.G. Diagnosis, antenatal surveillance and management of prolonged pregnancy: current perspectives / S.G. Vitale, I. Marilli, A.M. Rapisarda [et al.] // *Minerva Ginecol.* – 2015. – Vol. 67 (4). – P. 365-373.
5. Chabra S. Postterm, postdates, and prolonged pregnancy: need for simplification of terminology / S. Chabra // *Obstet. Gynecol.* – 2015. – Vol. 125 (4). – P. 980-981.
6. Ayyavoo A. Postterm births: are prolonged pregnancies too long? / A. Ayyavoo, J.G. Derraik, P.L. Hofman [et al.] // *J. Pediatr.* – 2014. – Vol. 164 (3). – P. 647-651.

REVIEW OF CHEMOTHERAPY MODES IN TREATING GASTRIC CANCER

Bondar V.G., Gasmi Mohamed Mehdi

Key words: stomach cancer, Mitomycin C, Irinotecan.

The latest ESMO and NCCN recommendations for the treatment of metastatic stomach cancer suggest the use of triple component chemotherapy. The comparative study of two modes with the inclusion of irinotecan in a dose of 120 mg/m² every 2 weeks, oxaliplatin 85 mg/m² every 2 weeks, and irinotecan in a dose of 150 mg/m² / in 1, 8, 22, 29 days with Mitomycin C in a dose of 8 mg/m² in 1 day; the course repeated with a 6-week break. Both modes showed satisfactory tolerance without significant gastrointestinal and haematological toxicity. It is necessary to plan further studying the development of ternary schemes with the development of the algorithm and its broad implementation into oncological practice.

References

1. Bondar' G.V. Aktual'nyye voprosy khimioterapii raka zheludka / G.V. Bondar', A.V. Sidyuk, N.YU. Lisovskaya [i dr.] // *Mezhdunarodnyy meditsinskiy zhurnal.* – 2012. – № 1. – S. 79-83.
2. Klinicheskiye rekomendatsii po diagnostike i lecheniyu bol'nykh rakom zheludka / [N.S. Besova, M.YU. Byakhov, V.A. Gorbunova i dr.]. – M., 2014. – S. 21-35.
3. Glimelius B. Initial or delayed chemotherapy with best supportive care in advanced gastric cancer / B. Glimelius, K. Hoffman, U. Haglund [et al.] // *Annals of Oncology.* - 1994. - Vol. 5, № 2. - R. 189–190.
4. Pyrhönen S. Randomized comparison of fluorouracil, epidoxorubicin and methotrexate (FEMTX) plus supportive care with supportive care alone in patients with non-resettable gastric cancer / S. Pyrhönen, T. Kuitunen, P. Nyandoto [et al.] // *British Journal of Cancer.* - 1995. - Vol. 71, № 3. - R. 587–591.

5. Boku N. Fluorouracil versus combination of irinotecan plus cisplatin versus S-1 in metastatic gastric cancer: a randomized phase 3 study / N. Boku, S. Yamamoto, H. Fukuda [et al.] // *The Lancet Oncology*. - 2009. - Vol. 10, № 11. - R. 1063–1069.
6. Koizumi W. S-1 plus cisplatin versus S-1 alone for first-line treatment of advanced gastric cancer (SPIRITS trial): a phase III trial / W. Koizumi, H. Narahara, T. Hara [et al.] // *The Lancet Oncology*. - 2008. - Vol. 9, № 3. - R. 215–221.
7. Thus-Patience P. C. Irinotecan versus best supportive care (BSC) as second-line therapy in gastric cancer: a randomized phase III study of the Arbeitsgemeinschaft Internische Onkologie (AIO) / P. C. Thus-Patience, A. Kretzschmar, T. Deist // *Journal of Clinical Oncology*. - 2009. - Vol. 27. - P. 2306-2314.
8. Bionc A. Gastric cancer treatment: a different path in the elderly? / A. Bionc, F.C. Canonize, R. Persian // *J. Am. Coll. Surg.* – 2012. – Vol. 215 (6). – P. 858-867.
9. Boku N. Phase ii study of a combination of irinotecan and cisplatin against metastatic gastric cancer / N. Boku, A. Ohtsu, Y. Shimada [et al.] // *Journal of Clinical Oncology*. - 1999. - Vol. 17, № 1. - R. 319–323.
10. Yamao T. Phase I-II study of irinotecan combined with mitomycin-C in patients with advanced gastric cancer / T. Yamao, K. Shiras, Y. Matsumura [et al.] // *Annals of Oncology*. - 2001. - Vol. 12, № 12. - R. 1729–1735.
11. Ajani J.A. Multicenter phase III comparison of cisplatin/S-1 with cisplatin/infusion fluorouracil in advanced gastric or gastro esophageal adenocarcinoma study: the FLAGS trial / J. A. Ajani, W. Rodriguez, G. Bodoky [et al.] // *Journal of Clinical Oncology*. - 2010. - Vol. 28, № 9. - R. 1547–1553.
12. Bamias Phase II study of irinotecan and mitomycin C in 5-fluorouracil-pretreated patients with advanced colorectal and gastric cancer / A. Bamias, D. Papa Michael, K. Syringes [et al.] // *Journal of Chemotherapy*. - 2003. - Vol. 15, № 3. - R. 275–281.
13. Giuliani F. Irinotecan (CPT-11) and mitomycin-C (MMC) as second-line therapy in advanced gastric cancer: a phase II study of the Grippe Oncologic dell' Italia meridionale (port 2106) / F. Giuliani, S. Mullica, E. Maiello [et al.] // *American Journal of Clinical Oncology*. - 2005. - Vol. 28, № 6. - R. 581–585.
14. Kim S. H. A phase II study of irinotecan, continuous 5-fluorouracil, and leucovorin (FOLFIRI) combination chemotherapy for patients with recurrent or metastatic gastric cancer previously treated with a fluoropyrimidine-based regimen / S. H. Kim, G. W. Lee, S. I. Go [et al.] // *American Journal of Clinical Oncology*. - 2010. - Vol. 33, № 6. - R. 572–576.
15. Zhang H. Does D3 surgery offer a better survival outcome compared to D1 surgery for gastric cancer? A result based on a hospital population of two decades as taking D2 surgery for reference / H. Zhang, C. Liu, D. Wu [et al.] // *BMC Cancer*. – 2010. – Vol. 20 (10). – P. 308.

MODEL OF PREDICTING DILATATION OF LEFT HEART CHAMBERS FOLLOWING OLD MYOCARDIAL INFARCTION WITHIN 6 MONTH OBSERVATION UNDER CONCOMITANT OBESITY

Borzova-Kosse S. I., Kravchun P. G., Ryndina N. G.

Key words: thrombospondin-2, myocardial infarction, obesity, risk prediction, osteopontin.

The article presents the results of evaluation of prognostic properties of thrombospondin-2 and osteopontin towards the development of dilatation of the left heart chambers in patients with old myocardial infarction and concomitant obesity during a 6-month follow-up period by using logistic regression procedure. The overall erroneous prognosis for the development of left chamber dilatation after myocardial infarction in the patients with obesity made up 10%. The concentration of thrombospondin-2 and osteopontin showed high sensitivity that suggests that these indicators are markers of the risk of left chamber dilatation after myocardial infarction during 6-month follow-up period in the patients with obesity.

References

1. Bohomolov A.V. Tekhnolohyya ROC-analyza kachestva dyahnostycheskykh medyko-byolohycheskykh yssledovanyy / A. V. Bohomolov, YU.A. Kukushkyn // Systemnyy analiz v medytsyne: materyaly VII Mezhdunarod. nauch. konf. pod obshch. red. V.P. Kolosova. – Blahoveshchensk, 2013. – S. 7–10.
2. Volkova S.YU. Prohnostycheskaya tsennost' opredelenyya urovnya v plazme neyrohumoral'nykh medyatorov v podostrom peryode ynfarkta myokarda s zubtsom Q / S.YU. Volkova // Kardyolohyya. – 2008. – T. 48, № 10. – S. 24-28.
3. Voronkov L.H. Patsiyent iz KHSN v Ukrayini: analiz usiyeyi populyatsiyi patsiyentiv, obstezhenykh u ramkakh pershoho natsional'noho zrizovoho doslidzhennya UNIVERS / L.H. Voronkov // Sertseva nedostatnist'. – 2012. – № 1. – S. 8–14;
4. Zaklady okhorony zdorov'ya ta zakhvoryuvanist' naselennya Ukrayiny u 2013 rotsi [Elektronnyy resurs] / Derzhavna sluzhba statystyky Ukrayiny // Statystychnyy byuleten'. – 2014. – Rezhym dostupu: www.ukrstat.gov.ua;
5. Byulleten' Vsemyrnoy orhanyzatsyy zdravookhranennya, Vypusk 94, Nomer 6 [Elektronnyy resurs] // Vsemyrnaya orhanyzatsyya zdravookhranennya. – 2016. – Rezhym dostupu do resursu: <http://www.who.int/bulletin/volumes/94/6/ru/>.
6. Lyskova YU. V. Neyroéndokrynnye markery khronycheskoy serdechnoy nedostatochnosti: znachenye dlya dyahnostyky y prohnozyrovannya [Elektronnyy resurs] / YU. V. Lyskova, M. V. Stolbova, A. A. Stadnykov // Sovremennyye problemy nauky y obrazovannya. – 2015. – № 5. – Rezhym dostupu do resursu: <https://www.science-education.ru/ru/article/view?id=22604>.
7. Serdechno-sosudystye zabolevannya [Elektronnyy resurs]. // Ynformatsyonnyy byuleten'. – 2015. – № 317. – Rezhym dostupa : <http://www.who.int/mediacentre/factsheets/fs317/ru/>.

8. Klusonova P. Chronic intermittent hypoxia induces 11beta-hydroxysteroid dehydrogenase in rat heart / P. Klusonova, L. Rehakova, G. Borchert [et al.] // *Endocrinology*. – 2009. – Vol. 150 (9). – P. 4270-4277.
9. Shinsuke H. Circulating thrombospondin-2 reflects disease severity and predicts outcome of heart failure with reduced ejection fraction / H. Shinsuke, I. Yasuhiro, T. Seiji [et al.] // *Circulation Journal*. – 2014. – Vol. 78. – P. 903-910.
10. Krishnamurthy P. Inhibition of matrix metalloproteinases improves left ventricular function in mice lacking osteopontin after myocardial infarction / P. Krishnamurthy, J.T. Peterson, V. Subramanian [et al.] // *Mol. Cell. Biochem.* – 2009. – Vol. 322 (1-2). – P. 53-62.
11. Gomez-Ambrosi J. Plasma osteopontin levels and expression in adipose tissue are increased in obesity / J. Gomez-Ambrosi, V. Catalan, B. Ramirez [et al.] // *J. Clin. Endocrinol. Metab.* – 2007. – Vol. 92 (9). – P. 3719-3727.
12. Schellings M.W. Matricellular proteins in the heart: possible role during stress and remodeling / M.W. Schellings, Y.M. Pinto, S. Heymans // *Cardiovasc. Res* – 2010. – Vol. 64 – P. 24 –31.
13. Yang Z. Extracellular matrix metalloproteinase 2 levels are regulated by the low-density lipoprotein-related scavenger receptor and thrombospondin 2 / Z. Yang, D.K. Strickland, P. Bornstein // *J. Biol. Chem.* – 2011. – Vol. 276 (11). – P. 8403–8840.

PATHOGENETIC THERAPY OF ACNE AND PATHOMORPHOLOGICAL CHANGES IN SKIN DURING SANOGENESIS

Hubina-Vakulik H.I., Bronova I.M.

Key words: acne, systemic retinoids, skin pathomorphology.

The article presents the current conceptions on the aetiology, pathogenesis, clinical picture and approaches in the treatment of acne. The results obtained are based on the experience of treating 20 patients with severe acne and include the analysis of medical history (past therapy and its effectiveness), peculiarities in using systemic retinoids nowadays. Objectives: to study the dynamics of clinical manifestations of the disease and morphological changes in the skin under the treatment of systemic retinoids («Aknetin»). Materials and methods. Biopsy from the patients with severe acne was taken three times: before the treatment, throughout the course and at the end of therapy. Conclusions. Along with pronounced positive dynamics of the rash disappearance we noted the positive dynamics of morphological changes in the skin. Prior the treatment the epithelial cells of all epithelial skin components were hyperplastic, and in the hair follicles due to follicular hyperkeratosis there was a "blockage" of the lumen of the hair vaginal epithelial cells and keratin, the presence of a macrophage-lymphocyte perifolliculitis and suppurative folliculitis. During the therapy the number of epithelial cells decreased in all skin cells, there were signs of maturation of young cells; inflammation in the dermis was disappearing, while sclerosis, scarring was increasing.

References

1. Kutasevych YA.F. Opyt lechenyia tyazhelykh form uhrevoy bolezny / YA.F. Kutasevych, Y.A. Mashtakova // Ukrayins'kyi zhurnal dermatolohiyi, venerolohiyi, kosmetolohiyi. – 2011. – № 3. – S. 66–72.
2. Clearihan L. Acne. Myths and management issues / L. Clearihan // Aust. Fam. Physician. – 2001. – Vol.30, N 11. – R.1039–1044.
3. Knutsen-Larson S. Acne vulgaris: pathogenesis, treatment, and needs assessment / S. Knutsen-Larson, A.L. Dawson, C.A. Dunnick, R.P. Dellavalle // Dermatol Clin. – 2012. – Vol. 30. – P. 99–106.
4. Tan J.K. A global perspective on the epidemiology of acne / J.K. Tan, K. Bhate // Br J Dermatol. – 2015. – Vol. 17. – P. 3-12.
5. Adaskevych V.P. Kozhnye y venerycheskye bolezny: uchebnoe posobye / V.P. Adaskevych, V.M. Kozyn. – M.: Med. lyt., 2006. – 672 s.
6. Zakharova A.Y. Yzuchenye urovnya aleksytymyy u patsyentok s akne / A.Y. Zakharova // Medychna psykholohiya. – 2013. – № 3. – S. 104–107.
7. Zakharova H.I. Vyvchennya osoblyvostey emotsiyno-vol'ovoyi sfery u patsiyentiv, yaki strazhdayut' na vuhrovu khvorobu / H.I. Zakharova // Arkhiv psykhatriyi. – 2013. – № 3. – S. 94.
8. Potekaev N.N. Psykhosomatycheskye aspekty uhrevoy bolezny u zhenshchyn / N.N. Potekaev, M.V. Horyachkyna, V.V. Savenkov, T.A. Belousova // Dermatolohyya: prylozhenye k zhurnalu Consilium Medicum. – 2009. – № 3. – S. 7–11.
9. Guy R. Modelling the infundibulum in acne / R. Guy, T. Kealey // Dermatology. – 1998. – Vol. 196. – P. 32–37.
10. Ernando-Harder A.C. Helicobacter pylori Infection and Skin Disease / A.C. Ernando-Harder, N. Booken, S. Goerdts, M.V. Singer., H. Harder // Esp. J. Dermatol. – 2009. – Vol. 19, N 5. – R. 431–444.
11. Kuwahara K. Nadifloxacin, an antiacne quinolone antimicrobial, inhibits the production of proinflammatory cytokines by human peripheral blood mononuclear cells and normal human keratinocytes / K. Kuwahara, T. Kitazawa, H. Kitagaki, T. Tsukamoto, M. Kikuchi // J. Dermatol. Sci. – 2005. – Vol. 38. – P. 47–55.
12. Plewig G. Acne & rosacea / G. Plewig, A. Kligman. – 3rd ed. – Berlin: Springer, 2002. – 744 p.
13. Bolotnaya L.A. Yspol'zovanye syntetycheskykh retynoydov novoho pokolenyia dlya naruzhnoho lechenyia akne / L.A. Bolotnaya // Ukrayins'kyi zhurnal dermatolohiyi, venerolohiyi, kosmetolohiyi. – 2014. – № 2. – S. 102–108.
14. Holousenko Y.YU. Kachestvo zhyzny y psykholohycheskyi status zhenshchyn s akne / Y.YU. Holousenko, K.B. Ol'khovskaya, A.O. Lyapon // Lechebnoe delo. – 2012. – № 4. – S.15–19.
15. Webster G.F. Acne vulgaris / G.F. Webster // BMJ. – 2002. – Vol. 325. – R. 475–479.
16. Strauss J.S. Guidelines of care for acne vulgaris management / J.S. Strauss, D.P. Krowchuk, J.J. Leyden [et al.] // J Am Acad Dermatol. – 2007. – Vol. 56 (4). – R. 651–663.

17. Alexis A.F. Acne vulgaris in skin of color: understanding nuances and optimizing treatment outcomes / A.F. Alexis // *J Drugs Dermatol.* – 2014. – Vol. 13(6). – S. 61–65.
18. Muzychenko A.P. Osobennosty psichosomatycheskoho statusa patsyentov ot rozatsea / A.P. Muzychenko // *Medytsynskaya panorama.* - 2011. - № 1. – S. 63–65.
19. Saitta P. An update on the presence of psychiatric comorbidities in acne patients, Part 2: Depression, anxiety, and suicide / P. Saitta, P. Keehan, J. Yousif, B.V. Way, S. Grekin, R. Brancaccio // *Cutis.* – 2011. – Vol. 88. – P. 92–97.
20. Yin N.C. Acne in patients with skin of color: practical management / N.C. Yin, A.J. McMichael // *Am J Clin Dermatol.* – 2014. – Vol. 15 (1). – P. 7–16.
21. Purvis D. Acne, anxiety, depression and suicide in teenagers: a cross-sectional survey of New Zealand secondary school students / D. Purvis, E. Robinson, S. Merry, P. Watson // *J Paediatr Child Health.* – 2006. – Vol. 42 (12). – P. 793–796.
22. Shannon H. Acne vulgaris: More than skin deep / H. Shannon, S. Jasdeep, J. Klotz // *Dermatology Online J.* – 2003. – Vol. 9 (3). – P. 8.
23. Melnik B. FGFR2 signaling and the pathogenesis of acne / B. Melnik, G. Schmitz // *J Dtsch Dermatol Ges.* – 2008. – Vol. 6 (9). – P. 721–728.
24. Akne y rozatsea / pod red. H.H. Potekaeva – M.: BYNOM, 2007. – 216 s.
25. Petrenko A.V. Suchasne uyavlennya pro patohenez ta terapiyu akne / A.V. Petrenko // *Zbirnyk nauk. prats' spivrobit. NMAPO im. P.L. Shupyka.* – 2014. – № 23 (3). – S. 655–661.
26. Belousova T.A. Antybyotyky v dermatovenerolohycheskoy praktyke / T.A. Belousova, M.V. Horyachkyna // *Farmateka.* – 2015. – S1. – S. 8–14.
27. Akhtyamov S.N. Praktycheskaya dermatokosmetolohyya. Akne, rubtsy, postakne, akneformnye dermatozy: rukovodstvo dlya vrachey / S.N. Akhtyamov. – M.: Medytsyna, 2010. – 278 s.
28. Nast A. European Evidence-based (S3) Guidelines for the Treatment of Acne / A. Nast, B. Dreno, V. Bettoli [et al.] // *J. Europ. Acad. Dermatol. Venerol.* – 2012. – Vol. 26 (supp I). – P. 21–29.
29. Kunhurov N.V. Opyt terapiyy bol'nykh srednetyazhelymy y tyazhelymy akne preparatom "Aknekutan" / N.V. Kunhurov, M.M. Kokhan, O.V. Shabardyna // *Ukrayins'kyy zhurnal dermatolohiyi, venerolohiyi, kosmetolohiyi.* – 2013. – № 3. – S. 171–178.
30. Pavlyy V.V. Opyt pryomenenyya "Aknetyna" u bol'nykh uhrevoy boleznyu / V.V. Pavlyy, T.S. Osypenko // *Ukrayins'kyy zhurnal dermatolohiyi, venerolohiyi, kosmetolohiyi.* – 2014. – № 3. – S. 84–88.
31. Protsenko T.V. Systemnye yzotretynoiny: terapiya vybora pry tyazhelykh formakh akne / T.V. Protsenko, O.A. Protsenko // *Ukrayins'kyy zhurnal dermatolohiyi, venerolohiyi, kosmetolohiyi.* – 2014. – № 3. – S. 70–76.

32. Fedorych L.YA. Terapiya khvorykh na akne z vykorystannyam systemnoho izotretynoyinu LIDOSE ta yiyi optymizatsiya / L.YA. Fedorych // Ukrayins'kyi zhurnal dermatolohiyi, venerolohiyi, kosmetolohiyi. – 2013. – № 2. – S. 110–122.

INFLUENCE OF ISOENZYME OF P450 2D6*4 CYTOCHROME SYSTEM GENE POLYMORPHISM ON METOPROLOL SUCCINATE EFFICACY IN TREATMENT OF PATIENTS WITH CHRONIC HEART FAILURE CONCOMITANT OBESITY

Gasanov Yu. Ch.

Key words: chronic heart failure, obesity, treatment, metoprolol succinate, isoenzyme of cytochrome P450 CYP2D6*4, gene polymorphism, quality of life, cardiac rhythm variability, hemodynamics.

Chronic heart failure is a common and severe complication of cardiovascular diseases, and the use of beta-blockers, particularly, metoprolol succinate is one of promising pharmacotherapeutic approaches to correct this condition. Nevertheless, using it in case of comorbid obesity and taking into account of isoenzyme of P450 2D6*4 cytochrome system gene polymorphism that is involved in metabolization of this medicament has not been studied enough well. In order to study the efficacy of metoprolol succinate in the therapy for patients with chronic heart failure and concomitant obesity taking into account of isoenzyme of P450 2D6*4 cytochrome system gene polymorphism this prospective research was carried out. It included 89 patients of both sex (63 males and 26 females) with chronic heart failure of II-III stages, aged 32–87 (61 [56; 68]) years. Normal body mass index and normal weight was detected in 22 (25 %) patients, 30 (33 %) patients were overweight, obesity of the 1st degree was diagnosed in 22 (25 %) participants, of the 2nd degree – in 12 (14 %) patients, and on the 3rd degree – in 3 (3 %) persons. Control group was made up of 21 healthy individuals. Clinical signs were evaluated with clinical symptoms estimation scale, exertion tolerance by the 6-minute walk test; health-related quality of life was assessed by using Minnesota questionnaire, central hemodynamics by doppler- and echocardiography method, cardiac rhythm variability with electrocardiographic monitoring. The research of allelic polymorphism G1846A of CYP2D6 gene was conducted by the method of polymerase chain reaction (PCR) in real time. There was a tendency ($p < 0,10$) towards the association between unfavourable allele A oligonucleotide polymorphism of cytochrome system P450 2D6*4 isoenzyme gene in heterozygous genotype GA and body weight. Its frequency made up 14 cases out of 37 (38 %) among the patients with chronic heart failure and obesity; 15 cases out of 52 (29 %) among patients with chronic heart failure and normal or excess weight; 5 cases of 21 (24 %) among healthy individuals of control group. It has been shown that one year dynamics of the treatment of obese patients with chronic heart failure by using metoprolol succinate under cardiac hemodynamics and rhythm control is characterized by relatively fast and stable reaching targeted clinical and functional parameters, good tolerance and low level of lethal outcomes caused by heart failure progression, and also by significant improvement of quality of life and patient's compliance to the treatment. While, in the cohort with heterozygous GA genotype, comparing with homozygous GG genotype, the positive dynamics was comparatively not so pronounced in the quality of life, clinical picture, parameters of hemodynamics and heart rhythm, serum level of NT-proBNP and insulin resistance markers during the treatment with metoprolol succinate in the patients with chronic heart failure and concomitant obesity. The further studies will deal with logic-statistical grounding of protocols for metoprolol succinate use in patients with chronic

heart failure and concomitant obesity with taking into account the role of oligonucleotide polymorphism of cytochrome system P450 2D6*4 isoenzyme gene described in this article .

References

1. Horbas' I. M. Vysokyy sertsevo-sudynnyy ryzyk naselelnya Ukrayiny: vyrok chy tochka vidliku / I. M. Horbas' // L'vivs'kyi klinichnyy visnyk. — 2013. — № 3. — S. 45–48.
2. Rogers C. Heart Failure: pathophysiology, diagnosis, medical treatment guidelines, and nursing management / C. Rogers, N. Bush // Nurs Clin North Am. — 2015. — Vol. 50, Issue 4. — P. 787–799.
3. Meyer K. Central hemodynamics in obesity / K. Meyer // Therapeutische Umschau. Revue thérapeutique. — 2013. — Vol. 70, № 2. — P. 77-80.
4. Sjoberg N. Moderate weight loss improves heart rate variability in overweight and obese adults with type 2 diabetes / N. Sjoberg, G. D. Brinkworth, T. P. Wycherley [et al.] // Journal of Applied Physiology. — 2011. — Vol. 110, № 4. — P. 1060-1064.
5. Fadyeyenko H. D. Rol' ozhyrinnya ta tsukrovoho diabetu 2 typu u vynykenni aterotrombotychnoho ryzyku pry ishemichniy khvorobi sertsya / H. D. Fadyeyenko, O. YE. Zaproval'na. // Ukrayins'kyi terapevtychnyy zhurnal. - 2014. - № 3-4. - Rezhym dostupu: http://nbuv.gov.ua/UJRN/UTJ_2014_3-4_5.
6. Voronkov L. H. Rekomendatsiyi z diahnostryky ta likuvannya khronichnoyi sertsevoyi nedostatnosti / L. H. Voronkov, K. M. Amosova, A. E. Bahriy [ta in.] // Sertseva nedostatnist'. — 2012. — № 3. — C. 60–96.
7. Tashchuk V. K. Novi pidkhody do diahnostryky ta likuvannya sertsevoyi nedostatnosti / V. K. Tashchuk, O. S. Polyans'ka, O. I. Hulaha // Bukovyns'kyi medychnyy visnyk. — 2014. — T. 18, № 2. — S. 159–161.
8. Yancy C. W. 2013 ACCF/AHA guideline for the management of heart failure: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines / C. W. Yancy, M. Jessup, B. Bozkurt [et al.] // J. Am. Coll. Cardiol. — 2013. — Vol. 62, Issue 16. — P. 147–239.
9. Çavuşoğlu Y. Practical approaches for the treatment of chronic heart failure: Frequently asked questions, overlooked points and controversial issues in current clinical practice / Y. Çavuşoğlu, H. Altay, A. Ekmekçi [et al.] // Anatol. J. Cardiol. — 2015. — Issue 15, Suppl. 2. — P. 1–60.
10. Vdovychenko V. I. Mizhmedykamentozna konkurenciya yak odna z prychnyn neefektyvnosti ta pobichnoyi diyi likiv / V. I. Vdovychenko, V. V. Kul'chyts'kyi // Hepatolohiya. — 2015. — № 2. — S. 6–15.
11. Batty J. A. An investigation of CYP2D6 genotype and response to metoprolol CR/XL during dose titration in patients with heart failure: a MERIT-HF substudy / J. A. Batty, A. S. Hall, H. L. White [et al.] // Clin. Pharmacol. Ther. — 2014. — Vol. 95, № 3. — P. 321-330.
12. Sharp C. F. CYP2D6 genotype and its relationship with metoprolol dose, concentrations and effect in patients with systolic heart failure / C. F. Sharp, S. J. Gardiner, B. P. Jensen [et al.] // Pharmacogenomics J. — 2009. — Vol. 9, № 3. — P. 175-184.

13. Baudhuin L. M. Relation of ADRB1, CYP2D6, and UGT1A1 polymorphisms with dose of, and response to, carvedilol or metoprolol therapy in patients with chronic heart failure / L. M. Baudhuin, W. L. Miller, L. Train [et al.] // American Journal of Cardiology. — 2010. — Vol 106, № 3. — P. 402-408.
14. Lympelopoulos A. Impact of CYP2D6 Genetic Variation on the Response of the Cardiovascular Patient to Carvedilol and Metoprolol / A. Lympelopoulos, K. A. McCrink, A. Brill // Current Drug metabolism. — 2015. — Vol. 17, № 1. — P. 30-36.
15. Fukumoto K. Effect of amiodarone on the serum concentration/dose ratio of metoprolol in patients with cardiac arrhythmia / K. Fukumoto, T. Kobayashi, K. Tachibana [et al.] // Drug Metabolism and Pharmacokinetics. — 2006. — Vol. 21, № 6. — P. 501-505.
16. Frank D. Evaluation of probe drugs and pharmacokinetic metrics for CYP2D6 phenotyping / D. Frank, U. Jaehde, U. Fuhr [et al.] // European Journal of Clinical Pharmacology. — 2007. — Vol. 63, № 4. — P. 321-333.
17. Seeringer A. Enantiospecific pharmacokinetics of metoprolol in CYP2D6 ultra-rapid metabolizers and correlation with exercise-induced heart rate / A. Seeringer, J. Brockmöller, S. Bauer [et al.] // European Journal of Clinical Pharmacology. — 2008. — Vol. 64, № 9. — P. 883-888.
18. Jin S. K. Influence of CYP2D6*10 on the pharmacokinetics of metoprolol in healthy Korean volunteers / S. K. Jin, H. J. Chung, M. W. Chung [et al.] // Journal of Clinical Pharmacy and Therapeutics. — 2008. — Vol. 33, № 5. — P. 567-573.
19. Aspromonte N. Modulation of cardiac cytochrome P450 in patients with heart failure / N. Aspromonte, F. Monitillo, A. Puzzovivo [et al.] // Expert opinion on drug metabolism & toxicology. — 2014. — Vol. 10, № 11. — P. 327-339.

PREDICTORS OF PSYCHOSOCIAL MALADJUSTMENT IN WOMEN WITH SOMATOFORM AUTONOMIC DYSFUNCTION OF CARDIOVASCULAR SYSTEM

Herasymenko L.O., Isakov R.I., Gryn K.V.

Key words: psychosocial maladjustment, somatoform autonomic dysfunction.

The aim of this study was to determine the predictors of the development of psychosocial maladjustment based on clinical, psychopathological and pathopsychological characteristics of women with somatoform autonomic dysfunction of the cardiovascular system. 87 women were examined with clinical, psychopathological, psychometric, psychodiagnostic and statistical methods in accordance with the objectives of the study. It has been found out that clinical and psychopathological predictors of psychosocial maladjustment in women with somatoform autonomic dysfunction of the cardiovascular system is presented with asthenic-depressive syndrome (93,3±3,9%), mental fatigue (93,3±1.5%) and emotional lability (82,2±2,4%).

References

1. Maruta N. O. Kontsepsiya formuvannya nevrotichnykh depresiy u suchasnomu sotsiumi / N. O. Maruta [ta in.] // Arkhiv psykhatriyi. – 2003. – № 1. – S. 17-20.
2. Chaban O. S. Deyaki osoblyvosti suchasnykh nevrotichnykh rozladiv / O. S.Chaban [ta in.] // Arkhiv psykhatriyi. – 2002. – № 3. – S.65-69.
3. L. Goldberger Handbook of stress. Theoretical and clinical aspects / L. Goldberger, S. Breznitz. – N.Y.: The Free Press, 2012. – 804 p.
4. Yur'eva L. N. Dynamyka rasprostranennya psykhycheskykh y povedencheskykh rasstroystv v myre y v Ukrainy / L. N. Yur'eva // Medytsynske yssledovannya. – 2001. – № 1. – S. 32-33.
5. Markova M. V. Post-stresovi dezadaptivni stany na tli sotsial'nykh zmin: analiz problemy / M. V. Markova, P. V. Kozyra // Medytsynskaya psykholohyya. – 2015. – №10. – S. 8-13.
6. Osnovy medychnoyi psykholohiyi / [V.M. Zhdan ta in.]. – Poltava : ASMI, 2014. – 255 s.
7. Skrypnikov A. M. Diahnostychnyy protses u psykhatriyi / A. M. Skrypnikov, L. O. Herasymenko, R. I. Isakov. – Poltava : ASMI, 2012. – 128 s.
8. Herasymenko L. O. Psykhosotsial'na dezadaptatsiya pry nevrotichnykh rozladakh u zhinok (kliniko-psyhopatolohichna kharakterystyka, pryntsyipy reabilitatsiyi ta profilaktyky) : avtoref. dys. ... dok. med. nauk : 14.01.16 «Psykhatriya» / Larysa Oleksandrivna Herasymenko. – Kharkiv, 2016. – 32s.
9. Chaban O. S. Psykhosomatychna medytsyna (aspekty diahnostryky ta likuvannya) / O. S. Chaban, O. O. Khaustova. – K. : TOV «DS-H Ltd», 2004. – 96 s.

EFFECTS OF COMBINED INHALATION THERAPY ON COURSE OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND COMORBID ANXIETY DISORDERS

Gopko O. F., Prikhodko N. P. Kryvoruchko I.H.

Key words: chronic obstructive pulmonary disease, anxiety disorders, quality of life, combination therapy.

Anxiety disorders and depression is one of the major comorbidities of COPD that significantly worsens the prognosis, course of the disease, quality of life and compliance to the therapy. Social importance of the disease and its prevalence, study of quality of life (QOL) in these patients is very important. In recent years, much attention has been paid to such components of QOL as impact of symptoms on mood and activity, attitude to the disease, self-reported general health, level of physical, social, mental well-being, limiting of social functions, intellectual and emotional condition. The aim of the study was to establish the effect of pharmacological control of COPD on the course of comorbid anxiety and depression and quality of life of patients. Materials and methods. The study involved 54 patients with COPD, who had had no initial pharmacological treatment, or the therapy did not correspond to the severity of COPD. Control group included 13 healthy individuals. The average age in the group of COPD patients was $63,4 \pm 1,3$ years. All the patients depending on the severity of bronchial obstruction were divided into test groups (41 patients) and D (13 patients) according to the Order of the Ministry of Healthcare of Ukraine № 555 dated 27.06.2013.). All patients were prescribed to take pharmacological therapy in combination with inhaled corticosteroids

(fluticasone propionate) and prolonged action β 2-agonist (salmeterol) in a dose of 50/500 mcg 1 inhalation 2 times per day. Monitoring of the treatment outcomes was conducted 3 months after the start of combination inhalation therapy. We estimated the dynamics of clinical symptoms (frequency of exacerbations, the daily need for short-acting bronchodilators, the severity of dyspnoea, physical status), and indicators of external respiration function. Anxiety-depressive disorders were checked by using the depression scale, Hamilton scale of anxiety, Spielberg-Hanin scale. Quality of life of the patients was evaluated by the Questionnaire St. George's Hospital (SGRQ). Statistical processing was performed using the program SPSS for Windows Release 13.00. The patients with COPD have significantly higher prevalence of comorbid anxiety-depression compared to healthy individuals, in particular the high level of reactive anxiety, trait anxiety and depressive States. The frequency of anxiety and depression in the patients with COPD groups C and D was 84.6% (46 people) compared to the control group of the healthy persons, 15.38% (2 patients). Scores according to the Spielberg-Hanin scale in the patients with COPD in group was 34.6 ± 2.8 points, RT – $36,2 \pm 3,1$ points, which corresponded to moderate anxiety. Higher levels of points HERE and RT to 41.4 ± 3.4 and $43.8 \pm 2,9$ were respectively detected in the patients of group D, but were also within the moderate anxiety. It should be noted that 6 patients in this group demonstrated the values of the points HERE and RT that exceeded the average extent and was related to the high level of anxiety (over 45 points). The total score by the scale of Hamilton depression in the patients with COPD was mild, up to 14.3 ± 1.9 points according to such subtests as "performance and activity", "middle insomnia", "somatic anxiety", "hypochondria". The intensity of disorders in the psychoemotional status depends on the severity of COPD, which is probably associated with reduced exercise tolerance, daily activity. Conclusions. The patients with COPD who took fluticasone propionate and salmeterol in a dose of 50/500, demonstrated decreased subjective assessment of the degree of psychological problems caused by COPD, and as a result, they can decrease the total negative impact of the disease on health status and quality of life.

References

1. Global Initiative for Chronic Obstructive Lung Diseases (GOLD). Global strategy for diagnosis, management, and prevention of chronic obstructive pulmonary disease. NHLBI/WHO workshop report. [Electronic Resource] / WHO, 2013. – Режим доступу : <http://www.goldcopd.com/>.
2. Mikkelsen R. L. Anxiety and depression in patients with chronic obstructive pulmonary disease (COPD). A review [Text] / R. L. Mikkelsen, T. Middelboe, C. Pisinger [et al.] // Nord J. Psychiatry. – 2004. – Vol. 58. – P. 65–70.
3. Zhang, M. W. B. Prevalence of depressive symptoms in patients with chronic obstructive pulmonary disease: a systematic review, metaanalysis and meta-regression [Text] / M. W. B. Zhang, R. C. M. Ho, M. W. L. Cheung [et al.] // Gen. Hosp. Psychiatry. – 2011. – Vol. 33. – P. 217–223.
4. Ovcharenko S. Y. Typolohyya rasstroystv lychnosty y reahyrovanyya na zabolevanye pry khronycheskoy obstruktyvnoy bolezny lehkykh [Tekst] / S. Y. Ovcharenko [y dr.] // Pul'monolohyya. – 2013. - № 2. – S. 74–80.
5. Mostovoy YU. M. Somatopsykichni rozlady v klinitsi vnutrishnikh khvorob: etiopatohenez, klinika, diahnozyka, likuvannya. Bronkhial'na astma yak model' somatopsykhiatriyi : metodychni rekomendatsiyi [Tekst] / YU. M. Mostovoy, T. V. Konstantynovych. – Vinnytsya : DP «Derzhavna kartohrafichna fabryka», 2009. – 104 s.

6. Nakaz MOZ Ukrainy vid 27.06.2013 r. №555 «Pro zatverdzhennya ta vprovadzhennya medyko-tekhnologichnykh dokumentiv zi standartyzatsiyi medychnoyi dopomohy pry khronichnomu obstruktyvnomu zakhvoryuvanni lehen'» [Elektronnyy resurs] / Ministerstvo okhorony zdorov'ya Ukrainy. – Rezhym dostupu : http://www.moz.gov.ua/ua/portal/dn_20130627_0555.html.
7. Ostrovs'kyy M. M. Do pytannya polimorbidnosti ta komorbidnosti u khvorykh na KHOZL [Tekst] / M. M. Ostrovs'kyy, P. R. Herych // Ukr. pul'monol. zhurnal. – 2011. – № 4. – S. 19–24.
8. Pertseva T. A. Psykholohycheskye rasstroystva u patsyentov s syndromom bronkhyal'noy obstruktsyy [Tekst] / T. A. Pertseva, E. YU. Hashynova, YU. V. Huba // Pul'monolohyya. – 2013. – № 2. – S. 81–84.
9. Psykhometrycheskye shkaly dlya otsenky depressyy y metodyka ykh pryimenenyya [Electronic resource] / Nauchnyy tsentr psykhycheskoho zdorov'ya RAMN. Rezhym dostupa : <http://www.psychiatry.ru/lib/54/book/22/chapter/37>.
10. Feshchenko YU. I. Khronichne obstruktyvne zakhvoryuvannya lehen' ta suputnya depresiya — vazhlyva medyko-sotsial'na problema / YU. I. Feshchenko, L. O. Yashyna, O. V. Potochnyak // Ukrainy's'kyy pul'monolohichnyy zhurnal. — 2013. — № 3. Dodatok. — S. 56-58.
11. Feshchenko YU. I. Khronichne obstruktyvne zakhvoryuvannya lehen' i suputni depresiya ta rozlady snu [Tekst] / YU. I. Feshchenko, L. O. Yashyna, O. V. Potochnyak // Ukr. pul'monol. zhurn. – 2013. – № 3. – S. 33–40.

PATHOGENETIC MECHANISMS OF DISORDERS OF PULMONARY ARTERY STIFFNESS UNDER COMORBID CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ESSENTIAL HYPERTENSION

Dotsenko S.Ya., Yatsenko O.V.

Key words: elastic properties, pulmonary artery, pulmonary hypertension, chronic obstructive pulmonary disease, essential hypertension.

Over the past decades, there has been an increase in the incidence of chronic obstructive pulmonary disease (COPD) in many countries, including Ukraine. Comorbidity of COPD and essential hypertension occurs in 53% of patients with COPD. Therefore, the high prevalence of arterial hypertension in the group of patients with COPD necessitates the search for new diagnostic approaches for assessing the development of cardiovascular complications. Objectives: to study the features of the elastic properties of the pulmonary artery and the parameters of pulmonary hemodynamics in the comorbid course of COPD and essential hypertension. Materials and methods of research. 110 patients with COPD 1-3 stages in the exacerbation phase who were examined and divided into two groups. The first group included 50 patients with COPD without concomitant pathology, the second group consisted of 60 patients with a comorbid course of COPD 1-3 stages and essential hypertension class II. The control group included 30 healthy individuals. The examination involved general clinical, anamnestic, instrumental methods. Results. COPD is accompanied by an impairment of the elastic properties of pulmonary artery by an increase in the stiffness and, accordingly, a decrease in the pulsatility and extensibility of the vascular wall, the level of these

changes grew influenced by essential hypertension. Among the factors contributing to the increase in the rigidity of pulmonary artery and essential hypertension, we observed disorders of diastolic function according to the most significant interrelations on the E / A and E / E indices. Conclusions. The course of COPD is accompanied by the development of pulmonary hypertension and disorders of elastic properties of the pulmonary artery. The comorbidity of COPD and essential hypertension is characterized by an increase and an impairment of diastolic LV function.

References

1. Halbert R.J. Global burden of COPD: systematic review and meta-analysis / R.J. Halbert, J.L. Natoli, A. Gano [et al.] // Eur. Respir. J. - 2006. - Vol. 28. - P. 523–532.
2. Vestbo J. Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Pulmonary Disease / J. Vestbo, S. Hurd Suzanne, G. Alvar Agusti [et al.] // AJRCCM. – 2013. – Vol. 187, № 4. – P. 347-365.
3. Crisafulli E. Efficacy of standard rehabilitation in COPD outpatients with comorbidities / E. Crisafulli, P. Gorgone, B.Vagaggini [et al.] // Eur. Respir. J. – 2010. - № 36. – P.1042–1048.
4. Joan Albert B. Mechanisms of development of chronic obstructive pulmonary disease-associated pulmonary hypertension / B. Joan Albert // Pulmonary Circulation. – 2013. – Vol. 3, № 1. – P. 160 -164.
5. Tatarkina N.D. Patogeneticheskiye osnovy komorbidnogo techeniya khronicheskaya obstruktivnoy bolezni legkikh i gipertonicheskoy bolezni / N.D. Tatarkina, A.A. Tatarkin // Zdorov'ye. Meditsinskaya ekologiya. Nauka. – 2013. - № 1-1. – S. 33-37.
6. Csaba F. Treatment of hypertension in patients with chronic obstructive pulmonary disease / Csaba Farsan, István Kiss, Andrzej Tykarski [et al.] // European Society of Hypertension Scientific Newsletter : Update on Hypertension Management. – 2012. – Vol. 13, № 51. – Rezhim dostupu : http://www.eshonline.org/esh-content/uploads/2014/12/51_Newsletter-Treatment-of-Hypertension-in-Patients-With-Chronic-Obstructive-Pulmonary-Disease-COPD.pdf
7. Grigor'yeva N.YU. Komorbidnyy patsiyent s arterial'noy gipertenziyey i KHOBL / N.YU. Grigor'yeva / Lechashchiy vrach. – 2016. - № 7. – Rezhim dostupu : <http://www.lvrach.ru/2016/07/15436512/>

ASSESSMENT OF DYNAMICS OF CLINICAL AND LABORATORY PARAMETERS THROUGH THE TREATMENT OF PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND COMORBID OSTEOARTHRITIS

Zhdan V. N., Khaymenova G. S., Ivanitsky I. V., Volchenko G. V., Tkachenko M. V.

Key words: chronic obstructive pulmonary disease, osteoarthritis, anti-inflammatory therapy, fenspirid hydrochloride.

Chronic obstructive pulmonary disease (COPD) is a disease of the 21st century. 210 million people worldwide suffer from COPD, 3 million people die of the disease every year. Under the influence of various

factors (smoking, gases, chemicals, products of fuel combustion) inflammation starts developing in the lung tissue and against the backdrop of morphological changes in the lungs results in the development of systemic inflammatory manifestations. Systemic inflammation is regarded as part of the pathogenesis of COPD that provides the occurrence and progression of a number of complications of the diseases. Among the large number of complications and systemic effects of COPD, the development of osteoporosis is commonly considered as the basis of osteoarthritis (OA). In the treatment of COPD and comorbid OA much attention is paid to anti-inflammatory therapy, including effects of fenspirid hydrochloride.

References

5. Tatarkina N.D. Patogeneticheskiye osnovy komorbidnogo techeniya khronicheskaya obstruktivnoy bolezni legkikh i gipertonicheskoy bolezni / N.D. Tatarkina, A.A. Tatarkin // Zdorov'ye. Meditsinskaya ekologiya. Nauka. – 2013. - № 1-1. – S. 33-37.
6. Csaba F. Treatment of hypertension in patients with chronic obstructive pulmonary disease / Csaba Farsan, István Kiss, Andrzej Tykarski [et al.] // European Society of Hypertension Scientific Newsletter : Update on Hypertension Management. – 2012. – Vol. 13, № 51. – Rezhim dostupu : http://www.eshonline.org/esh-content/uploads/2014/12/51_Newsletter-Treatment-of-Hypertension-in-Patients-With-Chronic-Obstructive-Pulmonary-Disease-COPD.pdf
7. Grigor'yeva N.YU. Komorbidnyy patsiyent s arterial'noy gipertenziyey i KHOBL / N.YU. Grigor'yeva / Lechashchiy vrach. – 2016. - № 7. – Rezhim dostupu : <http://www.lvrach.ru/2016/07/15436512/>

RETROSPECTIVE STUDY OF PECULIARITIES OF BONE DAMAGES IN MIDDLE FACIAL AREA OF INPATIENTS AND APPROACHES TO THEIR TREATMENT

Nazarevych M. R.

Key words: fractures, facial skeleton, statistics, traumatic brain injury, treatment approaches.

During the last decade, there has been an increase in the number of combined head injuries, and in particular the damages of the cranial and facial bones. We analyzed the case histories of patients who were hospitalized in the Maxillofacial Surgery Department of the Lviv City Community Ambulance Hospital during the period from 2014 to 2016. In the total structure of the facial skull traumatic injuries fractures of the middle zone face made up 30.9 % (upper jaw fractures constituted 7.2 %, zygomatic bone and arch injuries made up 21.9 %, fractures of nasal bones formed 1.8 %). Fractures of the mandible were registered in 69.1 % of cases respectively. Our research has shown that fractures of the upper jaw and the zygomatic bone occurred mainly due to domestic accidents in 61 % of cases. Over the period the inpatients with the upper jaw fractures (34 males (79.1 %) and 9 females (20.9 %)) demonstrated the following distribution of trauma location: the Le For I was registered in 12 cases, the Le For II was detected in 23 cases, the Le For III was identified in 8 cases. The distribution of patients by the age groups was as follows: teenagers — 2 patients (4.6 %), juveniles — 6 patients (13.9 %), adults (I period) — 14 patients (32.5 %), mature (II period) — 18 patients (41.8 %), old — 3 patients (6.9 %). Fractures of the middle facial zone in all cases were accompanied by brain injury of different severity. The length of hospital treatment of the patients with middle facial bone fractures was as follows: patients with the upper jaw fractures by Le For I, combined

with brain concussion stayed for 5 ± 3 days, by Le For II, combined with brain concussion — for 19 ± 2 days, by Le for III, combined with brain concussion — for 24 ± 2 days, by Le for III, combined with brain concussion — for 32 ± 4 days; the hospital staying in the patients with isolated fractures of zygomatic bone and arch averaged made up 8 ± 2 days. Zygomatic fractures combined with brain concussion required 13 ± 2 days, combined with brain contusion — 29 ± 2 days. Among surgical methods of maxillary bone fractures treatment the most often applied technique was osteosynthesis by titanium mini plates. In 82 % of cases reposition of zygomatic bone fragments and arcs Limberg hook or Duchange forceps were used. The analysis of the frequency of maxillofacial area injuries during the period from 2014 to 2016 revealed a rising trend in the structure of all maxillofacial area injuries and also combined cranio-facial injuries, where indicators of combined cranio-facial injuries constitute 14,8 % of all injuries in maxillofacial area.

References

1. Voskresenskaya O. N. Nevrologicheskiye aspekty sotryaseniya golovnogo mozga / O. N. Voskresenskaya, Ye. I. Gusev, I. I. Sholomov. – Saratov : Saratovskiy gosudarstvennyy meditsinskiy universitet, 2003. – 170 s.
2. Vasil'yev A. YU. Kompleks luchevykh metodov v diagnostike travm chelyustno-litsevoy oblasti / A. YU. Vasil'yev, D. A. Lezhnev // Byulleten' sibirskoy meditsiny. - 2008. – Vyp. 3, T. 7. - S. 92.
3. Sivolapov K. A. Kliniko-sotsial'nyye aspekty travmaticheskikh povrezhdeniy sredney zony litsa / K. A. Sivolapov, Ye. V. Kharchenko // Aktual'nyye problemy stomatologii i smezhnykh oblastey: Nauch.-prakt. konf., 2001: materialy konf. – Novosibirsk, 2001. - S. 25–32.
4. Yeliseyeva Ye. V. Struktura travm chelyustno-litsevoy oblasti na primere g. Stavropolya / Ye. V. Yeliseyeva, K. S. Gandylyan, S. M. Karpov, [i dr.] // Aktual'nyye voprosy stomatologii: 49 Vseross. nauch.-prakt. konf., posvyashchennaya 80-letiyu so dnya rozhdeniya i 58-letiyu trudovoy deyatel'nosti professora N. N. Garazhi, 2014: materialy konf. – Stavropol', 2014. - S. 211–214.
5. Vlasov A. M. Diagnostika i lecheniye sochetannoy cherepno-mozgovoy i chelyustno-litsevoy travmy : avtoref. dis. na soiskaniye nauchnoy stepeni kand.. med. nauk : spets. 14.00.21 «Stomatologiya», 14.00.28 «Neyrokhirurgiya» / Andrey Mikhaylovich Vlasov. - M., 2005. - 27 s.
6. Umarov O. M. Obshchaya statisticheskaya kharakteristika sochetannoy travmy chelyustno-litsevoy oblasti / O. M. Umarov // Vrach-aspirant. - 2012. - T. 50, № 1.1. - S. 221–224.
7. Afanas'yev V. V. Travmatologiya chelyustno-litsevoy oblasti / V. V. Afanas'yev. - M. : «GEOTAR-Media», 2010. - 256 s.
8. Grigorov S. N. Povrezhdeniya litsevogo cherepa: struktura travm i analiz faktorov oslozhnennogo techeniya / S. N. Grigorov // Mir meditsiny i biologii. - 2010. - T. 6, № 4. - S. 172–176.
9. Karpov S. M. Epidemiologicheskiye aspekty chelyustno-litsevoy travmy na primere g. Stavropolya / S. M. Karpov, D. YU. Khristoforando // Rossiyskiy stomatologicheskiy zhurnal. - 2012. - № 1. - S. 23–25.
10. Khristoforando D. YU. Analiz rasprostranennosti, diagnostiki i lecheniya sochetannoy cherepno-litsevoy travmy / D. YU. Khristoforando // Meditsinskiy vestnik Severnogo Kavkaza. - 2011. - T. 23, № 3. - S. 36–37.

IMPROVEMENTS IN MANAGEMENT OF COMORBID CORONARY HEART DISEASE AND HYPERTENSION IN ELDERLY PATIENTS

Potiazhenko M.M., Ishcheikin K.Ye., Nastroha T.V., Lulka N.O., Kitura O.Ye.

The paper presents the experience of the treatment of aged patients with coronary heart disease and arterial hypertension with application of cardio- and cerebroprotective (anxiolytic) medicines, meldonium and mebicar. It has been shown the combined therapy improves the quality of life of the patients as evidenced by shorter periods of disappearing of main clinical manifestations and autonomic dysfunction of this comorbidity, improves exercise tolerance, increases the ejection fraction, and results in significant reduction in diastolic blood pressure and the level of reactive anxiety.

References

1. Bilets'kyy S.V. Deyaki aspekty metabolichnoyi terapiyi zakhvoryuvan' sertsevo-sudynnoyi systemy (Ohlyad literatury). / S.V. Bilets'kyy, V.V. Boyko, O.A. Petrynych, T.V. Kazantseva // Klinichna ta eksperymental'na patolohiya. - 2016. - T. 15, № 2(1). - S. 202-205.
2. Buryak V.V. Klyncheskyy opyt pryimenenyya mel'donyya u bol'nykh yshemycheskoy boleznyu serdtsa assotsyrovannoy s arterial'noy hipertenzeyey. / V.V. Buryak, E.H. Ovskeya, A.V. Nasonenko // Molodyy vchenyy - 2014 r. - № 1 (03). - S.202-205.
3. Voloshyna L.O. Komorbidnist' i polimorbidnist': vikovi ta hendenrni aspekty (Retrospektyvne doslidzhennya ta ohlyad literatury) / L.O. Voloshyna // Bukovyns'kyy medychnyy visnyk. - Tom 19. - № 3 (75) - 2015. - S. 224-230.
4. Yena L.M. Éffektyvnost' prolonyrovannoy lekarstvennoy formy mel'donyya (Tryzypyn lonh) u patsyentov s yshemycheskoy boleznyu serdtsa. / L.M. Yena, H.M. Khrystoforova // Ukrayins'kyy terapevtychnyy zhurnal. - 2014 s. - №5 (103). - 71-75.
5. Zozulya V. V. Metabolichna terapiya v heriatrychniy kardioloii (farmako-epidemiolohichne doslidzhennya) / V.V. Zozulya, I.S. Chekman // Farmakolohiya ta likars'ka toksykolohiya. – 2012. - №4 (29). - S.67-71.
6. Kaydashev I.P. Osnovy herontolohiyi. Chastyna druha. Navchal'nyy posibnyk. / I.P. Kaydashev, O.A. Borzykh – Poltava. - 2011. - 166s.
7. Mitchenko O.I. Optymizatsiya likuvannya patsiyentiv iz metabolichnym syndromom ta hipertoničnoy khvoroboy iz zastosuvanniam Tryzypynu (mel'doniyu) / O.I. Mitchenko, V.YU. Romanov, H.YA. Ylyushyna // Ukr. med. chasopys. - 2014. - № 2 (100). - S. 52-5.
8. Myshanych T. V. Osoblyvosti perebihu khronichnoho pankreatytu u khvorykh na ishemichnu khvorobu sertsya ta yikh likuvannya : dys. kand. med. nauk : 14.01.02 «Vnutrishni khvoroby» / Myshanych T. V. – Uzhhorod, 2015. – 148 s.
9. Nakaz MOZ Ukrayiny vid 24.05.2012r.№384. Unifikovanyy klinichnyy protokol medychnoyi dopomohy pry arterial'niy hipertenzii. Pro zatverdzhennya ta vprovadzhennya medyko-tekhnologichnykh dokumentiv zi standartyzatsiiy medychnoyi dopomohy pry arterial'niy hipertenzii.

10. Nakaz MOZ Ukrayiny 02.03.2016 № 152 "Pro zatverdzhennya ta vprovadzhennya medyko-tekhnologichnykh dokumentiv zi standartyzatsiyi medychnoyi dopomohy pry stabil'niy ishemichniy khvorobi sertsya".
11. Serik S.A. Mistse metabolichnoyi terapiyi u khvorykh, yaki perenesly infarkt miokarda. / S.A. Serik, V.I. Storona, YU.H. Horb // Ukrayins'kyi terapevtychnyy zhurnal – 2016r. - № 1. - S. 99-104.
12. Fadyeyenko H.D. Komorbidnist' i vysokyy kardiovaskulyarnyy ryzyk – klyuchovi pytannya suchasnoyi medytsyny / H.D. Fadyeyenko, O.YE. Hridnyev, A.O. Nesen [ta in.] // Ukrayins'kyi terapevtychnyy zhurnal – 2013. – №1 – S. 102-107.
13. Montalescot G. 2013 ESC guidelines on the management of stable coronary artery disease: the Task Force on the management of stable coronary artery disease of the European Society of Cardiology. / Montalescot G., Sechtem U. et al. // Eur. Heart J. – 2013. – V. 34(38). – P. 2949–3003.

PREVALENCE OF IMPAIRMENT OF INNER EAR FUNCTIONS WHILE PERCEIVING SOUNDS OF HIGH FREQUENCIES RANGE IN PATIENTS WITH AUTOIMMUNE THYROIDITIS IN STAGE OF EUTHYREOSIS DEPENDING ON SEX

Naumenko A.N., Deeva Yu.V., Tarasenko N.V., Kobylak N.N.

Key words: autoimmune thyroiditis, thyroid peroxidase, thyroglobulin, otoacoustic emission, statistical data processing.

In the work, we analyzed the prevalence of the internal ear function disorder in patients with autoimmune thyroiditis in the phase of euthyroidism, i.e. with normal functional activity of the thyroid gland, depending on sex. The patients were tested for antibodies to thyreperoxidase and thyroglobulin, and the concentration of thyroid-stimulating hormone, triiodothyronine and thyroxin were assessed as well. After the confirmation of autoimmune thyroiditis in the phase of euthyroidism, otoacoustic emission was recorded at the frequency of the distortion products in the test and control groups. The obtained results were statistically processed to reveal the correlation between sex and the frequency of dysfunction of the hair cells in the inner ear. As a result, it was found that the percentage of prevalence of hair cell dysfunction is higher in women than in men with autoimmune thyroiditis in the phase of euthyroidism.

References

1. Lazúrová I. Autoimmune thyroid diseases and nonorgan specific autoimmunity / I. Lazúrová, K. Benhatchi // Pol. Arch. Med. Wewn. – 2012. – Vol. 122, Suppl. 1. – P. 55-59.
2. Fattori B. Possible association between thyroid autoimmunity and Menie`re's disease / B. Fattori, A. Nacci, A. Dardano [et al.] // Clin. Exp. Immunol. – 2008. - Vol. 152. – P. 28–32.
3. Petunina N.A. Autoimmunyy tireoidit: sovremennyye predstavleniya ob etiologii, patogeneze, diagnostike i lecheniyu / H.A. Petunina, G.A. Gerasimov // Problemy endokrinologii. - 1997. - T. 43, № 4. - S. 20-33.

4. Langer P. The Thyroid Gland / P. Langer // Clinical and Experimental. – 1996. -Vol. 1. – R. 7–17.
5. Balabolkin M. Í. Endokrinologiya / M. Í. Balabolkin. – Moskva, 1998. – 416 s.
6. Legrand Uziel C. Corrective effects of thyroxine on cochlear abnormalities induced by congenital hypothyroidism in the rat I. Morphological study / Uziel C. Legrand, A. Rabie // Brain Res. – 1985. - Vol. 351. – P. 111–122.
7. Santos K.T. Audiologic evaluation in patients with acquired hypothyroidism / K.T. Santos, N.H. Dias, G.M. Mazeto [et al.] // Braz. J. Otorhinolaryngol. – 2010. - Vol. 76. – P. 478–484.
8. Di Lorenzo L. Auditory brainstem responses in thyroid diseases before and after therapy / L. Di Lorenzo, L. Foggia, N. Panza [et al.] // Horm. Res. – 1995. - Vol. 43. – P. 200–205.
9. Berker D. Evaluation of hearing loss in patients with Graves' disease / D. Berker, H. Karabulut, S. Isik [et al.] // Endocrine. – 2012. - Vol. 41. – P. 116–121.
10. Arduc A. Evaluation of hearing functions in patients with euthyroid Hashimoto's thyroiditis / A. Arduc, S. Isik, S.Allusoglu [et al.] // Endocrine journal (Houndmills, Basingstoke, England). - 2015. – Vol. 50(3). – Режим доступу <http://www.endocrine-abstracts.org/ea/0029/ea0029p1717.htm>

EFFECT OF ESTROGENS UPON CLINICAL PICTURE OF MICROVASCULAR ANGINA PECTORIS IN WOMEN

Ovcharenko L.K., Tsyganenko I.V.

Key words: coronary heart disease, microvascular angina, endothelial dysfunction, estrogens, factors of risk.

In September 2013 the new recommendations of European Society of Cardiology for the diagnosis and treatment of ischemic heart disease were introduced to medical community. Special attention was paid to the development of angina pectoris in intact coronary arteries or cardiac syndrome X. The spectrum of clinical and morphological correlation between the symptoms and type of changes in coronary vessels ranges from typical manifestations of angina caused by stenotic damages of CV and transient ischemic heart disease to atypical pain syndrome of angina. The coronary angiography shows no atherosclerotic changes in the coronary vessels of the significant part of patients with angina (50% of women and 20% of men) indicating dysfunction of microvessels (coronary reserve). Studies of Women's Ischemia Syndrome Evaluation organized by The National Heart, Lung, and Blood Institute (NHLBI) of the National Institutes of Health showed 2.5% risk of cardiovascular events, including myocardial infarction, stroke and heart failure.

The objective of this study was to explore the role of estrogen level in the development of ischemic heart disease among women; to examine what influence estrogen loss provides on lipid metabolism and cardiovascular system of women during post-climacteric period; to analyze the correlation between women's hormonal status and the risk of atherosclerosis and cardiac syndrome X (microvascular angina). Materials and methods. The study involved 30 female patients aged from 35 to 50 with complaints of retrosternal chest pain attacks. They underwent coronary angiography that found out 5 of the examined

patients had no atherosclerotic changes in the coronary arteries despite of the presence of angina-related clinical manifestations.

Results. In addition to the main functions of sex hormones, estrogens also affect the cardiovascular system and lipid metabolism, namely increase the level of high-density lipoproteins (HDL) in the blood and lower the content of low-density lipoprotein (LDL)). They also prevent the development of atherosclerotic changes in the vascular wall. Thus, the age of menopause affects morbidity and mortality, leading to early (vasomotor disorders, dyslipidemia) and remote (atherosclerosis, cardiovascular disease) effects.

It has been determined that atherosclerosis develops later in women than in men as ischemic heart disease in men manifests itself 10 years earlier than in women. Women in comparison with men have more favourable lipid profile, particularly higher level of HDL that largely depends on the hormonal status of woman. With the onset of menopause, not only the hormonal status of a woman is disrupted but unfavourable changes also occur in the lipid metabolism. A significant increase in atherogenic lipids such as LDL and LP (a) is noted after the onset of menopause in women. Deficiency of estrogens is accompanied by increased vasospastic responses and platelet aggregation. According to some authors, the onset of natural menopause at the age of 40 is usually combined with an increased risk of myocardial infarction by 1.5-2 times compared to women with normal menstrual function at the same age. Data received indicate the important role of estrogen in the women's health as a factor that prevents the development of dyslipidemia, endothelial dysfunction and as a result prevents the development of cardiac syndrome X. Thereby maintenance of the stable hormonal status of women and estrogen replacement therapy during the post-climacteric period will significantly help prevent the development of microvascular dysfunction and reduce the incidence of cardiovascular disease among women.

References

1. Bolezni serdtsa i sosudov (The ESC textbook of cardiovascular medicine): rukovodstvo / Pod red. A. Dzhona Kemma, Tomasa F. Lyushera, Patrika V. Serriusa, per. s angl. pod. red. V.A. Almazova. - M. : GEOTAR-Media, 2011. – 1446 s.
2. Lipovetskiy B.M. Dislipidemii, ateroskleroz i ikh svyaz' s ishemicheskoy bolezn'yu serdtsa i mezga / B.M. Lipovetskiy. – S-Pb. : Eko-Vektor, 2012. – 130 s.
3. Pogosova G.V. Ishemicheskaya bolezn' serdtsa, rukovodstvo / G.V. Pogosova; pod red. R.G. Oganova. – M. : GEOTAR – Media, 2011. – 112 s.
4. Gorbachev V.V. Ishemicheskaya bolezn' serdtsa: ucheb. posobiye / V.V.Gorbachev. – Minsk : Vysh. shk., 2008. – 479 s.
5. Oganov R.G. Natsional'nyye metodicheskiye rekomendatsii Vserossiyskogo nauchnogo obshchestva kardiologov: rukovodstvo / R.G. Oganov, M.N. Mamedov. – M. : MediaEkspo, 2009. – 392 s.
6. Soboleva G.N. Rekomendatsii Yevropeyskogo obshchestva kardiologii po stabil'noy IBS 2013 g.: mikrovaskulyarnaya stenokardiya / G.N. Soboleva, YU.A. Karpov // RMZH. - 2013. - № 27. - S. 1294.

ASSESSMENT OF SPONDYLOGENIC PECULIARITIES IN YOUNG PATIENTS WITH CIRCULATORY VERTEBROBASILAR INSUFFICIENCY

Nekrasova N.

Key words: vertebrobasilar insufficiency, spondylogenic abnormalities.

It is known that the most common causes of pathological effects on vertebral arteries and its sympathetic autonomic plexus are degenerative-dystrophic changes in the cervical part of vertebral column, instability and intervertebral disk hernia. The aim of this investigation was to estimate spondylogenic peculiarities in young patients with vertebral basilar insufficiency (VBI) depending on the stage of the disease. Materials and methods. 240 patients with osteochondrosis of cervical segments of vertebral column with vertebral basilar insufficiency (VBI) undergoing the treatment at the Neurology Department of Kharkiv Regional Clinical Hospital aged from 18 to 44 years have been under our investigation. Depending on clinical and hemodynamic data, the patients were distributed into the following groups: group 1 involved 104 patients with angiodystonic stage of VBI, group 2 included 76 patients with angiodystonic-ischemic stage of VBI, and group 3 involved 60 patients with ischemic stage of VBI. VBI diagnosis was verified in the hospital according to radiographic, tomography and ultrasound examination. The control group consisted of 25 healthy volunteers matched by age. The complex included a survey by the neurological examination, Doppler ultrasonography. Statistical analysis by novel methods of mathematical analysis on the personal computer using the statistical software package "Statistica-6" was performed. Then the average values and the deviation mean were calculated. On the base of received data the evidence of the most common spondylogenic abnormalities on the C4-C5, C5-C6 segments were proven. The most significant spondylogenic changes at the above discussed level included instability, spondylolysthesis, vertebral arthrosis and hernia of intervertebral disk. The obtained data have demonstrated that progression of VBI is accompanied by simultaneous lesion of craniovertebral level and C4-C5, C5-C6 levels of cervical vertebral column.

References

1. Bakhtadze M.A. Rol' anomalyy Kymmerly v razvytyy kompressyonnykh syndromov pozvonochnoy artery : dys. na soyskanye nauchnoy stepeny kand. med. nauk : spets. 14.00.13 «Nervnye bolezny» / Bakhtadze M.A. – Moskva, 2002. – 200 s.
2. Vereshchahyn N.N. Patolohyya vertebral'no-bazylyarnoy systemy y narushenyya moz-hovoho krovoobrashchenyya. – M. : Medytsyna, 1980. – 312 s. - S. 214 – 242.
3. Zozulya I.S. Tranzytorni ishemichni ataky u vertebro-bazylyarniy systemi, zumovleni patolohiyeyu shyynoho viddilu khrebta / I.S. Zozulya, V.H. Nesukay // Liky Ukrayiny. - 2013. - № 3. - S. 4-9.
4. Kalashnykov V.Y. Osobennosty moz-hovoy hemodynamyky pry syndrome pozvonochnoy artery u podrostkov / V.Y. Kalashnykov // Klynycheskaya fyzyolohyya krovoobrashchenyya. – 2009. - № 3. – S. 59-62.
5. Kandyba D. V. Spondylohennyi syndrom pozvonochnoy artery : posobye dlya vrachey / D. V. Kandyba. – SPb. : SPbMAPO, 2009. – 64 s.

6. Kamchatnov P. R. Vertebral'no-bazylyarnaya nedostatochnost' – problemy dyahnostyky y terapiyy / P. R. Kamchatnov, A. V. Chuhunov, N. A. Mykhaylova // Medytsynskyy sovet. – 2013. – № 1. – S. 69–73.
7. Kovalenko O.YE. NedostatnIst' krovoobihu u vertebro-bazylyarnomu sudynnomu baseyni, pov"yazana z patolohiyeyu shyynoho viddilu khrebta / O.YE. Kovalenko // Zdorov"ya Ukrayiny XXI storichchya. - 2009. - № 11 – S. 4-7.
8. Lyubymov A.V. Aktual'nye problemy lechenyya vertebral'no-bazylyarnoy nedostatochnosty / A.V. Lyubymov // Aktual'nye voprosy sovremennoy medytsyny. - Voronezh, 2010. - S. 120-124.
9. Novosel'tsev C.B. Spondylohenno-kranyal'naya nedostatochnost' moz-hovoho krovoobrashchenyya v vertebral'nobazylyarnom basseyne y ee korrektsyya : avtoref. dyss. na soyskanye nauchnoy stepeny kand. med. nauk : spets. 14.00.13 «Nervnye bolezny» / C.B. Novosel'tsev. - SPb. : SPbHMu ym. Y.P. Pavlova, 2004. – 16 s.
10. Payenok A.V. Vertebro-bazylyarna nedostatnIst' mozkovoho krovoobihu i yiyi zv'yazok iz patolohichnymy zminamy u shyynomu viddili khrebta / A.V. Payenok, O.M. Kozar-Hurina // Bukovyns'kyy medychnyy visnyk. - 2012. - T. 16, № 3 (63). – S. 67-70.
11. Rozhdestvenskyy A.S. Spondylohenne narushenyya hemodynamyky v vertebro-bazylyarnoy systeme: dyahnostyka y lechenye : avtoref. dyss. na soyskanye nauchnoy stepeny kand. med. nauk : spets. 14.00.13 «Nervnye bolezny» / A.S. Rozhdestvenskyy. - M., 2007. - 22 s.
12. Rudkovskyy A.Y. Osobennosty dopplerohrafycheskykh parametrov krovotoka v pozvonochnykh arteryakh pry ékstravazal'nykh vozdeystvyakh / A.Y. Rudkovskyy, M.V. Tardov, O.H. Buhrovetskaya // XX yubyleynaya nauchno-praktycheskaya konferentsyya VAMM y MPOMT. - M., 2010. - S. 58-59.
13. Sytel' A.B. Vlyyanye deheneratyvno-dystrofycheskykh protsessov v sheynom otdele pozvonochnyka na narushenyya hemodynamyky v vertebral'no-bazylyarnoy systeme / A.B. Sytel', K.O. Kuz'mynov, M.A. Bakhtadze // Manual'naya terapiyya. - 2010. - № 1 (37). – S. 10-21.
14. Shebatyn A.Y. Klynycheskye y ynstrumental'nye pryznaky syndroma pozvonochnoy artery y stadyy eho techenyya / A.Y. Shebatyn // Mezhdunarodnyy nevrolohycheskyy zhurnal. - 2009. - № 4. - S. 97-104.
15. Yaroshevskyy A. A. Rol' tservykal'noho faktora v heneze holovnoy boly y holovokruzhenyya / A. A. Yaroshevskyy // Mezhdunarodnyy medytsynskyy zhurnal. – 2010. – № 3. – S. 16–24.

PSYCHOLOGICAL PECULIARITIES OF WOMEN WITH UTERINE LEIOMYOMA

Pavlovskaya M. A.

Key words: uterine leiomyoma, psychological disorders, clinical picture.

The study involved 67 patients (33 patients with psychological disorders made up test group 1, and 34 healthy women formed the control group).

The study of obstetric and gynaecological history in the patients of group 1 demonstrated significantly lower percentage of physiological and much more abnormal childbirths and abortions. Miscarriages were more often registered in the group of women without uterine leiomyoma. The patients with uterine leiomyoma and psychological disorders as much as three times more often suffered from infertility. Indicators of ovarian-menstrual cycle revealed a significant deviation compared with those in women without uterine leiomyoma. There are significant differences between group 1 and the control group in using birth control measures as male condoms (less than 2.2 times), oral contraceptives (more than 1.5 times), calendar method (more than 1.5 times), interrupted sexual intercourse (1.3 times more).

Leiomyoma in association with psychological disorders was found in the 27.5% of women of first age period, and in the 72.5% of the women of the second age period, 54.5% demonstrated mixed localization of myoma nodes. According to clinical and ultrasound classification, uterine leiomyoma nodes were characterized by different sizes and their multiplicity. As for neuro-endocrine status, the patients' response to stress ranked the key position, as evidenced by increased levels of cortisol and ACTH. The level of occupational stress in this group of women is not a serious problem and does not need immediate resolution. The increasing level of anxiety is evidence of the tendency to somatisation of depressive disorders. In the perceptual assessment of such stress number of patients (%), which belonged to her particular type of group 1 can be described as $B > B2 > A1 > A$, whereas healthy women in the control group - $A > A1 > B2 > B$. Among these women the most of the type B and the type A are the least stress resistant and need some correction of their psychological condition.

References

1. Batarshv A.V. Bazovyye psikhologicheskiye svoystva i samoopredeleniye lichnosti: Prakticheskoye rukovodstvo po psikhologicheskoy diagnostike / A.V. Batarshv. — SPb. : Rech', 2005. - S. 44-49.
2. Beyshenbiyeva G.D. Reprodukativnoye zdorov'ye zhenshchin i vliyaniye na nego mediko-sotsial'nykh faktorov / G.D. Beyshenbiyeva // Tavr. med.-biol. vestnik. — 2009. - № 3. — S. 149-152.
3. Vasserman L.I. Psikhologicheskaya diagnostika i korrektsiya v somaticheskoy klinike / L.I. Vasserman, Ye.A. Trifonova, O.YU. Shchelkova. — M. : Rech', 2011. — 272 s.
4. Kocharyan A.S. Psikhologicheskiye osobennosti zhenshchin s ginekologicheskoy patologiyey / A.S. Kocharyan, A.A. Makarenko, Din Shao TSze // Perspektivy Nauki i Obrazovaniya. — 2015. - № 5/17. — S. 88-921.
5. Makarenko A.O. Osoblivosti yemotsiynoŷ sferi zhŷnok, yakim vikonana gŷsterektomiya / A.O. Makarenko // Nauk. Vŷsnyk Mikolaŷvs'kogo derzhavnogo unŷversitetu ŷmenŷ V.O. Sukhomlins'kogo. Seriya "Psikhologŷchnŷ nauki". — 2010. — T. 2, vip. 5. — S. 179-184.
6. Naumenko G.M. ŷndividual'no-psikhologŷchnŷ kharakteristiki stanu zhŷnok pŷslya perenesenikh operativnykh vtruchan' z pryvodu leyomiomi matki / G.M. Naumenko, O.S. Chaban // Meditsina transportu Ukraŷni. - 2013. - № 1. — S. 9-14.
7. Rogov Ye.I. Obshchaya psikhologiya / Ye.I. Rogov. - M. : VADOS, 2002. — 447 s.

8. Svíridova V.V. Porívnjal'na kharakteristika psikho-yemotsiynogo stanu zhínok, yakí perenesli operativní vtruchannya na vnutrishnikh statevikh organakh / V.V. Svíridova // Medichna psikhologiya. – 2009. - № 1. – S. 82-88.
9. Fetiskin N.P. Pertseptivnaya otsenka tipa stressoustoychivosti / N.P. Fetiskin, V.V. Kozlov, G.M. Manuylov // V kn. : Sotsial'no-psikhologicheskaya diagnostika razvitiya lichnosti i malykh grupp. – M., 2002. - C. 248-249.
10. Powell C.B. A randomized study of the effectiveness of a brief psychosocial intervention for women attending a gynecologic cancer clinic / C.B. Powell, A. Kneier, L.M. Chen [et al.] // Gynecol. Oncol. – 2008. – Vol. 111. – P. 137-143.
11. Roseske N.C. Hysterectomy and other gynecological surgeries a psychological view / N.C. Roseske // Gynecol. Oncol. – 2007. – Vol. 110. – P. 172-180.

COGNITIVE AND BEHAVIOURAL CORRECTION OF CARDIOVASCULAR RISK: ESTIMATION OF ITS EFFICIENCY FOR PATIENTS WITH REACTIONS OF MENTAL DEADAPTATION AND SOMATOGENIC ASTHENIUM SYMPTOM COMPLEX

Panchenko N.S.

Key words: medical psychology, cardiovascular risk, cognitive-behavioural correction.

This article describes the effects produced by cognitive-behavioural correction (CBC) on 47 patients with reactions of mental deadadaptation and 9 patients with somatogenic asthenia symptom complex and comorbid cardio-vascular reactions. According to the results of the treatment, it has been revealed that among the people with increased CVR and reactions of mental disadaptation, CBC produced the most marked effective on the mood improvement and decreased the level and frequency of personal anxiety. The CBC was characterized by efficiency at the level of $18.7 \pm 1.0\%$. Among the patients with elevated CVR and somatogenic asthenia symptom complex (SACS), the effect of CBC on the increase in the level of activity and well-being was the most pronounced. For these patients, the CSC was characterized by a generalized indicator of efficiency at the level $13.1 \pm 4.7\%$. It has been demonstrated that the selectively differentiated effect of CBC for the patients with elevated CVR, which is comorbid with nonpsychotic mental disorders makes it possible to provide the medical and psychological assistance for CVR reduction.

References

1. Horbas' I.M. Shkala SCORE u klinichniy praktytsi: perevahy y obmezhennya / I.M. Horbas' // Zdorov'ya Ukrayiny. - 2008. - № 11 (1). – S. 40-41.
2. Lychko A.E. Medyko-psykholohycheskoe obsledovanye somatycheskykh bol'nykh / A.E. Lychko, N.YA. Yvanov // Zhurn. nevropatolohyy y psykhyatryy ym. S.S. Korsakova. - 1980. - T.80, № 8. - S. 1195-1198.
3. Netyazhenko V.Z. Patsiyent vysokoho kardiovaskulyarnoho ryzyku: yak pokrashchyty prohnoz / V.Z. Netyazhenko, O.H.Puzanova // Vnutrishnya medytsyna. - 2008. - № 5-6. – S. 123-129.

4. Panchenko M.S. Aktseptor-indykatory povedinkovo-kohnityvnoyi korektsiyi kardiovaskulyarnoho ryzyku u molodomu vitsi / M.S. Panchenko // Problemy ekolohichnoyi ta medychnoyi henetyky i klinichnoyi imunolohiyi: Zbirnyk naukovykh prats'. - 2014. - Vyp. 4 (124). - S. 242-250.
5. Panchenko M.S. Kardiovaskulyarnyy ryzyk ta nepsykhotychni porushennya psykhhichnoyi sfery: medyko-psykhologichnyy kontent / M.S. Panchenko // Visnyk problem biolohiyi i medytsyny. - 2014. - Vyp. 3, T. 2 (111). - S. 207-210.
6. Panchenko M.S. Kardiovaskulyarnyy ryzyk u molodomu vitsi: chastota ta klinichni varianty somatohennoho astenichnoho symptomokompleksu / M.S. Panchenko // Visnyk problem biolohiyi i medytsyny. - 2014. - Vyp. 3, T. 3 (112). - S. 183-186.
7. Panchenko M.S. Prohnostychni znachennya medyko-psykhologichnykh faktoriv v otsintsi sertsevo-sudynnoho ryzyku / M.S. Panchenko // Visnyk problem biolohiyi i medytsyny. - 2013. - Vyp. 4, T. 1 (104). - S. 193-197.
8. Panchenko M.S. Psykhopatolohichni symptomy pry riznykh variantakh nepsykhotychnykh porushen' u patsiyentiv z pidvyshchenym kardiovaskulyarnym ryzykom / M.S. Panchenko // Visnyk problem biolohiyi i medytsyny. - 2014. - Vyp. 4, T. 2 (114). - S. 172-176.
9. Panchenko M.S. Reaktsiyi psykhhichnoyi dezadaptatsiyi v konteksti obhruntuvannya dyferentsiyovanoho medyko-psykhologichnoho suprodu patsiyentiv z kardiovaskulyarnym ryzykom / M.S. Panchenko // Visnyk problem biolohiyi i medytsyny. - 2014. - Vyp. 4, T. 1 (113). - S. 168-171.
10. Prykhod'ko V.YU. Patsyent vysokoho ryska - kto on? / V.YU. Prykhod'ko // Zdorov'ya Ukrainy. - 2010. - № 3. – S. 18-19.
11. Sotsial'na medytsyna ta orhanizatsiya okhorony zdorov'ya / Zah. red. V.M.Moskalenko, YU.V. Voronenko - Ternopil', 2002. – S. 50-75.
12. Shal'nova S.A. Otsenka summarnoho ryska serdechno–sosudystykh zabolevanyy. Kommentaryy k evropeyskym rekomendatsyyam po profylaktyke serdechno–sosudystykh zabolevanyy / S.A. Shal'nova, O.V. Vykhyreva // Ratsyonal'naya farmakoterapiya. - 2005. - № 3. – S. 54-56.
13. Bhatt D.L. International prevalence, recognition, and treatment of cardiovascular risk factors in outpatients with atherothrombosis / D.L. Bhatt, P.G. Steg, E.M. Ohman // JAMA. - 2006. - № 295. – R. 180–189.

IMPAIRMENTS IN LIPID PEROXIDATION - ANTIOXIDANT DEFENCE SYSTEM IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND PNEUMOCONIOSIS OF OCCUPATIONAL GENESIS

Pylypenko N. O.

Key words: pneumoconiosis, lipid peroxidation – antioxidant defence system, chronic obstructive pulmonary disease.

Dust-induced respiratory diseases, and in particular chronic obstructive pulmonary disease (COPD) and pneumoconiosis (PC) occupy a leading place in the structure of occupational pathology and lead to a significant deterioration in the quality of life, chronic health disorders and disability. Early diagnosis of these diseases is usually associated with significant difficulties due to their poor clinical manifestations, and requires further search of criteria and evaluation methods for reliable indicators pointing out early metabolic changes. It is known, immunological and biochemical findings are the main indicators of blood homeostasis. Thus, along with the study of immunological reactivity of the persons working at foundry it was appropriate to analyze the performance status of lipid peroxidation (LP) and antioxidant protection (AP) as the most informative links of homeostasis. Moreover, any imbalances within this system suggest underlying metabolic disorders in general and reflect the state of the cell membranes. The indicators of the metabolism can also reflect the development of pathology and different early abnormalities in lipid peroxidation antioxidant defence system that plays a leading role in the process of body adaption to extreme conditions and the development of pathologies.

References

1. Yeselevich S.A. O patogeneticheskom yedinstve pnevmokoniozov i pylevogo bronkhita / S. A. Yeselevich, V. V. Razumov // Meditsina truda i promyshlennaya ekologiya. – 2007. – № 7. – S. 28-32.
2. Leshchenko I. V. Rasprostranennost' khronicheskoy obstruktivnoy bolezni legkikh na krupnykh promyshlennykh predpriyatiyakh / I. V. Leshchenko, I. I. Baranova, N. A. Yakovleva, M.V. Lozovskaya // Atmosfera. – 2004. – № 1. – S.49-52.
3. Chernyayev A.L. Vospaleniye pri khronicheskoy obstruktivnoy bolezni legkikh: molekulyarnyye osnovy patogeneza / A. L. Chernyayev, M. V. Samsonova // Consilium Medicum. – 2008. – № 10. – S. 57-63.
4. Polyakova I. N. Aktual'nyye voprosy professional'nykh zabolevaniy legkikh i perspektivnyye napravleniya issledovaniy / I. N. Polyakova // Meditsina truda i promyshlennaya ekologiya. – 2007. – № 7. – S. 1-5.
5. Dimopoulos G. Viral epidemiology of acute exacerbations of chronic obstructive pulmonary disease. [Text] / G. Dimopoulos [et al.] // Pulm Pharmacol Ther. – 2012. –Vol. 25(1). – P. 8-12.
6. Pham Q. Pneumoconiosis and asbestosis: Their global impact on lung diseases / Q. Pham // J Tuberc. and Lung Disease. – 2008. – Vol. 2, № 2. – R. 182-184.
7. Zarembo I. A. Khronicheskaya obstruktivnaya bolezni legkikh: rasprostranennost' i smertnost' / I. A. Zarembo // Allergologiya. – 2006. – № 1. – S. 14-19.

TACTICS OF OPEN ABDOMEN PROCEDURE IN INTEGRATED TREATMENT OF PERITONITIS

Podlesniy V.I., Lavrenko D.A., Lysenko R.B.

Key words: relaparotomy, laparostoma, open abdomen procedure.

In the conditions of the surgical department of the general medical setting in Poltava we carried out retrospective analysis of the outcomes of the treatment of 127 people who had had relaparotomy for 2011

– 2015. 12 patients were managed by using open abdominal procedure. The age of patients ranged from 16 to 94 years, with the prevalence of the patients aged 68 (53.5%). The average age was 55 years. During the surgery, the original technique of temporary closure of the abdominal cavity was used with stage-by-stage surgical interventions (Patent of Ukraine for utility model No. 101848 dated 12.10.2015, Bull. No. 9). Open abdominal management with abdominal pathology is a curative measure, which should be applied exclusively according to the indications. The analysis of the obtained results allows us to draw a conclusion that in order to improve the results of treatment of surgical patients with common forms of peritonitis, the open abdomen technique can be quite effective and searching for the most economical and effective methods of laparotomy is promising approach.

References

1. Andryushchenko V.P. Prohramovana i vymushena relaparotomiya u nevidkladniy abdominal'niy khirurhiyi / V.P. Andryushchenko, L.R.Fedorenko. S.T. Chaykovs'ka // Kharkivs'ka khirurhichna shkola. – 2006. – № 1(20). – S. 137 – 140.
2. Boyko V.V. Vlyyanye tsytokynoryentyrovannoy terapiy na chastotu razvytyya hnoyno-septycheskykh oslozhnenyy y vyzhyvaemost' bol'nykh s posleoperatsyonnym perytonytom / V.V. Boyko, YU.V. Yvanova // Khirurhiya Ukrayiny. – 2011. – № 2(38). – S.54 – 59.
3. Laberko L.A. Yndyvydual'nyy prohnoz tyazhesty techenyya posleoperatsyonnoho peryoda y yskhoda rasprostranennoho perytonyta / L.A. Laberko, H.V. Kuznetsov, A. D. Rodoman [y dr.] // Khyrurhiya. – 2005. – № 2. – S. 29-33.
4. Lyfshyts YU.Z. Laparostomya v sochetanny s vakuum-terapiyey v kompleksnom lechenyy vtorychnoho henryalizovannoho perytonyta / YU.Z Lyfshyts, P.A. Zaychenko, V.L. Valetskyy [y dr.] // Khirurhiya Ukrayiny. – 2012. – № 2. – S.37 – 40.
5. Savel'ev V. S. Perytonyt. Praktycheskoe rukovodstvo / V. S. Savel'ev, B.R. Hel'fand. – Moskva: Lytterra, 2006. – 208 s.
6. Parfenova O.V. Otsenka ryska povtornykh operatyvnykh vmeshatel'stv u patsyentov s rasprostranennym perytonytom : avtoref. dys. na zdobuttya nauk. stupenya kand. med. nauk : spets. 14.01.17 «Khyrurhiya» / O.V. Parfenova. – Chelyabynsk, 2014. – 21 s.
7. Anderson O. Short and long term outcome of laparostomy following intra-abdominal sepsis / O. Anderson, A. Putnis, R. Bhardwaj [et al.] // Colorectal Dis. – 2011. – 13(2). – R. 20-32.
8. Bjorck M. Classification–important step to improve management of patients with an open abdomen / M. Bjorck, A. Bruhin, M. Cheatham, [et al.] // World J Surg. – 2012. – R.1154–1157.
9. Intra-abdominal hypertension and the abdominal compartment syndrome: updated consensus definitions and clinical practice guidelines from the World Society of the Abdominal Compartment Syndrome. Intensive Care Med. – 2013. – No.39(7). – P. 1190-1206.
10. Verdam F.J. Delayed primary closure of the septic open abdomen with a dynamic closure system / F.J. Verdam, D.E. Dolmans, M.J. Loos [et al.] // World J Surg. – 2011. – No.35(10). – P.2348-2355.

BIOCHEMICAL MARKERS OF PARAVERTEBRAL MUSCLES IN PATIENTS WITH HERNIAS AND LUMBAR SPINE STENOSIS

Radchenko V. O., Skidanov A. G., Morozenko D. V., Perfiliev O. V., Piontkovsky V. K.

Key words: paravertebral muscles, lumbar spine, hernia, stenosis, creatine phosphokinase, lactate dehydrogenase, phosphocreatine.

The article discusses the importance of biochemical markers of blood serum and muscle tissue for the assessment of paravertebral muscles in patients with hernias and stenosis of the lumbar spine. Reduced activity of creatine phosphokinase (CPK) in the blood of patients with hernias was 45.3 % and made up 68.6 ± 7.52 U/L ($p < 0.001$), in patient with stenosis it formed 44.1 %, 70.1 ± 14.41 U/L ($p < 0.05$) compared with the values of healthy individuals, who had 125.3 ± 5.57 U/L. Lactate dehydrogenase (LDH) activity in the blood of healthy persons was 318.6 ± 11.29 U/L, in the patients with hernia – 620.3 ± 56.9 U/L ($p < 0,001$), with stenosis – 647.2 ± 49.4 U/L ($p < 0.001$). Increased LDH in serum in both groups of patients shows the development of inflammatory and degenerative processes in the muscles of the loin, and correlates with a decrease in serum CPK ($r = 0.91$). Low CPK in the blood correlates with the decrease of creatine in multifid muscle tissue ($r = 0.83$). The content of phosphocreatine in multifid muscle was reduced to 55.3% in the patients with lumbar hernias compared to healthy people. Reduced CPK activity and increased LDH activity in the blood serum of the patients with hernias and stenosis of the lumbar area may indicate structural and functional disorders in paravertebral muscles.

References

1. Korzh N. A. Patogeneticheskaya klassifikatsiya degenerativnykh zbolevaniy pozvonochnika / N. A. Korzh, A. I. Prodan, A. Ye. Barysh // *Ortopediya, travmatologiya i protezirovaniye*. – 2004. – № 3. – S. 5–13.
2. Crossman K. Chronic low back pain-associated paraspinal muscle dysfunction is not the result of a constitutionally determined «adverse» fiber-type composition / K. Crossman, M. Mahon, P. J. Watson [et al.] // *Spine*. – 2004. – Vol. 29 (6). – P. 628–634.
3. Hultman G. Body composition, endurance, strength, cross-sectional area, and density of MM Erector Spinae in men with and without low back pain / G. Hultman, M. Nordin, H. Saraste [et al.] // *J. Spinal Dis.* – 1993. – Vol. 6. – P. 114–123.
4. Rissanen A. Back muscles and intensive rehabilitation on patients with chronic low back pain. Effects on back muscle structure and function and patient disability / A. Rissanen. – Jyvaskyla : University of Jyvaskyla, 2004. – 90 p.
5. Crawford R.J. Rate of lumbar paravertebral muscle fat infiltration versus spinal degeneration in asymptomatic populations: an age-aggregated cross-sectional simulation study / R.J. Crawford, T. Volken, S. Valentin [et al.] // *Scoliosis Spinal Disord.* – 2016. – № 11. – P. 21.
6. Skidanov A.G. Otsinyuvannya paravertebral'nikh m'yakikh tkanin za dopomogyu komp'yuternoï tomografii / A.G. Skidanov, O.G. Avrunin, M.YU. Timkovich [ta in.] // *Ortopediya, travmatologiya i protezirovaniye*. – 2015. – № 3. – S. 61–65.

7. Skidanov A.G. Funktsional'noye sostoyaniye myshts spiny u patsiyentov s degenerativnymi zabolevaniyami pozvonochnika / A.G. Skidanov, D.R. Dupliy, I.V. Kotul'skiy [i dr.] // Ortopediya, travmatologiya i protezirovaniye. – 2015. – № 4. – S. 59–67.
8. Radchenko V. A. Praktikum po stabilizatsii grudnogo i poyasnichnogo otdelov pozvonochnika / V. A. Radchenko, N. A. Korzh. – Khar'kov : Prapor, 2004. – 154 s.
9. Radchenko V.A. Formuvannya zadn'ogo spondilodezu zalezho vid rıznoї fızichnoї aktivnostı u tvarin / V.A. Radchenko, A.G. Skıdanov, N.O. Ashukina [ta in.] // Ortopediya, travmatologiya i protezirovaniye. – 2016. – № 2. – S. 55–59.
10. Spravochnik ortopeda / Pod. red. N. A. Korzha, V. A. Radchenko. – K. : OOO «Doktor media», 2011. – 378 s.
11. Kotani Y. Effect of minimally invasive lumbar posterolateral fusion using percutaneous pedicle screw on paravertebral muscle change and postoperative residual low back pain / Y. Kotani, K. Abumi, H. Sudo [et al.] // Spine. – 2011. – Vol. 11, Suppl. 10. – P. 103–104.
12. Skidanov A.H. Strukturni osoblyvosti bahatorozdil'noho m"yaza shchuriv pislya transpedikulyarnoyi fiksatsiyi khrebtiv za umov riznoyi rukhovoyi aktyvnosti / A.H. Skidanov, N.O. Ashukina, Z.M. Danyshchuk [ta in.] // Ortopediya, travmatologiya i protezirovaniye. – 2015. – № 2. – S. 85–92.
13. Boden S.D. Biology of lumbar spine fusion and use of bone graft substitutes: present, future, and next generation / S.D. Boden // Tissue Eng. – 2000. – № 6. – P. 383–399.
14. Bawa Maneesh Paraspinal Muscle Vasculature Contributes to Posterolateral Spinal Fusion / Maneesh Bawa, Aimee L. Schimizzi, Bryan Leek [et al.] // Spine. – 2006. – Vol. 31, № 8. – P. 891–896.
15. Theiss S.M. The effect of nicotine on gene expression during spine fusion / S.M. Theiss, S.D. Boden, G. Hair [et al.] // Spine. – 2000. – № 25. – P. 2588–2594.
16. Boden S.D. Biology of lumbar spine fusion and bone graft materials. In: International Society for Study of the Lumbar Spine Editorial Committee, ed. The Lumbar Spine, 2nd ed. / S.D. Boden, J.H. Schimandle. – Philadelphia : Saunders, 1996. – P. 1284–1306.
17. Grauer J.N. Evaluation of OP-1 as a graft substitute for intertransverse process lumbar fusion / J.N. Grauer, T.C. Patel, J.S. Erulkar [et al.] // Spine. – 2001. – № 26. – P. 127–133.
18. Radchenko V.A. Otsenka sostoyaniya paravertebral'nykh myshts poyasnichnogo otdela pozvonochnika s pomoshch'yu komp'yuternoy tomografii (obzor literatury) / V.A. Radchenko, A.G. Skidanov, YU.A. Zmiyenko [i dr.] // Ortopediya, travmatologiya i protezirovaniye. – 2013. – № 4. – S. 128–133.
19. Radchenko V.O. Strukturnyye osobennosti paravertebral'nykh myshts v norme, pri degenerativnykh zabolevaniyakh poyasnichnogo otdela pozvonochnika i posle khirurgicheskogo vmeshatel'stva (obzor literatury) / V.O. Radchenko, N.V. Dedukh, N.O. Ashukina [ta in.] // Ortopediya, travmatologiya i protezirovaniye. – 2014. – № 4 – P. 122–127.

20. Connolly J.F. Autologous marrow injection as a substitute for operative grafting of tibial nonunions / J.F. Connolly, R. Guse, J. Tiedeman [et al.] // Clin. Orthop. Relat. Res. – 1991. – № 266. – P. 259–270.
21. Cierny G. Primary versus delayed soft tissue coverage for severe open tibial fractures: a comparison of results / G. Cierny, H.S. Byrd, R.E. Jones // Clin. Orthop. Relat. Res. – 1983. – № 178. – P. 54–63.
22. Skídanov A.G. Bíokhímíchní markeri dlya otsínuyuvannya stanu m'yazív za umov degenerativnikh zakhvoryuvan' khrebta (oglyad líteraturi) / A.G. Skídanov, F.S. Leont'êva, D.V. Morozenko [ta ín.] // Ortopediya, travmatologiya i protezirovaniye. – 2016. – № 4 – S. 119–124.
23. Klíníchna bíokhímíya: navchal'niy posíbnik / [O.P. Timoshenko, L.M. Voronína, V.M. Kravchenko ta ín.]. – Kharkív : Zolotí Storínki, 2003. – 239 s.
24. Gubich O.I. Bioenergetika: metodicheskoye posobiye k laboratornym zanyatiyam, zadaniya dlya samostoyatel'noy raboty i kontrolya znaniy studentov / O.I. Gubich, S.I. Mokhoreva. – Minsk : BGU, 2010. – 40 s.
25. Glants S. Mediko-biologicheskaya statistika: Per. s angl. / S. Glants. – M. : Praktika, 1998. – 459 s.
26. Khmelevskiy YU.V. Osnovnyye biokhimicheskiye konstanty cheloveka v norme i pri patologii / YU.V. Khmelevskiy, O.K. Usatenko. – K. : Zdorov'ye, 1987. – 160 s.

FEATURES OF THERAPEUTIC RESPONSE IN PATIENTS WITH PARANOID SCHIZOPHRENIA UNDER CANNABINOID CONSUMPTION

Skrypnikov A.M., Kydon' P.V.

Key words: schizophrenia, cannabinoids, antipsychotics.

The aim of this work was to examine the effect of atypical antipsychotics on positive symptoms of schizophrenia in patients with paranoid schizophrenia, who take cannabinoids. 173 patients passed through clinical, psychopathological, catamnestic, and psycho diagnostic assessment. The part of the positive and negative symptoms scale (PANSS) was used for the objectification of the study of psychopathology and scoring of each symptom, which was targeted specifically at positive symptoms. It was revealed that response to antipsychotic therapy in the patients with paranoid schizophrenia who took cannabinoids was worse than in the patients with schizophrenia who did not consume the drugs. Agitation, delusions of grandeur and hostility were reduced worse under antipsychotic therapy in the patients with paranoid schizophrenia who consumed cannabinoids ($p < 0.05$). The obtained data can be used in the treatment and developing rehabilitation measures for this group of patients.

References

1. Davydov D. Ye. Pervichnyy analiz akusherskikh, ginekologicheskikh i perinatal'nykh faktorov riska shizofrenii / D. Ye. Davydov [i dr.] // Psikhatriya. – 2005. – № 6. – S. 24-29.
2. Shcherbakova I. V. Osobennosti vrozhdennogo i priobretennogo immuniteta pri vysokom riske vozniknoveniya shizofrenii i v protsesse yeye razvitiya (kliniko-immunologicheskkiye aspekty): avtoref. dis. ...

doktora meditsinskikh nauk : 14.00.18 «Psikhíatriya», 03.00.04 «Bíokhímíya» // Irina Valentinovna Shcherbakova. – Moskva, 2006. – 21 s.

3. Guloksuz S. European Federation of Psychiatric Trainees' Research Group. Choice of antipsychotic treatment by European psychiatry trainees: are decisions based on evidence? / S. Guloksuz [et. al.] // BMC Psychiatry. – 2012. – №12. – P. 27.

4. Kahn R. S. Effectiveness of antipsychotic drugs in first-episode schizophrenia and schizophreniform disorder: an open randomized clinical trial / R. S. Kahn, W.W. Fleischhacker, H. Boter // The Lancet. – 2008. – № 9618. – P. 1085–1097.

5. Vsemirnyy doklad o narkotikakh. 2013 / UNODC. – 2013. – 13 s.

6. Goncharov V. Ye. Ispol'zovaniye shkaly PANSS i neyro-psikhologicheskikh testov pri differentsiatsii shizofrenii i komorbidnoy patologii / V. Ye. Goncharov // Klinicheskaya psikhíatriya. – 2010. – № 3. – S. 52-56.

7. Zyuzín V. O. Statistichní metodi v okhoroní zdorov'ya ta meditsini / V. O. Zyuzín, A. V. Kostíkov, V. L. Fílatova. – Poltava, 2002. – 150 s.

IMPACT OF CHANGES IN CYTOKINE PROFILE OF INTRAOCULAR FLUID ON RETINA AFTER CATARACT PHACOEMULSIFICATION

Steblovska I. S.

Key words: cystic macular oedema, phacoemulsification, cataract, intraocular fluid, cytokines.

The decrease in visual acuity after cataract surgery in most cases is due to the occurrence of cystoid macular oedema. Therefore, the aim of the study was to identify the features of cytokines profile of intraocular fluid during phacoemulsification, and their impact on the level, frequency and character of changes in the retina at different time intervals of the postoperative period. The study involved 54 patients (54 eyes) who were diagnosed to have cataract and subjected to phacoemulsification. The research was carried out at the Ophthalmology Department of Poltava Regional Clinical Hospital. Intraocular fluid was taken by an insulin syringe with paracentese of the cornea. The fluid volume was about 0.3-0.4 ml. The fluid of the anterior chamber of the eye was checked for the levels of TNF- α and bFGF.

References

1. Martoplyas K. V. Sravnenye otdalennykh rezul'tatov fakoémul'syfykatsyy katarakty u bol'nykh sakharnym dyabetom II tyra (po dannym optycheskoy koherentnoy tomografyy) / K. V. Martoplyas, M. P. Kul'byda, S. K. Dmytryev [y dr.] // Oftal'mol. zhurnal. - 2011. - N 2. - S. 15-18.

2. Fadyeyeva T.V. Kliniko-funktsional'ni rezul'taty fakoemul'syifikatsiyi z implantatsiyeyu intraokulyarnoyi linzy u patsiyentiv z rannimy formamy vikovoyi makulyarnoyi deheneratsiyi : avtoref. dys. na zdobuttya nauk. stupenya kand. med. nauk : spets. 14.00.08 «Oftal'molohiya» / T.V. Fadyeyeva. – M., 2012.

3. Ching H. Y. Cystoid macular edema and changes in retinal thickness after phacoemulsification with optical coherence tomography // *Eye*. - 2006. - No. 20. - P. 297-303.
4. Masood I. The -174G/C interleukin-6 promoter polymorphism influences the development of macular oedema following uncomplicated phacoemulsification surgery / I. Masood, A. Negi, S. A. Vernon, P. Comeglio, A. H. Child // *Eye*. – 2007. – №2. – R. 1412–1415
5. Perente I. Evaluation of macular changes after uncomplicated phacoemulsification surgery by optical coherence tomography / I. Perente, C. A. Utine, C. Ozturker [et al.] // *Curr. Eye. Res.* - 2007. - No. 32. - P. 241-247.
6. Nunes S. Central retinal thickness measured with HD-OCT shows a weak correlation with visual acuity in the eye with CSME / Nunes, S., I. Pereira, A. Santos [et al.] // *Br. J. Ophthalmol.* - 2010. - No. 94. - P. 1201-1204.

REHABILITATION OF CHILDREN WITH INFANTILE CEREBRAL PALSY BY CHANGING IN MOTORIAL STEREOTYPE

Strashko Ye. Yu.

Key words: infantile cerebral palsy, muscular spirals, posture destruction, muscular points, rehabilitation, optimal postures and movements, motor stereotype.

The improvement of rehabilitation approaches for children with infantile cerebral paralysis is of great importance over the world. Muscular spirals of human's body are built as reciprocally symmetric spirals-antagonists. The well balanced work of muscular spirals is disturbed with the infantile cerebral paralysis. It has been proven both from anthropological and physiological views that directed stimulation influence of rehabilitation measures onto the antagonistic muscles are effective approach. The goal is to harmonize their interaction. The proposed methods are simple and cost-effective and allow us to develop patient-centred programs to stimulate muscle spirals, to increase the effectiveness of the treatment of children with infantile cerebral palsy.

References

1. Kozyavkyn V. Y. Det-skye tserebral'nye paralychy. Medyko-psykholohycheskye problemy / V. Y. Kozyavkyn, L. F. Shestopalova, V. S. Podkorytov. – L'viv : Ukrayins'ki tekhnolohiyi, 1999. – 133 s.
2. Merkholt's Yan. Rannyya reabyl'tatsyya posle ynsul'ta / Yan Merkholt's. – M. : Medynform, 2014. – 239 s.
3. Semenova K.A. Novye vozmozhnomy v reabyl'tatsyy tserebral'noho paralycha u detey / K.A. Semenova // *Det-skaya nevrolohyya*. – 2008. – № 2. – S. 7-17.
4. Strashko YE.YU. Zbil'shennyya obsyahu rukhiv shyynoyi dilyanky khrebta yak kryteriy efektyvnosti reabilitatsiyynoho vplyvu na m"yazovi spirali u khvorykh na spastychni formy DTSP / YE.YU. Strashko, O.H. Yushkovs'ka // *Medytsynskaya reabyl'tatsyya, kurortolohyya, fizyoterapyya*. – 2013. - № 1 (73), - S. 43-46.

5. Shaparenko P.P. Anatomiya lyudyny / P.P. Shaparenko, L.P. Smol's'kyy. – Kyiv : Zdorov'ya, 2003. – 376 s.
6. Strashko E.Y. Correction of movement in patients with spastic forms of CP / E.Y. Strashko, L.E. Bobyrev // TEKA Polish Academy of Sciences. - 2014. - Vol. 2, № 1. - R. 21-25.

SORTILIN IN DEVELOPMENT OF VARIOUS TYPES OF DISLIPIDEMIA IN PATIENTS WITH CORONARY HEART DISEASE AND DIABETES MELLITUS 2 TYPE

Sypalo A.O., Kravchun P.G., Kadykova O.I.

Key words: sortilin, coronary heart disease, diabetes mellitus 2 types, dislipidemia.

The article describes the role of sortilin in the development of various types of dislipidemia in patients with the coronary heart disease (CHD) and the diabetes mellitus (DM) 2 types. The study involved 105 patients with CHD and DM 2 type. The assessment of sortilin level was carried out by ELISA (Human SORT 1 ELISA Kit, USA). Indicators of lipid metabolism, and, in particular, the total cholesterol of high density lipoproteins (HDL), and the level of triglycerides (TG) were measured by applying standard biochemical techniques. Calculation of the atherogenic coefficient (AC) was based on Klimov A. M. formula: $AC = (GCS - LPHD) / LPHD$; level of lipoproteins of very low density (LPVLD) = $TG / 2,2 \times 0,45$, (mmol/l); level of lipoproteins of low density (LPLD) = $GCS - (LPVLD + LPHD)$, (mmol/l). The types of dislipidemia were classified based on WHO hyperlipoproteinemia classification, which originated from D. Fredrickson's classification. When determining level of sortilin it was revealed that in the group of the patients with CHD and DM 2 type, the level of sortilin was $241,03 \pm 46,57$ ng/l in comparison with the group of the patients with CHD and without concomitant DM 2 type, where values of this indices equalled $214,165 \pm 33,23$ ng/l, and control group with the level of the specified marker of $123,63 \pm 18,88$ ng/l that by 11,20% and 48,96% were higher than in the patients without the concomitant DM 2 type and in the control group ($p < 0,05$). During our research there were no reliable differences concerning sortilinemia depending on types of dislipidemia, however, there was a tendency toward the growth of sortilin level according to more expresses atherogenous types of dislipidemia in the patients with CHD and DM 2 type.

References

1. Amosova K. M. Efektyvnist' kompleksnoyi osvith'o-likuval'noyi prohramy z dosyahnennya lipidnykh tsiley u khvorykh z khronichnoyu ishemichnoyu khvoroboyu sertsya za dopomohoyu pryznachennya statyniv bez tytruvannya doz: nayblyzhchi rezul'taty / K. M. Amosova, YE. V. Andryeyev, YU. V. Rudenko // Sertse i sudyny. – 2012. – № 3. – S. 20–25.
2. Kravchun P. P. Osoblyvosti lipidnoho obminu u khvorykh z postinfarktym kardiosklerozom, tsukrovym diabetom 2 typu ta ozhyrinnyam / P. P. Kravchun // Medytsyna s'ohodni i zavtra. – 2014. – № 2. – S. 93–98.
3. Nykolaev YU. A. Dynamyka rasprostranennosti dyslypydemyy u trudyashchykhsya zapadno-yakut-skoho promyshlennoho rayona / YU. A. Nykolaev, V. H. Selyatytskaya, Y. M. Mytrofanov [ta in.] // Ateroskleroz. – 2012. – № 1. – S. 21–26.
4. Rosul M. M. Vplyv tsukrovoho diabetu 2-ho typu na perebih ishemichnoyi khvoroby sertsya / M. M. Rosul // Bukovyns'kyy medychnyy visnyk. – 2002. – № 3. – S. 78–80.

5. Mooradian A. D. Dyslipidemia in type 2 diabetes mellitus / Mooradian A.D. // *Nat. Clin. Pract. Endocrinol. Metab.* – 2009. – № 5. – P. 150–159.
6. Piepoli M. F. Exercise training in heart failure: from theory to practice. A consensus document of the Heart Failure Association and the European Association for Cardiovascular Prevention and Rehabilitation / M. F. Piepoli, V. Conraads, U. Corra // *Eur. J. Heart Fail.* – 2011. – V.13(4) – P. 347–357.
7. Hu D. Increased sortilin and its independent effect on circulating proprotein convertase subtilisin/kexin type 9 (PCSK9) in statin-naive patients with coronary artery disease / D. Hu, Y. Yang, D. Peng // *Int. J. Cardiol.* – 2017. – Vol. 227. - P.61–65.
8. Kjolby M. Sort1, encoded by the cardiovascular risk locus 1p13.3, is a regulator of hepatic lipoprotein export / M. Kjolby, O. M. Andersen, T. Breiderhoff [et al.] // *Cell Metab.* – 2010. – № 12. – S. 213–223.
9. Linsel-Nitschke P. Sorting out cholesterol and coronary artery disease / P. Linsel-Nitschke, N. Samani, H. Schunkert // *N. Engl. J. Med.* – 2010. – Vol. 363(25). - P. 2462–2463.
10. Linsel-Nitschke P. Genetic variation at chromosome 1p13.3 affects sortilin mRNA expression, cellular LDL-uptake and serum LDL levels which translates to the risk of coronary artery disease / P. Linsel-Nitschke, J. Heeren, Z. Aherrahrou // *Atherosclerosis.* – 2010. – № 208. – P. 183–189.
11. Nathan D. M. Management of Hyperglycemia in Type 2 Diabetes: A Consensus Algorithm for the Initiation and Adjustment of Therapy: a consensus statement of the American Diabetes Association and the European Association for the Study of Diabetes / D. M. Nathan, J. B. Buse, M. B. Davidson // *Diabetes Care.* – 2009. – V.32(1). – R. 193–203.
12. Musunuru K. From noncoding variant to phenotype via SORT1 at the 1p13 cholesterol locus / K. Musunuru, A. Strong, M. Frank-Kamenetsky [et al.] // *Nature.* – 2010. – № 466. – P. 714–719.
13. Stamler J. Multiple Risk Factor Intervention Trial Revisited: A New Perspective Based on Nonfatal and Fatal Composite Endpoints, Coronary and Cardiovascular, During the Trial / J. Stamler, J. D. Neaton, J. D. Cohen. // *JAHA.* – 2012. – P. 1–7.
14. Strong A. Hepatic sortilin regulates both apolipoprotein B secretion and LDL catabolism / A. Strong, Q. Ding, A. Edmondson // *J. Clin. Invest.* – 2012. – № 122. – R. 2807–2816.
15. Genuth S. The UKPDS and its global impact / S. Genuth // *Diabet Med.* – 2008. – V.25, Suppl.2 - P. 57–62.
16. Tveten K. Mutations in the SORT1 gene are unlikely to cause autosomal dominant hypercholesterolemia / K. Tveten, T. B. Strom, J. Cameron // *Atherosclerosis.* – 2012. – Vol. 225(2). - P. 3705.

PHARMACOGENETIC TESTING IN OVERCOMING EPILEPSY PHARMACORESISTANCE

Tantsura L.M., Koliada O. K., Pylypets O.Yu., Tretyakov D.V., Tantsura Ye.O.

Key words: epilepsy, pharmacoresistance, genetic testing, isoenzymes of cytochrome P-450, therapy.

We carried out o pharmacogenetic testing of patients with drug-resistant epilepsy, who took from 2 to 4 antiepileptic drugs (AEDs). The duration of the disease and its treatment with AEDs ranged from 4 to 16 years. All surveyed individuals are Caucasians and live in Kharkiv region. In one case, epileptic seizures were of primary generalized character, and 13 of them were recorded as focal seizures and focal seizures with secondary generalization. Among the patients studied in 50% of cases we found mutations in the genes encoding isoenzymes of cytochrome P-450 CYP2C9 and CYP2S19, which involved in the biotransformation of most AEDs. Despite the fact that, according to most researchers, isoform of cytochrome P-450 CYP3A4 metabolize drugs majority (47%), we have found no changes in the gene that codes for this enzyme in the group of the patients under the observation. Analysis of the treatment outcomes showed that in all cases where the genotyping revealed gene mutations, the patients were receiving politherapy for many years, which was selected without regard to individual characteristics and, thus, was ineffective. We demonstrated a clinical case of drug-resistant epilepsy, its development and ways to overcome it. We also demonstrated the advantages of patient-centered approach in the treatment of epilepsy, and in particular, the possibility of predicting response to the therapy, its efficiency, that can save costs.

References

1. Brodie M.J. Fast Facts: Epilepsy / M.J. Brodie, S.C. Schachter, P. Kwan // Heals Press Oxford. – 2005. – 127 c.
2. Ayvazyan S.O. Sovremennyye metody lecheniya patsiyentov s farmakorezistentnoy epilepsiyey, dostupnyye v RF / S.O. Ayvazyan, YU.S. Shirayev // Epilepsiya i paroksizmal'nyye sostoyaniya. – 2016. – T. 8, № 1. – S. 22-28.
3. Wiebe S. Epilepsy. Outcome patterns in epilepsy surgery – the long-term view / S. Wiebe // Nat. Rev. Neurol. – 2012. – Vol. 8 (3). – R. 123-124.
4. Lebedeva A.V. Farmakorezistentnyye epilepsii : diss. na soiskaniye uchenoy stepeni doktora med. nauk : spets. 14.00.13 «Nervnyye bolezni» / Lebedeva A.V.. – Moskva, 2007. – 298 s.
5. Avdeyev R.M. Geneticheskiy polimorfizm i etnicheskiye aspekty farmakogenetiki / R.M. Avdeyev, A.L. Piruzyan, M.K. Sarkisova // Meditsinskaya genetika. – 2010. – T. 5, № 6. – S. 11-15.
6. Obzherina A.YU. Polimorfizm SUR2S9: novyy faktor riska razvitiya zheludochno-kishechnykh oslozhneniy pri primenenii nesteroidnykh protivovospalitel'nykh preparatov / A.YU. Obzherina, YU.V. Sychev, YU.V. Murav'yev [i dr.] // Klinicheskaya farmakologiya i farmakoekonomika. – 2009. – T. 2, № 5. – S. 20-25.
7. FDA Changing the Future of Drug Safety: FDA Initiatives to Strengthen and Transform the Drug Safety System // Report to congress. – July 2009. – 85 c.

8. Biotransformatsiya lekarstvennykh preparatov / Pod redaktsiyey akademika RMN, prof. V.G. Kukesa. – M.: Paleya-M, 2001. – 133 s.
9. Lisitsa A.V. Baza znaniy o tsitokhrome R-450: razrabotka i primeneniye: avtoref. dis. na soiskaniye uchenoy stepeni doktora biol. nauk : spets. 03.00.28 «Bioinformatika» / A.V. Lisitsa. — M., 2007. — 44 s.
10. Hannemann F. Cytochrome P450 systems—biological variations of electron transport chains / F. Hannemann [et al.] // Biochim. et Biophys. Acta. – 2007. – Vol. 1770. – R. 330–344.
11. Sadeghi Sheila J. Breakthrough in P450 bioelectrochemistry and future perspectives / Sheila J. Sadeghi // Biochimica et Biophysica Acta. – 2011. – Vol. 1814. – C. 237–248.
12. Gerasimova K.V. Klinicheskaya farmakogenetika: farmakoekonomicheskiye aspekty / K.V. Gerasimova, D.A. Sychev, M.V. Avksent'yeva [i dr.] // Klinicheskaya farmakologiya i terapiya. – 2009. – № 4. – S. 87-89.
13. Zherdev V.P. Farmakokineticheskiye vzaimodeystviya lekarstvennykh veshchestv, metaboliziruyemykh izofermentom tsitokhroma R-450 SUR2S9 / V.P. Zherdev, G.V. Litvin, A.A. Kolyvanov // Farmakokinetika i farmakodinamika. – 2016. – № 1. – 467 c.
14. Sychev D.A. Farmakogeneticheskoye testirovaniye: klinicheskaya interpretatsiya rezul'tatov (rekomentatsii dlya praktikuyushchikh vrachey) / D.A. Sychev. – Moskva, 2011. – 89 s.
15. Sirotkina O.V. Allel'nyye varianty CYP2S9*2 i CYP2S9*3 gena CYP2S9 v populyatsii Sankt-Peterburga i ikh klinicheskoye znacheneye pri antikoagulyantnoy terapii varfarinom / O.V. Sirotkina, A.S. Ulitina, A.Ye. Taraskina [i dr.] // Rossiyskiy kardiologicheskiy zhurnal. – 2004. – № 6. – S. 47-51.

MULTIMORBIDITY AS INTEGRAL RISK FACTOR FOR PROGRESSING OF ARTERIAL HYPERTENSION IN PATIENTS WITH STABLE ANGINA AND COMBINED OSTEOARTHRITIS AND OBESITY

Teslenko Yu.V.

Key words: multimorbidity, arterial hypertension, stable exertional angina, osteoarthritis, obesity.

Considering the prevalence, general mechanisms of pathogenesis, as well as the mutual burdening of the course of coronary heart disease (CHD), osteoarthritis (OA) and obesity, the study of the influence caused by this multimorbid state on the occurrence and progression of hypertension is an actual problem of internal medicine. The purpose of the study was to determine the main patterns of the occurrence and progression of hypertension in patients with CHD and comorbid OA and obesity. In addition to general clinical, laboratory and instrumental methodological studies, we include BPM and the body mass index assessment. The results of the study showed a significant effect produced by the concomitant pathologies on the level of blood pressure. The combination of CHD, OA and obesity in the patients with elevated blood pressure causes a progressive increase in the degree of the disease and results in unfavourable effect on the clinical course of BP. The worsening of the BPM indices in patients with CHD and comorbid OA and obesity in the patients with concomitant hypertension is proportional to the increase in the body mass

index that points out the important role of obesity in the course and progression of hypertension in the patients with multimorbid pathology.

References

1. Kolomoiets' M. YU. Komorbidnist' i polimorbidnist' u terapevtychniy praktytsi / M. YU. Kolomoiets', O. O. Vashenyak // Ukr. med. chasopys. – 2012. – № 5 (91), IKH/X. – S. 140–143.
2. Bilovol O. M. Komorbidnist' hipertonichnoyi khvoroby i tsukrovoho diabetu 2 typu – aktual'na problema suchasnoyi medytsyny / O. M. Bilovol, A. S. Shalimova, M. M. Kochuyeva // Ukrayins'kyy terapevtychnyy zhurnal. – 2014. – №1. – S. 11–17.
3. Campbell-Scherer D. Multimorbidity: a challenge for evidence-based medicine. / D. Campbell-Scherer // Evid.Based Med. – 2010. – Vol. 15 (6). – P. 165–166.
4. Caughey G. E. Multimorbidity research challenges: where to go from here? / G. E. Caughey, E. E. Roughead // J. Comorbidity. – 2011. – Vol. 1. – P. 8–10.
5. Caughey G. E. Prevalence of comorbidity of chronic diseases in Australia / G. E. Caughey, A. I. Vitry, A. L. Gilbert [et al.] // BMC Public Health. – 2008. – Vol. 8. – 221 p.
6. Caughey G. E. Comorbid chronic diseases, discordant impact on mortality in older people: a 14-year longitudinal population study / G. E. Caughey, E. N. Ramsay, A. I. Vitry [et al.] // J. Epidemiol. Community Health. – 2010. – Vol. 64 (12). – P. 1036–1042.
7. Kochuev H. Y. Varyabel'nost' arterial'noho davlenyya y sostoyanye vehetatyvnoho homeostaza u bol'nykh arterial'noy hipertenzyyey v dynamyke lechenyya preparatom «Neotenz» / H. Y. Kochuev, M. N. Kochueva, A. N. Korzh ta inshi // Skhidnoyevropeys'kyy zhurnal vnutrishn'oyi ta simeynoyi medytsyny – 2014. – №1 – S. 70–77.
8. Kovalenko V. M. Rehional'ni medyko–sotsial'ni problemy khvorob systemy krovoobihu. Dynamika ta analiz [Tekst]: analitychno-statystychnyy posibnyk / V. M. Kovalenko, V. M. Kornats'kyy. – K., 2013. – 239 s.
9. Pospelov D. Arteryal'naya hipertenzyya y serdechno-sosudystyy rysk v praktycheskoy deyatel'nosti vracha / D. Pospelov // Ukrayins'kyy medychnyy chasopys. – 2013. – № 2. – S. 25–27.
10. Horbas' I. M. Epidemiolohiya osnovnykh faktoriv ryzyku sertsevo-sudynnykh zakhvoryuvan' / I. M. Horbas' // Arterial'na hipertenziya. – 2008. – № 2. – S. 15–18.
11. Horbas' I. M. Otsinka poshyrenosti ta kontrolyu faktoriv ryzyku sertsevo-sudynnykh zakhvoryuvan' sered naselennya ta likariv / I. M. Horbas', O. M. Barna, V. YU. Sakalosh, M. A. Bakumenko // Liky Ukrayiny. – 2010. – № 1. – S. 4–9.
12. Sertsevo-sudynna zakhvoryuvanist' v Ukrayini ta rekomendatsiyi shchodo pokrashchannya zdorov'ya v suchasnykh umovakh [Tekst] : analitychno-statystychnyy pos. / [V. M. Kornats'kyy, A. P. Dorohoy, T. S. Manoylenko ta in.] – Kyiv, 2012. – 177 s.
13. Alekseeva L. Y. Perspektyvnye napravlenyya terapyi osteoartroza / L. Y. Alekseeva, E. M. Zaytseva // Nauchno-praktycheskaya revmatolohyya. – 2014. – № 52(3). – S. 247–250.

14. Halushko E. A. Osteoartroz v ambulatornoy praktyke / E. A. Halushko, SH. F. Érdes, L. Y. Alekseeva // *Sovremennaya revmatologiya*. – 2012. – № 4. – S. 66–70.
15. Kadam U. T. Clinical Comorbidity in Osteoarthritis: Associations with Physical Function in Older Patients in Family Practice [Elektronnyy resurs] / U. T. Kadam, P. R. Croft // *J Rheumatol*. – 2007. – Vol. 34. – R. 1899–1904. – Rezhym dostupu: <http://www.jrheum.org/content/34/9/1899.long> (data zvernennya: 10.11. 2015).
16. Kadam U. T. Clinical comorbidity in osteoarthritis: associations with physical function in older patients in family practice / U. T. Kadam, P. R. Croft // *J. Rheumatol*. – 2007. – Vol. 34. – P. 1899–1904.
17. Kadam U. T. Clinical comorbidity in patients with osteoarthritis: a case-control study of general practice consultants in England and Wales [Elektronnyy resurs] / U. T. Kadam, K. Jordan, P. R. Croft // *Ann Rheum Dis*. – 2004. – Vol. 63. – R. 408–414. – Rezhym dostupu: <http://ard.bmj.com/content/63/4/408.full> (data zvernennya: 10.11. 2015).
18. Malnick S.D. The medical consequences of obesity / S. D. Malnick, H. Knobler // *Q. J. Med*. – 2006. – Vol. 99. – R. 565–579.
19. Schwartzberg S. S. The «obesity paradox» : Does it persist among Israeli patients with decompensated heart failure? a subanalysis of the heart failure survey in Israel (HFSIS) / S. S. Schwartzberg, M. Benderly, S. D. H. Malnick, J. A. George, S. Goland // *Journal of Cardiac Failure*. – 2012. – Vol. 18 (1). – P. 62–67.

CLINICAL AND MORPHOLOGICAL CHARACTERISTICS OF PAPILLARY THYROID MICRO CARCINOMA ASSOCIATED WITH NODULAR AND PROLIFERATIVE LESIONS OF THYROID

Tkachenko R. P., Golovko A. S., Kuryk O. G., Gubar O. S.

Key words: thyroid, papillary micro carcinoma, goiter, chronic thyroiditis, adenoma.

Despite of long term investigations, problems in diagnosis, prophylaxis and rationale for the treatment of papillary thyroid microcarcinoma (PTM) is still the matter of discussions. The analysis of connection between PTM and associated pathology of thyroid (APT) is important for the development of new ways of clinical prevention of thyroid cancer. The aim of the study was to analyze morphological peculiarities and invasive characteristics of PTM and related pathology of thyroid. Materials and methods. The research was based on retrospective study of 144 clinical cases of histologically verified PTM at the State Research Institution “Research and Practical Centre of Preventive and Clinical Medicine”, Kyiv, for 2012-2016. An average age of patients was 50,4 (ranged from 18 to 77). Statistical analysis of clinical material was carried out using the «Microsoft Excel 2010» («Microsoft Corp. », USA) package analysis statistics. Results. Out of all 144 clinical cases, 46 patients were diagnosed to have no concomitant pathology of thyroid (30,5±7,5%). 98 patients were verified to have proliferative and nodular thyroid lesions (69,5±7,5%). Concomitant thyroid pathologies detected were the following: goiter (multinodular, diffuse, nontoxic, colloid) – 37,7±9,6 %, Hürthle Cell adenoma– 3±3,4%, chronic thyroiditis (Hashimoto, Riedel’s, De Quervain’s) – 29,6±9,0%.

Clinical observations of PTM associated with oxyphilic adenoma, nodular goiter and chronic thyroiditis made up 29,7±9,0%. An average size of PTM by PTM/nAPT was smaller than by PTM/wAPT: 3,3±0,8mm and 6,2±1,4 mm ($p<0,05$). Adjacent tissue invasion by PTM/wAPT was diagnosed more often than by PTM/nAPT (35±9,4 and 32±13,5%). However, significance of tumour capsular invasion (41±14,2 and 20±7,9%), paratracheal lymph nodes (Group VI) invasion (17±10,9% and 13±6,7%), and multifocal tumour growth (46±14,4% and 35±9,4%) were prevalent in PTM/nAPT patients. According to descriptive statistics, odds ratio (OR) for PTM/nAPT was following: tumour capsular invasion made up 1,7; paratracheal lymph nodes invasion made up 1,3. The results obtained were considered OR to be a predictor. Conclusions. The research of PTM clinical cases points to more aggressive characteristics of PTM/nAPT. Proliferative and nodular lesions of thyroid are considered to be prognostic features. Nevertheless, associated pathology of thyroid is an important reason that can complicate a verification of hidden signs of cancer.

References

1. Hul'chiy M.V. Kliniko-morfologichni osoblyvosti papilyarnoyi mikrokartsynomy shchytopydibnoyi zalozy na foni khvoroby Hreyvsa / M.V. Hul'chiy, A.V. Dinets', P.D. Fomin [ta in.] // Ukrayins'kyi medychnyy chasopys. - 2012. - № 3 (89). - S. 136-139.
2. Reyti A.O. Klinichni osoblyvosti mikrokartsynom, poyednanykh z dribnovohnyshchevoyu dobroyakisnoyu patolohiyeyu shchytopydibnoyi zalozy / A.O. Reyti // Khirurhiya Ukrayiny. - 2014. - № 4. - S. 67-71.
3. Tsymbalyuk S.M. Znachennya vuzlovoyi patolohiyi u vynyknenni raku shchytopydibnoyi zalozy / S.M. Tsymbalyuk, M.V. Hul'chiy, N.V. Balenko, I.O. Chernychenko // Ukrayins'kyi medychnyy chasopys. - 2014. - № 1. - S. 146-151.
4. Bombil I. Incidental cancer in multinodular goitre post thyroidectomy / I. Bombil, A. Bentley, D. Kruger, T.E. Luvhengo // South African Journal of Surgery. - 2014 Feb. – Vol. 52 (1). – P. 5-9.
5. Cyniak-Magierska A. Assessment of RET/PTC1 and RET/PTC3 rearrangements in fine-needle aspiration biopsy specimens collected from patients with Hashimoto's thyroiditis / A. Cyniak-Magierska, K. Wojciechowska-Durczyńska, K. Krawczyk-Rusiecka [et al.] // Thyroid Research. - 2011. - Vol. 4 (1). – P. 5.
6. Feldt-Rasmussen U. Autoimmunity in differentiated thyroid cancer: significance and related clinical problems / U. Feldt-Rasmussen, A.K. Rasmussen // Hormones (Athens). - 2010 Apr-Jun. - Vol. 9 (2). – P. 109-117.
7. Gürleyik E. Incidental Papillary Thyroid Microcarcinoma in an Endemic Goiter Area / E. Gürleyik, G. Gurleyik, B. Karapolat, U. Onsal // Journal of Thyroid Research. - 2016. - Vol. 2016. - Article ID 1784397, 6 pages. - Rezhym dostupu <http://dx.doi.org/10.1155/2016/1784397>
8. Hirokawa M. Pathological characteristics of low-risk papillary thyroid microcarcinoma with progression during active surveillance / M. Hirokawa, T. Kudo, H. Ota [et al.] // Endocrine Journal. - 2016. - Vol. 63 (9). – R. 805-810.
9. Konturek A. Coexistence of papillary thyroid cancer with Hashimoto thyroiditis / A. Konturek, M. Barczyński, W. Wierzbowski [et al.] // Langenbecks Arch Surg. - 2013. - Vol. 398 (3). – R. 3389-9334.

10. Lee K.J. Analysis of the clinicopathologic features of papillary thyroid microcarcinoma based on 7-mm tumor size / K.J. Lee, Y.J. Cho, S.J. Kim [et al.] // World J. Surg. – 2011. - Vol. 35 (2). – R. 318–323.
11. Matesa-Anić D. Coexistence of papillary carcinoma and Hashimoto's thyroiditis / D. Matesa-Anić, N. Matesa, N. Dabelić, Z. Kusić // Acta Clin Croat. - 2009. - Vol. 48 (1). – R. 9-12.
12. Neuhold N. Incidental papillary microcarcinoma of the thyroid—further evidence of a very low malignant potential: a retrospective clinicopathological study with up to 30 years of follow-up / N. Neuhold, A. Schultheis, M. Hermann [et al.] // Ann. Surg. Oncol. – 2011. - Vol. 18 (12). – R. 3430–3436.
13. Park Y.J. Papillary microcarcinoma in comparison with larger papillary thyroid carcinoma in BRAF(V600E) mutation, clinicopathological features, and immunohistochemical findings / Y.J. Park, Y.A. Kim, Y.J. Lee [et al.] // Head Neck. – 2010. - Vol. 32 (1). – P. 38–45.

LIVER FIBROSIS DEVELOPMENT IN PATIENTS WITH NON-ALCOHOLIC STEATOSIS AND STEATOHEPATITIS AGAINST THE BACKGROUND OF COMORBID OBESITY AND PATHOLOGY OF BILIARY TRACT

Filippova A.Yu.

Key words: liver fibrosis, indicators of fibrosis development, non-alcoholic hepatic steatosis, nonalcoholic steatohepatitis, obesity, body mass index.

The aim of this study is to explore changes indicating the development of fibrosis in patients with non-alcoholic steatosis (NAHS) and non-alcoholic steatohepatitis (NASH) against comorbid obesity (OB) and pathology of the biliary tract (PBT), depending on the body mass index (BMI). Materials and methods. The study involved 200 patients with non-alcoholic fatty liver disease (NAFLD) and comorbid obesity and pathology of biliary tract who passed through ultrasound scanning and liver biopsy, and showed signs of hepatic steatosis, including 100 patients with NAHS, 100 with NASH. The control group consisted of 20 healthy individuals. BMI was calculated according to the Quetelet formula. Depending on the degree of increase in BMI, each groups of patients with NAHS (n=100) and NASH (n=100) and concomitant obesity were divided into three groups: overweight patients with BMI of 25-29.9 kg/m², the patients with BMI of 30-34.9 kg/m² (obesity of I degree); the patients with BMI of 35-39.9 (obesity of II degree). The process of fibrosis development was evaluated according to the content of free oxyproline (OPF), total oxyproline (OPT) and protein-binding oxyproline (OPB). The blood content of copper (Cu) was investigated using Biotest "Lachema", the content of hexosamines (HA) by using Rimington. Results. The analysis of indicators of connective-tissue metabolism in the patients NAHS and NASH and comorbidity of obesity and biliary tract pathology demonstrated marked characteristic changes in the most indicators of collagen metabolism. The cross-group comparison of indicators of the fibrosis development in patients NAHS and NASH shoed more substantial changes in OPF, OPT, OPB, HA, Cu, which were observed in the patients with concomitant obesity of I and II degree. The increase in the content of HA, Cu was registered against the decrease in OPF and OPT. An increase in OPB confirms the imbalance between ana- and catabolism of the protein portion of the extracellular matrix with the formation of liver fibrosis in the patients with NAFLD. Conclusions. In patients with NAHS and NASH and obesity and biliary tract pathology the comorbidity

course was associated with significant changes in indicators of fibrosis that depends on the increase in the BMI parameters.

References

1. Golovanova Ye.V. Mekhanizmy fibrozoobrazovaniya pri khronicheskikh zabolevaniyakh pecheni i vozmozhnosti antifibroticheskoy terapii / Ye.V. Golovanova // Consilium Medicum. – 2014. – №8. – S.52-59.
2. Vinnitskaya Ye. V. Diagnosticheskaya znachimost' syvorotochnykh markerov fibroza pri khronicheskikh zabolevaniyakh pecheni / Ye. V. Vinnitskaya, V. N. Drozdov, YU. M. Yunusova [i dr.] // Terapevticheskii arkhiv. – 2013. – №2. – S.27-31.
3. Chesnokova L.V. Insulinorezistentnost', aterogennyie narusheniya i fibroz pecheni u bol'nykh s metabolicheskim sindromom / L.V. Chesnokova, I.M.Petrov, I.A.Troshina // Ozhireniye i metabolizm. – 2014. – №2. – S. 17-23.
4. Nakaz MOZ Ukraïni vid 13.06.2005 №271 «Pro zatverdzhennya protokoliv nadannya medichnoï dopomogi khvorim za spetsial'nisty Gastrojenterologiya».
5. Nakaz MOZ Ukraïni vid 06.08.2014 № 826 Unifikovaniy klinichniy protokol pervinnoï, vtorinnoï (spetsializovanoï) medichnoï dopomogi «Nealkogol'niy steatogepatit».
6. Sharayev P. N. Metod opredeleniya svobodnogo i svyazannogo oksiprolina v syvorotke krovi / P. N. Sharayev // Labor. delo. – 1981. – № 5. – S. 284–285.
7. Macdonald G.A., Lucey M.K. Editorial: diet and liver disease – a glimpse in to the future / G.A. Macdonald, M.K. Lucey // G. Clin. Gastroenterology. – 1994. – P. 274 – 276.
8. Sowa J.P. Novel Algorithm for Non-Invasive Assessment of Fibrosis in NAFLD / J.P. Sowa, D. Heider, L.P. Bechmann, G. Gerken // PLoS One. – 2013. – Vol. 8(4). – e62439.
9. Toouli James Obesity World Gastroenterology Organisation Global Guideline / James Toouli, Michael Fried, Aamir Ghafoor Khan // 2009. – 30p. – Acess mode: http://www.worldgastroenterology.org/assets/downloads/en/pdf/guidelines/22_obesity.pdf
10. Argo C.K. Systematic review of risk factors for fibrosis progression in non-alcoholic steatohepatitis / C.K. Argo, P.G. Northup, A.M. Al-Osaimi [et. al.] // J. Hepatol. – 2009. – V. 51. – P. 371–379.

CHARACTERISTICS OF CHANGE OF PRO- AND ANTI-INFLAMMATORY CYTOKINES INDICATORS OF CHILDREN WITH DIFFERENT LEVELS OF PHYSICAL DEVELOPMENT AFFECTED BY COMMUNITY-ACQUIRED PNEUMONIA DURING TREATMENT

Frolova T.V., Okhapkina O.V., Borodina O.S.

Key words: community-acquired non-complicated pneumonia, children, physical development, cytokines.

This work describes the results of analysis of dynamics of pro- and anti-inflammatory interleukins levels change (IL-1 β , IL-4) and TNF- α in the blood serum of children with different levels of physical development affected by community-acquired non-complicated pneumonia with regard to the effectiveness of the conducted treatment. The interrelation between the course of community-acquired non-complicated pneumonia and change of the concentration of IL-1 β , IL-4 and TNF- α in the blood serum of patients with different levels of physical development and immune response for the conducted treatment was studied.

References

1. Ostapchuk M. Community-Acquired Pneumonia in Infants and Children / M. Ostapchuk, Donna M. Roberts, Richard Haddy // Am. Fam. Physician. – 2004, – Vol. 70 (5). – P. 899-908.
2. Weil-Olivier C. Community acquired pneumonia in children / C. Weil-Olivier // Rev. Part. - 2003. - Vol. 15, № 53 (13). - P. 1428-1433.
3. Reheda M.S. Pnevmoniya: Monohrafiya / M.S. Reheda, M.M. Reheda, L.O. Furdychko. - LNMU im. Danyla Halyts'koho, TzOV «L'vivs'kyy medychnyy instytut», L'viv, 2012. - S. 13-18, 75-80.
4. Yvardava M.Y. Mesto ymmunomodulyatorov v lecheny ostroy respyratornoy ynfektsyy u chasto boleyushchykh detey / M.Y. Yvardava // Voprosy sovremennoy pedyatryy. – 2011. – T. 10, № 3. – S. 103-107.
5. Pro zatverdzhennya protokoliv nadannya medychnoyi dopomohy dityam za spetsial'nistyuu «dytyacha pul'monolohiya» : Nakaz MOZ Ukrayiny vid 13.01.2005 № 18 [Elektronnyy resurs]. — Rezhym dostupu : <http://www.moz.gov.ua>.
6. Nakaz MOZ Ukrayiny «Pro zatverdzhennya klinichnoho protokolu medychnoho dohlyadu za zdorovoyu dytynoyu vikom do 3 rokiv» vid 20.03.2008 № 149.
7. Nakaz MOZ Ukrayiny «Pro zatverdzhennya kryteriyiv otsinky fizychnoho rozvytku ditey shkil'noho viku» vid 13.09.2013 № 802
8. Borovykov V. P. STATISTICA - statystycheskyy analiz y obrabotka dannykh v srede Windows / V. P. Borovykov, Y. P. Borovykov. - M. : Ynform-yzdat. dom «Fylyn», 1997. - 608 s.
9. Hubler E. V. Vychyslytel'nye metody analiza y raspoznavannya patolohycheskykh protsessov / E. V. Hubler. - L. : Medytsyna, 1978. - 296 s.
10. Hubler E. V. Ynformatyka v patolohyy, klynycheskoy medytsyne y pedyatryy / E. V. Hubler. - L. : Medytsyna, 1990. - 176 s.

11. Antypkin YU.H. Pozalikarnyana pnevmoniya u ditey / YU.H. Antypkin, A.O. Turets'ka // Zdorov'e zhenshchyny. – 2008. – № 4. – S. 159-161.

APPLIED SOCIOMEDICAL ASPECTS OF HEALTH-PRESERVING MANAGEMENT AND REGIONAL HEALTH PROGRAMS IN THE STRUCTURAL AND FUNCTIONAL MODEL OF MEDICAL CARE FOR PATIENTS WITH BRONCHOPULMONARY DYSPLASIA

Shipko A.F.

Key words: social medicine, children, structural and functional model, bronchopulmonary system.

This paper presents in-depth study of the systematized complex of regional social and medical programs that implement the health-preserving approach to nation-scale prevention of dysplastic-dependent pathology of the bronchopulmonary system in children. The directions towards the implementation of these programs in a single structural and functional model of medical care are related to improving the state of the external environment, reducing the technological burden on it, ensuring environmental safety for the population, and creating social and economic conditions for the functioning and development of the family. These measures also include ensuring the rest and health of children, creating friendly environment for their education, growth in the quantity and quality of medical and social services, conducting an effective regional policy on ensuring an adequate quality of life and state guarantees of social support and protection of children with disabilities.

References

1. Vynohradov O. V. Derzhavne upravlinnya bahatokanal'nym finansuvannyam zakladiv okhorony zdorov'ya / O. V. Vynohradov // Statystyka Ukrainy. – 2006. – № 2. – S. 65–67.
2. Holyachenko O. M. Sotsial'na medytsyna, orhanizatsiya ta ekonomika okhorony zdorov'ya / O. M. Holyachenko, A. M. Serdyuk, O. O. Prykhods'kyy. – K. : Dzhura, 1997. – 328 s.
3. Deykun M. P. Z dosvidu lohiko-matematychnoho obgruntuvannya vyboru varianta modeli systemy okhorony zdorov'ya velykoho mista / M. P. Deykun // Likars'ka sprava. – 2000. – № 6. – S. 117–120.
4. Doklad o sostoyanny zdravookhranennya v myre // Pervychnaya medyko-sanytarnaya pomoshch' : sehodnya aktual'nee, chem kohda-lybo, 2008. – [Élektronnyy resurs]. – Rezhym dostupa: <http://www.who.int/whr/ru/>. – Zahl. s ékrana
5. Yevropeys'ka khartiya mistsevoho samovryaduvannya. – Strasburh, 15 zhovtnya 1985 roku. – (Khartiyu ratyfikovano Zakonom vid 15.07.97 № 452/97-VR). [Elektronnyy resurs]. – Rezhym dostupa: <http://zakon.rada.gov.ua/cgi-bin/>. Nazva z ekranu.
6. Kompleksna prohrama sotsial'noho zakhystu naselennya oblasti na 2015 – 2019 roky // Rishennya Dnipropetrovs'koyi oblasnoyi rady vid 05.12.2014 №588-28/VI (<http://www.oblrada.dp.ua/official-records/decisions/50/1316>. – Nazva z ekranu).

7. Kurylo T. M. Pytannya pidhotovky upravlintsiv u haluzi okhorony zdorov"ya / T. M. Kurylo // Aktual'ni problemy derzhavnoho upravlinnya : zb. nauk. pr. – KH. : Vyd-vo KharRIDU NADU «Mahistr», 2005. – № 3 (26). – S. 296–308.
8. Martynyuk O. Mizhhaluzeva vzayemodiya z okhorony suspil'noho zdorov"ya na rivni mistsevoho samovryaduvannya / O. Martynyuk. – Rezhym dostupu : <http://www.nbu.gov.ua/>. – Nazva z ekranu.
9. Natsional'na stratehiya rozvytku «Ukrayina – 2015 // Ukrayins'ky forum. – 2008. – Rezhym dostupu : [http://www.uf.org.ua.](http://www.uf.org.ua/) – Nazva z ekranu.
10. Oblasna kompleksna prohrama ekolohichnoyi bezpeky // Rishennya Dnipropetrovs'koyi oblasnoyi rady vid 21.10.2015 №680-34/VI (Rezhym dostupu : <http://www.oblrada.dp.ua/official-records/decisions/50/1316>. – Nazva z ekranu).
11. Oblasna kompleksna prohrama povodzhennya z vidkhodamy na 2006–2015 r. Rishennya Dnipropetrovs'koyi oblasnoyi rady vid 16.11.2001 №485-18/XXIII (<http://www.oblrada.dp.ua/official-records/decisions/50/1316>. – Nazva z ekranu).
12. Oblasna prohrama "Zdorov"ya naselennya Dnipropetrovshchyny na 2015 – 2019 roky" // Rishennya Dnipropetrovs'koyi oblasnoyi rady vid 05.12.2014 №586-28/VI (<http://www.oblrada.dp.ua/official-records/decisions/50/1316>. – Nazva z ekranu).
13. Okhorona zdorov"ya v rehionakh: vlada i hromada / [O. Korvets'kyy, A. Litvak, O. Musiy ta in.] ; za zah. red. M. Tyshchuka // Doslidzhennya polityky stosovno okhorony zdorov"ya v Ukraini : zb. mater. nauk.-prakt. konf., m. Odesa, 2007 r. – O. : Ka-Do, 2007. – 115 s.
14. Praktychni instrumenty rehional'noho ta mistsevoho rozvytku : navch. posib. / Za zah. red. V. A. Racha. – Luhans'k : TOV «Virtual'na real'nist'», 2007. – 155 s.
15. Prohrama monitorynhu dovkillya Dnipropetrovs'koyi oblasti // Rishennya Dnipropetrovs'koyi oblasnoyi rady vid 04.12.2007 №294-13/V (<http://www.oblrada.dp.ua/official-records/decisions/50/1316>. – Nazva z ekranu).
16. Prohrama okhorony navkolyshn'oho pryrodnoho seredovyscha Dnipropetrovs'koyi oblasti na 2005-2015 roky // Rishennya Dnipropetrovs'koyi oblasnoyi rady vid 24.12.2004 №495-24/IV (Rezhym dostupu: <http://www.oblrada.dp.ua/official-records/decisions/50/1316>. – Nazva z ekranu).
17. Prohrama rozvytku simeynoyi ta hendernoyi polityky // Rishennya Dnipropetrovs'koyi oblasnoyi rady vid 03.02.2012 №241-11/V (<http://www.oblrada.dp.ua/official-records/decisions/50/1316>. – Nazva z ekranu).
18. Rehional'na prohrama ozdorovlennya ta vidpochynku ditey u 2014 – 2021 r. // Rishennya Dnipropetrovs'koyi oblasnoyi rady vid 27.12.2013 №507-23/VI (<http://www.oblrada.dp.ua/official-records/decisions/50/1316>. – Nazva z ekranu).

19. Shypko A.F. Monitorynh zdorov"yazberihayuchoho seredovyshcha Dnipropetrovshchyny / A. F. Shypko // Derzh. upr. ta mistseve samovryaduvannya: zb. nauk. pr. – D. : DRIDU NADU. – 2009. – № 1 (1). – S. 274-282.
20. Shypko A.F. Population-based estimation of the prevalens of dysplastic dependent pathology of bronchopulmonary system among children and the risk of its development considering the complex of antenatal and genealogical factors / A.F. Shypko // Archive of clinical medicine. - 2016. - Vol. 22, № 1. - P. 36-42.
21. Shypko A.F. Antenatal and genealogical risk factors for bronchopulmonary dysplasia and dysplastic dependent pathology of bronchopulmonary system in children / A.F. Shypko // Archive of clinical medicine. - 2016. - Vol. 22, № 1. -P. 31-35.
22. Shypko A.F. Determination of the need and assessment algorithms of the scope of activity of regional centers for diagnosis and treatment of bronchopulmonary dysplasia / A.F. Shypko // Galician medical journal. - 2016. - Vol. 23, № 2. - P. 1-9.
23. Shypko A.F. Estimation of the risk developing dysplastic dependent pathology of bronchopulmonary system in children considering the complex of regional and enviromental as well as social and medical factors / A.F. Shypko // Galician medical journal. - 2016. - Vol. 23, № 2. - P. 32-39.

X-RAY-ANATOMICAL FEATURES MEDIAL WALL AND ALVEOLAR RECESS OF MAXILLARY SINUS IN PATIENTS UNDERGOING SUBANTRAL BONE AUGMENTATION

Shkorbotun Y.

Key words: maxillotomy, maxillarysinus, prelacrimal recess, alveolar recess, dental implantation, sinuslifting, subantral bone augmentation, computed tomography.

The modern endoscopic rhinosurgery provides sanitation and creating conditions for self-cleaning of sinus and mininvasive intervention. One of mininvasive intervention components is avoiding unnecessary injuries of sinus mucoperiostium in those regions, which could be used for dental implantation andsinus lifting. The ratio of major anatomical structures of medial wall and alveolarrecess in 91 patients, including localization of osteoplastic material after sinusliftingin 67 sinuses were investigating. New approach in sinus surgery was proposed inconsidering that each patient should be seen as potential candidate for dental implantation. Recommendations for infratubinal access forming and endoscopic sanitation of prelacrimal and alveolar recesses were formulate.

References

1. Wormald P.J. Endoscopic Sinus Surgery: Anatomy, Three-Dimensional Reconstruction, and Surgical Technique. 3-rd edition / P.J. Wormald. - NewYork : Thieme Medical Publisher, 2013. - 304 p.

2. Uluyol S. Radiofrequency Thermal Ablation versus Bipolar Electrocautery for the Treatment of Inferior Turbinate Hypertrophy: Comparison of Efficacy and Postoperative Morbidity / S. Uluyol, N.E. Karakaya, M.H. Gur [et al.] // *Int. Arch. Otorhinolaryngol.* - 2016. – Vol. 20 (1). - P. 2-5.
3. Simmen D. *Manual of Endoscopic Sinus Surgery: And Its Extended Applications* / D. Simmen, N. S. Jones. – New York : Thieme, 2011. - 300 p.
4. Ghosh A. Modification of endoscopic medial maxillectomy: a novel approach for inverted papilloma of the maxillary sinus / A. Ghosh, S. Pal, A. Srivastava, S. Saha // *J. Laryngol. Otol.* - 2015. - Vol. 129 (2). - P. 159-163.
5. Makeev H. H. Potrebnost' naselenyya v s"emnom protezyrovanny na chastnom prymere / H. H. Makeev, H.A. Makeev, A. A. Vyl'chyk // *Universytet-s'ka klinika.* - 2014. - T. 10, № 1. - S. 89-90.
6. Behlaryan V.V. Kliniko-eksperymental'ne obgruntuvannya vykorystannya dental'nykh implantiv iz naskriznoyu porystystyu : avtoref. dys. na zdobuttya naukovoho stupenya kand. med. nauk : spets. 14.01.14 «Stomatolohiya» / Vyhen Vrezhykovykh Behlaryan; HOU VPO «Samarskyy Hosudarstvennyy medytsynskyy unyversytet» Mynzdravsotsrazvytyya Rossyy. - Samara, 2011. - 25 s.
7. Paraskevych V.L. Dental'naya ymplantolohyya : Osnovy teoryy y praktyky. 3-e yzd. / V.L. Paraskevych. - M. : MYA, 2011. – 400 s.
8. Wen S.-C. The influence of sinus membrane thickness upon membrane perforation during transcrestal sinus lift procedure [Elektronnyy resurs] / S.-C. Wen, Y.-H. Lin, Y.-C. Yang, H.-L. Wang // *Clin. Oral Implants Res.* – Rezhym dostupu <http://dx.doi.org/10.1111/clr.12429>.
9. Boyne P. J. Advances in preprosthetic surgery and implantation / P.J. Boyne // *Current opinion in dentistry.* - 1991. - № 1 (3). - P. 277-281.
10. Toscano Nicholas J. The Effect of Piezoelectric Use on Open Sinus Lift Perforation: A Retrospective Evaluation of 56 Consecutively Treated Cases From Private Practices / Nicholas J. Toscano, Dan Holtzclaw, Paul S. Rosen // *Journal of Periodontology* January. – 2010. - Vol. 81, № 1. - P. 167-171.
11. Schwarz Linda. Risk Factors of Membrane Perforation and Postoperative Complications in Sinus Floor Elevation Surgery / Linda Schwarz, Vanessa Schiebel, Markus Hof [et al.] // *J. Oral Maxillofac. Surg.* - 2015. - Vol. 73. – P. 1275-1282.
12. Nolan P.J. Correlation between Schneiderian membrane perforation and sinus lift graft outcome: A retrospective evaluation of 359 augmented sinus / P.J. Nolan, K. Freeman, R.A. Kraut // *J. Oral Maxillofac. Surg.* - 2014. - Vol. 72. - P. 47.
13. Chiapasco M. The treatment of sinusitis following maxillary sinus grafting with the association of functional endoscopic sinus surgery (FESS) and an intra-oral approach / M. Chiapasco, G. Felisati, M. Zaniboni [et al.] // *Clin. Oral Impl. Res.* - 2012. – R. 1–7.
14. Malanchuk V.O. Mozhlyvosti ta perevahy endoskopichnoho metodu v likuvanni zapal'nykh zakhvoryuvan' verkhn'oshchelepnoyi pazukhy / V.O. Malanchuk, I.V. Fedirko, V.I. Sherbul, R.I. Fedirko // *Rynolohiya.* - 2011. - № 1. – S. 3-7.

15. Pommer B. Effect of maxillary sinus floor augmentation on sinus membrane thickness in computed tomography / B. Pommer, G. Dvorak, P. Jesch [et al.] // J. Periodontol. - 2012. - Vol. 83. – R. 551.

16. Shkorbotun YA.V. Planuvannya dostupu do verkh'n'oshchelepnoho synusu na osnovi analizu danykh komp'yuternoyi tomografiyi patsiyentiv pislya subantral'noyi auhmentatsiyi kistky / YA.V. Shkorbotun // Rynolohiya. - 2016. - № 2. – S. 19-24.

BASIC BIOCHEMICAL PARAMETERS OF CARBOHYDRATE METABOLISM IN CHILDREN WITH ATOPIC PATHOLOGY

Shmulich O.V.

Key words: pyruvate, lactate, asthma, atopic dermatitis, urticaria, angioedema, children.

Basic parameters of carbohydrate metabolism in children with allergic diseases were studied using biochemical methods. Disorders of carbohydrate metabolism, namely changes in the content of pyruvate, lactate and the lactate/pyruvate ratio, were observed in atopic asthma, atopic dermatitis, urticaria, and angioedema. Our research allowed us to integrally assess possible of carbohydrate metabolism abnormalities characterize features of energy supply in children at various stages of allergic diseases.

References

1. Besh L. V. Alerhichnyy marsh: perspektyvy profilaktyky i prohnozu / L. V. Besh // L'viv: Kamenyar, 2010. – 68 s.

2. Pukhlyk B. M. Alerholohiya v Ukrayini: aktual'ni problemy / B. M. Pukhlyk // Ukrayins'ka medychna hazeta. – 2006. – № 7–8. – S. 24 - 25.

3. Hnateyko O. Z. Ekohenetychni aspekty patolohiyi lyudyny, sprychynenoyi vplyvom shkidlyvykh faktoriv zovnishn'oho seredovyshcha / O. Z. Hnateyko, N. S. Luk'yanenko // Zdorov'e rebenka. – 2007. – № 6(9). – S. 15-24.

4. Marushko YU. V. Mikroelementy ta stan imunitetu u detey / YU. V. Marushko // Aktual'naya ynfektolohyya. – 2013. – № 1. – S. 15-18.

5. Reshetilo O.V. Osoblyvosti perebihu atopichnoho dermatytu u ditey za nayavnosti polimorfizmu (R501X) ta (2282del4) v heni filahrynu / O.V. Reshetilo // Sovremennaya pedyatryya. – 2016. – № 5 (77). – S. 75-77.

6. Shumna T.YE. Znachennya polimorfizmu heniv u rozvytku alerhiynoyi patolohiyi u ditey / T.YE. Shumna, S.V. Solovyov, T.P. Zinchenko // Zdorov'e rebenka. – 2016. – №3 (7). – S.5-8.

7. Kamyshnykov V. S. Klynyko-byokhymycheskaya laboratornaya dyahnostyka / V. S.

8. Kamyshnykov / Spravochnyk : V 2-kh tomakh. - 2-e yzd. – Mynsk : Ynterpresservys, 2003. – T. 1. – 495 s.

9. Laboratornye metody yssledovannya v klynyke: spravochnyk / [V. V. Men'shykov, V. V. Delektorskaya, L. N Zolotnytskaya y dr.]. – M., 1987.-368 s.

10. Torshyn V.A. Uroven' laktata v krovy kak pokazatel' STAT-analyza / V.A. Torshyn // Laboratoryya. – 2001. – № 4. – S. 17.

СТОМАТОЛОГІЯ

HARD DENTAL TISSUES IN CHILDREN OF LUTSK CITY

Bezvushko Ye.V., Lahoda L.S.

Key words: children, caries, health.

Numerous reports demonstrate that the incidence of dental caries in children is of regional character and depends on a number of factors, both local and general. To date, the related literature does not completely highlight the dental morbidity in children of the Volyn region. Therefore, the purpose of our study is to assess the prevalence of caries in the children of the city of Lutsk. This paper presents the results of dental examination of 317 children that have shown the prevalence of dental caries in Lutsk's children reaches nearly 80.56%. This corresponds to the mean level according to WHO criteria. The analysis of DEF-def showed that by the intensity, tooth decay affects on average 3.16 teeth that corresponds to the average level according to WHO criteria. The results of the prevalence of tooth decay indicate poor oral hygiene and untimely sanitation of the oral cavity as well as the lack of preventive measures.

References

1. Bezvushko E.V. Epidemiolohichni pokaznyky kariyesu zubiv u ditey L'vivs'koyi oblasti / E.V. Bezvushko, N.L. Chukhray, N.M. Krupnyk // Novyny stomatolohiyi. – 2007. – №1(50). – S. 48-51.
2. Dyen'ha O.V. Poshyrenist' zuboshchelepnykh anomalii i kariyesu zubiv u ditey u period rann'oho zminnoho prykusu / O.V. Dyen'ha, B.M. Mirchuk, M. Radzhab // Ukrayins'kyy stomatolohichnyy al'manakh. – 2004. – № 1-2. – S. 48-51.
3. Kindrat H.V. Otsinka kariyesohennoi situatsiyi rotovoyi porozhnyny u ditey iz tretim stupenem aktyvnosti kariyesu zubiv / H.V. Kindrat, Z.B. Popovych // Visnyk stomatolohiyi. – 2010. – №2. – S. 15-16.
4. Kas'kova L.F. Poshyrenist' zuboshchelepnykh anomalii ta stan tverdykh tkanyn zubiv i tkanyn parodonta v ditey 11-16 rokiv. / L.F. Kas'kova, N.M. Taranenko // Ukrayins'kyy stomatolohichnyy al'manakh. – 2005. – №1. – S. 51-54.
5. Kazakova R.V. Riven' stomatolohichnoi zakhvoryuvanosti u pidlitkiv m. Uzhhorod / R.V. Kazakova, V.S. Mel'nyk, L.F. Buley // Visnyk stomatolohiyi. – 2012. – №4. – S. 103-105.
6. Smolyar N.I. Analiz zakhvoryuvanosti na kariyes u ditey L'vivs'koyi oblasti / N.I. Smolyar, E.V. Bezvushko // L'vivs'kyy klinichnyy visnyk. – 2013. – №2(2). – S.55-59.

7. Khomenko L.O. Stan tverdykh tkanyn postiynykh zubiv u ditey v riznykh za ekolohichnoyu sytuatsiyeyu rehionakh Ukrayiny / L.O. Khomenko, O.I. Ostapko, YU.M. Trachuk // *Novyny stomatolohiyi*. – 2007. – №1(50). – S.87-91.
8. Kutsevlyak V.F. Intensyvnist' kariyesu zubiv sered naselennya, shcho prozhyvaye v umovakh pidvyshchenoho vmistu soley vazhkykh metaliv / V.F. Kutsevlyak, YU.V. Lakhtin // *Novyny stomatolohiyi*. – 2011. – №3. – S.58-60.
9. Luchyns'kyi V.M. Osoblyvosti profilaktyky stomatolohichnykh zakhvoryuvan' u ditey, yaki prozhyvayut' na terytoriyakh, zabrudnennykh ksenobiotykamy: avtoref. dys. na zdobuttya nauk. stupenya k-ta med.nauk: spets 14.01.22 "Stomatolohiya" / V.M. Luchyns'kyi. — L'viv, 2013. — S.7.
10. Leus P. A. Profylaktycheskaya kommunal'naya stomatolohyya / P. A. Leus. – M.: Medytsynskaya knyha, 2008. – 443 s.
11. Stecksen-Blicks C. Caries prevalence and background factors in Swedish 4-year-old children – a 40-year perspective / C. Stecksen-Blicks, C. Kieri, J. Nyman [et al.] // *Int. J. Paediatric Dentistry*. – 2008. – Vol. 18, N 5. – P. 317–324.
12. Hugoson A. Caries prevalence and distribution in individuals aged 3–20 years in Jönköping, Sweden, over a 30-year period (1973–2003) / A. Hugoson, G. Koch, A. Nydell Helkimo, S. Lundin // *Int. J. Paediatric Dentistry*. – 2008. – Vol. 18, No.1. – P. 18–26.
13. Menghini G. Kariespravalezn von Schulern in 16 Zurcher Landgemeinden in den Jahren 1992 bis 2000 / G. Menghini, M. Steiner, T. Marthaler [und and.] // *Schweis. Monatsschr. Zahnmed.* – 2003. – Bd. 113. – S. 267–277.

MORPHOLOGICAL AND ROENTGENOGRAPHIC CHARACTERISTICS OF NEUROGENIC SIALOADENITIS BY SIALOGRAPHY FINDINGS

Veretilnik A. V. , Rubalov O. V., Veretilnik V. A.

Key words: neurogenic sialoadenitis, parotid salivary gland, sialogram, submandibular salivary gland.

There are no meticulous descriptions of the sialograms of patients with neurogenic sialoadenitis in related literature. The authors evaluated the sialogram of parotid and submandibular salivary glands with different degrees of severity of the disease. It was determined that in the mild course of the pre-spastic sialoadenitis the even narrowing of the entire duct system was observed, beginning with the main duct. The stromal component of the gland was enlarged. With moderate severity of pre-spastic sialoadenitis of the parotid gland, the muscle spasms, especially of III-V ducts, were even more pronounced compared with the mild degree. In the patients with severe clinical manifestations of the disease, along with abrupt narrowing of the entire duct system, single ectasias were present. In the patients with neurogenic sialoadenitis of the submandibular salivary glands, spasms were more frequent in the initial sections of the main ducts. The obtained data will allow us to select and apply proper therapeutic measures to increase the functional activity of the salivary glands.

References

1. Afanas'yev V.V. Analiz vidovogo sostava somaticheskikh zabolevaniy u patsiyentov s khronicheskimi zabolevaniyami slyunnykh zhelez. Chast' Í. Parenkhimatoznyy parotit i sindrom Shegrena / V.V. Afanas'yev, A.V. Muromtsev, N.V. Derkach [i dr.] // Rossiyskiy stomatologicheskiy zhurnal. - 2006. - №4. - S. 31-35.
2. Afanas'yev V.V. Slyunnyye zhelezy. Bolezni i travmy: rukovodstvo dlya vrachey / V.V. Afanas'yev - M.: GEOTAR-Media. - 2012. - 296 s.
3. Gavril'êv V.M. Morfo-funktsional'niy stan privushnikh zaloz pri porushennyakh nevrologichnogo statusu u lyudey: dis. na zdob. nauk.stup. kand. med. nauk: spets. 14.01.22 – «Stomatologiya» / Gavril'êv Víktor Mikolayovich. – Poltava. - 2012. – 127 s.
4. Gayvoronskiy I.V. Okoloushnaya zheleza: Morfofunktsional'naya kharakteristika v norme i pri vozdeystvii ekstremal'nykh faktorov / I.V. Gayvoronskiy – SPb.: Nordmedizdat, 2011. - 128 s.
5. Gayduk I.V. Dvukhstoronneye uvelicheniye okoloushnykh slyunnykh zhelez. Osobennosti differentsial'nogo diagnoza / I.V. Gayduk, A.M. Panin, A.B. Borovskaya, V.I. Vasil'yev, M.V. Simonova, S.G. Radenska-Lopovok // Materialy nauchno-prakticheskoy konferentsii «Aktual'nyye voprosy diagnostiki i lecheniya zabolevaniy i povrezhdeniy slyunnykh zhelez». - Moskva. - 2009. - S. 21-25.
6. Gerasimov A.V. Ranniye izmeneniya slyunnykh zhelez pri stresse / A.V. Gerasimov, S.V. Logvinov, V.P. Kostyuchenko // Byulleten' sibirskoy meditsiny. – 2010. – № 1. – S.31-35.
7. Denisov A.B. Slyuna i slyunnyye zhelezy / A.B. Denisov. – M.: RAMN. - 2006. – 372 s.
8. Novits'ka Í. K. Patogenetichni aspekti porushennya funktsii slinnikh zaloz, ikh rol' u rozvitku stomatologichnoï patologii ta shlyakhi korektsii (yeksperimental'no-klínichne doslidzhennya): avtoref. dis. na zdob. nauk. stup. d-ra med. nauk: spets. 14.01.22 – «Stomatologiya» / Í. K. Novits'ka - Vishch. derzh. navch. zakl. Ukraïni "Ukr. med. stomatol. akad.". - Poltava, 2014. - 36 s.
9. Rybalov O.V. Differentsial'no-diagnosticheskiye kriterii nevrogennoho sialozoadenita i bolezni Shegrena / O.V. Rybalov, I.A. Korolenko, V.N. Gavril'yev, P.I. Yatsenko // Materialy Vserossiyskoy yubileynoy nauchno-prakticheskoy konferentsii. - Makhachkala. - 2015. -S.168-170.
10. Senchakovich YU.V. Suchasni poglyadi na prichini disfunktsii slinnikh zaloz / YU.V. Senchakovich, K.S. Kazakova, G.A. Êroshenko // Svít meditsini ta biologii. - 2013. - T.9, №4-1. - S.112-116.
11. Smelysheva L.N. Sekretornaya funktsiya slyunnykh i zheludochnykh zhelez pri deystvii emotsional'nogo stressa / L.N. Smelysheva // Vestnik Tyumenskogo gosudarstvennogo un-ta. - 2005. - №1. - S.191-197.
12. Timofeyev A.A. Sekretornaya funktsiya slyunnykh zhelez zdorovogo cheloveka / A.A. Timofeyev, A.I. Vesova // Stomatolog-praktik. - 2012. - № 4. - S.42-43.
13. Míshchenko T. S. Stan nevrologichnoï sluzhbi v Ukraïni [Yelektronniy resurs] / T. S. Míshchenko // Zdorov'ya Ukraïni INFOMEDIA. – 2015. – Rezhim dostupu do resursu: <http://health-ua.com/article/1534.html>.

14. Kim D. Sialosis of unknown origin / D. Kim, C. Uy, L. Mandel // NY State Dent J. - 1998. - Aug-Sep. - P.38-40.

SPECIFIC FEATURES OF CLINICAL MANIFESTATIONS OF SIALADENITIS IN PATIENTS WITH DIABETES MELLITUS TYPE II

Korolenko I.A., Rybalov O.V.

Key words: diabetes mellitus, salivary glands, sialadenitis.

One of the topical issues in modern dentistry, attracting the attention of many researchers, is the connection between the pathology of the endocrine system and the functioning of salivary glands. The association between the condition of pancreas and salivary glands is of particular importance. One of the most common endocrine diseases that involve the entire body is diabetes mellitus. Oral pathological changes caused by this disease affect the quality of life of patients and force them to seek help from dentists. Despite a wide range of studied issues related to diabetes mellitus, many aspects of reactive degenerative changes in the salivary glands that occur under this disease are still discussible. The purpose of this research is to describe specific clinical manifestations of sialadenitis in patients with diabetes mellitus type II based on the studies of secretion, physical, chemical and cytological properties of secretion and artificial contrasting of the parotid ducts of salivary glands. Materials and methods of the research. The results of this research are based on the analysis of examination of 15 diabetic patients with bilateral enlargement of parotid salivary glands aged 42 – 53 (males, n=6; females, n=9). The results obtained have demonstrated that general and parotid secretion is mainly affected, physical and chemical properties of oral fluid and secretion from the parotid salivary glands are changed due to the disease. This results in the development of inflammation within the glands (neutrophilic leukocytes are detected in secretion), and sialograms show significant loss of glandular tissue due to reactive stromal hyperplasia, probably in response to the changes in hormonal status.

References

1. Asiyatilov A.KH. Sostoyaniye slyunovydelitel'noy sistemy u bol'nykh sialodenezom pri patologii shchitovidnoy zhelezy / A.KH. Asiyatilov, G.A. Asiyatilov, KH.A. Ordashev // Vestnik Dagestanskoy gosudarstvennoy meditsinskoy akademii. - 2012. - №1. - S.28-30.
2. Akhmedkhanov I.A. Osobennosti salivatsii i sostoyaniya polosti rta u patsiyentov s patologiyey organov ezofagogastroduodenal'noy zony / I.A. Akhmedkhanov, I.V. Mayev, G.I. Lukina // Stomatologiya dlya vseh. - 2012. - №4. - S. 57-59.
3. Balabolkin M.I. Novaya klassifikatsiya, kriterii diagnostiki i pokazateli kompensatsii sakharnogo diabeta / M.I. Balabolkin // Terapevticheskiy arkhiv. – 2000. – T. 72. - № 10. – S. 5-10.
4. Bondar P.N. Endokrinologiya / P.N. Bondar, G.P. Mikhal'chishin, YU.I. Komisarenko, O.M. Pristupyuk // Uchebnik dlya studentov vysshikh meditsinskikh uchebnykh zavedeniy IV urovnya akkreditatsii. - Nova Kniga. - 2007. - Vinnitsa. - S. 343.

5. Vavilova T.P. Biokhimiya tkaney i zhidkostey polosti rta: uchebnoye posobiye / T.P. Vavilova – 2-ye izd. ispr. i dop. – 2008. – 208s.
6. Denisov A. B.Slyuna i slyunnyye zhelezy / A. B. Denisov ; Rossiyskaya akad. med. nauk. - 2-ye izd., pererab. i dop. - Moskva : Izd-vo RAMN, 2009. - 470 s.
7. Zvyagintseva T.D. Metabolichniy sindrom i yogo korektsiya / T.D. Zvyagintseva, Í.M. Plutenko // Klínichna yendokrinologiya ta yendokrinna khirurgiya. – 2009. – № 3 (28). – S. 31-36.
8. Mustafina S.V. Sravnitel'naya kharakteristika shkal riska sakharnogo diabeta 2 tipa / S.V. Mustafina, G.I. Simonova, O.D. Rymar // Sakharnyy diabet. - 2014. - №3. - S. 17-22.
9. Ordashev KH.A. Diabeticheskiye sialodenozy / KH.A. Ordashev // Materialy Vserossiyskoy yubileynoy nauchno-prakticheskoy konferentsii. - Makhachkala. - 2015. - S. 149-152.
10. Ordashev KH.A. Porazheniye slyunnykh zhelez pri sakharnom diabete / KH.A. Ordashev, A.KH. Asiyatilov // Materialy nauchno-prakticheskoy konferentsii «Aktual'nyye voprosy diagnostiki i lecheniya zabolevaniy i povrezhdeniy slyunnykh zhelez». - Moskva.- 2009. - S. 47.
11. Radysh I.V. Immunologicheskiy status slyuny zhenshchin v raznyye fazy menstrual'nogo tsikla / I.V. Radysh, A.M. Avanesov, A.A. Sutormina [i dr.] // Tekhnologiya zhivyykh sistem. - 2011. - №3. – S. 7-9.
12. Uotkins P. Dzh. Sakharnyy diabet / P. Dzh. Uotkins. - M. : Izdatel'stvo BINOM. - 2006. - 134 s.
13. Merlo Carolina Parotid sialosis. Morphometrical analysis of the glandular parenchyma and stroma among diabetic and alcoholic patients / Carolina Merlo, Luciana Bohl, Carmen Carda, María Elsa Gómez de Ferraris, Miriam Carranza // Journal of Oral Pathology & Medicine. – 2010. – Jan. – Vol. 39 (1). - P. 10–15.
14. Galagdina A.A. / Mechanisms of disorders of the functional and morphological condition of salivary glands in case of diabetes mellitus and their role in oral mucosa lesions / A.A. Galagdina // Achievements of Clinical and Experimental Medicine. - 2015. - Tom 23, № 2-3. - R. 12-13.
15. Mandel L. Sialadenosis associated with diabetes mellitus: a case report / Mandel L. // J. of Oral & Maxillofac. Surg. – 2002. - Vol.60 (6). – P.696-698.
16. Mandic R. Sialadenosis of the major salivary glands in a patient with central diabetes insipidus — Implications of a quapor in water channels in the pathomechanism of sialadenosis / R. Mandic, A. Teymoortash, P.H. Kann [et al.] // Exp.Clin. Endocrinol. Diabetes. – 2005. – Vol.113. – P.205.
17. Vaughan N.J. A review of European experience with aggregated diabetes databases in the delivery of quality care to establish a future vision of their structure and role / N.J. Vaughan // Diabetes Nutr. Metab. – 2001. – Vol. 14, № 2. – P. 86-87.
18. Quirino M.R. Oral manifestations of diabetes mellitus in controlled and uncontrolled patients / M.R. Quirino, E.G. Birman, C.R. Paula // Braz Dent J. – 1995. – Vol.6. – P.131.
19. Tuzun E. Possible role of gangliosides in salivary gland complications of diabetes / E. Tuzun, A.C. Hatemi, K. Memisoglu // Med Hypotheses. - 2000. – Vol.54. – P.910.

RESULTS OF EVALUATION OF PATIENTS' LIFE QUALITY IN COURSE OF ORTHOPAEDIC CORRECTION OF TMJ MENISCUS DISLOCATION

Lunkova Yu.S., Bereziy N. V., Novikov V. M.

Key words: quality of life, dislocations of TMJ meniscus, orthopaedic treatment, questionnaire.

Introduction. The quality of life in medicine concerns, first of all, the state of health, although it is based on subjective perception and is a characteristic of the physical, emotional and social states of the respondents. Objective: to investigate the dynamics of changes in the quality of life in patients with dislocations of the TMJ joint discs (meniscus) in the process of orthopaedic correction. Material and methods of investigation. We examined 75 patients and formed two study groups, whose patients had internal temporomandibular joint disorders, and a control group. Results of the study. The article analyzes the results of the correction according to the criterion of "quality of life" compared in the clinical groups and in relation to the control group. In general, the quality of life of the patients has improved. Conclusions. The quality of life of the patients is greatly improved after orthopaedic correction of dislocations of TMJ meniscus. The OVO-100 questionnaire can be used as a prognostic criterion for the end of the disease. Application of the questionnaire in assessing the quality of care can be recommended to orthodontists in order to introduce into dental practice.

References

1. Sichkaruk I.M. Otsinka yakosti zhyttya u suchasnyy medychnyy praktytsi / I.M. Sichkaruk, A.V. Yahens'kyy // Vnutrennyaya medytsyna zhurn. - 2007. - № 3. – S. 57-62.
2. Resources for New WHOQOL Centres. Translation Methodology. Preparation and Administration of the Pilot WHOQOL. Scoring and Analysis. – Geneva: WHO (MNH/PSF/95.2.Rev.1), 1995. – 22 p.
3. Novikov V.M. Stomatohnatychnyy status patsiyentiv iz determinovanoyu patolohiyeyu orhaniv shchelepno-lytsevovoyi dilyanky / V.M. Novikov // Ukrayins'kyy stomatolohichnyy al'manakh. – 2009. - № 1. – S. 32-34.
4. Khudoroshkov YU.H. Vlyyanye vnutrennykh narushenyy vysochno-nyzhnechelyustnoho sustava na pokazately kachestva zhyzny patsiyentov s zubochelestnyy anomalyyamy / YU.H. Khudoroshkov, P.V. Yshmurzyn, M.A. Danylova // Stomatolohyya. – 2015. – T. 94, № 5. – S. 55-57.
5. Tarasova T.V. Nekotorye parametry kachestva zhyzny bol'nykh s dysfunktsyonal'nymy narushenyyamy vysochno-nyzhnechelyustnykh sustavov (VNCHS) / Tat'yana Vyktorovna Tarasova, Yl'ya Aleksandrovych Zakharkyn, Aleksandra Yhorevna Sausheva // Kubanskyy nauchnyy medytsynskyy vestnyk. – 2016. - № 2-2. – S. 105-109.
6. Rener-Sitar K. Factors related to oral health related quality of life in TMD patients / K. Rener-Sitar, A. Celebić, K. Mehulić, N. Petricević // Coll. Antropol. – 2013. – No. 37 (2). – P. 407-413.
7. Resende C.M. Quality of life and general health in patients with temporomandibular disorders / C.M. Resende, A.C. Alves, L.T. Coelho [et al.] // Braz. Oral Res. – 2013. – No. 27 (2). – P. 116-121.

8. Tjakkes G.H. TMD pain: the effect on health related quality of life and the influence of pain duration. / G.H. Tjakkes, J.J. Reinders, E.M. Tenvergert, B. Stegenga // Health Qual. Life Outcomes. – 2010. – No. 2. – P. 1-8.
9. Barros M. The impact of orofacial pain on the quality of life of patients with temporomandibular disorder. / M. Barros, P.I. Seraidarian, M.I. Côrtes, L.V.de Paula // J. Orofac. Pain. – 2009. – No.23(1). – P. 28-37
10. Novikov V.M. Yakist' zhyttya ta yiyi otsinka v protsesi likuvannya khvorykh z m"yazovo-suhlobovoyu dysfunktsiyeyu skronevo-nyzhn'oshchelepnykh suhlobiv / V.M.Novikov, YU.S.Lun'kova // Aktual'ni pytannya ta problemy rozvytku stomatolohiyi na suchasnomu etapi: zbirnyk naukovykh prats'. – Poltava: TOV «ASMI», 2011. – S. 59-62.
11. Metodyka otsinky yakosti zhyttya Vsesvitn'oyi orhanizatsiyi okhorony zdorov"ya: ukrayins'ka versiya / [V.P. Vasyly'ev, M.M. Honchar, L.V. Nilova ta in.]. Za red. S.V.Pkhidenko. - Dnipropetrovs'k, 2001. - 58 s.
12. Trukhacheva N.V. Matematycheskaya statystyka v medyko-byolohycheskykh yssledovanyakh s pryimeneniyem paketa Statistica / N.V. Trukhacheva // HÉOTAR-Medya. – 2012. – T. 500. – S. 384.

ASYMMETRY IN SIZE AND SHAPE OF ARTICULAR HEADS A CAUSE OF COMPRESSION AND DISLOCATION DYSFUNCTION OF TEMPOROMANDIBULAR JOINT

Novikov V.M., Rybalov O.V., Yatsenko P.I., Yatsenko O.I.

Key words: temporomandibular joint, dysfunction, articular heads, asymmetry.

According to the literature the etiological factors of TMJ dysfunctions include: occlusive abnormalities, mostly free-end edentulous spaces, excessive dental abrasion, inadequate dental restoration, failures in replacement of dentition defects, malocclusion, neurogenic factor, asymmetry of mandibular left and right parts. However, there are little data on the relevant sizes and shape of symmetrical articular heads in patients with TMJ compression and dislocation dysfunction. The objective of this research was to compare X-ray characteristics of sizes and shapes of symmetrical articular heads of the lower jaw bone in patients with clinical symptoms of TMJ compression and dislocation dysfunction. We assessed visually 108 focused zonograms of the temporomandibular joint with open and closed mouth and 49 orthopantomograms of the patients with the symptoms of TMJ compression and dislocation dysfunction. The comparative description of sizes and shapes of the left and right parts of the lower jaw bone was given. Results. Asymmetrical location of articular heads in the glenoid fossa both at the open and closed mouth was found out. Moreover, asymmetry of different size and shapes of TMJ articular heads was detected in every third patient (29,6%) that was manifested by the evident hyperplasia of one of the heads, their unusual spinescent or flat shape. We can conclude that asymmetry in the size and shape of articular heads of the lower bone can trigger the pathogenesis of compression and dislocation dysfunction of temporomandibular joint.

References

1. Bulycheva Ye.A. Obosnovaniye psikhosomaticheskoy prirody rasstroystv visochno-nizhnechelyustnogo sustava, oslozhnennykh parafunktsiyami zhevatel'nykh myshts, i ikh kompleksnoye resheniye. / Ye.A. Bulycheva // Stomatologiya. – T.85. - №4. - S.24- 26.
2. Volovar O.S. Díagnostika ta líkuvannya zakhvoryuvan' skronevo-nizhn'oshchelepnoho sugloba na foní somatichnikh zakhvoryuvan' : avtoref. dis. doktora med. nauk: 14.01.22- «Stomatologiya». / O. S. Volovar - K.- 2013. – 40 s.
3. Dolgalov A.A. Sravnitel'nyy rentgenologicheskyy analiz pri disfunktsiyakh visochno-nizhnechelyustnogo sustava. / A.A. Dolgalev, A.Ye. Bragin // Kubanskiy nauchnyy meditsinskiy vestnik. - 2008. - № 3-4. - S. 25-28.
4. Íde Y. Anatomicheskyy atlas visochno-nizhnechelyustnogo sustava / Y. Íde, K. Nakazava; [per.z angl.A.Ostrovskiy]. – M. : Azbuka, 2004. – 120s.
5. Novíkov V.M. Korelyatsíyní zv'yazki mízh m'yazovo-suglobovoyu disfunktsíeyu SNSHCHS ta oklyuzíynimi porushennyami pri ríznikh vidakh prikusív / V.M. Novíkov, YU.S. Lun'kova // Problemi yekologíi ta meditsini. – 2011. – № 15(3-4). – S. 120-122.
6. Mezhdunarodnaya klassifikatsiya bolezney MKB-10. Elektronnaya versíya / [Yelektronniy resurs]. - Rezhim dostupu: <http://www.mkb10.ra/>
7. Rabukhina N.A. Nekotoryye problemy diagnostiki zabolevaniy visochno-nizhnechelyustnogo sustava / N.A. Rabukhina, V.A. Semkin // Stomatologiya. - 2005. - № 3. - S. 33-34.
8. Ribalov O.V. Anato-mo-funktsíonal'na nestabíl'níst' skronevo-nizhn'oshchelepnoho suglobu / O.V. Ribalov, Í.V. Yatsenko // Galits.líkar.vís.n., 2005. - №3. - S.82-84.
9. Ryabokon' Ye.N. Golovka nizhney chelyusti visochno-nizhnechelyustnogo sustava cheloveka. (Chast' 2) / Ye.N. Ryabokon' // Stomatolog. - 2008. - №1. - S. 28-33.
10. Silin A.V. Morfofunktsional'noye sostoyaniye visochno-nizhnechelyustnykh sustavov pri defektakh zubov, zubnykh ryadov i anomalíyakh prikusa / A.V. Silin // Ortodontiya. Defekty zubov, zubnykh ryadov, anomalii prikusa, morfologicheskíye narusheniya v chelyustno-litsevoy oblasti i ikh kompleksnoye lecheniye. – M.: OOO «Meditsinskoye informatsionnoye agentstvo», 2006. – S. 137-152.
11. Smaglyuk L.V. Struktura simptomív disfunktsíi skronevo-nizhn'oshchelepnoho sugloba v zalezhností víd morfo-funktsíonal'nogo stanu zubo-shchelepnoí dílyanki. / L.V. Smaglyuk, N.M. Trofímenko // Vís.n.stomatologíi. - 2005.- №2. - C.75-77.
12. Shuvalov S.M. Zabolevaniya i disfunktsional'nyye narusheniya visochno-nizhnechelyustnogo sustava u detey i vzroslykh. Klinika, diagnostika, lecheniye. / S.M. Shuvalov - Vinnitsa: «Kniga-Vega». - 2012. - 48 s.
13. Yatsenko O.I. Rentgenoanatomicheskíye kharakterístiki visochno- nizhnechelyustnykh sustavov pri funktsional'noy nestabíl'nosti odnogo iz nikh / O.I. Yatsenko, Khatami Khorasani Amin // Problemi yekologíi ta meditsini. - 2011. – № 15(3-4). – S. 171-172.

14. Cooper B. Zabolevaniya visochno-nizhnechelyustnogo sustava / B. Cooper // DentalMarket. - 2012.- № 1.- S. 39–46.
15. Niemi P.M. Psychological factors and responses to artificial interferences in subjects with and without a history of temporomandibular disorders / P.M. Niemi, Y. Le Bell, I.M. Kylm [et al.] // Acta Odontol. Scand. - 2006.- V. 64.- № 5.- R. 300-305.
16. Scrivani S.J. Temporomandibular disorders / S.J. Scrivani, D.A. Keith, L.B. Kaban // N. Engl. J. Med.- 2008.- № 25 (359). - P.2693-2705.
17. Chiba I. M. The relationship of bone marrow edema pattern in the mandibular condyle with joint pain in patients with temporomandibular joint disorders: longitudinal study with MR imaging / I. M. Chiba, M. Kumagai, N. Fukui [et al.] // Int. J. OralandMaxillofac. Surg. – 2006. – No.35. - P. 55-59.

LEVEL OF SECRETORY IgA IN ORAL FLUID AFTER DENTAL IMPLANT PLACEMENT WITH APPLYING MAGNETOTHERAPY

Olekshy P.V., Lapovets L.E., Ushtan S.V., Goritsky V.M.

Key words: mucous immunity, dental implant placement, secretory IgA, magnetotherapy.

Determining the status of mucosal immunity is essential for the diagnosis and successful treatment of a number of oral diseases. Therefore, not the absolute values of sIgA as an index of local immunity, but its dynamic changes, are of particular value. The aim of the study was to study the level of sIgA in the oral fluid of patients before and after dental implant placement and after the application of magnetotherapy. A clinical and laboratory examination of 50 persons who had indications for dental implant placement was carried out. Twenty-five patients received magnetotherapy. The control group included 20 healthy persons with a sanitized oral cavity. It was established that activation of sIgA secretion was observed after dental implantation. The patients who passed through magnetotherapy demonstrated the increase in the rate of sanogenesis proved by reaching sIgA its normal level.

References

1. Borovykov V. STATISTICA: yskusstvo analiza dannykh na komp'yutere. Dlya professionalov / V. Borovykov. – SPb. : Pyter, 2001. – 656 s.
2. Vykha H.V. Sekretornyy ymmunohlobulyn A – marker stressa y neblahopryyatnykh faktorov vneshney sredy / H.V. Vykha // Mat. Mezhd. ékoloh. foruma, M. – 2001. – S. 138–141.
3. Havryl'yev V.M. Vmist imunohlobuliniv A, G, M u syrovattsi krovi ta sekretornoho imunohlobulinu A v rotoviy ridyni u khvorykh na neyrohennyi sialozoadenit / V.M. Havryl'yev, O.V. Rybalov, V.D. Akhmerov // Ukr. stomatolohichnyy al'manakh. – 2010. – № 6. – S. 27–29.
4. Kulakov A.A. Rol' zashchytnykh faktorov orhanyzma v patoheneze vospalytel'nykh zabolevaniy parodonta / A.A. Kulakov, O.A. Zoryna, O.A. Boryskyna // Stomatolohyya. – 2010. – № 6. – S. 72–76.

5. Posibnyk z laboratornoyi imunolohiyi / [Lapovets' L.YE., Lutsyk B.D., Lebed' H.B., Akimova V.M., Zubchenko S.O.]. - L'viv, 2014. – 266 s.
6. Balzar S. Subtle immunodeficiency in severe asthma: IgA and IgG2 correlate with lung function and symptoms / S. Balzar, M. Strand, T. Nakano [et al.] // Int. Arch. Allergy Immunol. – 2006. – Vol. 104, № 2. – P. 96-102.
7. Woof J.M. The function of immunoglobulin A in immunity / J.M. Woof, M.A. Kerr // J. Pathol. – 2006. – Vol. 208, № 2. – P. 270-282.

ASSESSMENT OF MICROBIOCENOSIS IN PERIODONTAL POCKETS OF PATIENTS WITH GENERALIZED PERIODONTITIS AND CONCOMITANT HELMINTHIASIS AFTER COMPLEX THERAPY

Savel'eva N.

Key words: generalized periodontitis, enterobiosis, toxocariasis, microorganisms, microbiocenosis in periodontal pocket, complex therapy.

We evaluated the quantitative and qualitative composition of microbiocenosis in periodontal pockets before and after combined therapy we designed by our own in patients with chronic generalized periodontitis of I and II degree of severity and concomitant helminthiasis as enterobiosis and toxocariasis. It has been shown that influenced by the combined therapy, microbiocenosis in periodontal pockets of the patients of the test group restores and stays stable for 6 months following the treatment, compared with the values obtained after the standard therapy.

References

1. Borrell L.N. Analytical epidemiology of periodontitis / L.N. Borrell, P.N. Papanou // J. Clin. Periodontol. - 2005. - Vol. 32, Suppl. 6. – P. 132-158.
2. Arkad'yeva G.Ye. Mikrobiotsenoz rotovoy polosti v norme i nekotorykh patologicheskikh sostoyaniyakh. Uchebnoye posobiye dlya vrachey / G.Ye. Arkad'yeva. - SPb. : SPbGMU im. akad. I.I. Pavlova, 2000. – 23 s.
3. Dobrovol's'ka M.K. Stan biotsenozu klinichnikh zuboyasennikh kishen' khvorikh na generalizovaniy parodontit / M.K. Dobrovol's'ka, V.M. Geley, N.Í. Geley // Klínichna stomatologiya. – 2014. – № 2. – S. 17-19.
4. Gorbacheva I.A. Osobennosti gomeostaza i kompleksnaya yego korrektsiya u bol'nykh generalizovannym parodontitom / I.A. Gorbacheva, A.I. Kirsanov, P.S. Shabak-Spasskiy // Parodontologiya. - 2001. - № 1-2 (19-20). - S. 12-13.
5. Ambartsumyan A.D. Reabilitatsionnyye meropriyatiya pri parodontite putem vosstanovleniya normal'nogo biotsenozu polosti rta / A.D. Ambartsumyan, T.M. Bostandzhyan // Parodontologiya. - 2004. - № 4 (33). - S. 41-43.

6. Bliznyuk G.O. Obgruntuvannya printsipiv ratsional'noi gígíeni porozhnini rota u khvorikh iz zagostrenim perebígom generalizovanogo parodontitu : avtoref. dis. na zdobuttya naukovoogo stupenya kand. med. nauk : spets. 14.01.22 «Stomatologíya» / G. O. Bliznyuk. – Odesa, 2006. – 27 s.
7. Kravchenko L.S. Zmíni bíokhímíchnikh ta ímunologíchnikh pokaznikiv faktoriv zakhistu rotovoi rídini pri zakhvoryuvannyakh slizovoï obolonki porozhnini rota / L.S. Kravchenko, N.O. Bas // Ukraïns'kiy stomatologíchniy al'manakh. –2011. – № 6. – S. 38-42.
8. Yurzhenko A. V. Bíokhímíchní zmíni v tkaninakh parodonta ta rotovíy rídíní za umov generalizovanogo parodontitu ta líkuvannya antioksidantnimi preparatami : avtoref. dis. na zdobuttya naukovoogo stupenya kand. med. nauk : spets. 14.01.22 «Stomatologíya» / A.V. Yurzhenko. - Kiïv, 2009. – 22 s.
9. Prikaz MZO SSSR № 535 ot 22 aprelya 1985 goda. Ob unifikatsii mikrobiologicheskikh (bakteriologicheskikh metodov issledovaniya, primenyayemykh v kliniko-diagnosticheskikh laboratoriyakh lechebno-profilakticheskikh uchrezhdeniy. – Moskva, 1985. – Str. 3 – 65.
10. Rubinova G.Ye. Osnovnyye metody laboratornykh issledovaniy v klinicheskoy bakteriologii / G.Ye. Rubinova. – M. : Meditsina, 1994. – 234 s.
11. Bíl'ko Í.P. Vimogi do vzyattyá ta dostavki materíalu dlya míkrobíologíchnikh doslídzhenn' / Í.P. Bíl'ko // Suchasní ínfektsíi. – 2001. – № 3. – S.106–109.
12. Kolesnik N.A. Teoriya i praktika dokazatel'noy meditsiny / N.A. Kolesnik, V.N. Nepomnyashchiy, Ye.S. Samusev – K. : Poligraf-plyus, 2006. – 200 s.
13. Lapach S.N. Statisticheskíye metody v mediko-biologicheskikh issledovaniyakh s ispol'zovaniyem EXCEL / S.N. Lapach, A.V. Gubenko, P.N. Babich. - K. : Moríon, 2001. - 408 s.
14. Pat. 109265 U, Ukraïna, MPK A61B10/00. Sposíb kompleksnogo líkuvannya khroníchnogo generalizovanogo parodontitu í-íí stupenya tyazhkostí na tlí parazitóziv (yenterobíozu í toksokarozu) / N.M. Savêl'êva, S.A. Shnayder, O.V. Dên'ga, A.P. Levits'kiy, Í.Í. Sokolova.
15. Chebyshev N.V. Gel'mintozy: organno-sistemnyye protsessy v ikh patogeneze i lechenii / N.V. Chebyshev, YU.K. Bogoyavlenskiy, Ye.A. Grishina – M. : Meditsina, 1998. – 240 s.
16. Shipulin V.P. Otsenka effektivnosti novogo otechestvennogo preparata "Erbisol" u bol'nykh khronicheskím gepatitom / V.P. Shipulin, A.N. Nikolayenko, A.A. Fomina [i dr.] // Vracheb. delo. – 1995. – № 1–2. – S. 55 – 59.
17. Korsuns'ka O.Í. Ímunotropní preparati u robotí líkarya zagal'noi praktiki (farmakoterapevtichniy dovídnik) / O.Í. Korsuns'ka, O.O. Nef'odov. – Dnípropetrovs'k : «Lítograf», 2015. - 408 s.
18. Uních P.P. Yekstra Yerbísol u kompleksníy terapiï khvorikh na rozsíyaniy skleroz / P.P. Uních, S.M. Vínichuk, O.N. Níkolaênko // Zhurnal praktichnogo líkarya. – 2003. – № 5. – S. 38-42.
19. Nikolayenko A.N. Osnovnyye napravleniya v sozdanii i vnedrenii novogo lekarstvennogo preparata Erbisol / A.N. Nikolayenko // Novyy ukrainskiy preparat «Erbisol» : Tezisy dokladov. - Kiyev, 1994. - S. 4-9.

20. Bychkova N.G. Kliniko-immunologicheskaya effektivnost' novogo ukrainskogo preparata «Erbisol» u bol'nykh s khronicheskim gepatitom / N.G. Bychkova, V.P. Shipulin, A.A. Fomina [i dr.] // Vrachebnoye delo. – 1995. – № 3–4. – S. 65–71.
21. Paliy V.H. Antymikrobnyy likars'kyy preparat Dekasan: stratehiya i taktyka zastosuvannya dlya profilaktyky ta likuvannya hniyno-zapal'nykh zakhvoryuvan' / V.H. Paliy, V.M. Moroz, M.D. Zheliba [ta in.] // Visnyk Vinnyts'koho natsional'noho medychnoho universytetu. – 2004. – № 8 (2). – S. 449–452.
22. Feshchenko YU.I. Antyseptychnyy preparat dekasanu u profilaktytsi ta likuvanni mistsevykh hniyno-zapal'nykh urazhen' / YU.I. Feshchenko, M.I. Humenyuk, O.O. Mukhin [ta in.] // Ukrayins'kyy khimioterapevtychnyy zhurnal. – 2002. – № 1 (13). – S. 63–67.
23. Paliy H.K. Efektyvnist' antyseptychnoho preparatu dekasanu / H.K. Paliy, V.P. Koval'chuk, N.M. Derkach [ta in.] // Biomedical and Biosocial Anthropology. – 2010. – № 15. – S. 8–11.
24. Mel'nychuk H.M. Medykamentozne likuvannya khvorob parodonta. Hrupy preparativ, mekhanizm yikh diy, pokazannya ta protypokazannya do vykorystannya Chastyna I. Antyseptyky roslynnoho pokhodzhennya (oliya shavliyi) Ohlyad literatury / H.M. Mel'nychuk, L.V. Zaverbna, A.S. Mel'nychuk [ta in.] // Novyny stomatolohiyi. - 2013.- № 1. – S. 92 – 96.
25. Belyakov D.A. Yspol'zovanye rastenyy v protyvoparazytarnykh fytokompl'ozytsiyakh / D.A. Belyakov // Materyaly III mezhdvuzovskoy nauchno-praktych. konf. molodykh uchenykh «Molodëzh' y medytsynskaya nauka», Tver', 26 noyabrya 2015h. — Tver', 2015. – S. 40.
26. Kvertulya. Vytamyn R, prebyotyk, hepatoprotektor / [A.P. Levytskyy, O.A. Makarenko, Y.A. Selyvanskaya y dr.]. – Odessa : KP OHT, 2012. – 20 s.
27. Doroshenko S.I. Zminy mikrobiotsenozu porozhnyny rota v protsesi kompleksnoho likuvannya ditey iz zuboshchelepnyimi anomaliiamy ta deformatsiyamy na tli zakhvoryuvan' tkanyn parodonta i tsukrovoho diabetu I typu / S.I. Doroshenko, O.V. Saranchuk // Ukrayins'kyy stomatolohichnyy al'manakh. - 2012. - № 2 (1). - S. 48-53.
28. Mihen'ko B.O. Trofichni vyrazky pry pislyatromboflebitichnomu syndromi, suchasni pidkhody do likuvannya khvorykh / B.O. Mihen'ko, L.S. Babinets', L.M. Mihen'ko, S.S. Ryabokon' // Zdobutky klinichnoyi i eksperymental'noyi medytsyny. - 2016. - № 2. - S. 99-100.
29. Buyanova O.V. Kompleksne likuvannya psoriazu z vykorystannyam «Kvertsetynu» ta «Erbisolu» / O.V. Buyanova, I.H. Tsydilo // Ukrayins'kyy zhurnal dermatolohiyi, venerolohiyi, kosmetolohiyi. – 2007. - № 4 (27). – S. 39-41.
30. Levytskyy A.P. Sravnytel'noe deystvye kvertsetyna, ynulyna y kvertulya na sostoyanye pecheny krys posle oral'noy applykatsyy lypopolysakharyda / A.P. Levytskyy, E.M. Levchenko, O.A. Makarenko // Visnyk mors'koyi medytsyny. – 2013. – № 2 (59). – S. 34-38.
31. Kovalevs'ka I. V. Vyznachennya fizyko-khimichnykh kharakterystyk kvertsetynu / I. V. Kovalevs'ka // Aktual'ni pytannya farmatsevtichnoyi i medychnoyi nauky ta praktyky. - 2014. - № 1. - S. 6-8.

32. Levyts'kyy A.P. Hepatoprotekturni vlastyvoli pasty z plodiv chornytsi pry eksperymental'nomu toksychnomu hepatyti ta kyshkovomu dysbiozi / A.P. Levyts'kyy, S. B. Osypenko, YU. V. Tsisel's'kyy [ta in.] // Fitoterapiya. - 2009. - № 3. - S. 26-30.
33. Tilihuzova N.A. Kliniko-laboratorne obhruntuvannya dyferentsiyovanoho zastosuvannya preparativ-adaptoheniv roslynnoho pokhodzhennya v kompleksnomu likuvanni khvorykh na khronichnyy kataral'nyy hinhivit i heneralizovanyy parodonty : avtoref. dys. na zdobuttya naukovoho stupenya kand. med. nauk : spets. 14.01.22 «Stomatolohiya» / N.A. Tilihuzova ; In-t stomatolohiyi AMN Ukrayiny. — O., 2002. — 19 s.
34. Dyen'ha O.V. Adaptoheni profilaktyka ta likuvannya osnovnykh stomatolohichnykh zakhvoryuvan' u ditey : avtoref. dys. na zdobuttya naukovoho stupenya doktora med. nauk : spets. 14.01.22 «Stomatolohiya» / O.V. Dyen'ha; Nats. med. un-t im. O.O. Bohomol'tsya. — K., 2001. — 32 s.
35. Mykytenko A.O. Patohenetychne obhruntuvannya efektyvnosti mul'typrobiotyoterapiyi u khvorykh na khronichnyy heneralizovanyy parodontyt (eksperymental'no-klinichne doslidzhennya) : avtoreferat dys. na zdobuttya naukovoho stupenya kand. med. nauk : spets. 14.03.04 «Patolohichna fiziolohiya» / A.O. Mykytenko; Sum. derzh. un-t MON Ukrayiny. - Sumy, 2015. - 20 s.
36. Savko N.V. Preparaty roslynnoho pokhodzhennya u kompleksnomu likuvanni khvorykh na khronichnyy neyrodermit (eksperymental'no-klinichni doslidzhennya : avtoref. dys. na zdobuttya naukovoho stupenya kand. med. nauk : spets. 14.01.20 «Shkirni ta venerychni khvoroby» / N.V. Savko ; Nats. med. un-t im. O.O.Bohomol'tsya. — K., 2002. — 17 s.

CORRELATION BETWEEN BITE ANOMALIES AND PHYSICAL DEVELOPMENT OF CHILDREN

Smolyar N.I., Miskiv A.L., Gutor T.G.

Key words: bite anomalies, BMI, physical development.

The physical development of children and adolescents reflects the pattern of growth and development, maturation of an organism and its morphological and functional state in each age period. State of the physical development of child of a certain age is a basis for predicting the pathology, which will affect the quality of life in the later life. The development of some organs influences on the development of others that in turn determines the development of the body as a whole. Nowadays scientists pay the particular attention to such social and health problems as increased frequency of body weight deficiency, stunting, obesity, abnormal physiometric and functional parameters of school age children, and their dependence on the environmental factors. The results we obtained indicate there is a correlation between bite abnormalities and BMI. The bite anomalies are much more commonly detected in children with BMI deficiency, compared with children whose values of BMI correspond to normal age values. In addition, the bite anomalies are more often diagnosed in children with BMI above the age norm, compared with children with BMI below the age norm.

References

1. Bezvushko E.V. Vzayemozv'yazok mizh fizychnym rozvytkom i zuboshchelepnymy anomaliyamy u ditey, yaki prozhyvayut' na zabrudneniy terytoriyi / E.V. Bezvushko, N.L. Chukhray, A.-KH. Dzhaser // Visnyk stomatolohiyi. – 2013. - № 3. – S. 71 – 76.
2. Berzin' V.I. Osoblyvosti formuvannya stanu zdorov'ya ta psykhoфизиологичного розвитку дитей в умовах технічного навантаження / V.I. Berzin', V.P. Stel'makhivs'ka, YU.V. Martynenko // Zdorov'ya suspil'stva. – 2013. - № 1. – S. 66–71.
3. Velychko V.I. Fizychnyy rozvytok ditey shkil'noho viku Pivdnya Ukrainy / V.I. Velychko, I.L. Babiy // Klinichna pediatriya. – 2011. - № 3. – S. 62–65.
4. Dudina O.O. Sytuatsiynyy analiz stanu zdorov'ya dytyachoho naselennya / O.O. Dudina, A.V. Tereshchenko // Visnyk sotsial'noyi hihiyeny ta orhanizatsiyi okhorony zdorov'ya Ukrainy. – 2014. - № 2 (60). – S. 49–57.
5. Kvashyna L.V. Otsenka fyzycheskoho rozvytyya rebenka / L.V. Kvashyna // Mystetstvo likuvannya. – 2006. - № 12. – S. 74–76.
6. Moiseyenko R.O. Osoblyvosti dynamiky zdorov'ya uchniv pochatkovoyi ta osnovnoyi shkoly / R.O. Moiseyenko, H.M. Danylenko, L.I. Ponomar'ova // Sovremennaya pedyatryya. – 2013. - №1. – S. 13–16.
7. Nyan'kovs'kyy S.L. Stan zdorov'ya shkolyariv v Ukraini / S.L. Nyan'kovs'kyy, M.S. Yatsula, M.I. Chykaylo, I.V. Pasechnyuk // Zdorov'e rebenka. – 2012. - №5(40). – S. 109–114.
8. Pasichnyuk I.P. Porivnyal'nyy analiz fizychnoho розвитку uchniv 1 – 11 klasiv L'vova i rayoniv L'vivs'koyi oblasti na pidstavi doslidzhennya indeksu masy tila / I.P. Pasichnyuk, S.L. Nyan'kovs'kyy // Medytsyna transportu Ukrainy. – 2014. - № 3. – S. 9–15.
9. Friedman L.S. Social-environmental factors associated with elevated body mass index in a Ukrainian cohort of children / L.S. Friedman, E.M. Lukyanova, A. Serdiuk [et al.] // Int. J. Pediatr. Obes. – 2009. – Vol. 4 (2). – P. 8

IMPACT OF TRAUMATIC INJURIES OF MAXILLOFACIAL REGION IN CHILDREN ON QUALITATIVE PROPERTIES OF ORAL FLUID

Tkachenko P., Belokon S. A., Lokhmatova N. M. Popelo Yu.V.

Key words: children, stress, traumatic injury, maxillofacial area, the oral liquid.

This article presents the results obtained after examining 22 children with traumatic injuries of the soft tissues of maxillofacial area and 21 children with fractures of various bones of the facial skeleton. The injuries are accompanied with following decrease in production of oral fluid, increase in the concentration of total protein, sialic acids, viscosity, activity of α -amylase, the level of average weight molecules. We suggest this is a consequence of the combined effects of stress and trauma that requires appropriate correction.

References

1. Bleykher V.M. Praktycheskaya patopsykholohyya // V.M. Bleykher, Y.V. Kruk, S.N. Bokov - Mynsk: Vysshaya shkola, 1996. –287s.
2. Habryélyan N.Y. Opyt yspol'zovanyya pokazatelya srednykh molekul v krovy dlya dyahnostyky nefrolohycheskykh zabolevaniy u detey / N.Y. Habryélyan, V.Y. Lypatova // Labor. delo. – 1983. – №3. – S.138-140.
3. Yefimenko V.P. Diahnostyka ta likuvannya travmatychnykh poshkodzhen' vyrostkovoho vidrostka nyzhn'oyi shcheply u ditey: : avtoreferat. kand. med. nauk, spets.: 14.01.22 - stomatolohiya / V.P. Yefimenko – K. :Kyyiv, 2006. – 20 s.
4. Yefymenko V.P. Posttravmatychni zapal'ni protsesy shchepelno-lytsevoyi dilyanky u ditey / V.P. Yefymenko, H.M. Korotchenko // Materialy naukovo-praktychnoyi knferentsiyi "Novi tekhnolohiyi v diahnostytsi ta likuvanni odontohennoyi infektsiyi ta zakhvoryuvan' slyzovoyi obolonky porozhnyny rota", Odesa. – 2004. – S. 74.
5. Zadoya N. I. Dyferentsiyovana sedatyvna pidhotovka ditey 7-11 rokiv pry khirurhichniy sanatsiyi porozhnyny rota : dys... kand. med. nauk: spets. 14.01.22 «Stomatolohiya» / Zadoya Nina Ivanivna - Poltava, 2005. – 153s.
6. Mésh É. Det-skaya patopsykholohyya. Narushenyia psykhyky rebenka / É. Mésh, D. Vol'f // (Proekt «Psykhologhycheskaya éntsyklopedyya») — SPb.: PRAYM-EVROZNAK. 2003. - 384 s.
7. Neporada K. S. Vza'yemozv'yazok metabolichnykh zmin u tkanynakh parodontu pry stresii iz typolohichnyimi osoblyvostyami nervovoyi systemy ta yikh korektsiya : Avtoref. dys... kand. med. nauk: 14.03.18 «Medychna biokhimiya» / Neporada Karine Stepanivna ; Kharkivs'kyi derzh. medychnyy un-t. - KH., 1995. - 17 s.
8. Anysymova N.YU. Obosnovanye yspol'zovanyya sposobov korektsyy stomatolohycheskoho stressa v ambulatornoy praktyke / N.YU. Anysymova, N.A. Syrota, S.A. Rabynovych, E.N. Anysymova // Rosyyskaya stomatolohyya. – 2013. - №3. - S.58-60.
9. Rayhorodskyy D.YA. Praktycheskaya psikhodyahnostyka. Metodyky y testy. Uchebnoe posobyie. / D.YA. Rayhorodskyy – Samara: Yzd. Dom «Bakhrakh», 1998. – 672s.
10. Rebrova O.YU. Statystycheskyy analiz medytsynskykh dannykh. Prymenenye paketa prykladnykh prohramm STATISTICA / O.YU. Rebrova - M.: Medya Sfera. - 2002. - 312s.
11. Romaneko YE.H. Metodyka opredelenyya syalovoy kysloty v slyune / YE.H. Romaneko, A.Y. Rudenko // Svit medytsyny ta biolohiyi. - №1. – Poltava. – 2013. – S.139-142.
12. Timoshchenko N. M. Likuvannya perelomiv vylytsevoho kompleksu z korektsiyeyu stanu neyrom'yazovoho aparatu: avtoreferat... kand. med. nauk, spets.: 14.01.22 - stomatolohiya / Timoshchenko N. M. – K. : Nats. medychnyy un-t im. O.O. Bohomol'tsya, 2015. – 20 s.
13. Tkachenko P.I. Psykhoemotsiyyny stan ditey pry khirurhichniy sanatsiyi porozhnyny rota / P.I. Tkachenko, N.I. Zadoya // Ukrayins'kyi stomatolohichnyy al'manakh. –№3. – Poltava. - 2007. – S.76-80

14. Khar'kov L.V. Travmatycheskiye povrezhdenyya myahkykh tkaney chelyustno-lytsevoy oblasti u detey / L.V. Khar'kov, V.P. Efymenko // Visnyk stomatolohiyi. – 2003. – № 2. – S. 12-14.

15. Malanchuk V.A. Diagnostics of temporal muscles condition in patient with zygomatic complex fractures treated surgically with coronary access / V.A. Malanchuk, I.P. Logvinenko, N.M. Timoshchenko // XXI congress of EACMFS. – Dubrovnic; Croatia, 2012. – P.234.

16. Lowry O.H. Protein measurement with Folin phenol reagent / O.H. Lowry, N.J. Rosebrough, A.L. Farr, R.J. Randall // J. Biol. Chem. - 1951. - V. 193. - №1. - P. 265-275.

MANIFESTATIONS OF STRESS REACTIONS IN CHILDREN WITH TRAUMATIC INJURIES OF MAXILLOFACIAL AREA

Tkachenko P. I., Dobroskok V. A., Belokon S. A., Gogol, A. M., Popelo Yu. M.

Key words: children, oral and maxillofacial area, traumatic injury, emotional stress.

The paper presents the results of the research aimed at studying the manifestations of stress reactions in 48 children with traumatic injuries of maxillofacial area. 22 patients had injuries of soft tissue and 21 had injured bones of the facial skeleton. All the children, the type, severity and extent of their traumas were examined under the same conditions before the decision on tactics of proper medical assistance was made. During the waiting period we observed the increase in the values of central hemodynamic and autonomic responses that require a balanced approach to the selection of schemes for patient-centred drug correction of psycho-emotional anxiety, depending on its severity.

References

1. Aronson E. Sotsial'naya psikhologiya / E. Aronson, T. Uilson, R. Eykert // Psikhologicheskiye zakony povedeniya cheloveka v sotsiume. – SPb.: Praym-Yevroznak, 2002. – 560s.

2. Grishin G. Stress v stomatologii. / G. Grishin – Khar'kov: Karavella, 1998. – 168s.

3. Zhulev Ye.N. Korrektsiya psikhoemotsional'nogo sostoyaniya u bol'nykh stomalgiyey / Ye.N. Zhulev, N.V. Tiunova, L.M. Lukinykh // Kubanskiy nauchnyy meditsinskiy vestnik. – 2015. - № 3 (152). – S. 55-57.

4. Zadoya N.I. Izmeneniya biokhimicheskikh pokazateley rotovoy zhidkosti u detey pri ambulatornykh operativnykh vmeshatel'stvakh v zavisimosti ot individual'nykh psikhoemotsional'nykh osobennostey / N.I. Zadoya // Arkh. klín. med. – 2004. – №1 (4). – S. 20-23.

5. Zadoya N. Í. Diferentsiyovana sedativna pidgotovka dítey 7-11 rokív pri khírurgíchníy sanatsíy porozhnini rota : dis... kand. med. nauk: spets. 14.01.22 «Stomatologíya» / Zadoya Nína Ívanívna - Poltava, 2005. – 153s.

6. Zaychik A. SH. Osnovy obshchey patologii. CH.1. Osnovy obshchey patofiziologii (Uchebnoye posobiye dlya studentov med.vuzov) / A. SH. Zaychik – SPb.: EPBI, 1999. – 624s.

7. Ílik R.R. Strakh í dovíra patsiênta do líkarya-stomatologa / R.R. Ílik // Novini stomatologíí. – 2005. - №1. – S.75-77.
8. Lysenko G. Problema boli v obshchevrachebnoy praktike (Chast' 2. Diagnoz boli, otsenka sostoyaniya patsiyenta i monitoring) / G. Lysenko, V. Tkachenko // Líki Ukraíni. – 2005. - №4. – S. 7-11.
9. Lyubiy V.V. Líkuvannya dítey z ukushenimi ranami shchelepno-lits'ovoí dílyanki, yakí nanesení sobakami (klíniko-míkrobíologíchno doslídzhennya): : avtorefer. dis. na zdobuttya nauk. stupenya kand. med. nauk : spets. 14.01.22 «Stomatologíya» / V.V. Lyubiy - Poltava, - 2004. – 16s.
10. Polishchuk S.S. Korrektsiya psikhoemotsional'nogo sostoyaniya u bol'nykh s travmami chelyustno-litsevoy oblasti / S.S. Polishchuk // Vísnik stomatologíí. – 2005. - №1. – S. 50-56.
11. Rebrova O.YU. Statisticheskyy analiz meditsinskikh dannykh. Primeneniye paketa prikladnykh programm STATISTICA / O.YU. Rebrova - M.: Media Sfera, - 2002. - 312s.
12. Petrovskaya L.V. Rezul'taty sravnitel'nogo izucheniya psikhofiziologicheskikh faktorov, vliyayushchikh na osoznaniye (otsenku) boli pri provedenii terapevticheskikh stomatologicheskikh vmeshatel'stv // L.V. Petrovskaya, YU.M. Maksimovskiy, Ye.V. Zoryan, V.M. Grinin / Stomatologiya. – 2003. – №2. – S.15-20.
13. Roslyakova V. A. Kliniko-psikhopatologicheskaya kharakteristika depressivnykh rasstroystv nepsikhoticheskogo urovnya u bol'nykh s opukholyami chelyustno-litsevoy oblasti / V. A. Roslyakova // Medichna psikhologíya. – 2012. - T.7, № 1(25). — S. 85-88.
14. Sivovol S.I. Bol' i parestezii. Opredeleniye ponyatiy / S.I. Sivovol // Stomatolog. – 2002. - №12. – S.19-21.
15. Tímoshchenko N.M. Díagnostika funktsíonal'nogo stanu pídochnoyamkovogo sudinno-nervovogo puchka pri perelomakh vilitsevogo kompleksu / N.M. Tímoshchenko, R.O. Mamonov // Ukraíns'kiy medichniy al'manakh: materíali nauk.-prakt. konf. – Lugans'k, 2014. – S.91.
16. Tímoshchenko N.M. Travmatichna nevropatíya pídochnoyamkovogo nerva pri perelomakh vilitsevogo kompleksu / N.M. Tímoshchenko // Spetsíal'ní pitannya díagnostiki ta líkuvannya zakhvoryuvan' LOR-organív, kraníofatsíal'noí dílyanki ta organu zoru: tezi mízhkafedral'noí konferentsíí stud. ta molodikh vchenikh. – Kiív. - 2011. – S.55-56.
17. Tímoshchenko N. M. Líkuvannya perelomív vilitsevogo kompleksu z korektsíeyu stanu neyrom'yazovogo aparatu: avtoreferat... kand. med. nauk, spets.: 14.01.22 - stomatologíya / N. M. Tímoshchenko – K. : Nats. medichniy un-t ím. O.O. Bogomol'tsya, 2015. – 20 s.
18. Tkachenko P.Í. Psikhoyemotsíyniy stan dítey pri khírurgíchníy sanatsíí porozhnini rota / P.Í. Tkachenko, N.Í. Zadoya // Ukraíns'kiy stomatologíchniy al'manakh. – 2007. – №3. – S.76-80.
19. Malanchuk V.A. Diagnostics of temporal muscles condition in patient with zygomatic complex fractures treated surgically with coronary access / V.A. Malanchuk, I.P. Logvinenko, N.M. Timoshchenko // XXI congress of EACMFS. – Dubrovnik; Croatia, 2012. – P.234.

STRUCTURAL AND FUNCTIONAL ACID RESISTANCE AND ROLE OF ITS COMPONENTS IN PROMOTING DENTAL ENAMEL CARIES RESISTANCE

Udod O.A., Voronina G.S.

Key words: teeth, enamel, caries, structural and functional acid resistance.

This paper describes the results obtained by assessing structural and functional acid resistance of dental enamel with enamel resistance test, determines the role of its components in promoting enamel caries resistance in 65 individuals aged 12 and 50-55 years. The study has shown there is significant dynamics in values of structural and functional enamel resistance towards worsening from cutting edge of central incisor and canine as well as from the cusp of the second maxillary premolar to the cervical region of vestibular surface in the teeth studied in the individuals of both age groups. In 12 year old children the values of enamel acid resistance were significantly worse than in the aged patients. After pulp chemostimulation of the teeth studied dental pulp changes in performance testing at all levels of tooth enamel in children of 12 years, in contrast to the older people were reliable. Both groups were observed to have maximal changes in the neck of the teeth, while minimal changes were found out in the cutting edges (cusps). The results obtained should be considered when assessing the structural and functional dental enamel resistance in people of all ages.

References

1. Zadorozhna I. V. Poshyrenist' ta intensyvnist' kariyesu zubiv u ditey Ukrayiny: rezul'taty kliniko-epidemiolohichnoho obstezhennya / I. V. Zadorozhna, V. V. Povoroznyuk // Problemy osteolohiyi. - 2013. - T. 16, № 4. - S. 55-60.
2. Klityns'ka O. V. Osoblyvosti poshyrennya kariyesu zubiv u shkolyariv starshykh klasiv mista Uzhhorod / O. V. Klityns'ka, YU. O. Mochalov, K. H. Dyachuk [ta in.] // Molodyy vchenyy. - 2015. - № 10(2). - S. 170-172.
3. Kosenko K. M. Analiz pokaznykiv stomatolohichnoyi dopomohy naselennyu Ukrayiny v 2010 rotsi / K. M. Kosenko, O. E. Reyzykh, R. T. Zhad'ko [ta in.] // Visnyk stomatolohiyi. - 2011. - № 4. - S. 82-85.
4. Nikolishyn A. K. Kariyes zubiv u osib litn'oho i pokhyloho viku / A. K. Nikolishyn, A. V. Zaytsev // Ukrayins'kyy stomatolohichnyy al'manakh. - 2010. - № 2(2). - S. 30-34.
5. Okushko V. R. Metodyka vydelenyya dyspansernykh hrupp shkol'nykov na osnove donozolohycheskoy dyahnostyky karyesa zubov / V. R. Okushko, L. Y. Kosareva // Stomatolohyya. - 1983. - № 6. - S. 8-10.
6. Okushko V. R. Osnovy fyzyolohyy zuba / Okushko V. R. - Tyraspol' : Yzd-vo Prydnestr. un-ta, 2005. - 240 s.
7. Pat. 76681 Ukrayiny na korysnu model', MPK A 61 S 19/06. Sposib vyznachennya strukturno-funktsional'noyi kyslotostyvkosti emali zubiv / Udod O. A., Syrotkina O. V., Kosaryeva L. I. - № u201208129; zayavl. 02.07.12; opubl. 10.01.13, Byul. №1.
8. Savychuk N. O. Preventyvna terapiya i profilaktyka kariyesu zubiv - suchasni tendentsiyi / N. O. Savychuk, I. O. Trubka, L. V. Korniyenko [ta in.] // Ukrayins'kyy stomatolohichnyy al'manakh. - 2013. - № 5. - S. 126-130.

9. Syrotkina O. V. Strukturno-funktsional'na kyslotostiykist' emali u prohnozuvanni karioznoho urazhennya zubiv / O. V. Syrotkina, O. A. Udod // Pytannya eksperymental'noyi ta klinichnoyi medytsyny. – 2013. –Т. 2., Vyp. 17 – S. 290–294.
10. Smolyar N. I. Analiz zakhvoryuvanosti na kariyes zubiv u ditey L'vivs'koyi oblasti / N. I. Smolyar, E. V. Bezvushko // L'vivs'kyi klinichnyy visnyk. - 2013. - № 2. - S. 56-60.
11. Udod O. A. Suchasni pidkhody do klinichnoyi otsinky strukturno-funktsional'noyi kyslotostiykosti emali zubiv / O. A. Udod, O. V. Syrotkina // Ukrayins'kyi stomatolohichnyy al'manakh. – 2013. – № 2. – S. 44 – 47.

ГУМАНІТАРНІ ПРОБЛЕМИ МЕДИЦИНИ ТА ПИТАННЯ ВИКЛАДАННЯ У ВИЩІЙ МЕДИЧНІЙ ШКОЛІ

DEVELOPMENT OF MORAL MAKE-UP OF DOCTORS DURING THEIR PROFESSIONAL TRAINING

Aslamova M. V.

Key words: health care worker, student, moral make-up, pedagogical approaches.

The article is devoted to the analysis of the concept of moral make-up of a health care professional as a system of moral qualities and actions by which the professional activity of an individual becomes an indispensable fact of the moral life of a society as a whole. The factors (related to the macro- and microenvironment, personality) and pedagogical conditions in the development of the moral make-up of the health care professionals taking into account the students' positive moral and ethical image of their future work, their personal ideals, psychological and emotional techniques of self-regulation in order to create a favourable environment for communication and professional training. The development of moral values and standards in healthcare specialists can be fruitful when incorporated in the system of training since very beginning. Such moral qualities as humanity, decency, honesty, responsibility contribute to the performance of their mission in modern society and to their direct practice dealing with patients, their relatives, and colleagues. Therefore, to ensure the medical school the conditions necessary for the formation of these qualities and resistance to destructive factors on them, these should be considered today as the main objectives of training health workers.

References

1. Hryn'ova M.V. Samorehulyatsiya: monohrafiya / M. V. Hryn'ova. – Poltava: ASMI, 2006. – 264 s.
2. Etychnyy kodeks likarya Ukrayiny. – [Elektronnyy resurs](http://www.vult.org.ua/?page_id=105). – Rezhym dostupu do dzh. : http://www.vult.org.ua/?page_id=105
3. Kolisnyk-Humenyuk YU.I. Moral'no-etychna skladova profesiynoyi kul'tury medychnykh pratsivnykiv / YU.I. Kolisnyk-Humenyuk // Problemy ta perspektyvy formuvannya natsional'noyi humanitarno-

tekhnichnoyi elity: zb. nauk. prats' ; za red. L.L. Tovazhnyans'koho, O.H. Romanovs'koho. – Kharkiv: NTU «KHPI», 2010. – S. 213-219.

4. Krukovs'ka I.M. Estetychni chynnyky etyko-deontolohichnoho aspektu profesiynoyi diyal'nosti medychnoho pratsivnyka // Estetychne vykhovannya ditey ta molodi: teoriya, praktyka, perspektyvy rozvytku: zb. naukovykh prats' / I.M. Krukovs'ka; za red. O.A. Dubasenyuk, N.H. Sydoruk. – Zhytomyr: Vyd-vo ZHDU imeni I.YA. Franka, 2012. – S. 231-240.

5. Protsyuk R.H. Moral'no-etychni aspekty u ftyziatriyi / R.H. Protsyuk – [Elektronnyy resurs](#). – Rezhym dostupu do dzh. : – [Elektronnyy resurs](#). – Rezhym dostupu do dzh. : <https://www.health-ua.org/faq/pulmonologiya-ftiziatriya/2842.html>

INDEPENDENT WORK OF STUDENTS AS IMPORTANT STAGE OF SELF-IMPORTANT IN LEARNING CHEMISTRY AT HIGH SCHOOL

Bekus I. R., Kyryliv M.V., Demyd A.Ye., Krynytska I.Ya., Bojko L.A.

Key words: independent work, chemistry.

This paper highlights the role of students' independent work in professional training. Being a background of academic and professional progress, the independent work requires the reconsidering and searching for more affective and fruitful approaches in its planning and implementation. Such student's work is the primary way of mastering the material in the leisure time; it can be flexibly scheduled and rescheduled. Scientists have proved that only the knowledge that the students received by their own, thanks to their own experience and efforts, is really deep. The modern stage of higher education development is associated with the transition to the practical implementation of the new educational paradigm, which aims to create an integrated system of life-continuing development, the expansion of the sphere of independent activity of students, their active engagement in learning, networking, and developing the skills of self-organization and self-education. Much attention is paid to the organization of independent work in the higher education institutions in general and at the department of general chemistry in particular.

References

1. Kovalevskyy Y. Orhanyzatsyya samostoyatel'noy raboty studenta / Y. Kovalevskyy // Vyshee obrazovanye v Rossyy. - 2000. - № 1. - S. 114-115.

2. Koval'chuk L.YA. Rezul'taty realizatsiyi kontseptsiyi rozvytku Ternopil's'koho derzhavnoho medychnoho universytetu imeni I. YA. Horbachevs'koho na shlyakh yoho vkhodzhennya u svitovyy osvitniy prostir / L.YA. Koval'chuk // Medychna osvita. – 2011. - № 2. - S. 12-19.

3. Chytalyn N.A. Mnourovnevaya fundamentalyzatsyya soderzhannya professyonal'noho obrazovannya / N.A. Chytalyn – Kazan' : Yzd-vo Kazansk. un-ta., 2005. – 272 s.

4. Yusupova F.Y. Pryemy orhanyzatsyy protsessa samostoyatel'noy raboty uchashchykhsya [Tekst] / F.Y. Yusupova // Pedahohyka: tradytsyy y ynnovatsyy: materyaly III mezhdunar. nauch. konf. (h. Chelyabynsk, aprel' 2013 h.). — Chelyabynsk : Dva komsomol'tsa, 2013. — S. 26-28.

DEVELOPMENT OF PHILOSOPHICAL AND LEGAL KNOWLEDGE OF FUTURE DOCTORS BY USING INFORMATION TECHNOLOGIES

Bilanov A.S., Zinchenko N.O.

Key words: information technologies, communication, professional training, internet, social networks, multimedia projection.

The experience of introducing information and communication technologies into teaching social sciences as philosophy, jurisprudence and medical jurisprudence at the Department of Philosophy and Social Sciences of the Highest State Educational Institution "Ukrainian Medical Dental Academy" allows us to determine the following directions of their effective application: 1. use of ICT during training sessions, i.e. at lectures and seminars; 2. use of ICT during the preparation of abstracts and scientific papers. The systematic use of information and communication technologies is helpful in creating fundamentally new information educational environment, thereby providing ample opportunities for educational activities, significantly affecting the redistribution of roles between participants of training process, increasing motivation, developing independence, providing student-centred approach, facilitating the modernization of traditional systems of learning. All this makes it possible to improve the quality of training.

References

1. Kademiya M.YU. Informatsiyno-komunikatsiyi tekhnolohiyi v navchal'nomu protsesi : Navchal'nyy posibnyk / M.YU. Kademiya, I.YU. Shakhina – Vinnytsya, TOV «Planer». 2011. – 220 s.
2. Honcharenko S.U. Ukrayins'kyy pedahohichnyy entsyklopedychnyy slovnyk. Vydannya druhe, dopovnene i vypravlene / S.U. Honcharenko – Rivne: Volyns'ki oberehy, 2011. - 522 s.
3. Bisirkin P.M. Vykorystannya zasobiv IKTN u navchal'nomu protsesi zakladiv profesiyno-tekhnichnoyi osvity / P.M. Bisirkin // Informatsiyi tekhnolohiyi i zasoby navchannya. [Elektronnyy resurs] – Kyiv, IITZN NAPN Ukrayiny. – 2008. - No4(8). – Rezhym dostupu do zhurnalu: <http://lib.iitta.gov.ua/id/eprint/298>
4. Pyholenko I.V. Internet-tekhnohohiyi yak zasib formuvannya tsinnisnykh oriyentatsiy student-stva na shlyakhu do informatsiyoho suspil'stva (na prykladi NTUU "KPI"): Avtoref. dys... kand. filosof. nauk: 09.00.10 «Filosofiya osvity» / I.V. Pyholenko ; Nats. ped. un-t im.M.P.Drahomanova. — K., 2007. — 20 s.
5. Ryezina O.V. Formuvannya informatsiyno-poshukovykh ta doslidnyts'kykh umin' uchniv starshoyi shkoly v protsesi navchannya informatyky: Avtoref. dys... kand. ped. nauk: 13.00.02 «Teoriya ta metodyka navchannya (ukrayins'ka mova)» / O.V. Ryezina ; Nats. ped. un-t im. M.P.Drahomanova. — K., 2005. — 20 s.
6. Kushchenko O.S. Formuvannya kul'tury Internet-komunikatsiyi maybutnikh uchyteliv zasobamy informatsiyno-komunikatsiynykh tekhnolohiy: avtoref. dys. kand. ped. nauk: 13.00.04 «Teoriya ta metodyka profesiynoyi osvity» / O.S. Kushchenko ; Klas. pryvatn. un-t. — Zaporizhzhya, 2008. — 20 s. — ukp.

PSYCHOHYGIENIC MEASURES TO IMPROVE STUDENTS' ENVIRONMENT

Golovkova T.A., Onul N.M.

Key words: psychological microclimate, students, academic group, sociometric method, interpersonal compatibility coefficient.

The article describes the urgent issue of interaction and mutual understanding between the students of higher medical school. A study of interpersonal relationships among medical students of Dnepropetrovsk Medical Academy was conducted to develop psychological measures for prevention of factors negatively affecting on the education environment and, therefore, on the general health of young people. The results allowed us to establish the degree of group communicability according to the level of personal compatibility, the true leader, the number of conflicts in groups, their characteristics etc. Obtained data indicate the necessity to develop measures for the creation of a preventive educational environment as a precondition for increasing the effective professional training. An important part of the results obtained is the definition of psychological "portrait" of a student in the microenvironment that enables to predict his or her personal potential for further consideration in the selection of professional training, social and scientific activities in the future.

References

1. Almazov B.N. Psikhologicheskiye osnovy pedagogicheskoy reabilitatsii: ucheb. posobiye / B.N. Almazov. – M. : Gumanitar. izd. tsentr VLADOS, 2008. – 285 s. - [Elektronnyy resurs]. Rezhim dostupa: <http://www.knigafund.ru/>
2. Anan'yev V.A. Osnovy psikhologii zdorov'ya. Kniga 1. Kontseptual'nyye osnovy psikhologii zdorov'ya / V.A. Anan'yev. – SPb. : Rech', 2006. – 384 s.
3. Anan'yev V.A. Praktikum po psikhologii zdorov'ya. Metodicheskoye posobiye po pervichnoy spetsificheskoy i nespetsificheskoy profilaktike / V.A. Anan'yev. – SPb. : Rech', 2007. – 320s.
4. Beletskaya E.N. O roli metodiki opredeleniya urovnya psikhologicheskogo klimata kollektiva v vospitatel'noy rabote prepodavateley meditsinskikh vuzov / E.N. Beletskaya, T.D. Zemlyakova // ЀЀ mizhnarodna naukovo-praktichna konferentsiya «Nauka i osvita». – Dnipro-petrovs'k, 2006. – T. 5. – S. 52-54.
5. Boltivets' S.Ѐ. Teoretiko-metodichni zasadi pedagogichnoї psikhogigieny: avtoref. dis. na zdobuttya naukovoogo stupenya doktora psikholog. nauk : spets. 19.00.07 «Pedagogichna ta vikova psikhologiya»./ S.Ѐ. Boltivets' – K., 2005. – 41 s.
6. Pakhal'yan V.V. Psikhoprofilaktika v obrazovanii / V.V. Pakhal'yan // Voprosy psikhologii. – 2002. – № 1. – S. 38-44.
7. Polyakova O.B. Psikhogigiyena i profilaktika professional'nykh deformatsiy lichnosti: uchebnoye posobiye / O.B. Polyakova. – M. : NOU VPO Moskovskiy psikhologo-sotsial'nyy institut, 2008. – 304 s.

8. Sergeta Í.V. Suchasna psikhogígíêna: problemi ta perspektivi rozvitku / Í.V. Sergeta, O.P. Mostova, R.V. Teklyuk [ta ín.] // Aktual'ní pitannya gígíêni ta yekologíchnoï bezpeki Ukraïni (s'omí Marzêêvs'kí chitannya). – K., 2011. – S. 177–178.
9. Strel'ník V. YU. Suchasní tekhnologíï navchannya u vishchíy shkólí : modul'niy posíbnik dlya slukhachív avtors'kikh kursív pídvischennya kvalífíkatsíï vikladachív MÍPK PUYET / V. YU. Strel'ník, Í. G. Brítchenko. – Poltava : PUYET, 2013. – 309 s.
10. Utlik V.E. Psikhologicheskiy klimat studencheskoy gruppy / V.E. Utlik // Innovatsii v obrazovanii. – 2010. – № 8. – S. 32-42.

MODERN BIOETHICAL ASPECTS AND INTERNATIONAL LAW

Lurie K.I.

Key words: bioethics, international law, convention, the European Court of Human Rights.

This article focuses on the latest trends in some new fields of modern medicine, including genetics and genetic engineering, critical care medicine and transplantation that lead to the emergence of new bioethical issues. However, not all problems can be explained and resolved within the framework of medical ethics and deontology. The attention is paid to the fact that sometimes there is an insufficiency or lack of legal regulations in matters of borders and the imperative implementation of international legal standards into the frames of national legislation related to bioethical issues. The next research stage is monitoring process of the development and establishment of national legal standards in the field of bioethics and its balance with the international law.

References

1. Kashyntseva O.YU. Pravo bioetyky ta medychne pravo: novyy napryamok naukovykh doslidzhen' Kyyivs'koho universytetu prava NAN Ukrayiny / O.YU. Kashyntseva // Chasopys Kyyivs'k. un-tu prava. – 2009. – № 4. – S. 202-208.
2. Medvedyeva M.O. Normy etyky ta prava v rehulyuvanni biomedychnykh doslidzhen': mizhnarodno-pravovyy aspekt / M.O. Medvedyeva // Suchasni problemy bioetyky / Redkol. YU. I. Kundiyev (vidp. red.) ta in. – K. : Akadempriodyka, 2009. – 278 s.
3. Potter V.R. Byoétyka: most v budushchee / Potter V.R.; pod red. S.V. Vekovshynynoy, V.L. Kulynychenko. – K, 2002. – 216 s.
4. Udovyka L. H. Transformatsiya pravovoyi systemy v umovakh hlobalizatsiyi: antropolohichnyy vymir / L.H. Udovyka. – KH. : Pravo, 2011. – 552 s.
5. Mizhnarodnyy kodeks medychnoyi etyky 1983 r. [Elektronnyy resurs]. – Rezhym dostupu: http://zakon2.rada.gov.ua/laws/show/990_002.
6. Deklaratsiya nezalezhnosti ta profesiyanoi svobody likarya 1986. [Elektronnyy resurs]. – Rezhym dostupu : http://zakon2.rada.gov.ua/laws/show/995_326.

7. Deklaratsiya pro evtanazyu 1987 r. [Elektronnyy resurs]. - Rezhym dostupu : <http://z-l.com.ua/ua/new422/>.
8. Hel'sins'ka deklaratsiya Vsesvitn'oyi medychnoyi asotsiatsiyi "Etychni pryntsyipy medychnykh doslidzhen' za uchastyu lyudyny u yakosti ob'yekta doslidzhennya" 1964r. [Elektronnyy resurs]. - Rezhym dostupu : http://zakon0.rada.gov.ua/laws/show/990_005
9. Deklaratsiya stosovno transplantatsiyi lyuds'kykh orhaniv 1987 r. [Elektronnyy resurs]. - Rezhym dostupu: http://zakon3.rada.gov.ua/laws/show/995_330.
10. Dvanadtsyat' pryntsyypiv orhanizatsiyi okhorony zdorov'ya dlya bud'-yakoyi natsional'noyi systemy okhorony zdorov'ya 1963 r. [Elektronnyy resurs]. - Rezhym dostupu : http://zakon3.rada.gov.ua/laws/show/990_004.
11. Deklaratsiya OON pro klonuvannya lyudyny 2005 r. [Elektronnyy resurs]. - Rezhym dostupu : http://zakon0.rada.gov.ua/laws/show/995_d57.
12. Konventsiya pro zakhyst prav lyudyny i osnovopolozhnykh svobod 1950 r. [Elektronnyy resurs]. - Rezhym dostupu : http://zakon3.rada.gov.ua/laws/show/995_004.
13. Konventsiya pro zakhyst prav i hidnosti lyudyny shchodo zastosuvannya biolohiyi ta medytsyny: Konventsiya pro prava lyudyny ta biomedytsynu 1997 r. [Elektronnyy resurs]. - Rezhym dostupu : http://zakon2.rada.gov.ua/laws/show/994_334.
14. Dodatkovyy protokol do Konventsiyi pro zakhyst prav i hidnosti lyudyny shchodo zastosuvannya biolohiyi ta medytsyny, shcho stosuyet'sya zaborony klonuvannya lyuds'kykh istot 1998r. [Elektronnyy resurs]. - Rezhym dostupu : http://zakon0.rada.gov.ua/laws/show/994_526.
15. Dodatkovyy protokol do Konventsiyi pro zakhyst prav i hidnosti lyudyny shchodo zastosuvannya biolohiyi ta medytsyny, shcho stosuyet'sya transplantatsiyi orhaniv ta tkanyu lyudyny 2002 r. - [Elektronnyy resurs]. - Rezhym dostupu : http://zakon0.rada.gov.ua/laws/show/994_684.
16. Sprava «Hlass proty Spoluchenoho Korolivstva» (Glass v. The United Kingdom). [Elektronnyy resurs]. - Rezhym dostupu : <http://hudoc.echr.coe.int/app/conversion/pdf/?library=ECHR&id=002-4464&filename=002-4464.pdf&TID=ihgdqbxnfi>
17. Sprava «Kipr proty Turechchyny» (Cyprus v. Turkey). [Elektronnyy resurs]. - Rezhym dostupu : <http://hudoc.echr.coe.int/app/conversion/pdf/?library=ECHR&id=003-4754196-5782800&filename=003-4754196-5782800.pdf>.
18. Cprava «Vo proty Frantsiyi» (Vo v. France). [Elektronnyy resurs]. - Rezhym dostupu : <http://hudoc.echr.coe.int/webservices/content/pdf/003-1047783-1084371?TID=ihgdqbxnfi>.
19. Sprava «Evans proty Spoluchenoho Korolivstva» (Evans v. The United Kingdom). [Elektronnyy resurs]. - Rezhym dostupu : <http://www.unionedirittiumani.it/wp-content/uploads/2014/11/evans-v-uk.pdf>.

DISTANCE LEARNING IN POST-GRADUATE EDUCATION OF MEDICAL INTERNS

Minjko L.Yu.

Key words: distance learning, professional training, medical interns, distance education, Internet technology, postgraduate education.

The article deals with the concept of distance learning in training of medical interns. We tried to evaluate the role of distance learning in postgraduate education of interns and in their professional activities, as this type of learning opened up new opportunities for education and training, which is becoming more and more technologically advanced. We found out the effectiveness of Internet technologies in the professional development of interns during postgraduate education, the ways to improve distance postgraduate training of interns. The main purpose of postgraduate medical training is to promote and provide the high quality development of practical skills based on theoretical knowledge received previously. Innovations in postgraduate education include the introduction of technology training of interns trained at the bases of distance learning. Distance learning involves several different technologies that can be used in the classroom: case-study technology, Internet technology and telecommunication technology. The effectiveness of distance learning in the system of postgraduate medical education is determined by the effective interaction between teacher and intern doctors; active feedback; proper design of distance sessions, resources management. These technologies become more effective due to the collaboration with lecturers of the different departments and their active involvement into the communication through e-mail, newsgroup, Skype providing conversation in real time, etc. Power Point presentations have been employed extensively in the realm of education and provide scaffolding for medical interns to learn effectively. The distance training system is also used to self-control of interns. In distance education paid off and earned recognition test control. Testing is one of the main forms of control. Tests, practical and laboratory work tasks are performed remotely in two modes: automated and directly to the teachers. An ability to work independently plays a key role in the development of professionalism. Distance learning is a promising form of educational technology in medical training, because it is more flexible, it may be rescheduled when necessary. Distance education at the postgraduate stage allows interns to obtain the necessary knowledge independently, using modern information technologies. Distance learning requires doctors' professional and high level motivation, self-control and self-discipline. They must strive for continuous development and life learning to update their knowledge and skills. Distance learning opens interns an access to alternative sources of information, increases the effectiveness of self-study, gives new possibilities to display creativity, and teachers allows interns to implement innovative forms and methods of training. Training instructors should possess deep knowledge in pedagogical and information technologies and be prepared to work with medical interns in the new academic cognitive environment.

References

1. Dudina M. N. Novaya obrazovatel'naya paradigma: problemy soderzhaniya obrazovaniya / M. N. Dudina // *Obrazovaniye i nauka*. - 2010. - № 2.- S. 3-16.
2. Distantionnyye obrazovatel'nyye tekhnologii: proyektirovaniye i realizatsiya uchebnykh kursov / [M. B. Lebedeva, S. V. Agaponov, M. A. Goryunova i dr.] ; pod obshch. red. M. B. Lebedevoy. – SPb. : BKHV-Peterburg, 2010. – 336 s.

3. Tregubova Ye. S. Samostoyatel'naya rabota v vyshey meditsinskoy shkole i yeye rol' v formirovanií lichnosti budushchego spetsialista / Ye. S. Tregubova, N. A. Petrova, O. B. Dautova // Materialy Vserossiyskoy nauchno- metodicheskoy konferentsii «Psikhologo-pedagogicheskiye aspekty sovershenstvovaniya kachestva meditsinskogo i farmatsevticheskogo obrazovaniya» posvyashchennoy 90-letiyu SAMGMU. – 2009. - S. 160-161.
4. Chernikh V.P. Osvítaní ínnovatsíí v Natsíonal'nomu farmatsevtichnomu uníversitetí: navch.-metod. Posíbnik / V.P. Chernikh, L.G. Kaydalova, V.M. Tolochko, T.YU. Vakhrusheva. – KH. : Vid-vo NFaU, 2005. – 248 s.
5. Êshchenko A.V. Vikoristannya distantsíynogo navchannya v sistemí píslyadiplomnoí osvítí: suchasne í maybutnê / A.V. Êshchenko // Problemi bezperervnoí medichnoí osvítí ta nauki . – 2013. - № 2 (10). – S. 5-10.
6. Mandrikov V. B. Osobennosti razvitiya informatizatsii meditsinskogo vuza na etape sozdaniya sistemy kachestva obrazovaniya / V. B. Mandrikov, A. N. Golubev // Materialy Vserossiyskoy nauchno- metodicheskoy konferentsii «Psikhologo-pedagogicheskiye 463 aspekty sovershenstvovaniya kachestva meditsinskogo i farmatsevticheskogo obrazovaniya» posvyashchennoy 90-letiyu SAMGMU. – 2009. - S. 118-120.

THE REHABILITATION OF THE ATO PARTICIPANTS IN THE PRACTICE OF THE GENERAL PRACTITIONER

Naumenko L., Borisova I., BerezovskyV.

Keywords: general practitioner, rehabilitation, member of ATO.

In July 2014 the Verkhovna Rada of Ukraine initiated the adoption of amendments to the law on status and social support of the servicemen who defended the independence, sovereignty and territorial integrity of Ukraine. To wards social protection for these categories of citizens, the Verkhovna Rada adopted the law on the provision of prostheses and other technical means of rehabilitation (TZR) of the participants of the ATO. According to laws of Ukraine the participants of the ATO are provided TZR gratis first and foremost, regardless of establishing disability on the basis of decisions of the military-medical commissions or conclusions of the medical consultative commissions (MCC) medical-preventive establishments (LPU), that is General practitioners – family physicians. Thus, the definition of rehabilitation is primarily to General practitioners, family medicine. Objective: to determine the awareness of General practitioners of family medicine, for technical means of rehabilitation for participants of the ATO and to familiarize doctors of the WCC health facilities with technical and other rehabilitation means, which may beuseful for the ATO participants who need them. In the 2013-2015 school year, the Department of medico-social examination and rehabilitation of FPO of SE "DMA of Ministry of health of Ukraine" were trained and the survey respectively TZR 339 people, of whom 227 representatives of primary health care. The results of the study determined that 96% of respondents knew that these questions fall within their competence, but only 36% were aware, concerning the information about available print edition TZR. About the thoroughness of the information such publications knew about 24% had such editions for their work, only 4% of respondents. Conclusions. Today, the state responsible takes on the social issues, including health and social protection

of the ATO participants and injured in the defense of the homeland. In difficult modern conditions of medical workers and primary points health care and specialized health care institutions must know the peculiarities of medico-social assistance to participants of ATO. We believe that the material contained in this publication will be useful for the medical profession, especially General practitioners, family medicine.

References

1. Mezhdunarodnyy den' ynvalydiv [Élektronnyy resurs] / Sayt OON. // Rezhym dostupa: http://www.un.org/ru/rights/disabilities/background_7.shtml (Data obrashchenyya: 11.11.2015 h.).
2. Natsyonal'nyy doklad o pryntyakh merakh, napravlenykh na osushchestvlenye Ukraynoy obyazatel'stv v ramkakh Konventsyy o pravakh ynvalydiv. [Elektronnyy resurs] – Rezhym dostupa: <http://grazit.ru/kabinet-ministrov-ukraini-ministerstvo-socialenoi-politiki-ukr.html>
3. Osnovy medyko-sotsial'noyi ekspertyzy i reabilitatsiyi khvorykh ta invalidiv / [L.YU. Naumenko, V.V. Chemyrysov ta in.]. – Dnipropetrovs'k, 2013. – CH. I. - 327 s.
4. Osnovni pokaznyky invalidnosti ta diyal'nosti medyko-sotsial'nykh komisyi Ukrayiny za 2015 rik: analityko-informatsyyny dovidnyk / [A.V. Ipatov, V.A. Holik ta in.]; Za red. S.I. Chernyaka. – Dnipropetrovs'k : Royal-Prynt, 2015. – 162 s.
5. Polozhennya pro Derzhavnu sluzhbu Ukrayiny: postanova KM Ukrayiny № 416 vid 10.09.14. [Elektronnyy resurs] // Rezhym dostupu : <http://dsvv.gov.ua/pro-derzhavnu-sluzhbu/osnovni-zavdannya-ta-normatyvno-pravovi-zasady.html>
6. Pro zatverdzhennya Poryadku nadannya statusu uchashnyka boyovykh diy: postanova KМУ № 413 vid 20.08.2014. [Elektronnyy resurs] // Rezhym dostupu : <http://zakon5.rada.gov.ua/laws/show/413-2014-%D0%BF>
7. Pro zatverdzhennya Poryadku ta umov vyplaty odnorazovoyi hroshovoyi dopomohy u razi zvil'nennya viys'kovosluzhbovtsham, pryzvanym na viys'kovu sluzhbu za pryzvom u zv'yazku z mobilizatsiyeyu: postanova KМУ № 460 vid 17.09.2014. [Elektronnyy resurs] // Rezhym dostupu : <http://zakon2.rada.gov.ua/laws/show/460-2014-%D0%BF>
8. Pro reabilitatsiyu invalidiv v Ukrayini: zakon Ukrayiny № 2961 vid 06.10.2005 [Elektronnyy resurs] // Uryadovyy kur'yer («Oriyentyr»). – 2005. - 2 lystopada, № 213. - Rezhym dostupu : <http://zakon4.rada.gov.ua/laws/show/2961-15>
9. Pro zatverdzhennya Pereliku tekhnichnykh ta inshykh zasobiv reabilitatsiyi, yikh kvalifikatsiynykh shyfriv ta vidpovidnykh yim khvorob za Mizhnarodnoyu statystychnoyu klasyfikatsiyeyu khvorob ta sporidnennykh problem okhorony zdorov'ya: nakaz MOZU № 708/685 vid 30.09.2014 r. [Elektronnyy resurs] // Rezhym dostupu : <http://zakon4.rada.gov.ua/laws/show/z1291-14>
10. Reabilitatsiya ta zaynyatist' invalidiv (analychni materialy) [Elektronnyy resurs] // Ministerstvo sotsial'noyi polityky Ukrayiny. – Rezhym dostupu do resursu: www.mlsp.gov.ua.

PECULIARITIES OF ETHICAL COMMUNICATION AND DEONTOLOGICAL BEHAVIOUR WITH HANDICAPPED INDIVIDUALS IN PRACTICE OF SOCIOMEDICAL EXPERTS

Naumenko L., Borisova I., Berezovsky V., Concur V., Krutikova N., Guzenco B.

Key words: medico-social expertise, ethics and deontology, people with disabilities.

Carrying out sociomeical examination may be associated with conflict situations. There are a number of objective and subjective reasons to provoke conflicts. Such psychosocial factors include psychosocial characteristics of expert procedures, psychological aspects of handicapped persons and the personal peculiarities of parts that interact in the process of medico-social examination. Therefore, the procedure of assessment of person's disability requires high level of professional competence, deep knowledge in psychology, tact and sensitivity, moral, ethical and deontological approaches in communicating with patients. The experts should be able to evaluate characteristics of psychological status of people with disabilities when performing professional activities in a public institution of sociomedical examination. Objective: based on the analysis of citizens' application over the period for 2010 – 2015 to Municipal Institution "Regional Clinical Centre of Sociomedical Expertise" (Chief doctor – Kontsur V.M., Dnieper City) we determined the proportion of complaints that highlighted the importance of ethical communication and deontologic behaviour of doctors in solving medical and social issues of handicapped persons taking into account the peculiarities of their psychological condition and offering solutions to them. The analysis of written applications of the persons has allowed us to identify the most problematic issues in the professional activities of the medical experts: 93.4% of complaints arose from their disagreement with the decision of the Commission about their disability or the identification of disability category; 16.6% of the persons complained on "inconsiderate", "rude" attitude of doctors. Conclusions: peculiarities of life and limited bodily abilities may make handicapped persons more vulnerable that requires special tactics while interacting with them, especially in stressful conditions while carrying medical-social expertise.

References

1. Amirov N.KH. Vid medychnoyi etyky do medychnoyi bioetyky / N.KH. Amirov, V.YU. Al'bits'kyk, F.T. Nezhmetdynova // Problemy sotsial'noyi hihyeny, okhorony zdorov'ya ta istoriyi medytsyny. - 1999. - № 2. - S. 40-42.
2. Hrando A.A. Vrachebnaya étyka y medytsynskaya deontolohyya / A.A. Hrando. - Kyev, 1982. – 165 s.
3. Lisitsyn YU.P. Medychna etyka, deontolohiya i bioetyka / YU.P. Lisitsyn // Problemy sotsial'noyi hihyeny y istoriya medytsyny. - 1998. - № 2. - S. 7-13.
4. Mesterhazy H.M. Vrach y bol'noy yly po-novomu o starom : uchebnoe posobyе. 2-e yzd. / H.M. Mesterhazy. - M. : BYNOM. Laboratoryya znanyy, 2009. - 112 s.
5. Natsyonal'nyy doklad o pryntytykh merakh, napravlennykh na osushchestvlenye Ukraynoy obyazatel'stv v ramkakh Konventsy y o pravakh ynvalydv. – K., 2014. - Rezhym dostupa : <http://www.ohchr.org/Documents/HRBodies/CRPD/CRPD.C.UKR.1-RUS.doc>

6. Orlova E.V. Kul'tura professional'noho obshchenyia vracha: kommunykativno-kompetentnyy podkhod / E.V. Orlova. - M. : Forum, 2012. - 288 s.
7. Osnovni pokaznyky invalidnosti ta diyal'nosti medyko-sotsial'nykh komisiy Ukrainy za 2015 rik: analityko-informatsiynyy dovidnyk / [A.V. Ipatov, V.A. Holik ta in.]. // Za red. S.I. Chernyaka. – Dnipropetrovs'k : Royal-Prynt, 2015. – 162 s.
8. Osnovy medyko-sotsial'noyi ekspertyzy i rehabilitatsiyi khvorykh ta invalidiv / [L.YU. Naumenko, V.V. Chemyrsov ta in.]. – Dnipropetrovs'k, 2013. – CH. I. - 327 s.
9. Pytannya medyko-sotsial'noyi ekspertyzy: Postanova Kabinetu Ministriv Ukrainy vid 3 hrudni 2009 r. Ne 1317. – Rezhym dostupu <http://zakon2.rada.gov.ua/laws/show/1317-2009-%D0%BF>

КЛІНІЧНИЙ ВИПАДОК

CASE OF CYSTIC FIBROSIS IN PRACTICE OF PATHOLOGIST

Sakal A.A., Tovazhnyanska V.D., Titov Ye.V., Dolga O.V.

Key words: cystic fibrosis, pancreatic fibrosis, cystic lung.

Cystic fibrosis is an urgent problem, which requires further investigation. The article presents a case of cystic fibrosis in our autopsy practice that occurred in Kharkiv. Thus, despite relatively low percentage of the disease, cystic fibrosis is a serious problem. 70% of cystic fibrosis is identified during the first two years of a child's life. Implementation of neonatal screening the time in detecting this pathology is considerably reduced. In order to make its early diagnosis, it is recommended to include cystic fibrosis into the screening program of newborns for hereditary and congenital diseases. Most children with clinically marked symptomatic process die in their first year of life, and the survivors are handicapped and in our country often do not live up to 30 years.

References

1. Amelina Ye.L. Mukovistsidoz: opredeleniye prodolzhitel'nosti zhizni / Ye.L. Amelina, A.V. Chernyak, A.L. Chernyayev // Pul'monologiya. – 2001. - № 3. - S. 61-64.
2. Ivashchenko T.E. Biokhimicheskiye i molekulyarno-geneticheskiye osnovy patogeneza mukovistsidoza / T.E. Ivashchenko, V.S. Baranov. - SPb. : Intermedika, 2002. – 256 s.
3. Mukovistsidoz (sovremennyye dostizheniya i problemy): Metod. rekomendatsii / [N.I. Kapranov, L.A. Shabalova, N.YU. Kashirskaya i dr.]. - M. : Medpraktika, 2001. – 76 s.
4. Kapustina T.YU. Izmeneniya pecheni i ikh korrektsiya pri mukovistsidoze u detey na sovremennom etape : avtoref. diss. na soiskaniye nauchnoy stepeni kand. med. nauk : spets. 14.01.08 «Pediatriya» / T.YU. Kapustina - M., 2002. – 22 s.

5. Novikov P.V. Vrozhdennyye i nasledstvennyye zabolevaniya / P.V. Novikov. - M. : Izdatel'skiy dom "Dinastiya", 2007. – 542 s.
6. Koch C. Early Infection and Progression of Cystic Fibrosis Lung Disease / C. Koch // Pediatric Pulmonology. - 2002. - Vol. 34. - P. 232-236.
7. Ostedgaard L.S. CFTR with a partially deleted R domain corrects the cystic fibrosis chloride transport defect in human airway epithelia in vitro and in mouse nasal mucosa in vivo / L.S. Ostedgaard, J. Zabner, D.W. Vermeer [et al.] // Proc. Natl. Acad. Sci USA. - 2002. - Vol. 99. - P. 3093-3098.
8. Salvatore F. Genotype-phenotype correlation in cystic fibrosis: The role of modifier genes / F. Salvatore, O. Scudiero, G. Castaldo // Am. J. Med. Genet. - 2002. - Vol.111. - P. 88-95.
9. Tiddens H.A. Detecting early structural lung damage in cystic fibrosis / H.A. Tiddens // Pediatric Pulmonology. - 2002. - Vol. 34. - P. 228-231

ОГЛЯДИ ЛІТЕРАТУРИ

CLINICAL APPLICATION OF IRON OXIDE NANOPARTICLES

Vazhnicha Ye.M., Devyatkina T.A., Devyatkina N.N.

Key words: iron oxide nanoparticles, ferumoxytol, anaemia, magnetic resonance imaging, tumour hyperthermia.

The analysis of related literature has shown that preparations based on iron oxide nanoparticles are allowed to be used in the therapy of anaemia and in visualization of body structures in magnetic resonance imaging (MRI) in the US and other countries. One of the most successful agents of this group is ferumoxytol. Its concept, unlike most iron oxide preparations, is aimed at treating patients with iron deficiency anaemia and comorbid chronic renal failure and haemodialysis, and this therapy has significant advantages over the use of traditional iron preparations designed for enteral and parenteral administration. In addition, ferumoxytol is used for MRI of the brain, blood and lymph vessels, pancreas, and bone marrow. It also possesses all the necessary qualities for magnetic-thermal ablation of tumours. In general, the efforts of developers are now aimed at determining additional indications for the prescription of preparations of iron oxide nanoparticles and their clinical trials for the hyperthermia of tumours.

References

1. European Science Foundation (ESF) Nanomedicine: An ESF–European Medical Research Councils (EMRC) Forward Look Report. Strasbourg: ESF; 2005. [Electronic resource]. – Mode of access: http://www.esf.org/fileadmin/Public_documents/Publications/Nanomedicine.pdf
2. Sweeney A.E. Nanomedicine concepts in the general medical curriculum: initiating a discussion / A.E. Sweeney // Int. J. Nanomedicine. – 2015. – Vol. 10. – P.7319–7331.

3. Nykyforov V.N. Medytsynskye prymerenyya mahnytnykh nanochastyts / V.N. Nykyforov // Yzvestyya Akademiyyi inzhenernykh nauk im. A.M.Prokhorova. - 2013. - №1. - S.23-34.
4. Svenson S. Klinichnyy pereklad nanomedytsyny / S. Svenson // Curr. Mnenyy Tverdyy Derzhavnyy mater. Nauka - 2012. - Tom. 16, №6. - S. 287-294.
5. Baetke S.C. Zastosuvannya nanochastynok dlya diahnostryky ta terapiyi raku / S.C. Baetke, T. Lammers, F.Cieessling // Br. YA. Radiol. - 2015 r. - t. 1054. - doi: 10.1259 / bjr.20150207.
6. Khayashy K. Klastery superparamahnitnykh nanochastynok dlya onkologichnoyi terapiyi, shcho poyednyut' mahnitno-rezonansnu tomohrafiyu ta likuvannya hipertermiyeyu / K. Khayashy, M. Nakamura, V. Sakamoto [et al.] // Teranotyky. - 2013. - Tom. 3, №6. - S. 366-376.
7. Ansel'mo A.S. Ohlyad klinichnoho ta komertsiynoho vplyvu system dostavky likiv / A.S. Ansel'mo, S. Mitrahotri // Dzh. Kontrol'. Vypustit' - 2014 rr. - T.190. - R. 15-28.
8. Torchylin V.P. Bahatofunktsional'ni chutlyvi do stymuliv nanochastynkovi systemy dostavky likiv / V.P. Torchylin // Narod. Prepodobnyy narkotyk Discov. - 2014 r. - t. 13, №11. - R.813-827.
9. Vazhnycha O.M. Farmakologichni vlastyvosti nanochastynok mahnetytu / O.M. Vazhnycha, T.O. Dev'yatkina, YE.V. Moklyak // Aktual'ni problemy suchasnoyi medytsyny: Visnyk ukrayins'koyi medychnoyi stomatologichnoyi akademiyyi. - 2016 r. - T.16, vyp. 1 (53). - S. 291-295.
10. Magnetic Resonance – Technology Information Portal [Electronic resource]. – Mode of access: <http://www.mr-tip.com/serv1.php?type=welcome>.
11. Wang Y.X. Superparamagnetic iron oxide based MRI contrast agents: Current status of clinical application / Y.X. Wang // Quant Imaging Med. Surg. – 2011. – Vol.1, №1. – P. 35-40.
12. Rosner M.H. Ferumoxitol for the treatment of iron deficiency / M.H. Rosner, M. Auerbach // Expert. Rev. Hematol. – 2011. – Vol. 4, №4. – P. 399-406.
13. Kowalczyk M. Ferumoxitol: a new era of iron deficiency anemia treatment for patients with chronic kidney disease / M. Kowalczyk, M. Banach, J. Rysz // J. Nephrol. – 2011. – Vol. 24, №6. – P. 717-722.
14. Potthoff S.A. Safety aspects of parenteral iron supplementation therapies in patients with chronic kidney disease / S.A. Potthoff, H.G. Münch // Dtsch. Med. Wochenschr. – 2013. – Vol. 138, №24. – P. 1312-1317.
15. Biggar P. Importance of the different i.v. iron generations for everyday medical practice / P. Biggar, K.M. Hahn // MMW Fortschr. Med. – 2013. – Vol. 155, Suppl. 1. – P. 18-24.
16. Fütterer S. Structural characterization of iron oxide/hydroxide nanoparticles in nine different parenteral drugs for the treatment of iron deficiency anaemia by electron diffraction (ED) and X-ray powder diffraction (XRPD) / S. Fütterer, I. Andrusenko, U. Kolb [et al.] // J. Pharm. Biomed. Anal. – 2013. – Vol. 86. – P.151-160.
17. Ferumoxitol (Feraheme) Injection [Electronic resource]. – Mode of access: http://www.accessdata.fda.gov/drugsatfda_docs/label/2009_022180lbl.pdf.

18. Balakrishnan V.S. Physicochemical properties of ferumoxytol, a new intravenous iron preparation / V.S. Balakrishnan, M. Rao, A.T. Kausz [et al.] // *Eur. J. Clin. Invest.* – 2009. – Vol. 39, №6. – P. 489-496.
19. Landry R. Pharmacokinetic study of ferumoxytol: a new iron replacement therapy in normal subjects and hemodialysis patients / R. Landry, P.M. Jacobs, R. Davis [et al.] // *Am. J. Nephrol.* – 2005. – Vol. 25, №4. – P. 400-410.
20. Pai A.B. Plasma pharmacokinetics of two consecutive doses of ferumoxytol in healthy subjects / A.B. Pai, J.C. Nielsen, A. Kausz [et al.] // *Clin. Pharmacol. Ther.* – 2010. – Vol. 88, №2. – P. 237-242.
21. Auerbach M. Safety and efficacy of total dose infusion of 1,020 mg of ferumoxytol administered over 15 min / M. Auerbach, W. Strauss, S. Auerbach [et al.] // *Am. J. Hematol.* – 2013. – Vol. 88, №11. – P. 944-947.
22. Macdougall I.C. Current and upcoming erythropoiesis-stimulating agents, iron products, and other novel anemia medications / I.C. Macdougall, M. Ashenden // *Adv. Chronic Kidney Dis.* – 2009. – Vol. 16, №2. – P. 117-130.
23. Lu M. FDA report: Ferumoxytol for intravenous iron therapy in adult patients with chronic kidney disease / M. Lu, M.H. Cohen, D. Rieves [et al.] // *Am. J. Hematol.* – 2010. – Vol. 85, №5. – P. 315-319.
24. Vadhan-Raj S. Efficacy and safety of IV ferumoxytol for adults with iron deficiency anemia previously unresponsive to or unable to tolerate oral iron / S. Vadhan-Raj, W. Strauss, D. Ford [et al.] // *Am. J. Hematol.* – 2014. – Vol. 89, №1. – P. 7-12.
25. McCormack P.L. Ferumoxytol: in iron deficiency anaemia in adults with chronic kidney disease / P.L. McCormack // *Drugs.* – 2012. – Vol. 72, №15. – P.2013-2022.
26. Provenzano R. Ferumoxytol as an intravenous iron replacement therapy in hemodialysis patients / R. Provenzano, B. Schiller, M. Rao [et al.] // *Clin. J. Am. Soc. Nephrol.* – 2009. – Vol. 4, №2. – P. 386-393.
27. Fishbane S. Factors affecting response and tolerability to ferumoxytol in nondialysis chronic kidney disease patients / S. Fishbane, W.K. Bolton, W.C. Winkelmayr [et al.] // *Clin. Nephrol.* – 2012. – Vol. 78, №3. – P. 181-188.
28. Schiller B. Safety and effectiveness of ferumoxytol in hemodialysis patients at 3 dialysis chains in the United States over a 12-month period / B. Schiller, P. Bhat, A. Sharma // *Clin. Ther.* – 2014. – Vol. 36, №1. – P. 70-83.
29. Hassan N. Ferumoxytol infusion in pediatric patients with gastrointestinal disorders: first case series / N. Hassan, J. Cahill, S. Rajasekaran [et al.] // *Ann. Pharmacother.* – 2011. – Vol. 45, №12. – e63.
30. McCullough B.J. Ferumoxytol in clinical practice: implications for MRI / B.J. McCullough, O. Kolokythas, J.H. Maki [et al.] // *J. Magn. Reson. Imaging.* – 2013. – Vol. 37, №6. – P. 1476-1479.
31. Storey P. MRI assessment of hepatic iron clearance rates after USPIO administration in healthy adults / P. Storey, R.P. Lim, H. Chandarana [et al.] // *Invest. Radiol.* – 2012. – Vol. 47, №12. – P. 717-724.

32. Hope M.D. Vascular Imaging With Ferumoxytol as a Contrast Agent / M.D. Hope, T.A. Hope, C. Zhu [et al.] // Am. J. Roentgenol. – 2015. – Vol. 205, №3. – P.366-373.
33. Debats O.A. Intranodal signal suppression in pelvic MR lymphography of prostate cancer patients: a quantitative comparison of ferumoxtran-10 and ferumoxytol / O.A. Debats, A. S. Fortuin, J.M. Hanneke [et al.] // Peer J. – 2016. – Vol.4. – e2471.
34. Storey P. Bone marrow uptake of ferumoxytol: a preliminary study in healthy human subjects / P. Storey, A.A. Arbini // J. Magn. Reson. Imaging. – 2014.– Vol. 39, № 6. – P. 1401-1410.
35. Hedgire S.S. Enhanced primary tumor delineation in pancreatic adenocarcinoma using ultrasmall super paramagnetic iron oxide nanoparticle-ferumoxytol: an initial experience with histopathologic correlation / S.S. Hedgire, M. Mino-Kenudson, A. Elmi [et al.] // Int. J. Nanomedicine. – 2014. – Vol. 9. – P. 1891-1896.
36. Hedgire S.S. Evaluation of renal quantitative T2* changes on MRI following administration of ferumoxytol as a T2* contrast agent / S.S. Hedgire, S. McDermott, G.R. Wojtkiewicz [et al.] // Int. J. Nanomedicine. – 2014. – Vol. 9. – P. 2101-2107.
37. Bullivant J.P. Materials characterization of Feraheme / ferumoxytol and preliminary evaluation of its potential for magnetic fluid hyperthermia / J.P. Bullivant, S. Zhao, J. Willenberg [et al.] // Int. J. Mol. Sci. – 2013. – Vol. 14, №9. – P. 17501–17510.
38. Luo S. Clinical trials of magnetic induction hyperthermia for treatment of tumours / S. Luo, L.F. Wang, W.J. Ding [et al.]. // OA Cancer. – 2014. – Vol. 2, №1 [Electronic resource]. – Mode of access: <http://www.oapublishinglondon.com/article/1145#Abstract>

MODERN PRINCIPLES OF NON-MEDICAL PROPHYLAXIS OF ACUTE DISORDERS OF CEREBRAL CIRCULATION

Delva M.Yu.

Key words: stroke, transient ischemic attack, non-drug prophylaxis.

Currently, prevention approaches are recognized as a priority in the management of cerebrovascular pathology worldwide. Preventive measures are an important component in the management of both strokes and transient ischemic attacks. The only strategy to reduce the incidence of acute disorders of cerebral circulation, indicators of temporary and persistent disability, mortality rates is an active, effective prevention of cerebrovascular pathology among the population. At the present stage of angioneurology development, the principles of effective prevention of acute cerebral circulation disorders have been developed and are being actively introduced into routine clinical practice, among which the methods of non-drug prevention are of paramount importance (namely, modification of the life style and correction of behavioural stereotypes of a person). Non-medicinal preventive measures are generally available and produce no side effects, however, they are often underestimated and under the shadow of

pharmacological interventions. Therefore, family doctors, along with the principles of pharmacological prophylaxis, need to know the main behavioural risk factors for acute cerebrovascular disorders in order to educate the population.

References

1. Mishchenko T. S. Epidemiolohiya nevrolohichnykh zakhvoryuvan' v Ukraini / T. S. Mishchenko // *Neyro News*. – 2008. – № 3. – S. 76-77.
2. Khobzey N. K. Épydemyolohyya ynsul'ta, klynycheskye y ékspertnye aspekty v Ukrainy / N. K. Khobzey, T. S. Myshchenko, V. A. Holyk [y dr.] // *Sudynni zakhvoryuvannya holovnoho mozku*. – 2010. – № 4. – S. 2-5.
3. O'Donnell M. J. INTERSTROKE investigators. Risk factors for ischaemic and intracerebral haemorrhagic stroke in 22 countries (the INTERSTROKE study): a case-control study / M. J. O'Donnell, D. Xavier, L. Liu [et al.] // *Lancet*. - 2010. - Vol. 376. - P. 112-123.
4. 2008 Physical activity guidelines for Americans. [Electronic resource] // US Department of Health and Human Services. – 2008. – Access mode: <http://www.health.gov/paguidelines>.
5. Verdelho A. Physical activity prevents progression for cognitive impairment and vascular dementia: results from the LADIS (leukoaraiosis and disability) study / A. Verdelho, S. Madureira, J.M. Ferro [et al.] // *Stroke*. — 2012. — Vol. 43. — P. 3331–3335.
6. Meschia J.F. Guidelines for the primary prevention of stroke a statement for healthcare professionals from the American Heart Association/American Stroke Association / J.F. Meschia, C. Bushnell, B. Boden-Albala [et al.] // *Stroke*. - 2014. - Vol. 45. - P. 3754-3832.
7. Hankey G.J. Nutrition and the risk of stroke / G.J. Hankey // *Lancet Neurology*. - 2012. - Vol. 11. - P. 66-81.
8. He F.J. Fruit and vegetable consumption and stroke: meta-analysis of cohort studies / F.J. He, C.A. Nowson, G.A. MacGregor // *Lancet*. - 2006. - Vol. 367. - P. 320–326.
9. Li X.Y. High salt intake and stroke: meta-analysis of the epidemiologic evidence / X.Y. Li, X.L. Cai, P.D. Bian [et al.] // *CNS Neuroscience and Therapeutics*. - 2012. - Vol. 18. - P. 691–701.
10. Larson S.C. Dietary potassium intake and risk of stroke: a dose-response meta-analysis of prospective studies / S.C. Larsson, N. Orsini, A. Wolk // *Stroke*. - 2011. - Vol. 42. - P. 2746–2750.
11. US Department of Agriculture and US Department of Health and Human Services. *Dietary Guidelines for Americans 2010*.; 7th ed. / Washington, DC: US Government Printing Office; December, 2010.
12. Kaluza J. Red meat consumption and risk of stroke: a meta-analysis of prospective studies / J. Kaluza, A. Wolk, S.C. Larsson // *Stroke*. - 2012. - Vol. 43. - P. 2556–2560.
13. Strazzullo P. Excess body weight and incidence of stroke: meta-analysis of prospective studies with 2 million participants / P. Strazzullo, L. D'Elia, G. Cairella [et al.] // *Stroke*. – 2010. – Vol. 41 (5). – P. 418-426.

14. Whitlock G. Body-mass index and cause-specific mortality in 900 000 adults: collaborative analyses of 57 prospective studies / G. Whitlock, S. Lewington, P. Sherliker [et al.] // *Lancet*. – 2009. – Vol. 373 (9669). – P. 1083-1096.
15. Ovbiagele B. Obesity and recurrent vascular risk after a recent ischemic stroke / B. Ovbiagele, P.M. Bath, D. Cotton [et al.] // *Stroke*. - 2011. - Vol. 42. - P. 3397–3402.
16. Rekomendatsyy po vedenyyu bol'nykh s yshemycheskym ynsul'tom y tranzytornymy yshemycheskymy atakamy [Él. resurs] / Yspolnytel'nyy y Avtorskyy komytet ESO. – 2008. – Rezhym dostupa: http://www.congrex-switzerland.com/fileadmin/files/2013/eso_stroke/pdf/ESO08_Guidelines.
17. National Institute on Alcohol Abuse and Alcoholism [Electronic resource] - 2013. - Access mode: <http://www.niaaa.nih.gov>.
18. Nakamura K. Influence of smoking combined with another risk factor on the risk of mortality from coronary heart disease and stroke: pooled analysis of 10 Japanese cohort studies / K. Nakamura, H. Nakagawa, M. Sakurai [et al.] // *Cerebrovascular Diseases*. — 2012. — Vol. 33. — P. 480–491.
19. Ischaemic stroke and combined oral contraceptives: results of an international, multicentre, case-control study / WHO Collaborative Study of Cardiovascular Disease and Steroid Hormone Contraception // *Lancet*. - 1996. - Vol. 348. - P. 498–505.
20. Burns D.M. Epidemiology of smoking-induced cardiovascular disease / D.M. Burns // *Progress in Cardiovascular Diseases*. - 2003. - Vol. 46. - P. 11–29.
21. Silvestrini M. Effect of smoking on cerebrovascular reactivity / M. Silvestrini, E. Troisi, M. Matteis [et al.] // *Journal of Cerebral Blood Flow & Metabolism*. - 1996. - Vol. 16. - P. 746–749.
22. Iribarren C. Cohort study of exposure to environmental tobacco smoke and risk of first ischemic stroke and transient ischemic attack / C. Iribarren, J. Darbinian, AL. Klatsky [et al.] // *Neuroepidemiology*. - 2004. - Vol. 23. - P. 38–44.
23. Kernan W.N. Guidelines for the prevention of stroke in patients with stroke and transient ischemic attack a guideline for healthcare professionals from the American Heart Association/American Stroke Association / W.N. Kernan, B. Ovbiagele, H.R. Black [et al.] // *Stroke*. - 2014. – No.45(7). - P. 2160-2236.

TUMOUR NECROSIS FACTOR ALPHA AS PROINFLAMMATORY CYTOKINE AND ITS IMPORTANCE IN DEVELOPMENT OF TYPE 2 DIABETES

Dombrovska N.S.

Key words: tumour necrosis factor alpha, type 2 diabetes, obesity, insulin resistance.

TNF- α is one of the first cytokines, which role in the development of obesity and insulin resistance has been examined and now is considered as a factor linking these processes: its increased secretion is one of the factors causing these conditions. In DM it affects the glucose metabolism, the sensitivity of peripheral tissues to insulin, renin-angiotensin system, and is involved in the development of oxidative stress. It

possesses cytotoxic activity, promotes endothelial dysfunction, and is able to induce apoptosis of insulin-producing cells. TNF- α is considered as one of the many risk factors in the development of type 2 diabetes. The mechanism, by which TNF- α induces insulin resistance, is not entirely clear and should be clarified.

References

1. Tron'ko M.D. Suchasnyy stan i perspektyvy rozvytku fundamental'noyi ta klinichnoyi endokrynolohiyi na 2015-2020 roky. Dopovid' na VIII z'yizdi Asotsiatsiyi endokrynolohiv Ukrayiny m. Kyiv, 20-22 zhovtnya 2014 roku / M.D. Tron'ko // Endokrynolohiya. – 2015. – № 1 (20). – S. 373–380.
2. Kolb H. The global diabetes epidemic as a consequence of lifestyle-induced low-grade inflammation / H. Kolb, T. Mandrup-Poulsen // Diabetologia. – 2010. – Vol. 53 (1). – P. 10–20.
3. Kamins'kyi O.V. Nezloyakisni zakhvoryuvannya endokrynnoyi systemy cherez 30 rokiv pislya avariyi na CHAES / O.V. Kamins'kyi, O.V. Kopylova, D.YE. Afanas'yev, O.V. Pronin // Problemy radiatsiyanoi medytsyny ta radiobiolohiyi : zb. nauk. prats'. – K. : DIA, 2015. – Vyp. 20. – S. 341–355.
4. Zak K.P. Sakharnyy dyabet. Ymmunytet. Tsytokyny / K.P. Zak, N.D. Tron'ko, V.V. Popova, A.K. Butenko. – K. : Knyha-plyus, 2015. – 488 s.
5. Shvarts V.YA. Zhyrovaya tkan' kak éndokrynnyy orhan / V.YA. Shvarts // Problemy éndokrynolohyy. – 2009. – T. 55, № 1. – S. 38–44.
6. Romacho T. Adipose tissue and its role in organ crosstalk / T. Romacho, M. Elsen, D. Röhrborn, J. Eckel // Acta Physiol. (Oxf.). – 2014. – Vol. 210, № 4. - P. 733–753.
7. Donath M.Y. Type 2 diabetes as an inflammatory disease / M.Y. Donath, S.E. Shoelson // Nat. Rev. Immunol. – 2011. – Vol. 11 (2). – P. 98–107.
8. Gregor M.F. Inflammatory mechanisms in obesity / M.F. Gregor, G. Hotamisligil // Annu Rev Immun. – 2011. – Vol. 29. – P. 415–445.
9. Pickup J.C. Inflammation and activated innate immunity in the pathogenesis of type 2 diabetes / J.C. Pickup // Diabetes Care. – 2004. – Vol. 27. – P. 813–823.
10. Marques-Vidal P. Adipocytokines, hepatic and inflammatory biomarkers and incidence of type 2 diabetes. The CoLaus study / P. Marques-Vidal, R. Schmid, M. Bochud [et al.] // PLoS One. – 2012. – Vol. 7 (12). – P. e51768.
11. Berezhnaya N.M. Semeystva ynterleykynov: byolohyya y onkohenez / N. M. Berezhnaya. – K.: Naukova dumka, 2013. – 575 s.
12. Vassali P. The pathophysiology of tumor necrosis factor / P. Vassali // Annu. Rev. Immunol. – 1992. – № 10. – P. 411–452.
13. Guha M. Molecular mechanisms of tumor necrosis factor alpha gene expression in monocytic cells via hyperglycemia-induced oxidant stress-dependent and -independent pathways / M. Guha, W. Bai, J. L. Nadler [et al.] // J. Biol. Chem. – 2000. – Vol. 275 (23). – R. 17728–17739.

14. Deng Y. Adipokines as novel biomarkers and regulators of the metabolic syndrome / Y. Deng // *Ann. N. Y. Acad. Sci.* – 2010. – Vol.1212. – P.1–19.
15. Weisberg S.P. Obesity is associated with macrophage accumulation in adipose tissue / S.P. Weisberg, D. McCann, M. Desai [et al.] // *Jr. J Clin Invest.* – 2003. – Vol. 112. – P. 1796–1808.
16. Hotamisligil G.S. Adipose expression of tumor necrosis factor-alpha: direct role in obesity-linked insulin resistance / G.S. Hotamisligil, N.S. Shargill, B.M. Spiegelman // *Science.* – 1993. – Vol. 259. – P. 87–91.
17. Daniele G. The inflammatory status score including IL-6, TNF-a, osteopontin, fractalkine, MCP-1 and adiponectin underlies whole-body insulin resistance and hyperglycemia in type 2 diabetes mellitus / G. Daniele, R. Guardaro Mendoza, D. Winner [et al.] // *Acta Diabetol.* – 2014. – Vol. 51 (1). – P. 123–131.
18. Popko K. Proinflammatory cytokines IL-6 and TNF-a and the development of inflammation in obese subjects / K. Popko, E. Gorska, A. Stelmaszczyk-Emmel [et al.] // *Eur. J. Med. Res.* – 2010. – № 15, Suppl. II. – P. 120-122.
19. Tateya S. Recent advances in obesity-induced inflammation and insulin resistance / S. Tateya, F. Kim, Y. Tamori // *Frontiers in endocrinology.* - 2013. – Vol. 4. – P.1-14.
20. Sack M. N. Tumor necrosis factor in myocardial hypertrophy and ischaemia – an anti-apoptotic perspective / M. N. Sack, R. M. Smith, L. H. Opie // *Cardiovasc. Res.* – 2000. – Vol. 3. – P. 688–695.
21. Yudkin J.S. Insulin resistance and the metabolic syndrome – or the pitfalls of epidemiology / J.S. Yudkin // *Diabetologia.* – 2007. – Vol. 50 (8). – P. 1576–1586.
22. Fernandez-Real J. M. Plasma levels of the soluble fraction of tumor necrosis factor- α receptors 1 and 2 are independent determinants of total and LDL-cholesterol concentrations in healthy subjects / J. M. Fernandez-Real, C. Gutierrez, W. Ricart [et al.] // *Atherosclerosis.* – 1999. – Vol. 146. – P. 321–327.
23. Chu N. F. Plasma insulin, leptin and soluble TNF receptors levels in relation to obesity related atherogenic and thrombogenic cardiovascular disease risk factors among men / N. F. Chu, D. Spiegelman, G. S. Hotamisligil [et al.] // *Atherosclerosis.* – 2001. – Vol. 157 (2). – P. 495–503.
24. Chernyavskaya I.V. Vzaimosvyaz' liposytokinov s aktivnost'yu immunnoy sistemy pri sakharnom diabete 2 tipa v sochetanii s nealkogol'noy zhirovoy boleznyu pecheni (obzor literatury i sobstvennyye nablyudeniya) / I.V. Chernyavskaya, Ye.G. Dorosh, L.G. Polozova [i dr.] // *Problemi yendokrinnoĭ patologii.* – 2015. – № 1. – S. 103–112.
25. Moller D. E. Potential role of TNF-alpha in the pathogenesis of insulin resistance and type 2 diabetes / D. E. Moller // *Trends Endocrinol. Metab.* – 2000. – Vol. 11 (6). – R. 212-217.
26. Skoog T. Plasma tumour necrosis factor-a and early carotid atherosclerosis in healthy middle-aged men / T. Skoog, W. Dichtl, S. Boquist [et al.] // *Eur. Heart. J.* – 2002. – Vol. 23. – P. 376-383.
27. Lechleitner M. Tumour necrosis factor-alpha plasma levels in elderly patients with type 2 diabetes mellitus – observations over 2 years // M. Lechleitner, M. Herold, C. Dzien-Bischinger [et al.] // *Diabet Med.* – 2002. – Vol. 19. – P. 949–953.

28. Plomgaard P. Associations between insulin resistance and TNF-alpha in plasma, skeletal muscle and adipose tissue in humans with and without type 2 diabetes / P. Plomgaard, A.R. Nielsen, C.P. Fischer [et al.] // *Diabetologia*. – 2007. – Vol. 50 (12). – P. 2562–2571.
29. Nieto-Vazquez I. Insulin resistance associated to obesity: the link TNF-alpha / I. Nieto-Vazquez, S. Fernandez-Veledo, D.K. Kramer [et al.] // *Arch. Physiol. Biochem.* – 2008. – Vol. 114 (3). – P. 183–194.
30. Marques-Vidal P. Association between circulating cytokine levels, diabetes and insulin resistance in a population-based sample (CoLaus study) / P. Marques-Vidal, F. Bastardot, R. von Känel [et al.] // *Clin. Endocrinol. (Oxf.)*. – 2013. – Vol. 78 (2). – P. 232–241.
31. Lo J. Effects of TNF-a neutralization on adipocytokines and skeletal muscle adiposity in the metabolic syndrome / J. Lo, L. E. Bernstein, B. Canavan [et al.] // *American Journal of Physiology, Endocrinology and Metabolism*. – 2007. – Vol. 293. – P. 102–109.
32. Zaychik A. SH. Patologicheskaya fiziologiya. T. 2. Patokhimiya (endokrinno-metabolicheskiye narusheniya) / A.SH. Zaychik, L.P. Churilov – SPb. : ELBI-SPb., 2007. – S. 325–344.
33. Yarmysh N.V. Adipotsitokiny v razvitii insulinorezistentnosti pri ozhirennii / N.V. Yarmysh, N.A. Kravchenko, Ye.I. Voytenko // *Problemi yendokrinnoĭ patologii*. – 2010. – № 3. – S. 110–121.
34. Kravchun N. O. Faktor nekrozu pukhlin-a ta tsukroviy díabet 2 tipu / N. O. Kravchun // *Probl. yendokrinnoĭ patologii*. – 2005. – № 3. – S. 3–8.
35. Kahn B.B. Obesity and insulin resistance / B. B. Kahn, J. S. Flier // *J. Clin. Invest.* – 2000. – Vol. 106, № 4. – P. 473–481.
36. Jousen A. M. TNF-a mediated apoptosis plays an important role in the development of early diabetic retinopathy and long-term histopathological alterations / A. M. Jousen, S. Doehmen, M. L. Le [et al.] // *Molec. Vision*. – 2009. – Vol. 15. – P. 1418–1428.
37. Urbanovich A.M. Vmíst rezistinu plazmi kroví ta markerív nespetsifíchnogo zapalennya u khvorikh na tsukroviy díabet 2 tipu z ríznoyu kompensatsíeyu zakhvoryuvannya / A.M. Urbanovich // *Aktual'nyye problemy transportnoy meditsiny*. – 2015. – № 4, T. 2. – S. 112–116.
38. Gorshuns'ka M.YU. Vaspín u khvorikh na tsukroviy díabet 2 tipu / M.YU. Gorshuns'ka // *Problemi yendokrinnoĭ patologii*. – 2015. – № 3. – S. 24–31.
39. Voronkov L.G. Stan gormonív zhirovoĭ tkanini, tsirkulyuyuchogo faktoru nekrozu pukhlin a ta pokaznikív lípídnogo obmínu zalezho víd nayavností ínsulínorezistentností v patsiéntív z khroníchnoyu sertsevoyu nedostatnístyu í sistolíchnoyu disfunksiéyu lívogo shlunochka / L.G. Voronkov, M.R. Íl'nits'ka, T.Í. Gavrilenko [ta ín.] // *Ukr. kard. zhurn.* – 2014. – № 5. – S. 80–87.
40. Spranger J. Inflammatory cytokines and the risk to develop type 2 diabetes: results of the prospective population-based European Prospective Investigation into Cancer and Nutrition (EPIC)-Potsdam Study / J. Spranger, A. Kroke, M. Möhlig [et al.] // *Diabetes*. – 2003. – Vol. 52 (3). – P. 812–817.

41. Miyazaki Y. Tumor necrosis factor alpha and insulin resistance in obese type 2 diabetic patients / Y. Miyazaki, R. Pipek, L.J. Mandarino, R.A. DeFronzo // *Int. J. Obes. Relat. Metab. Disord.* – 2003. – Vol. 27 (1). – P. 88–94.
42. Monroy A. Impaired regulation of the TNF-alpha converting enzyme/tissue inhibitor of metalloproteinase 3 proteolytic system in skeletal muscle of obese type 2 diabetic patients: a new mechanism of insulin resistance in humans / A. Monroy, S. Kamath, A.O. Chavez [et al.] // *Diabetologia.* – 2009. – Vol. 52 (10). – P. 2169–2181.
43. Bing Hong Seong The effects of adiponectin and inflammatory cytokines on diabetic vascular complications in obese and non-obese patients with type 2 diabetes mellitus / Seong Bing Hong, Jung Jin Lee, So Hun Kim [et al.] // *J. Diabetes Research and Clinical Practice.* – 2016. – № 3. – P. 58–65.
44. Hamid S. Relationship of cytokines and AGE products in diabetic and non-diabetic patients with cataract / S. Hamid, A. Gui, O. Hamid // *International Journal of Health Sciences, Qassim University.* – 2016. – Vol. 10, № 4. – P. 507–517.
45. Mu Z.P. Association between Tumor Necrosis Factor- α and diabetic peripheral neuropathy in patients with type 2 diabetes: a meta-analysis / Z.P. Mu, Y.G. Wang, C.Q. Li [et al.] // *Neurobiol.* – 2016. – V.54(2). – P. 983-996.
46. Rajkovic N. Relationship between obesity, adipocytokines and inflammatory markers in type 2 diabetes: relevance for cardiovascular risk prevention / N. Rajkovic, M. Zalakar, K. Lacic [et al.] // *Int. J. Environ. Res. Public Health.* – 2014. – Vol. 11 (4). – P. 4049–4065.
47. Chu C.S. Postchallenge responses of nitrotyrosine and TNF-alpha during 75-g oral glucose tolerance test are associated with the presence of coronary artery diseases in patients with prediabetes / C.S. Chu, K.T. Lee, K.H. Cheng [et al.] // *Cardiovasc. Diabetol.* – 2012. – Vol. 7. – P. 11–21.
48. Liu C. Adiponectin, TNF- α and inflammatory cytokines and risk of type 2 diabetes: A systematic review and meta-analysis / C. Liu, X. Feng, Q. Li [et al.] // *Cytokine.* – 2016. – Vol. 86. – P. 100–109.
49. Eckel R.H. Obesity and type 2 diabetes: what can be unified and what needs to be individualized? / R.H. Eckel, S.E. Kahn, E. Ferrannini [et al.] // *Diabetes Care.* – 2011. – Vol. 34 (6). – P. 1424–1430.
50. Kasapis C. The effects of physical activity on serum C-reactive protein and inflammatory markers: a systematic review / C. Kasapis, P.D. Thompson // *J. Am. Coll. Cardiol.* – 2005. – Vol. 45 (10). – P. 1563–1569.
51. Ofei F. Effect of an engineered human anti-TNF- α antibody (CDP571) on insulin sensitivity and glycemic control in patients with NIDDM / F. Ofei, S. Hurel, J. Newkirk [et al.] // *Diabetes.* – 1996. – Vol. 45. – P. 881–885.
52. Bernstein L.E. Effects of etanercept in patients with the metabolic syndrome / L.E. Bernstein, J. Berry, S. Kim [et al.] // *Arch. Intern. Med.* – 2006. – Vol. 166. – P. 902–908.
53. Gonzalez-Gay M. A. Anti-tumor necrosis factor- α blockade improves insulin resistance in patients with rheumatoid arthritis / M. A. Gonzalez-Gay, J. M. De Matias, C. Gonzalez-Juanatey [et al.] // *Clinical and Experimental Rheumatology.* – 2006. – Vol. 24. – P. 83–86.

HORMONAL REGULATION OF LACTATION AND HYPOGALACTIA (ANALYTICAL REVIEW)

Kuznietsov V.G., Makarenko O.M.

Key words: mammary gland, hypogalactia, hormones.

The influence of neurohumoral regulation of lactation in mammary gland was described in this analytical review. A systematic analysis of the action produced by the main lactation hormones (prolactin, oxytocin) and other less studied hormone stimulating lactogenesis, their synergistic effect were studied in details. Based on the experimental and clinical data, we can suggest that the clear understanding of the role of hormonal regulation of lactation, hypogalactia in normal and comorbid conditions is of great practical value.

References

1. Zakharova O.V. Osobennosti stanovleniya laktatsionnoy funktsii u rodil'nits s miomoy matki posle operativnykh i samoproizvol'nykh rodov : dissertatsiya ... kandidata meditsinskikh nauk : spetsial'nost' 14.00.01 «Akusherstvo i ginekologiya» / O.V. Zakharova. - Moskva, 2007. – 168 s.
2. Groer M.W. Differences between exclusive breastfeeders, formula-feeders, and controls: a study of stress, mood, and endocrine variables / M.W. Groer // Biol. Res. Nurs. - 2005. - Vol. 7, № 2. - R. 106-17.
3. Grattan D.R. Behavioural significance of prolactin signalling in the central nervous system during pregnancy and lactation / D.R. Grattan // Reproduction. – 2002. – Vol. 123. – P. 497-506.
4. Chagarova S.A. Vliyaniye gipogalaktii krys-materey na razvitiye gipotalamo-gipofizarno-nadpochechnikovoy sistemy u potomkov: dissertatsiya ... kandidata biologicheskikh nauk : spetsial'nost' 03.00.13 «Fiziologiya» / S.A. Chagarova. – Stavropol', 1999. – 137 s.
5. Konkabayeva A.Ye. Nadpochechnikovyy mekhanizm gipogalaktii pri stresse. (Eksperimentatel'no-klinicheskoye issledovaniye): dissertatsiya ... kandidata biologicheskikh nauk : spetsial'nost' 03.00.13 «Fiziologiya» / A.Ye. Konkabayeva. – Alma-Ata, 1984. – 137 c.
6. Kocharli R.KH. Gipotalamo-gipofizarnyy mekhanizm laktogennogo deystviya sul'pirida i yego analogov: dissertatsiya ... kandidata biologicheskikh nauk: spetsial'nost' 03.00.13 «Fiziologiya» / R.KH. Kocharli. – Baku, 1984. – 194 s.
7. Lau C. Effects of stress on lactation / C. Lau // Pediatric Clinics of North America. – 2001. – Vol. 48. – P. 221-234.
8. Carini L.M. Effects of early life social stress on endocrinology, maternal behavior, and lactation in rats / L.M. Carini, B. C. Nephew // Horm Behav. – 2013. – Vol. 64(4). – P. 634-641.
9. Nephew B.C. Effects of chronic social stress during lactation on maternal behavior and growth in rats / B.C. Nephew, R.S. Bridges // Stress. – 2011. – Vol. 14. – P. 677-684.

10. Stetsik A.V. Vliyaniye prostaglandinov na stanovleniye laktatsionnoy funktsii rodil'nits: avtoreferat dis. ... kandidata meditsinskikh nauk: spetsial'nost' 14.01.01 «Akusherstvo i ginekologiya» / A.V. Stetsik. – C.-Pb., 2011. – 23 s.
11. Pariyskaya E.H. Vliyaniye prostaglandina F2a na obrazovaniye sekreta v molochnoy zheleze: avtoref. dis. . kand. biol. nauk : spetsial'nost' 03.00.13 «Fiziologiya» / E.H. Pariyskaya. S.-Pb., 2004. – 17 s.
12. Shadrin L.V. Eksperimental'no-klinicheskoye izucheniye vliyaniya tiroliberina na protsess laktatsii: avtoreferat dis. ... kandidata meditsinskikh nauk : spetsial'nost' 03.00.13 «Fiziologiya», 14.00.01 «Akusherstvo i ginekologiya» / L.V. Shadrin. – C.-Pb., 2007. – 20 s.

NANOTECHNOLOGIES IN MEDICAL DIAGNOSIS

Mykytiuk O.Yu., Mykytiuk O.P.

Key words: nanotechnology, nanomaterials, medical diagnostics.

Modern nanotechnology involves manipulation of materials at the atomic and molecular level by altering their physical, chemical and biological properties for new materials, devices and systems. Nanomaterials have excellent characteristics, including catalytic activity and biocompatibility, which makes them suitable for various biomedical purposes. Application of nanotechnology can improve prospectively the whole process of health care for an individual patient, from the moment the disease has been diagnosed to the treatment and follow-up. Medical diagnosis based on nanotechnology provides rapid testing and early diagnosis (even at the level of a single cell). The potential contribution of nanotechnology in medical diagnosis is extremely extensive and can enhance traditional diagnostic tools and methods in the field of clinical diagnosis, imaging and electro diagnosis. Nanomaterials and nanotechnologies are used effectively in diagnosis of various diseases including cardiovascular diseases, cancer, diabetes, infectious, neurodegenerative and kidney disease, musculoskeletal pathologies, and others.

References

1. Demchenko O. P. Nanobiotekhnolohiya: shlyakh u novyy mikrosvit, stvorenyy syntezom khimiyi ta biolohiyi / O. P. Demchenko, V. I. Nazarenko // Biotekhnolohiya. – 2012. – T.5, №2. - S. 9-30.
2. Akhtari M. Functionalized magnetonanoparticles for MRI diagnosis and localization in epilepsy / M. Akhtari, A. Bragin, M. Cohen [et al.] // Epilepsia. – 2008. – Vol. 49. – P. 1419-1430.
3. Alzaidi A. Smart textiles based wireless ECG system / A. Alzaidi, Z. Linfeng, H. Bajwa [Electronic resource] // Systems, Applications and Technology Conference (LISAT), IEEE Long Island. – 2012. - Available at : <https://scholarworks.bridgeport.edu/xmlui/bitstream/handle/123456789/635/86-G.Alzaidi.pdf?sequence=2>
4. Ashtiyani D. An Overview of Nanotechnology Applications in Medical Imaging with Nanoparticle Contrast Agents and Probe Designing / D. Ashtiyani, A. K. Mahdi // Paramedical Sciences and Military Health. – 2016. - Vol. 11, № 2. - P. 37-47.

5. Azzawi M. Nanotechnology for the diagnosis and treatment of diseases / M. Azzawi, A. Seifalian, W. Ahmed // *Nanomedicine*. – 2016. - Vol. 11, №. 16. - P. 2025-2027.
6. Brian Lam. Nanostructured Electrochemical Biosensors: Towards Point of Care Diagnostics: A thesis submitted in conformity with the requirements for the degree of Doctor of Philosophy / Lam Brian. - Department of Chemistry, University of Toronto, 2013. – 122 p.
7. Dresselhaus M.S. Perspectives on the 2010 Nobel Prize in physics for grapheme / M.S. Dresselhaus, P.T. Araujo // *ACS Nano*. - 2010. - Vol. 4. – P. 6297-6302.
8. Fakruddin M. Prospects and applications of nanobiotechnology: a medical perspective / M. Fakruddin, Z. Hossain, H.J. Afroz // *Nanobiotechnology*. - 2012. - Vol. 10. – P. 31.
9. Gaster R. S. Matrix-insensitive protein assays push the limits of biosensors in medicine / R. S. Gaster, D. A. Hall, C. Neilson [et al.] // *Nature Medicine*. - 2009. - Vol. 15. – P. 1327-1332.
10. Gobbo O.L. Magnetic Nanoparticles in Cancer Theranostics / O.L. Gobbo, K. Sjaastad, M.W. Radomski // *Theranostics*. – 2015. - Vol. 5(11). – P. 1249-1263.
11. Ghrera A.S. Quantum dot-based microfluidic biosensor for cancer detection / A. S. Ghrera, C. M. Pandey, A. Ali // *Appl. Phys. Lett.* – 2015. - Vol. 106. – P. 693-703.
12. Jayasimha S. Nanotechnology in Urology / S. Jayasimha // *Indian J. Urol.* – 2017. - Vol. 33, Issue 1. - P. 13-18.
13. Jingeng F. Nanoscale Plasmonic Interferometers for Multispectral, High Throughput Biochemical Sensing / F. Jingeng, S. Vince Siu, A. Roelke [et al.] // *Nano Lett.* – 2012. - Vol. 12. – P. 602–609.
14. Kanchanapally R. Multifunctional hybrid graphene oxide for labelfree detection of malignant melanoma from infected blood / R. Kanchanapally, Z. Fan, A. Kumar Singh [et al.] // *J. Mater Chem.* – 2014. - Vol. B 2. – P. 1934-1937.
15. Kim B.Y. Nanomedicine / B.Y. Kim, J.T. Rutka, W.C. Chan // *N. Engl. J. Med.* - 2010. - Vol. 363. – P. 2434-2443.
16. Koh I. Magnetic nanoparticle sensors / I. Koh, L. Josephson // *Sensors (Basel)*. - 2009. - Vol. 9. – P. 8130-8145.
17. Leyden M.R. Increasing the detection speed of an all-electronic real-time biosensor / M.R. Leyden, R.J. Messinger, C. Schuman [et al.] // *Lab. Chip.* – 2012. - Vol. 12 (5). – P. 954-959.
18. Patou F. A Smart Mobile Lab-on-Chip-Based Medical Diagnostics System Architecture Designed for Evolvability / F. Patou, M. Dimaki, W. E. Svendsen [et al.] // *DSD*. - 2015. – P. 390-398.
19. Qasim M. Nanotechnology for Diagnosis and Treatment of Infectious Diseases / Q. Muhammad, D.-J. Lim, H. Park [et al.] // *Journal of Nanoscience and Nanotechnology*. - 2014. – Vol. 14, № 10. - P. 7374-7387.

20. Rajshri K.S. A silica-dextran nanocomposite as a novel matrix for immobilization of horseradish peroxidase, and its application to sensing hydrogen peroxide / K.S. Rajshri, S.S. Rohiwal, A.V. Raut // *Microchimica acta*. - 2014. - Vol. 181. – P. 71-77.
21. Sanavio B. On the slow diffusion of point-of-care systems in therapeutic drug monitoring / B. Sanavio, S. Krol // *Front. Bioeng. Biotechnol.* – 2015. – V. 2. – P.1-15.
22. Sassolas A. Immobilization strategies to develop enzymatic biosensors / A. Sassolas, L.J. Blum, B.D. Leca-Bouvier // *Biotechnol. Adv.* - 2012. - Vol. 30. – P. 489-511.
23. Satvekar R.K. Emerging Trends in Medical Diagnosis: A Thrust on Nanotechnology / R.K. Satvekar, B.M. Tiwale, S.H. Pawar // *Med chem.* - 2014. - Vol. 4. – P. 407-416.
24. Satvekar R.K. Influence of Silane Content on the Optical Properties of Sol Gel Derived Spin Coated Silica Thin Films / R.K. Satvekar, M.R. Phadatare, V.A. Karande [et al.] // *International Journal of Basic and Applied Sciences.* – 2012. - Vol. 1. – P. 468-476.
25. Sengupta A. Introduction to Nano: Basics to Nanoscience and Nanotechnology / A. Sengupta, S.K. Sarcar. - Berlin Heidelberg : Springer-Verlag, 2015. - 226 p.
26. Shanmukh S. Identification and classification of respiratory syncytial virus (RSV) strains by surface-enhanced Raman spectroscopy and multivariate statistical techniques / S. Shanmukh, L. Jones, Y.P. Zhao // *Anal. Bioanal. Chem.* – 2008. - Vol. 390 (6). – P.1551-1555.
27. Shi J. Nanotechnology in drug delivery and tissue engineering: from discovery to applications / J. Shi, A.R. Votruba, O.C. Farokhzad [et al.] // *Nano Lett.* – 2010. - Vol. 10. – P. 3223-3230.
28. Tasoglu S. Advances in Nanotechnology and Microfluidics for Human Papillomavirus Diagnostics / S. Tasoglu, H.C. Tekin, F. Inci [et al.] // *Proceedings of the IEEE.* – 2015. – Vol. 103, Issue 2. - P. 161-178.
29. Turner A.P. Biosensors: sense and sensibility / A.P. Turner // *Chem. Soc. Rev.* – 2013. - Vol. 42. – P. 3184- 3196.
30. Vashist S.K. Advances in carbon nanotube based electrochemical sensors for bioanalytical applications / S.K. Vashist, D. Zheng, K. Al-Rubeaan [et al.] // *Biotechnol. Adv.* – 2011. - Vol. 29 (2). – P. 169-188.
31. Vinhas R. Gold nanoparticle-based theranostics: disease diagnostics and treatment using a single nanomaterial / R. Vinhas, M. Cordeiro, F.F. Carlos // *Nanobiosensors in Disease Diagnosis.* - 2015. - Vol. 4. - P. 11-23.
32. Zhang Y. Functionalized carbon nanotubes for potential medicinal applications / Y. Zhang, Y. Bai, B. Yan // *Drug Discov. Today.* – 2010. - Vol. 15. – P. 428-435.