# ABSTRACT&REFERENCES

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## THE INDICATORS OF FEMUR MINERAL DENSITY ACCORDING TO X-RAY DENSITOMETRY IN INFANTS

**p. 4-10**

**Olena Sharmazanova,** MD, Professor, Head of Department, Department of X-ray Diagnostics, Kharkiv Medical Academy of Postgraduate Education, Amosova str., 58, Kharkiv, Ukraine, 61176
**E-mail:** olena.sharm@gmail.com
**ORCID:** *http://orcid.org/0000-0003-1578-6715*

**Lyliya Averyanova,** PhD, Associate Professor, Department of Biomedical Engineering, Kharkiv National University of Radio Electronics, Nauky ave., 14, Kharkiv, Ukraine, 61166

**Tetiana Arsenidze,** Postgraduate student, Department of X-ray Diagnostics, Kharkiv Medical Academy of Postgraduate Education, Amosova str., 58, Kharkiv, Ukraine, 61176
**E-mail:** tatyanatatyana.tl@gmail.com

***The aim of the research*** *was the determination of indices of mineral density of the spongy substance, mineral density of the cortical layer and also the cortical index according to the data of X-ray densitometry in infants at norm and at hip joint dysplasia.*
***Materials and methods.*** *Using the developed program „OsteoGraf-child", there was carried out the analysis of x-ray photographs of hip joints of 56 children 0 days – 3 years old, suspected in trauma or HJD.*
***Results of research.*** *„OsteoGraf-child" program for the diagnostics of structural changes of a femur at norm and at hip joint dysplasia in infants allows to determine indices of the femur mineral density, for the spongy and compact substances separately, and to calculate the cortical index.*
***Conclusions.*** *Indices of the age norm of the mineral density of the spongy substance and femur cortical layer were established that allows to estimate objectively the bone tissue status in infants. At the conservative treatment of hip joint dysplasia using the long-term immobilization was detected the reliable decrease of indices of the spongy substance and cortical layer mineral density in infants of 6–12 months that needs a treatment correction*
***Keywords:*** *femur mineral density, X-ray densitometry, infants*

**References**

1. Bianchi, M. L., Baim, S., Bishop, N. J., Gordon, C. M., Hans, D. B., Langman, C. B. et. al. (2009). Official positions of the International Society for Clinical Densitometry (ISCD) on DXA evaluation in children and adolescents. Pediatric Nephrology, 25 (1), 37–47. doi: 10.1007/s00467-009-1249-z

2. Malinin, V. L. (2003). Sravnenie mineral'noy plotnosti kostnoy tkani poyasnichnyh pozvonkov peterburzhcev i amerikancev. Sankt-Peterburg, 184.

3. Crabtree, N. J., Arabi, A., Bachrach, L. K., Fewtrell, M., El-Hajj Fuleihan, G., Kecskemethy, H. H. et. al. (2014). Dual-Energy X-Ray Absorptiometry Interpretation and Reporting in Children and Adolescents: The Revised 2013 ISCD Pediatric Official Positions. Journal of Clinical Densitometry, 17 (2), 225–242. doi: 10.1016/j.jocd.2014.01.003

4. Kech, N. R. (2010). Densitometriya kak sovremennyy metod diagnostiki i opredeleniya effektivnosti lecheniya ekoobuslovlennoy patologii kostnoy sistemy u detey. Perinatologii i Pediatriya, 1 (41), 168–170.

5. Sharmazanova, E. P. (2004). Strukturno-funkcional'noe sostoyanie kostnoy tkani u detey s travmaticheskimi povrezhdeniyami oporno-dvigatel'noy sistemy po dannym luchevyh metodov issledovaniya. Kyiv, 334.

6. Averianova, L. O. (2003). Metod kompiuternoi renthenomorfometrii metakarpalnykh kistok liudyny u diahnostytsi. Kharkiv, 20.

7. Bishop, N. J., King, F. J., Lucas, A. (1993). Increased bone mineral content of preterm infants fed with a nutrient enriched formula after discharge from hospital. Archives of Disease in Childhood, 68 (5 Spec No), 573–578. doi: 10.1136/adc.68.5_spec_no.573

8. Pochkaylo, A. S. et. al. (2011). Diagnostika i lechenie deficita kostnoy massy i osteoporoza u detey. Minsk, 56.

9. Povorozniuk, V. V. (2014). Zakhvoriuvannia kistkovo-miazovoi systemy v liudei riznoho viku (vybrani lektsii, ohliady, statti). Vol. 4. Kyiv, 672.

10. Todyka, Yu. I. (2009). Osteoporoz u ditei: diahnostyka. Ohliad literatury (chastyna 1). Sovremennaya pediatriya, 2, 171–176.

11. Danilov, R. K. (Ed.) (2010). Rukovodstvo po gistologii. Vol. 1. Sankt-Peterburg: SpecLit, 262.

12. Sherepo, K. M. (2010). Mineral'noe nasyshchenie diafiza bedrennoy kosti posle endoprotezirovaniya tazobedrennogo sustava. Medicinskaya tekhnika, 1, 28–31.

13. Krutikova, N. Yu. (2012). Vozrastnye osobennosti kostnoy prochnosti u novorozhdennyh, detey rannego i doshkol'nogo vozrasta (faktory riska, diagnostika, profilaktika, korrekciya narusheniy). Moscow, 226.

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## FEATURES OF THE AUTONOMIC NERVOUS SYSTEM IN CHILDREN WITH GASTROESOPHAGEAL REFLUX DISEASE AND DIFFERENT GENOTYPES OF C825T LOCUS OF *GNB3* GENE

**p. 10–15**

**Marta Dats-Opoka,** Assistant, Department of propedeutics of pediatrics and medical genetics, Danylo Halytskyy Lviv National Medical University, Pekarska str., 69, Lviv, Ukraine, 79010
**E-mail:** martadats@gmail.com
**ORCID:** *http://orcid.org/0000-0002-2797-2462*

**Oleg Hnateyko,** MD, Professor, Department of propedeutics of pediatrics and medical genetics, Danylo Halytskyy Lviv National Medical University, Pekarska str., 69, Lviv, Ukraine, 79010; Director, State Institution «Institute of Hereditary Pathology Ukrainian National Academy of Medical Sciences», Lysenka str., 31-a, Lviv, Ukraine, 79008
**E-mail:** root@ihp.lviv.ua
**ORCID:** *http://orcid.org/0000-0003-0587-659X*

**Halyna Makukh,** Head of Laboratory, Genetic Research Laboratory, State Institution «Institute of Hereditary Pathology Ukrainian National Academy of Medical Sciences», Lysenka str., 31-a, Lviv, Ukraine, 79008
**E-mail:** makukh_halyna@ukr.net
**ORCID:** *http://orcid.org/0000-0001-7749-5353*

***Aim.*** *To establish features of activity of different links of the autonomous nervous system in children with gastroesophageal reflux disease and different genotype of C825T locus of GNB3 gene.*
***Materials and methods****. There was realized the analysis of clinical features of GERD and functioning of the autonomous nervous system in 100 schoolchildren. The molecular-genetic study of C825T locus of GNB3 gene using PCR (rs5443) was carried out in the studied group (100 children) and in 40 healthy children, who formed the control group.*
***Results.*** *Sympathectomy was observed in 47 children (47 %), vagotonia in 43 (43 %), and euhonia was observed in 10 children (10 %). Most patients with sympathectomy demonstrated normo- and hypacidity. Practically all patients with vagotonia demonstrated hyperacidity of the stomach contents.*
*Among patients with hyperacidity (pH 0,86–1,59) the one third had CC genotype of C825T locus of GNB3 gene and persons with TT genotype were absent, whereas in the group of children with normo- and hypoacidity (pH 1,60–3,59) in 25 % of patients was revealed TT genotype.*
*Patients with CC genotype of C825T locus of GNB3 gene demonstrated vagotonia essentially more often (67,44 %), and TT genotype was most often revealed in patients with eutonia (10 %), ($p<0,05$).*
***Conclusions.***
*1) The depth of esophagus lesions is not associated with the predominance of one link of the autonomous nervous system, ($p>0,05$).*
*2) Hyperacidity in children with GERD is associated with vagotonia.*
*3) CC genotype of C825T locus of GNB3 gene is associated with vagotonia and hyperacidity, ($p<0,05$)*
***Keywords:*** *gastroesophageal reflux disease, children, autonomous (vegetative) nervous system, C825T, GNB3 polymorphism*

**References**

1. Lazebnik, L. B., Bordin, D. S., Masharova, A. A. (2007). Sovremennoe ponimanie gastroezofagealnoi refliuksnoi bolezni: ot Genvalia k Monrealiu. Eksperimentalnaia i klinicheskaia gastroenterologiia, 5, 4–10.

2. Dudnikova, E. V. (2006). Klinicheskoe znachenie biliarnykh refliuksov v formirovanii gastroezofagealnoi refliuksnoi bolezni i gastroduodenitov u detei i metody ikh korrektcii. Klinicheskie perspektivy gastroenterologii, gepatologii, 5, 28–32.

3. Volosovets, O. P., Kryvopustov, S. P., Karulyna, Yu. V. (2007). Suchasnyy pohlyad na problemu porushen' motornoyi funktsiyi verkhn'oho viddilu travnevoho kanalu. Zdorov'e rebenka, 5 (114), 7–9.

4. Zaviktorina, T. G., Striga, E. V., Sokolova, Yu. B. et. al. (2008). Osobennosti techeniia gastroezofagealnoi refliuksnoi bolezni u detei. Lechashchii vrach, 7, 88–89.

5. Uspenskii, Yu. P., Tkachenko, E. I. (2010). Patogeneticheskie osnovy differentcirovannoi taktiki lecheniia gastroezofagealnoi refliuksnoi bolezni. Suchasna gastroenterologiia, 1 (51), 92–100.

6. Shadrin, O. G. (2009). Pediatricheskie aspekty gastroezofagealnoi refliuksnoi bolezni. Zdorov'ia Ukraini, 6/1, 11.

7. Cameron, A. J., Lagergren, J., Henriksson, C., Nyren, O., Locke, G. R., Pedersen, N. L. (2002). Gastroesophageal reflux disease in monozygotic and dizygotic twins. Gastroenterology, 122 (1), 55–59. doi: 10.1053/gast.2002.30301

8. Mohammed, I., Cherkas, L. F., Riley, S. A., Spector, T. D., Trudgill, N. J. (2003). Genetic influences in gastro-oesophageal reflux disease: a twin study. Gut, 52 (8), 1085–1089. doi: 10.1136/gut.52.8.1085

9. Kovalenko, A. A., Belmer, S. V. (2008). Gastroezofagealnaia refliuksnaia bolezn. Lechashchii vrach, 8, 14–18.

10. Ivashkin, V. T. (Ed.) (2008). Klinicheskie rekomendatcii. Gastroenterologiia. Moscow: GEOAR-Media, 208.

11. Shadrin, O. H., Ihnatko, L. V., Herasymyuk, S. I. (2010). Efektyvnist' zastosuvannya inhibitoriv protonnoyi pompy dlya eradykatsiynoyi terapiyi u ditey z hastroezofageal'noyu reflyuksnoyu khvoroboyu. Suchasna hastroenterolohiya, 1 (51), 81–84.

12. Shcherbakov, P. L. (2007). Gastroezofagealnaia refliuksnaia bolezn u detei. Bolezni organov pishchevareniia, 9 (2), 42–47.

13. Davydova, A. N. (2008). Osobennosti techeniia gastroezofagealnoi refliuksnoi bolezni u detei shkolnogo vozrasta pri razlichnykh vegetativnykh narusheniiakh i puti ikh korrektcii. Volgograd, 24.

14. Maidannik, V. G., Korneichuk, V. V., Khaitovich, N. V., Saltykova, G. V. (2008). Zabolevaniia pishchevoda, zheludka i dvenadtcatiperstnoi kishki u detei. Kyiv, 432.

15. Ivanova, I. I., Gnusaev, S. F. (2010). Osobennosti funktcionirovaniia vegetativnoi nervnoi sistemy u detei i podrostkov s kislymi i shchelochnymi gastroezofagealnymi refliuksami. Pediatriia, 89 (2), 17–23

16. Davydova, A. N. (2008). Gastroezofagealnaia refliuksnaia bolezn u detei shkolnogo vozrasta pri razlichnykh vegetativnykh narusheniiakh i puti ikh korrektcii. Biulleten Volgogradskogo nauchnogo tcentra RAMN, 2, 41–44.

17. Schnabel, P., Bohm, M. (1996). Heterotrimeric G proteins in heart disease. Cellular Signalling, 8 (6), 413–423. doi: 10.1016/s0898-6568(96)00087-3

18. Kirstein, S. L., Insel P. A. (2004). Autonomic Nervous System Pharmacogenomics: A Progress Report. Pharmacological Reviews, 56 (1), 31–52. doi: 10.1124/pr.56.1.2

19. Matsunaga, T., Nagasumi, K., Yamamura, T., Gu, N., Nishikino, M., Ueda, Y. et. al. (2005). Association of C825T polymorphism of G protein beta3 subunit with the autonomic nervous system in young healthy Japanese individuals. American Journal of Hypertension, 18 (4), 523–529. doi: 10.1016/j.amjhyper.2004.11.008

20. Rohof, W. O., Hirsch, D. P., Boeckxstaens, G. E. (2009). Pathophysiology and management of gastroesophageal reflux disease. Minerva Gastroenterologica e Dietologica, 55, 289–300.

21. Boeckxstaens, G. E. E. (2007). Review article: the pathophysiology of gastro-oesophageal reflux disease. Alimentary Pharmacology & Therapeutics, 26 (2), 149–160. doi: 10.1111/j.1365-2036.2007.03372.x

22. De Vries, D. R., ter Linde, J. J. M., van Herwaarden, M. A., Smout, A. J. P. M., Samsom, M. (2009). Gastroesophageal Reflux Disease Is Associated With the C825T Polymorphism in the G-Protein β3 Subunit Gene (GNB3). The American Journal of Gastroenterology, 104 (2), 281–285. doi: 10.1038/ajg.2008.139

23. Oshima, T., Nakajima, S., Yokoyama, T., Toyoshima, F., Sakurai, J., Tanaka, J. et. al. (2010). The G-Protein β3 subunit 825 TT genotype is associated with epigastric pain syndrome-like dyspepsia. BMC Medical Genetics, 11 (1), 13. doi: 10.1186/1471-2350-11-13

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**COMPARATYIVE DETERMINATION OF PROTEINS, NITROGEN-CONTAINING COMPOUNDS AND LIPIDS CONTENT IN BLOOD PLASMA AND ASCITIC FLUID IN PATIENTS WITH LIVER CIRRHOSIS**

**p. 15–19**

**Alexander Dzygal,** PhD, Associate Professor, Department of Surgery No. 3 with the course of neurosurgery, Odessa National Medical University, Valikhovsky lane, 2, Odessa, Ukraine, 65082

**E-mail:** adzygal@eximneft.com

**ORCID:** http://orcid.org/0000-0001-5108-1945

***The aim of the work*** *is the determination of proteins concentration in blood plasma and ascetic fluid and also toxic and atherogenic properties of ascitic fluid in patients with different stages of liver cirrhosis for the further choice of the individual treating tactics.*

***Research methods****: 262 patients with liver cirrhosis, according to the diagnostic examination, who demonstrated the different severity of the pathological process in the liver parenchyma, were divided in 4 groups. In blood plasma and ascitic fluid of patients with liver cirrhosis were determined the concentration of protein, general content of bilirubin, concentration of final nitrogen, creatinine, urea, cholesterol and lecithin.*

***Results****: the obtained results demonstrate the disorder of the protein homeostasis and increase of the content of atherogenic lipoproteins, as a result of which hepatocyte membrane structures in patients with liver cirrhosis are destructed. The content of studied components in ascitic fluid was identical (and sometimes even more) to the one in blood plasma – it allows to consider ascitic fluid as a plasma-replacing component in patients with liver cirrhosis, especially at the hepatic failure progression. The degree of the disorder of the functional activity of the liver parenchyma was studied. The author of the article concludes that at choosing the surgical tactics in patients with liver cirrhosis, complicated with acsites, the degree of homeostasis disorders expressiveness must be taken into account*

***Keywords****: liver cirrhosis, ascitic fluid, blood plasma, pathogenetically substantiated treatment*

**References**

1. Harris, R., Harman, D. J., Card, T. R., Aithal, G. P., Guha, I. N. (2017). Prevalence of clinically significant liver disease within the general population, as defined by non-invasive markers of liver fibrosis: a systematic review. The Lancet Gastroenterology & Hepatology, 2 (4), 288–297. doi: 10.1016/s2468-1253(16)30205-9

2. Garbuzenko, D. V. (2016). Current approaches to the management of patients with liver cirrhosis who have acute esophageal variceal bleeding. Current Medical Research and Opinion, 32 (3), 467–475. doi: 10.1185/03007995.2015.1124846

3. Andreev, G. N., Borisov, A. E., Ibadil'din, A. S. et. al. (1999). Patogenez, diagnostika i lechenie cirrozov pecheni, oslozhnennyh rezistentnym ascitom. Nizhniy Novgorod: Izd-vo Nizhegorod. gos. akad., 191.

4. Ascione, T., Di Flumeri, G., Boccia, G., De Caro, F. (2017). Infections in patients affected by liver cirrhosis: an update. Infez Med., 25 (2), 91–97.

5. Abdukadyrova, M. A. (1996). Virus gepatita S – odin iz glavnyh ekologicheskih faktorov hronicheskih gepatitov. Hronicheskie zabolevaniya pecheni ot virusnogo gepatita do cirroza pecheni. Tashkent, 4–5.

6. Ibadil'din, A. S., Andreev, G. N., Borisov, A. E. (1999). Polisindromnost' cirroza pecheni. Nizhniy Novgorod: Izd-vo Nizhegorod. gos. akad., 196.

7. Frolov, V. M., Petrunya, A. M., Pinskiy, L. L. (1996). Sostoyanie mikrogemodinamiki i immunnyy status u bol'nyh s hronicheskimi virusnymi porazheniyami pecheni i ih korrekciya. Vrachebnoe delo, 10-12, 144–146.

8. Chesnokov, E. V., Kashuba, E. A. (2000). Hronicheskie gepatity i cirrozy pecheni virusnoy etiologii. Tyumen', 286.

9. Reddy, S. S., Civan, J. M. (2016). From Child-Pugh to Model for End-Stage Liver Disease. Medical Clinics of North America, 100 (3), 449–464. doi: 10.1016/j.mcna.2015.12.002

10. Ivashkin, V. T. (Ed.) (2008). Klinicheskie rekomendacii. Gastroenterologiya. Moscow: GEOTAR-Media, 208.

11. Kerefova, Z. Sh., Pshegusova, M. H., Gubzhokova, O. Z. (2015). Mediko-social'nye aspekty cirrozov pecheni virusnoy etiologii. Simvol nauki, 11, 187–190.

12. Yu, X., Guo, R., Ming, D., Su, M., Lin, C., Deng, Y. et. al. (2014). Ratios of regulatory T cells/T-helper 17 cells and transforming growth factor-β1/interleukin-17 to be associated with the development of hepatitis B virus-associated liver cirrhosis. Journal of Gastroenterology and Hepatology, 29 (5), 1065–1072. doi: 10.1111/jgh.12459

13. Alekseeva, I. N., Bryzgina, T. M., Pavlovich, S. I., Il'chevich, A. B. (1991). Pechen' i immunologicheskaya reaktivnost'. Kyiv, 150.

14. Luk'yanov, S. V. (2005). Reinfuziya asciticheskoy zhidkosti pri hirurgicheskom lechenii sindroma portal'noy gipertenzii. Rostov: Rostovskiy gosudarstvennyy medicinskiy universitet, 20.

15. Sapronova, N. G., Luk'yanov, S. V., Chigaeva, E. V. (2013). Osobennosti lecheniya pacientov s virus-associirovannym cirrozom pecheni. Sovremennye problemy nauki i obrazovaniya, 6. Available at: http://www.science-education.ru/ru/article/view?id=10856

16. Yarema, I. V., Omarov, I. M. (2000). Hirurgicheskaya korrekciya gemo- i limfoobrashcheniya pri cirroze pecheni. Vestnik hirurgii, 159 (6), 12–14.

17. Ginès, P., Cárdenas, A., Arroyo, V., Rodés, J. (2004). Management of Cirrhosis and Ascites. New England Journal of Medicine, 350 (16), 1646–1654. doi: 10.1056/nejmra035021

18. Rochling, F. A., Zetterman, R. K. (2009). Management of Ascites. Drugs, 69 (13), 1739–1760. doi: 10.2165/11316390-000000000-00000

19. Cadman, E., Bostwick, J. R., Eichberg, J. (1979). Determination of protein by a modified Lowry procedure in the presence of some commonly used detergents. Analytical Biochemistry, 96 (1), 21–23. doi: 10.1016/0003-2697(79)90548-7

20. Noma, A., Okabe, H., Netsu-Nakayama, K., Ueno, Y., Shinohara, H. (1979). Improved method for simultaneous determination of cholesterol in high- and low-density lipoproteins. Clin. Chem., 25 (8), 1480–1481.

21. Kucherenko, N. E., Vasil'ev, A. N. (1985). Lipidy. Kyiv: Vishcha shkola, 247.

22. Scheiner, B., Lindner, G., Reiberger, T., Schneeweiss, B., Trauner, M., Zauner, C., Funk, G.-C. (2017). Acid-base disorders in liver disease. Journal of Hepatology. doi: 10.1016/j.jhep.2017.06.023

23. Mogilevec, E. V. (2014). Hirurgicheskie aspekty korrekcii asciticheskogo sindroma u pacientov s cirrozom pecheni i portal'noy gipertenziey. Zhurnal Grodnenskogo gosudarstvennogo medicinskogo universiteta, 3, 5–11.

24. Carrier, P., Jacques, J., Debette-Gratien, M., Legros, R., Sarabi, M., Vidal, E. et. al. (2014). L'ascite non liée à la cirrhose : physiopathologie, diagnostic et étiologies. La Revue de Médecine Interne, 35 (6), 365–371. doi: 10.1016/j.revmed.2013.12.001

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## ESTIMATION OF THE PSYCHOEMOTIONAL STATE OF PARENTS OF BABIES WITH A HEAVY CRANIOCEREBRAL TRAUMA AS A BASIS OF THE SYSTEM OF MEDICAL-PSYCHOLOGICAL SUPPORT IN CHILD'S NEURO-SURGERY

**p. 20–23**

**Oleksandr Dukhovskyy,** Head of Department, Children's Neurosurgery Department, Prof. A. I. Meshchaninov Kharkiv City Clinical Hospital for Emergency and Emergency Medical Care, Balakirieva lane, 3-a, Kharkiv, Ukraine, 61018
**E-mail:** alex_duhneiro@me.com
**ORCID:** *http://orcid.org/0000-0001-7998-9912*

***Aim:*** *The complex study of features of emotional disorders in parents of children of the first year of life with a heavy craniocerebral trauma.*

***Materials and methods.*** *137 families (mother and father) of children of the first year of life with craniocerebral trauma, examined and treated in a child's neurosurgical department. The mean age of parents was 27,0±3,0 years.*

*Methods of examination: anamnestic, psychodiagnostic with questionnaires of neuropsychic tension (T. A. Nemchyn, 1984), clinical scales of anxiety and depression (M. Hamilton, 1967),adapted to ICD-10 (G. P. Panteleev, 1988), scale of situational and personal anxiety by D. Spilberg (adapted by Y. L. Hanin, 1981).*

***Results of research.*** *A child's disease is a psychotraumatic situation for all parents and leads to the development of anxious-depressive reactions and statuses. The anxious-depressive, astheno-depressive, depressive-adaptive and dysphoric variants of emotional disorders in parents of babies with a heavy craniocerebral trauma were separated and their clinical features were described.*

*The high level of emotional tension, abrupt intensification of negative emotions, effect of sorrow and anxiety, depressive manifestations are typical for parents of babies with a craniocerebral trauma. According to the data of the psychodiagnostic examination in parents were observed a light moderate depressive and anxious episodes by Hamilton scale; high levels of situational and personal anxiety by C.D. Spilberg's method, high level of expressiveness of nervous-psychic tension by T.A. Nemchyn scale.*

***Conclusions.*** *The high level of emotional tension, abrupt intensification of negative emotions, anxious-depressive manifestations were typical for parents after a baby's craniocerebral heavy trauma*

***Keywords:*** *baby's parents, craniocerebral trauma, emotional disorders, anxiety, depression, asthenia*

**References**

1. Polinder, S., Haagsma, J. A., van Klaveren, D., Steyerberg, E. W., van Beeck, E. F. (2015). Health-related quality of life after TBI: a systematic review of study design, instruments, measurement properties, and outcome. Population Health Metrics, 13 (1). doi: 10.1186/s12963-015-0037-1

2. Von Steinbuechel, N., Covic, A., Polinder, S., Kohlmann, T., Cepulyte, U., Poinstingl, H. et. al. (2016). Assessment

of Health-Related Quality of Life after TBI: Comparison of a Disease-Specific (QOLIBRI) with a Generic (SF-36) Instrument. Behavioural Neurology, 2016, 1–14. doi: 10.1155/2016/7928014

3. Valiullina, S. A., Promyslova, S. A., Tyutyukina, A. I. et. al. (2014). Children craniocerebral trauma: epidemiology and basic principles of the organization of medical care. Moscow, 24.

4. Kvasnitskiy, M. V. (2013). Diagnostics and prescription of the first medical aid in cases of craniocerebral trauma. Medicine of Urgent Conditions, 3 (50), 34–38.

5. Kazakov, V. Ye. (2014). Immune disorders as harbingers of the unfavorable course of craniocerebral trauma. Ukrainian Journal of Psychoneurology, 22 (1 (78)), 129–131.

6. Wang, H.-C., Yang, T.-M., Lin, Y.-J., Chen, W.-F., Ho, J.-T., Lin, Y.-T. et. al. (2014). Serial Serum Leukocyte Apoptosis Levels as Predictors of Outcome in Acute Traumatic Brain Injury. BioMed Research International, 2014, 1–11. doi: 10.1155/2014/720870

7. Markova, M. V., Vetrila, T. G. (2010). About the development of a complex system of medical and psychological rehabilitation of families raising a child with a violation of mental development. Ukrainian Journal of Psychoneurology, 18 (3 (64)), 28–32.

8. Markova, M. V., Piontkovskaya, O. V. (2013). Functionality of the family system as a factor of the prevention of mental health disorders in parents of children with cancer pathology. International Neurological Journal, 4 (58), 49–53.

9. Piontkovskaya, O. V. (2013). Behavioral Patterns to Overcome Stress in Parents of Oncologic Children. Journal of Psychiatry and Medical Psychology, 1 (32), 80–83.

10. Kuzhel, I. R. (2010). Assessment of the level of stress and severity of psychopathological symptoms among members of the family of incurable oncological patients. Medical Psychology, 5 (4), 50–59.

11. Piontkovskaya, O. V. (2013). The state of mental health of parents of children with oncological pathology. Ukrainian Bulletin of Psychoneurology, 21 (1 (74)), 90–94.

12. Vetril, T. G. (2009). The state of mental health of family members, in which grows a child with a disability of mental development. Arkhiv psikhiatrii, 15 (2 (57)), 47–51.

13. Zavgorodnya, N. I. (2014). Mechanism of formation and clinical features of adaptation disorders in women who gave birth to a premature infant. Experimental and Clinical Medicine, 1 (62), 131–136.

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**DEVELOPMENT OF THE METHODOLOGY OF ART THERAPY IN THE TREATMENT OF PATIENTS WITH SCHIZOPHRENIA**

**p. 23–26**

**Alexandr Krishtal**, Doctor psychiatrist, Kharkiv Regional Clinical Psychiatric Hospital No. 3, Akademika Pavlova str., 46, Kharkiv, Ukraine, 61001

**E-mail:** krishtalmail@ukr.net

**ORCID:** *http://orcid.org/0000-0003-2422-0246*

***Aim:*** *The development and probation of the methodology of art-therapy in the system of therapy and rehabilitation of patients with schizophrenia.*

***Materials and methods:*** *During the research out the complex clinical-psychopathological and psychodiagnostic examination of 125 patients of both sexes, 20–45 years old (mean age 35,0±2,0 years ) with the established diagnosis schizophrenia in the period of stabilization was carried. The main group (patients took part in art-therapy) included 95 persons (54 women and 41 men). The control one included 30 хворих (16 women and 14 men), who received the standard regulated therapy at a hospital.*

***Research results.*** *During the research the two-stage system of art-therapy in the complex therapy of patients with schizophrenia was offered and its effectiveness was proved. There was established the expressed positive dynamics of the level of social functioning of patients and positive dynamics of positive, negative and general psychopathological syndromes by PANSS scale. Art-therapy favors the fast social reintegration of patients with schizophrenia, improvement of their life quality.*

***Conclusion.*** *The art-therapeutic intervention of patients with schizophrenia must be directed on: patients' busy being at the expanse of their involvement in meaningful activity; development and support of their creative skills; sensor stimulation; reaction to feelings and experience of positive emotions, connected with the creative activity and its results; support and development of communicative skills, independence and self-organization; psychological integration of patients.*

*Art-therapy for patients with schizophrenia, based on elaborated principles, is characterized by the higher effectiveness comparing with traditionally used methods*

***Keywords:*** *art-therapy, patients with schizophrenia, social functioning, positive, negative, general psychopathological syndromes*

**References**

1. Kozhina, A. M., Gaychuk, L. M. (2010). Experience in using Soleron in the treatment of schizophrenia. Ukrainian Journal of Psychoneurology, 18 (4 (65)), 116–117.

2. Voloshin, P. V., Maruta, N. O. (2015). Mental Health Protection Strategy of the Ukrainian Population: Contemporary Opportunities and Obstacles. Ukrainian Journal of Psychoneurology, 23 (1 (82)), 5–11.

3. Maruta, N. A. (2011). State of Provision and Prospects for the Development of Psychiatric Care in Ukraine. Archive of Psychiatry, 17 (3 (66)), 5–9.

4. Podkorytov, V. S. (2008). Psychiatry in Ukraine – Past, Present, Future. Journal of Psychiatry and Psychopharmacotherapy, 2 (14), 29–32.

5. Dyhtyar, V. O. (2009). The level of social functioning and quality of life as the basis of psychotherapy for patients with paranoid schizo-freesia. Ukrainian Journal of Psychoneurology, 17 (3 (60)), 35–44.

6. Gumenyuk, L. N., Mikhailova, E. A. (2010). Art therapy in the system of complex psychosocial rehabilitation of

schizophrenic patients in conditions of compulsory treatment. Tauric medico-biological Journal, 4, 37–40.

7. The state of mental health and psychiatric care in Ukraine (informational and analytical review for 2001–2010) (2011). Kyiv–Kharkiv, 173.

8. Pushuk, N. G. (2010). Predictors of the process of psychosocial rehabilitation of the mentally ill. Ukrainian Journal of Psychoneurology, 18 (3 (64)), 145.

9. Korostiy, V., Hmain, S. (2015). Art-therapy in Complex Treatment of Major Depressive Disorder. European Psychiatry, 30, 1324. doi: 10.1016/s0924-9338(15)31033-6

10. Hmain, S. 2015Effectiveness of art therapy in complex treatment of patients with depressive recurrent disorder. Deutsche Gesellschaft für Psychiatrie und Psychotherapie, Psychosomatik und Nervenheilkunde Kongress. Berlin, 12-004.

11. Kolyadko, S. P., Kalenska, G. Yu. (2017). Features of the use of art therapy in the treatment of patients with paranoid schizophrenia. Ukrainian Journal of Psychoneurology, 25 (1 (90)), 51–55.

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## THE EFFECT OF QUERCETIN ON THE C-REACTIVE PROTEIN DYNAMICS AND THE LONG-TERM PROGNOSIS IN PATIENTS WITH MYOCARDIAL INFARCTION OF THE RIGHT VENTRICLE ON THE BACKGROUND OF THE Q-MYOCARDIAL INFARCTION OF THE LEFT VENTRICLE

**p. 27–31**

**Vira Tseluyko,** MD, Professor, Department of Cardiology and Functional Diagnostics, Kharkiv Medical Academy of Postgraduate Education, Amosova str., 58, Kharkiv, Ukraine, 61176
**E-mail:** prof.kharkiv@gmail.com

**Tetiana Lozova,** PhD, Cardiologist, Sumy City Clinical Hospital No. 1, 20 rokiv Peremohy str., 13, Sumy, Ukraine, 40021
**E-mail:** tetianalozova@gmail.com
**ORCID:** *http://orcid.org/0000-0003-4515-396X*

**Igor Martsovenko,** PhD, Chief Doctor, Sumy Regional Cardiology Clinic, Kovpaka str., 30, Sumy, Ukraine, 40031
**E-mail:** igmar777@i.ua
**ORCID:** *http://orcid.org/0000-0001-8197-4066*

***Aim of research:*** *to estimate the influence of quercetin on the dynamic of C-reactive protein, course of myocardial infarction and long-term prognosis of patients with myocardial infarction of the right ventricle on the background of Q-MI of the left ventricle.*

***Materials and methods.*** *There were examined 208 patients with myocardial infarction of the right ventricle: the 1st group – 155 patients on the background of the Q-MI of the posterior wall of the left ventricle, and the 2nd group – 53 patients with right ventricle MI on the background of Q-MI of the left ventricle of the circular localization, aged 64.11±0.78 years. Quercetin was prescribed from the 1st day of myocardial infarction: in the 1st group – in 88 (55.5 %) patients, in the 2nd group – in 32 (60.4 %) patients. The concentration of C-reactive protein in blood serum was determined on the 2nd day of myocardial infarction and in 6 months with enzyme immunoassay analysis using HS-CRP EIA (Vienna, Austria).*

*Follow-up was (30.6±4.5) months. Study endpoints were: cardiovascular death, unstable angina, recurrent myocardial infarction, heath failure hospitalizations and stroke.*

***Results.*** *The therapy by quercetin was accompanied by the reliable decrease of the risk of fatal arrhythmias, early post-infarction angina, manifestations of the acute and chronic heart failure in the acute period of myocardial infarction of the right ventricle. Quercetin prescription was associated with the reliable decrease of the C-reactive protein (p=0.006) levels in 6 months after myocardial infarction. There was established the predictor role of C-reactive protein after 6 months after infarction in the development of recurrent myocardial infarction (11.4 %), unstable angina (7.7 %) during 30.6 months. The therapy by quercetin in the 1st group was associated with the decrease of the frequency of recurrent myocardial infarctions (p=0.012), heart failure hospitalizations (p=0.0056) and cases of the cardio-vascular death (p=0.039); in the 2nd group – with the decrease of cases of unstable angina (p=0.012) and cardio-vascular death (p=0.01) comparing with patients on the standard therapy.*

***Conclusion.*** *Using of the quercetin in addition to the standard therapy in patients with myocardium infarction of the right ventricle is associated with the reliable decrease of cardiovascular events, particularly cardiovascular death, hospitalizations because of unstable angina and heart failure during 30.6 months of observation and positive dynamics of the C-reactive protein in 6 months after myocardium infarction. The level of C-protein in 6 months after myocardium infarction is an additional risk factor of cardiovascular complications during 30.6 months after myocardium infarction of the right ventricle*

***Keywords:*** *quercetin, myocardium infarction of the right ventricle, C-reactive protein, prognosis*

### References

1. Cohn, J. N., Guiha, N. H., Broder, M. I., Limas, C. J. (1974). Right ventricular infarction. The American Journal of Cardiology, 33 (2), 209–214. doi: 10.1016/0002-9149(74)90276-8

2. Carter, T. K., Ellis, K. (2005). Right ventricular infarction. Critical Care Nurse, 25, 52–62.

3. Makani, A., Sullivan, C., Sullivan, C., Josephson, R., Josephson, R. (2016). Isolated right ventricular infarction: Fatal dissection and shock requiring invasive therapies. Case Reports in Internal Medicine, 3 (4). Available at: http://www.sciedupress.com/journal/index.php/crim/article/view/9703/6081 doi: 10.5430/crim.v3n4p1

4. Cabin, H. S., Clubb, K. S., Wackers, F. J. T., Zaret, B. L. (1987). Right ventricular myocardial infarction with anterior wall left ventricular infarction: An autopsy study. American Heart Journal, 113 (1), 16–23. doi: 10.1016/0002-8703(87)90004-4

5. Ondrus, T., Kanovsky, J., Novotny, T. et. al. (2013). Right ventricular myocardial infarction: From pathophysiology to prognosis. Experimental & Clinical Cardiology, 18 (1), 27–30.

6. Jensen, C. J., Jochims, M., Hunold, P., Sabin, G. V., Schlosser, T., Bruder, O. (2010). Right Ventricular Involvement in Acute Left Ventricular Myocardial Infarction: Prognostic Implications of MRI Findings. American Journal of Roentgenology, 194 (3), 592–598. doi: 10.2214/ajr.09.2829

7. Frangogiannis, N. G., Smith, C. W., Entman, M. L. (2002). The inflammatory response in myocardial infarction. Cardiovascular Research, 53 (1), 31–47. doi: 10.1016/s0008-6363(01)00434-5

8. Paoletti, R., Gotto, A. M., Hajjar, D. P. (2004). Inflammation in atherosclerosis and implications for therapy. Circulation, 109 (23), 20–26. doi: 10.1161/01.cir.0000131514.71167.2e

9. Smit, J. J. J., Ottervanger, J. P., Slingerland, R. J., Kolkman, J. J. E., Suryapranata, H., Hoorntje, J. C. A. et. al. (2008). Comparison of Usefulness of C-reactive Protein Versus White Blood Cell Count to Predict Outcome After Primary Percutaneous Coronary Intervention for ST Elevation Myocardial Infarction. The American Journal of Cardiology, 101 (4), 446–451. doi: 10.1016/j.amjcard.2007.09.088

10. Moybenko, A. A. (2011). Sistemnye i molekulyarno-geneticheskie mekhanizmy kardioprotektsii. Fziologichniy zhurnal, 57 (5), 51–54.

11. Parhomenko, A. N., Kozhuhov, S. N. (2004). Kardioprotektsiya pri ostrom infarkte miokarda: teoreticheskie predposylki i vozmozhnye puti klinicheskogo resheniya problemy. Mezhdunarodnyi meditsinskyi zhurnal, 2, 6–11.

12. Zupanets, I. A., Podpruzhnikov, Yu. V., Shalamay, A. S., Bezuglaya, N. P. (2011). Izuchenie farmakokinetiki lekarstvennogo preparata «Korvitin». Ukrains'kiy medichniy al'manah, 14 (6), 81–83.

13. Steg, G. P., James, S. K., Atar, D., Badano, L. P., Lundqvist, C. B., Borger, M. A. et. al. (2012). ESC Guidelines for the management of acute myocardial infarction in patients presenting with ST-segment elevation. The Task Force on the management of ST-segment elevation acute myocardial infarction of the European Society of Cardiology (ESC). European Heart Journal, 33 (20), 2569–2619.

14. Lutay, M. I., Golikova, I. P., Slobodskoy, V. A. (2007). Rol disfunktsii endoteliya, vospaleniya i dislipidemii v aterogeneze. Ukrains'kiy Kardiologichniy Zhurnal, 5, 37–47.

15. Bonvini, R. F., Hendiri, T., Camenzind, E. (2005). Inflammatory response post-myocardial infarction and reperfusion: a new therapeutic target? European Heart Journal Supplements, 7, 127–136. doi: 10.1093/eurheartj/sui077

16. Scirica, B. M., Morrow, D. A., Cannon, C. P., de Lemos, J. A., Murphy, S. et. al. (2007). Clinical Application of C-Reactive Protein Across the Spectrum of Acute Coronary Syndromes. Clinical Chemistry, 53 (10), 1800–1807. doi: 10.1373/clinchem.2007.087957

17. Moybenko, A. A., Parhomenko, A. N. (2015). Effektivnost' vodorastvorimoy formy kvertsetina (Korvitina) pri lechenii ostrogo koronarnogo sindroma s elevatsiey segmenta ST. Available at: http://health-ua.com/article/671.html

18. Koval', E. A., Karavanskaya, I. L., Prog, R. V. (2006). Rezul'taty izucheniya kratko- i dolgo- vremennoy effektivnosti primeneniya korvitina v kompleksnoy terapii bol'nyh s Q-infarktom miokarda. Available at: http://www.bhfz.com.ua/site/page.php?lang=ru&page=papers&id_part=716&id_ppaper=124

19. Parhomenko, A. N., Kozhuhov, S. N., Moybenko, A. A., Gavrilenko, T. I. (2008). Blokator 5-lipoksigenazy korvitin: vliyanie na markery vospaleniya i endotelial'noy disfunktsii u bol'nyh s ostrym infarktom miokarda. Ratsional'na farmakoterapiya, 2/1, 34–42.

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**INFLUENCE OF ITGA2 GENE POLYMORPHISM ON PLATELET COMPONENTS OF HEMOSTASIS IN PATIENTS WITH ACUTE CORONARY SYNDROM**

**p. 32–35**

**Ada Liakhotska,** Postgraduate student, Department of propedeutic of internal medicine No. 1, Bogomolets National Medical University, T. Shevchenka blvd., 13, Kyiv, Ukraine, 01601
**E-mail:** a.liakhotska@gmail.com
**ORCID:** *http://orcid.org/0000-0002-1884-5648*

***Aim:*** *To study and to estimate the aggregation of platelets as an initial link of hemostasis in patients with ACS depending on ITGA 2 – C 807T gene polymorphism.*

***Materials and methods:*** *there were examined 72 patients, who were on the treatment in the department of the acute coronary pathology of the clinic "Pheophanya" and in the department of cardiology of Kyiv railway clinic № 2: 27 women (37,5 %) and 5 men (62,5 %) 56 - 87 years old (mean age– 68,1±7,34 years). The research included patients with ACS, developed on the background of the hypertonic disease. Based on the results of gene-interrogation and corresponding to the aim of the examination, all patients were divided in three groups: I included 20 patients with (27,8 %) C/C genotype, II group consisted of 29 patients (40,3 %) with C/T genotype and III group included 23 patients (31,9 %) with T/T genotype. At the examination of patients was used the algorithm standard thematic card that included the sections of anamnesis, general clinical, instrumental and laboratory study.*

*The study of hemostatic parameters in venous blood was carried out immediately at a patient's admission in hospital. The study of the functional activity of platelets was realized at a laser aggregometer Biola Aggregation Analyser with the computer analysis of curves of light-transmission and features of platelet aggregates. At that there was studied the presence of spontaneous platelets aggregation and stimulated aggregation with inductors: arachidonic acid (AA), adenosine dyphosphate (ADP), collagen, adrenalin. Concentrations of inductors were chosen according to recommended standards, at that were used least effective concentrations that caused aggregation that in-*

*creased the sensitivity of the given method in the determination of platelets functional activity.*

*For the molecular-genetic analysis were used samples of patients' DNA, extracted from venous blood by the sorbent method. C807T and ITGA2 gene polymorphism was determined by the method of polymerase chain reaction (PCR) using the two-prime system.*

***Results:*** *The gene interrogation of patients allowed to reveal that in 82,5 % of patients with ACS prevailed ITGA 2 C/T genotype – 40,3 %, T/T genotype was revealed in 31,9 % patients. Thus in 72,1 % of patients with an acute disorder of the coronary blood circulation was observed the mutation of ITGA 2 – T, gene, responsible for platelets adhesion. The study of the aggregation ability in the studied groups allowed to establish, that in patients of all groups the degree of spontaneous aggregation statistically significantly exceeded control limits, at that the most indices were fixed in the group with T/T genotype that exceeded control values in 3,02 times. It is worth noting that the carriage of T allel was associated with the tendency to the growth of spontaneous aggregation relative to C/C genotype by 34,5 % in C/T group and reliable increase of spontaneous aggregation in T/T genotype group, both relative to C/T group (by 33 %) and C/C group (by 78,9 %). Analyzing the aggregation ability of platelets with inductors (ADP and AA) the difference in platelets sensitivity was observed only relative to AA-induced aggregation. Thus, in the group of patients with T/T genotype the degree of such aggregation exceeded indices of C/C group by 17,3 %, and indices of C/T group – by 16,5 % ($p<0,05$ in both cases), at that there was not revealed the essential difference between groups with C/C and C/T genotype. Analyzing the degree of collagen-induced aggregation in groups it was noticed, that the most indices were fixed in the group with T/T genotype – 1,68 times higher than in the control one. T-allel carriage also caused the increase of induced aggregation with collagen relative to C/C genotype by 17 % in C/T group and reliable increase in T/T genotype group, both relative to C/T (by 43 %) and C/C groups (by 66 %).*

***Conclusions:*** *ACS syndrome development is associated with the presence of T-allel of ITGA 2 gene, observed in 72,1 % of patients. The presence of T-allel is combined with the acceleration of platelets spontaneous aggregation, increasing their functional activity in patients with T/T genotype 3 times comparing with the control group and by 79 % relative to homozygotes with the "native" C/C genotype. Platelets of patients – carriers of T/T genotype had the increased sensitivity to collagen, even under conditions of using low concentrations of an inductor that must be taken into account at personification of the treatment tactics*

***Keywords:*** *acute coronary syndrome, ITGA2 gene polymorphism, resistance, aggregation, myocardium infarction, platelets*

**References**

1. Netyazhenko, N. V. (2014). Differences of ischemic heart disease in women and men. Ukrainian Scientific Medical Youthful magazine, 4, 95–100.

2. Health indicators of population and use of health care resources in Ukraine (2016). Ministry of Health of Ukraine, SI "Center of medical statistics".

3. Amosova, K. M., Netyazhenko, N. V. (2009). Prospective study of the course and the immediate effects of acute coronary syndrome without elevation of ST segment in patients with aspirin resistance according to the evaluation of platelet aggregation with arachidonic acid. Heart and blood vessels, 3, 55–63.

4. Ovsyannikova, A. N., Mashin, V. V., Belova, L. A., Saenko, Y. V., Vasitsky, N. R., Abramova, V. V. (2014). Analysis of gene polymorphism at hemostasis system in the development of acute cerebral ischemia in patients of young and middle age. Modern problems of science and education, 5. Available at: https://elibrary.ru/item.asp?id=22566922

5. Zotova, T. Y., Mindinda, G. I., Frolov, V. A., Komarova, A. G., Zotov, A. K. (2013). Influence of ITGB3 gene polymorphism on the rate of arterial hypertension development in patients with Acute Coronary Syndrome. Clinical medicine, 8, 22–24.

6. Cosemans, J. M. E. M., Iserbyt, B. F., Deckmyn, H., Heemskerk, J. W. M. (2008). Multiple ways to switch platelet integrins on and off. Journal of Thrombosis and Haemostasis, 6 (8), 1253–1261. doi: 10.1111/j.1538-7836.2008.03041.x

7. Zhang, Q., Jin, Y., Shi, D., Gong, J., Liu, J., Lu, Y. et. al. (2015). Glycoprotein Ia C807T: Polymorphisms and Their Association with Platelet Function in Patients with the Acute Coronary Syndrome. Cardiology, 132 (4), 213–220. doi: 10.1159/000435906

8. Robert, W., Marder, V. J., Clowes, A. W., George, J. N., Goldhaber, S. Z. (2006). Hemostasis and thrombosis. Basic principles and clinical practice. Fifth edition. Philadelphia: Lippincott Wiliams & Wilkins, 494–500.

9. Watson, S. P., Auger, J. M., McCarty, O. J. T., Pearce, A. C. (2005). GPVI and integrin alphaIIbbeta3 signaling in platelets. Journal of Thrombosis and Haemostasis, 3 (8), 1752–1762. doi: 10.1111/j.1538-7836.2005.01429.x

10. Glantz, S. M. (1999). Primer of biostatistics. Moscow: Praktyka, 459.

11. Wu, G., Xi, Y., Yao, L., Su, L., Yan, Y., Li, M., Gu, L. (2014). Genetic polymorphism ofITGA2C807T can increase the risk of ischemic stroke. International Journal of Neuroscience, 124 (11), 841–851. doi: 10.3109/00207454.2013.879718

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**ANALYSIS OF THE EFFECTIVENESS OF ALLERGOIMMUNOTHERAPY IN PATIENTS WITH ALLERGIES TO POLLEN OF SPRING TREES**

**p. 35–41**

**Svitlana Zubchenko,** PhD, Assistant, Department of Clinical Immunology and Allergology, Danylo Halytskyy Lviv National Medical University, Pekarska str., 69, Lviv, Ukraine, 79010
**E-mail:** svitlana_zu@meta.ua
**ORCID:** *http://orcid.org/0000-0003-4471-4884*

**Valentyna Chopyak,** MD, Professor, Department of Clinical Immunology and Allergology, Danylo Halytskyy Lviv National Medical University, Pekarska str., 69, Lviv, Ukraine, 79010
**E-mail:** chopyakv@ukr.net
**ORCID:** *http://orcid.org/0000-0001-5973-1260*

**Sergey Yuriev,** Vice President, Ukrainian School of Mollecular Allergology and Immunology, Tverska str., 2, Kyiv, Ukraine, 03150
**E-mail:** s.yuriev@gmail.com
**ORCID:** *http://orcid.org/0000-0003-4323-7967*

**Olena Gubska,** MD, Professor, Department of Internal, Infective diseases and Dermatovenereology, Bogomolets National Medical University, T. Shevchenka blvd., 13, Kyiv, Ukraine, 01601
**E-mail:** gubskao@gmail.com
**ORCID:** *http://orcid.org/0000-0003-1083-2903*

**Stepan Maruniak,** Intern, Department of Anaesthesiology and Intensive Care, Shupyk National Medical Academy of Postgraduate Education, Dorohozhytska str., 9, Kyiv, Ukraine, 04112
**E-mail:** maruniak.stepan@gmail.com
**ORCID:** *http://orcid.org/0000-0001-7538-2443*

***Aim.*** *The study of features of sensibilization to spring trees in patients of Lviv region and analysis of the effectiveness of allergoimmunotherapy by the extract of spring trees (Diater Laboratorios, Іспанія).*

***Materials and methods of research.*** *There were examined 286 patients with clinical symptoms of pollen allergy. Skin prick-tests (SPT) were realized by the extraction "Trees mixture" by Diater Laboratorios, Spain. The level of specific IgE to the components of allergens was determined ImmunoCAP method («Phadia AB», Sweden). Allergoimmune therapy (SLIT) was carried out by the vaccine – «Spring Trees» mixture (Alnus glutinosa = 25,00 %; Corylus avellana = 25,00 %; Betula verrucosa = 25,00 %; Fraxinus excelsior = 25,00 %).*

***Results of research.*** *98,3% of patients had positive SPT to the extract "Herbs mixture". Among them: 68,1 % – sensibilized only by allergens of pollen of Fagale trees; 2,8 % – only by Oleaceae family allergens; 23,9 % – polyvalent sensibilization by spring trees. ImmunoCAP research – true sensibilization by allergen of Betulacea pollen was 77 %. After the first step of SLIT the improvement of the state was in 83,1 %; after the second step – in 94,1% of patients.*

***Conclusion:*** *The sensibilization profile of patients from Lvyv region included allergens of Betulacea and Oleaceae trees pollen. The revealed high level of sensibilization by ash allergens allows to recommend SPT for ash for the routine practice. SLIT by the combined vaccine "Spring trees" (Diater, Spain) demonstrated safety and high effectiveness*

***Keywords:*** *sensibilization profile, allergens of pollen of spring threes, ash, sublingual allergoimmunotherapy*

**References**

1. Songnuan, W. (2013). Wind-pollination and the roles of pollen allergenic proteins. Asian Pacific Journal of Allergy and Immunology, 31, 261–270.

2. Sharikadze, O. V. (2016). Efektyvnist suchasnoyi alergodiagnostyky ta alergenspecyfichnoyi imunoterapiyi u ditei [The efficacy of modern allergy diagnostic and allergen specific immunotherapy in children]. Asthma and Allergy, 2, 39–44.

3. D'Amato, G., Cecchi, L., Bonini, S., Nunes, C., Annesi-Maesano, I., Behrendt, H. et. al. (2007). Allergenic pollen and pollen allergy in Europe. Allergy, 62 (9), 976–990. doi: 10.1111/j.1398-9995.2007.01393.x

4. Vorobets, N. M., Voloshchuk, K. V., Novykevich, S. Z., Besh, L. V. (2016). Children sensitization to pollens in Lviv region during 2012–2013. Visnik problem biologii i medicine, 2 (3), 119–122.

5. Lakyda, P. I., Matushevich, L. M. (2006). Fitomasa berezovykh lisostaniv Ukrayins`kogo Polissya [Biomass birch forest stands Ukrainian Polissya]. Kyiv: ESC «Institute of Agrarian Economy», 228.

6. Kalinovych, N., Voloshchuk, K. Vorobets, N. (2016). Corylus and Alnus pollen concentration in air of Lviv (Western Ukraine). Acta Agrobotanica, 69 (2), 1680–1688. doi: 10.5586/aa.1680

7. Asam, C., Hofer, H., Wolf, M., Aglas, L., Wallner, M. (2015). Tree pollen allergens-an update from a molecular perspective. Allergy, 70 (10), 1201–1211. doi: 10.1111/all.12696

8. Mandal, J., Roy, I., Gupta-Bhattacharya, S. (2011). Clinical and immunobiochemical characterization of airborne Peltophorum pterocarpum (yellow gulmohar tree) pollen: a dominant avenue tree of India. Annals of Allergy, Asthma & Immunology, 106 (5), 412–420. doi: 10.1016/j.anai.2011.01.002

9. Fernandes, H., Michalska, K., Sikorski, M., Jaskolski, M. (2013). Structural and functional aspects of PR-10 proteins. FEBS Journal, 280 (5), 1169–1199. doi: 10.1111/febs.12114

10. Villalta, D., Asero, R. (2010). Is the detection of IgE to multiple Bet v 1–homologous food allergens by means of allergen microarray clinically useful? Journal of Allergy and Clinical Immunology, 125 (5), 1158–1161. doi: 10.1016/j.jaci.2010.01.043

11. Piotrowska, K., Kaszewski, B. M. (2009). The influence of meteorological conditions on the start of the hazel (Corylus L.) pollen season in Lublin, 2001–2009. Acta Agrobotanica, 62 (2), 59–66. doi: 10.5586/aa.2009.027

12. Jantunen, J., Saarinen, K., Rantio-Lehtimaki, A. (2011). Allergy symptoms in relation to alder and birch pollen concentrations in Finland. Aerobiologia, 28 (2), 169–176. doi: 10.1007/s10453-011-9221-3

13. Buters, J. T. M., Weichenmeier, I., Ochs, S., Pusch, G., Kreyling, W., Boere, A. J. F. et. al. (2010). The allergen Bet v 1 in fractions of ambient air deviates from birch pollen counts. Allergy, 65 (7), 850–858. doi: 10.1111/j.1398-9995.2009.02286.x

14. Van Hoffen, E., Peeters, K. A. B. M., van Neerven, R. J. J., van der Tas, C. W. H., Zuidmeer, L., van Ieperen-van Dijk, A. G. et. al. (2011). Effect of birch pollen–specific immunotherapy on birch pollen–related hazelnut allergy. Journal of Allergy and Clinical Immunology, 127 (1), 100–101. doi: 10.1016/j.jaci.2010.08.021

15. Canonica, G. W., Compalati, E. (2009). Minimal persistent inflammation in allergic rhinitis: implications for current treatment strategies. Clinical & Experimental Immunology, 158 (3), 260–271. doi: 10.1111/j.1365-2249.2009.04017.x

16. Saarinen, K., Jantunen, J., Haahtela, T. (2011). Birch Pollen Honey for Birch Pollen Allergy – A Randomized Controlled Pilot Study. International Archives of Allergy and Immunology, 155 (2), 160–166. doi: 10.1159/000319821

17. Jantunen, J., Saarinen, K. (2009). Intrusion of airborne pollen through open windows and doors. Aerobiologia, 25 (3), 193–201. doi: 10.1007/s10453-009-9124-8

18. Barderas, R., Purohit, A., Papanikolaou, I., Rodriguez, R., Pauli, G., Villalba, M. (2005). Cloning, expression, and clinical significance of the major allergen from ash pollen, Fra e 1. Journal of Allergy and Clinical Immunology, 115 (2), 351–357. doi: 10.1016/j.jaci.2004.10.001

19. Seutter von Loetzen, C., Hoffmann, T., Hartl, M. J., Schweimer, K., Schwab, W., Rosch, P., Hartl-Spiegelhauer, O. (2014). Secret of the major birch pollen allergen Bet v 1: identification of the physiological ligand. Biochemical Journal, 457 (3), 379–390. doi: 10.1042/bj20130413

20. Swoboda, I., Twaroch, T., Valenta, R., Grote, M. (2008). Tree pollen allergens. Clin Allergy Immunol, 21, 87–105.

21. Karamloo, F., Schmitz, N., Scheurer, S., Foetisch, K., Hoffmann, A., Haustein, D., Vieths, S. (1999). Molecular cloning and characterization of a birch pollen minor allergen, Bet v 5, belonging to a family of isoflavone reductase–related proteins. Journal of Allergy and Clinical Immunology, 104 (5), 991–999. doi: 10.1016/s0091-6749(99)70080-1

22. Blomme, K., Tomassen, P., Lapeere, H., Huvenne, W., Bonny, M., Acke, F. et. al. (2013). Prevalence of Allergic Sensitization versus Allergic Rhinitis Symptoms in an Unselected Population. International Archives of Allergy and Immunology, 160 (2), 200–207. doi: 10.1159/000339853

23. D'Amato, G., Cecchi, L., Bonini, S., Nunes, C., Annesi-Maesano, I., Behrendt, H. et. al. (2007). Allergenic pollen and pollen allergy in Europe. Allergy, 62 (9), 976–990. doi: 10.1111/j.1398-9995.2007.01393.x

24. Asam, C., Hofer, H., Wolf, M., Aglas, L., Wallner, M. (2015). Tree pollen allergens-an update from a molecular perspective. Allergy, 70 (10), 1201–1211. doi: 10.1111/all.12696

25. Bousquet, J., Heinzerling, L., Bachert, C., Papadopoulos, N. G., Bousquet, P. J., Burney, P. G. et. al. (2012). Practical guide to skin prick tests in allergy to aeroallergens. Allergy, 67 (1), 18–24. doi: 10.1111/j.1398-9995.2011.02728.x

26. Canonica, G., Ansotegui, I. J., Pawankar, R., Schmid-Grendelmeier, P., van Hage, M. et. al. (2013). A WAO – ARIA – GA²LEN consensus document on molecular-based allergy diagnostics. World Allergy Organization Journal, 6 (1), 1–17. doi: 10.1186/1939-4551-6-17

27. Matsiakh, I. P., Kramarets, V. O. (2014). Declining of Common Ash (Fraxinus excelsior L.) in Western Ukraine. Naukovii visnik NLTU Ukraini, 24 (7), 67–73.

28. Lakyda, P. I. (2002). Fitomasa lisiv Ukrayiny [Forest fitomass Ukraine]. Ternopil: Zbruch, 256.

29. Letran, A., Espinazo, M., Moreno, F. (2013). Measurement of IgE to pollen allergen components is helpful in selecting patients for immunotherapy. Annals of Allergy, Asthma & Immunology, 111 (4), 295–297. doi: 10.1016/j.anai.2013.07.005

30. Sastre, J., Landivar, M. E., Ruiz-Garcia, M., Andregnette-Rosigno, M. V., Mahillo, I. (2012). How molecular diagnosis can change allergen-specific immunotherapy prescription in a complex pollen area. Allergy, 67 (5), 709–711. doi: 10.1111/j.1398-9995.2012.02808.x

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**EVALUATION OF LIFE QUALITY IN PATIENTS WITH POSTINFARCTION CARDIOSCLEROSIS ON THE BACKGROUND OF METABOLITIC THERAPY**

**p. 42–44**

**Svitlana Semenchuk,** Postgraduate student, Department of Clinical Pharmacy and Clinical Pharmacology, Vinnytsia National Pirogov Memorial Medical University, Pyrohova str., 56, Vinnytsia, Ukraine, 21018
**E-mail:** semenchuksvetlana1989@gmail.com
**ORCID:** *http://orcid.org/0000-0002-3260-9369*

**Tamara Stotska,** Head of department, Department of rehabilitation of postinfarction patients, Trade-Union sanatorium «Khmilnyk», Kurortna str., 2, Khmilnyk, Vinnytsia region, Ukraine, 22003
**E-mail:** KichkaTV@gmail.com
**ORCID:** *http://orcid.org/0000-0003-1153-342X*

***Aim of research –*** *to estimate the dynamics of life quality indices in patients with postinfarction cardiosclerosis on the background of the metabolic therapy using the questionnaire MacNew Heart Disease Health-related Quality of Life.*

***Materials and methods:*** *in the research took part 99 patients (71 % of men and 29 % of women) with postinfarction cardiosclerosis, stable angina of effort of II-III functional class. Patients of the group of comparison (n=49) continued to take the basis therapy of the ischemic heart disease, whereas patients of the main group (n=50) additionally took glutargin. All groups were representative by age and sex. The patients' life quality estimation was realized by the questionnaire MacNew.*

***Results:*** *The determination of the life quality was carried out using the questionnaire MacNew Heart Disease Health-related Quality of Life, most effective for patients with the ischemic heart disease. At the comparative analysis of initial life quality indices by the questionnaire MacNew in both groups, all patients*

*with postinfarction cardiosclerosis demonstrated the decrease of all indices of scales and didn't differ statistically. It was established, that on the background of glutargin treatment took place the statistically reliable increment of the physical activity (from 4,3±1,0 to 5,2±0,9 points, p<0,05) and reliable increase of the routine activity, limited by the pain influence (from 4,6±0,8 to 5,9±0,9 points, p<0,05).*

***Conclusions:*** *All patients with postinfarction cardiosclerosis demonstrated the essential decrease of life quality indices in physical, emotional and social spheres. Glutargin inclusion into the standard therapy of patients with the ischemic heart disease allows to improve the life quality of patients with postinfarction cardiosclerosis essentially*

***Keywords:*** *life quality, ischemic heart disease, postinfarction cardiosclerosis, metabolic therapy, glutargin, MacNew*

**References**

1. Handzyuk, V. A. (2014). Analiz zakhvoryuvanosti na ishemichnu khvorobu sertsya v Ukrayini [Analysis of the incidence of ischemic heart disease in Ukraine]. Ukrainian Journal of Cardiology, 3, 45–52.

2. Surmach, M. Yu. (2011). Kachestvo zhizni, svyazannoye so zdorov'yem, kak predmet izucheniya sotsiologii meditsiny [Health-related quality of life as the study object of medical sociology]. Sociology, 2, 100–104.

3. Krom, I. L., Erugina, M. V., Sazanova, G. Yu. (2015). Vektory optimizatsii kachestva zhizni bol'nykh ishemicheskoy bolezn'yu serdtsa [Vectors for optimizing the quality of life of patients with ischemic heart disease]. Saratov Scientific Medical Journal, 1, 62–65.

4. Pogosova, N. V., Baichorov, I. Kh., Yufereva, Yu. M., Koltunov, I. E. (2010). Kachestvo zhizni bol'nykh s serdechno-sosudistymi zabolevaniyami: sovremennoye sostoyaniye problem [Quality of life of patients with cardiovascular diseases: current status of the problem]. Cardiology, 50 (4), 66–78.

5. Yagenskiy, A. V., Hofer, S., Sichkaruk, I. M., Oldridge, N. (2013). Otsinka yakosti zhyttya u patsiyentiv z ishemichnoyu khvoroboyu sertsya: rezul′taty validyzatsiyi ukrayinomovnoyi versiyi opytuval′nyka MacNew Heart Disease Health-related Quality of Life [Quality of life assessment in patients with ischemic heart disease: validation of Ukrainian-language version of MacNew Heart Disease Health-related Quality of Life]. Ukrainian journal of cardiology, 3, 22–28.

6. Oldridge, N., Hofer, S., McGee, H., Conroy, R., Doyle, F., Saner, H. (2012). The HeartQoL: Part I. Development of a new core health-related quality of life questionnaire for patients with ischemic heart disease. European Journal of Preventive Cardiology, 21 (1), 90–97. doi: 10.1177/2047487312450544

7. Babak, O. Ya. (2005). Glutargin – farmakologicheskoye deystviye i klinicheskoye primeneniye [Glutargin – pharmacological action and clinical application]. Kharkiv–Lugansk: Elton-2, 456.

8. Schlesinger, S., Sonntag, S. R., Lieb, W., Maas, R. (2016). Asymmetric and Symmetric Dimethylarginine as Risk Markers for Total Mortality and Cardiovascular Outcomes: A Systematic Review and Meta-Analysis of Prospective Studies. PLOS ONE, 11 (11), e0165811. doi: 10.1371/journal.pone.0165811

9. Tain, Y.-L., Hsu, C.-N. (2017). Interplay between Oxidative Stress and Nutrient Sensing Signaling in the Developmental Origins of Cardiovascular Disease. International Journal of Molecular Sciences, 18 (4), 841. doi: 10.3390/ijms18040841

10. Kanaan, G. N., Harper, M.-E. (2017). Cellular redox dysfunction in the development of cardiovascular diseases. Biochimica et Biophysica Acta (BBA) – General Subjects. doi: 10.1016/j.bbagen.2017.07.027

11. Zhang, J. X., Wang, Z. M., Zhang, J. J., Zhu, L. L., Gao, X. F., Chen, S. L. (2014). Association of glutathione peroxidase-1 (GPx-1) rs1050450 Pro198Leu and Pro197Leu polymorphisms with cardiovascular risk: a meta-analysis of observational studies. Journal of Geriatric Cardiology, 11 (2), 141–150.

12. Indyka, S. Ya. (2012). Poshyrenist depresiyi ta zvyazok z inshymy faktoramy ryzyku sertsevo-sudynnykh zakhvoryuvan u patsiyentiv pislya infarktu miokarda na ambulatornomu etapi reabilitatsiyi [Prevalence of Depression and Relationship with Other Risk Factors for Cardiovascular Diseases Among Patients After Myocardial Infarction in Ambulatory Stage of Rehabilitation]. Physical education, sports and health culture in modern society, 4 (20), 369–372.

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**PECULIARITIES OF SOCIAL FUNCTIONING OF PATIENTS WITH POST-SCHIZOPHRENIC DEPRESSION**

**p. 45–50**

**Kirill Stakhanov,** Assistant, Department of Psychiatry, Narcology, Psychology and Social Assistance, Odessa National Medical University, Valykhovsky lane, 2, Odessa, Ukraine, 65082
**E-mail:** stahanovkirill@gmail.com
**ORCID:** *http://orcid.org/0000-0002-9722-390X*

***Aim of research –*** *to determine disorders of the social functioning, typical for patients with PSD.*

***Methods of research:*** *The psychodiagnostic examination of patients included: HADS/HARS scale for the study of psychoemotional features of patients with post-schizophrenic depression; Bassa-Darki questionnaire. For studying socio-psychological features were used: the questionnaire of volitional self-control – VSC (Zverkov A.G., Eideman E.V.), questionnaire of the suicide risk (modified by T.N. Razuvaeva). The cognitive sphere was estimated using the methods "10 words" by A. R. Luria (1995), "Proof test" by B. Burdon (1995) and pictograms method. The study of the patients' life quality was carried out*

*using the method Mezzich, Coher, Ruipezer, Liu & Yoon, 1999. The statistical processing of obtained data and diagrams construction were realized using Excel programs and statistical package «Statistica 7.0. for Windows», and also using Student t-criterion, U-criterion of Mann-Whitney, Fisher φ-criterion, Pearson $\chi^2$-criterion. At the assessment of synchronicity, combination of changes of two variables or for the assessment of the similarity of two scale profiles, grade coefficients of correlations were calculated by Spearman and linear ones - by Pearson. In all cases of comparisons the probability of «p» divergences was determined. They were considered as statistically significant at $p<0,05$*

***Results.*** *Within the research were studied data about the social functioning of patients with PSD. Mean points by scales of the volitional self-control questionnaire were low (G1 – 6,5 points, G2 – 6,8 points). Life quality indices were totally within the mean values diapason. Near a half of men and women with PSD had the bed or very bad level of adaptation (G1 – 67,65 %; G2 – 46,58 %), at that women were reliably less adapted comparing with men ($p\leq0,05$). According to the assessment of studied persons, the level of the experienced social support was low, at that least indices related to the factor "social support from "important others" (G1 – 0,9 points; G2 – 0,6 points).*

*In men and women with PSD was determined the high risk of realization of autoagressive tendencies. In men with PSD the risk of the suicidal behavior was most often connected with factors as "social pessimism" (5,9 points), "inability" (5,6 points), "temporal perspective" (5,5 points), "affection" (5,2 points). The suicidal behavior risk in women was less comparing with men that was testified by lower values on most scales of the questionnaire and also the higher index (comparing with G1) of the anti-suicidal factor ($p\leq0,05$). The suicidal risk in women with PSD was mainly connected with factors as "demonstrativeness" (5,3 points) and "affection" (5,0 points).*

***Conclusions.*** *As a result to the realized research was revealed the decrease of the social functioning in patients with PSD, manifested in the lack of volitional self-control, bad level of adaptation, low level of the social support use. The decrease of the general life quality was registered in men and women with PSD. The important parameter, revealed within the research, is the high risk of autoagresive tendencies realization; they were reliably higher in men comparing with women ($p\leq0,05$).*

*The determined dysadaptive psychosocial characteristics are at the same time risk factors of disease relapses that must be taken into account at elaborating the system of the complex medical-psychological support for this category of patients*

***Keywords:*** *post-schizophrenic depression, social functioning, adaptation, life quality, medical-psychological support*

**References**

1. Mikhaylov, B. V. (2010). Sovremennoye sostoyaniye problemy shizofrenii (obzor literatury). Ukrains'kiy vsnik psikhonevrologii, 4 (65), 39–47.

2. Maruta, N. A. (2013). Vosstanovleniye sotsial'nogo funktsionirovaniya – osnovnaya tsel' terapii depressii. NeyroNEWS: psikhonevrologiya i neyropsikhiatriya, 8 (53), 16–20.

3. Pervinniy psikhotichniy epizod: diagnostika, farmakoterapiya ta psikhosotsial'na reabilitatsiya (2010). Kharkiv, 31.

4. Ashirbekov, B. M. (2008). Sotsial'noye funktsionirovaniye i kachestvo zhizni bol'nykh s postshizofrenicheskimi depressiyami. Voprosy mental'noy meditsiny i ekologii, 14 (1), 37–53.

5. Gumenyuk, L. N. (2008). Kliniko-sotsial'naya kharakteristika stradayushchikh psikhicheskimi rasstroystvami s ogranichennoy sposobnost'yu integratsii v soobshchestvo (bezdomnyye). Ukrains'kiy visnik psikhonevrologii, 16 (1), 9–12.

6. Prib, G. A. (2007). Disfunktsiya sotsial'nikh roley u patsientiv, yaki strazhdayut' na psikhichni rozladi. Arkhiv psikhiatrii, 1, 26–33.

7. Buzdigan, O. G. (2016). Diferentsiyovani pidkhodi do psikhosotsial'noi reabilitatsii khvorikh na shizofreniyu z urakhuvannyam kliniko-funktsional'nikh gendernikh osoblivostey. Ukrains'kiy visnik psikhonevrologii, 24 (4 (89)), 47–53.

8. Ryapolova, T. L. (2010). Rannya reabilitatsiya khvorikh na shizofreniyu (biopsikhosotsial'na model'). Kharkiv, 32.

9. Jackson, C., Trower, P., Reid, I., Smith, J., Hall, M., Townend, M. et. al. (2009). Improving psychological adjustment following a first episode of psychosis: A randomised controlled trial of cognitive therapy to reduce post psychotic trauma symptoms. Behaviour Research and Therapy, 47 (6), 454–462. doi: 10.1016/j.brat.2009.02.009

10. Wiles, N., Thomas, L., Abel, A., Ridgway, N., Turner, N., Campbell, J. et. al. (2013). Cognitive behavioural therapy as an adjunct to pharmacotherapy for primary care based patients with treatment resistant depression: results of the CoBalT randomised controlled trial. The Lancet, 381 (9864), 375–384. doi: 10.1016/s0140-6736(12)61552-9

11. Weisman de Mamani, A., Suro, G. (2016). The effect of a culturally informed therapy on self-conscious emotions and burden in caregivers of patients with schizophrenia: A randomized clinical trial. Psychotherapy, 53 (1), 57–67. doi: 10.1037/pst0000038

12. Pinchuk, I. Ya., Kolodezhniy, O. V., Ladik–Brizgalova, A. K., Yachnik, Yu. V. (2016). Spil'notni sluzhbi okhoroni psikhichnogo zdorov'ya – perspektivniy napryam rozvitku psikhiatrichnoi sluzhbi Ukraini. Ukraina. Zdorov'ya natsii, 4 (40), 162–166.

13. Raygorodskiy, D. Ya. (2002). Prakticheskaya psikhodiagnostika. Metodiki i testy. Samara: Bakhrakh-M, 672.

14. Lapach, S. N., Chubenko, A. V., Babich, P. N. (2001). Statisticheskiye metody v mediko-biologicheskikh issledovaniyakh s ispol'zovaniyem Excel. Kyiv: Morion, 408.

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**ANALYSIS OF REPARATIVE OSTEOGENESIS AT DIAPHYSIAL FRACTURES OF TIBIA BY ROENTGENOGRAPHY DATA**

**p. 51–53**

**Olena Sharmazanova,** MD, Professor, Department of X-ray Diagnostics, Kharkiv Medical Academy of Postgraduate Education, Amosova str., 58, Kharkiv, Ukraine, 61176
**E-mail:** olena.sharm@gmail.com
**ORCID:** *http://orcid.org/0000-0003-1578-6715*

**Khatia Moseliani,** Department of X-ray Diagnostics, Kharkiv Medical Academy of Postgraduate Education, Amosova str., 58, Kharkiv, Ukraine, 61176

***Aim of research***. *To study the features of reparative osteogenesis at diaphysial tibia fractures in patients of a young and middle age.*
***Material and methods.*** *There was presented the analysis of x-ray photographs of 122 patients with diaphysial tibia fractures 18–60 years old (men – 54,2 %, women – 45,8% ) in sanitary projections at the dynamic observation from 8 months to 3 years.*
***Research results***. *It was established that the full accretion of fractures in terms up to 4 months was detected only in 28,7 % of cases (35 patients), in terms up to 6 months – in 33,6 % (41 patients), up to 8 months – in 16, 4% (20 patients). In 26 patients (21,3 %) the accretion of diaphysial tibia fractures was forming during 1,5–2 years. Most often at fractures accretion was observed a periosteal callus (83,6 %), less often – intermediary one (11,4 %) and paraossale (4,9 %). Complication at fractures accretion were detected in 46 (37,7 %) of traumatized persons.*
***Conclusions.*** *In most cases diaphysial fractures of tibia accreted longer than 4 months with complications in each third patient*
***Keywords:*** *bones, tibia, diaphysial fractures, callus, roentgenography, reparative osteogenesis, complications*

**References**

1. Mamaev, V. I. (2008). Chreskostnuy osteosyntez i vozmojnosti prognozirovania ishodov lechenia posledstviy perelomov kostey. Vestnik travmatologii i ortopedii im. N. N. Priorova, 3, 27–29.

2. Litvishko, V. O., Popsuishapka, O. K. (2015). Funkcionalne likuvannia diafizarnukh perelomov kistok gomilku z vukorustanniam gipsovoi poviazku abo strujnevogo aparatu. Ortopedia, travmatologia i protezirivanie, 4, 91–102.

3. Popsuishapka, A. K., Uzhigova, O. E., Litvishko, V. A. (2013). Chastota nesrachenia otlomkov pri izolirovannukh diafizarnukh perelomakh dlinnukh kostei konechnostei. Ortopedia, travmatologia i protezirivanie, 1, 39–43.

4. Korzh, N. A., Gerasimenko, S. I., Klimovickii, V. G., Loskutov, A. E. et. al. (2010). Rasprostranennost perelomov kostei i rezyltatu ih lechenia v Ukraine (kliniko-epidemiologicheskoe issledovanie). Ortopedia, travmatologia i protezirivanie, 3, 26–35.

5. Semizorov, A. N. (2007). Rentgenografia v diagnostike i lechenii perelomov kostei. Moscow: Vidar-M, 176.

6. Stepanov, R. V. (2011). Kompkeksnaia luchevaia diagnostika v ocenke reparativnogo processa pri lechenii bolnukh s zakrutumi diafizarnumi perelomami kostei goleni. 21.

7. Claes, L., Grass, R., Schmickal, T., Kisse, B., Eggers, C., Gerngro, H. et. al. (2002). Monitoring and healing analysis of 100 tibial shaft fractures. Langenbeck's Archives of Surgery, 387 (3-4), 146–152. doi: 10.1007/s00423-002-0306-x

8. Kessler, T. et. al. (1994). Follow-up of fracture healing – indications and clinical relevance of direct radiographic magnification in comparison with conventional roentgen imaging. Unfallchirurg, 97 (12), 619–624.

9. Gongalsrii, V. I., Martunenko, G. F., Lihvar, G. T. et. al. (1987). Obem isledovanii i lechebno-profikakticheskoi pomoschi ortopedo-travmatolodicheskim bolnum v poliklinikakh. Vedomstvennaia instrukciia MZ USSR.

10. Dedukh, N. V., Khmuzov, S. A., Tikhonenko, A. A. (2008). Novue tehnologii v regeneracii kosti: ispolzovanie faktorov rosta. Ortopedia, travmatologia i protezirivanie, 4, 129–133.

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**ASSESSMENT OF QUALITY OF LIFE AND CHANGES IN INTESTINAL MICROBIOTA IN PATIENTS WITH RHEUMATOID ARTHRITIS**

**p. 54–59**

**Liudmyla Mikulets,** PhD, Assistant Professor, Department of Propaedeutics Internal Medicine, Higher State Educational Establishment of Ukraine "Bukovinian State Medical University", Theatralna sq., 2, Chernivtsi, Ukraine, 58002
**E-mail:** lvmikulets@ukr.net
**ORCID:** *http://orcid.org/0000-0002-1729-4151*

**Olena Glubochenko,** PhD, Associate Professor, Department of Propaedeutics Internal Medicine, Higher State Educational Establishment of Ukraine "Bukovinian State Medical University", Theatralna sq., 2, Chernivtsi, Ukraine, 58002
**ORCID:** *http://orcid.org/0000-0002-4820-1173*

**Katerina Bobkovych,** PhD, Associate Professor, Department of Propaedeutics Internal Medicine, Higher State Educational Establishment of Ukraine "Bukovinian State Medical University", Theatralna sq., 2, Chernivtsi, Ukraine, 58002
**ORCID:** *http://orcid.org/0000-0001-5783-2412*

**Anton Ivanitsky,** Higher State Educational Establishment of Ukraine „Bukovinian State Medical University", Theatralna sq., 2, Chernivtsi, Ukraine, 58002
**ORCID:** *http://orcid.org/0000-0001-5368-6630*

***Aim.*** *The aim of the work was to study life quality indices depending of degrees of large intestine microflora in patients with rheumatoid arthritis.*

***Methods.*** *The study was carried out on 43 patients with rheumatoid arthritis and 21 practically healthy persons. To determine the role of intestinal microflora in the rheumatoid genesis in patients with RA, excrements microbiological study was carried out. The comparative assessment of life quality parameters was carried out using SF-36 questionnaire.*

***Result.*** *In all patients with RA were extracted bifidobacteria, lactobacteria, bacteroides and colon bacillus, at that eubacteria, peptococcus and enterococci were eliminated from their large intestine cavity. On this background the contamination of the large intestine cavity by pathogenic and conventionally pathogenic enterobacteria and also Clostridium bacteria, staphylococci and Candida yeast-like fungi took place. The analysis of SF-36 questionnaire scales demonstrated that all parameters of patients with RA were lower than in the control group and depended on large intestine cavity microflora changes by certain indices.*

***Conclusions.*** *In patients with rheumatoid arthritis is observed the change of specific and population level of large intestine cavity microbiota. At dysbiotic disorders in these patients was observed the decrease of life quality indices, especially, ones of the physical health component. The lowest life quality indices were observed in patients with III degree of microbiological disorders*

***Keywords:*** *rheumatoid arthritis, life quality, specific level, population level, intestinal microbiota*

**References**

1. Verstappen, S. M. M., Bijlsma, J. W. J., Verkleij, H., Buskens, E., Blaauw, A. A. M. et. al. (2004). Overview of work disability in rheumatoid arthritis patients as observed in cross-sectional and longitudinal surveys. Arthritis Care & Research, 51 (3), 488–497. doi: 10.1002/art.20419

2. Nasonov, E. L. (2004). Revmatoidnyi artrit kak obshchemeditcinskaia problema. Terapevticheskiy arhiv, 5, 5–7.

3. Amirdzhanova, V. N., Goriachev, D. V., Korshunov, N. I., Rebrov, A. P., Sorotckaia, V. N. (2008). Populiatcionnye pokazateli kachestva zhizni po oprosniku SF-36 (rezultaty mnogotcentrovogo issledovaniia kachestva zhizni "MIRAZh"). Nauchno-prakticheskaya revmatologiya, 1, 38–48.

4. Bressa, C., Bailen-Andrino, M., Perez-Santiago, J., Gonzalez-Soltero, R., Perez, M., Montalvo-Lominchar, M. G. et. al. (2017). Differences in gut microbiota profile between women with active lifestyle and sedentary women. PLoS ONE, 12 (2), e0171352. doi: 10.1371/journal.pone.0171352

5. Jeffery, I. B., Lynch, D. B., O'Toole, P. W. (2016). Composition and temporal stability of the gut microbiota in older persons. The ISME Journal, 10 (1), 170–182. doi: 10.1038/ismej.2015.88

6. Chervonsky, A. V. (2010). Influence of microbial environment on autoimmunity. Nature Immunology, 11 (1), 28–35. doi: 10.1038/ni.1801

7. Turnbaugh, P. J., Hamady, M., Yatsunenko, T., Cantarel, B. L., Duncan, A., Ley, R. E. et. al. (2009). A core gut microbiome in obese and lean twins. Nature, 457 (7228), 480–484. doi: 10.1038/nature07540

8. Chan, C., Wong, R., Law, P., Wong, C., Tsui, S., Tang, W., Sit, J. (2016). Environmental Factors Associated with Altered Gut Microbiota in Children with Eczema: A Systematic Review. International Journal of Molecular Sciences, 17 (7), 1147. doi: 10.3390/ijms17071147

9. Felice, V. D., Quigley, E. M., Sulliv, A. M., O'Keefe, G. M., O'Mahony, S. M. (2016). Microbiota-gut-brain signalling in Parkinson's disease: Implications for non-motor symptoms. Parkinsonism & Related Disorders, 27, 1–8. doi: 10.1016/j.parkreldis.2016.03.012

10. Scher, J. U., Sczesnak, A., Longman, R. S., Segata, N., Ubeda, C., Bielski, C. et. al. (2013). Expansion of intestinal Prevotella copricorrelates with enhanced susceptibility to arthritis. eLife, 2, e01202. doi: 10.7554/elife.01202

11. Taneja, V. (2014). Arthritis susceptibility and the gut microbiome. FEBS Letters, 588 (22), 4244–4249. doi: 10.1016/j.febslet.2014.05.034

12. Vaahtovuo, J., Munukka, E., Korkeamaki, M., Luukkainen, R., Toivanen, P. (2008). Fecal microbiota in early rheumatoid arthritis. The Journal of Rheumatology, 35 (8), 1500–1505.

13. Zhang, X., Zhang, D., Jia, H., Feng, Q., Wang, D., Liang, D. et. al. (2015). The oral and gut microbiomes are perturbed in rheumatoid arthritis and partly normalized after treatment. Nature Medicine, 21 (8), 895–905. doi: 10.1038/nm.3914

14. Ebringer, A., Rashid, T., Wilson, C. (2010). Rheumatoid arthritis, Proteus, anti-CCP antibodies and Karl Popper. Autoimmunity Reviews, 9 (4), 216–223. doi: 10.1016/j.autrev.2009.10.006

15. Kharchenko, N. V., Chernenko, V. V. (2000). Suchasni pidkhody do korektsii dysbiozu kyshechnyka. Kyiv, 28.

16. Mikel'saar, M. E., Snigur, U. H., Lentsner, A. A. (1990). Otsenka kachestvennogo sostava mikroflory fekaliy. Lab. delo, 3, 62–66.

17. Ware, J. E., Snow, K. K., Kosinski, M., Gandek, B. (1993). SF-36 Health Survey. Boston: The Health Institute, New England Medical Center, 314.

18. Hammer, O., Harper, D. A. T., Ryan, P. D. (2001). PAST: Paleontological Statistics Software Package for Education and Data Analysis. Palaeontologia Electronica, 4 (1), 9. Available at: http://palaeo-electronica.org/2001_1/past/issue1_01.htm

19. Piche, T. (2009). Alterations of intestinal epithelial barrier and flora in the irritable bowel syndrome. Gastroenterologie Clinique Et Biologique, 33 (1), 40–47.

20. De Palma, G., Collins, S. M., Bercik, P., Verdu, E. F. (2014). The microbiota-gut-brain axis in gastrointestinal disorders: stressed bugs, stressed brain or both? The Journal of Physiology, 592 (14), 2989–2997. doi: 10.1113/jphysiol.2014.273995

21. Messaoudi, M., Violle, N., Bisson, J.-F., Desor, D., Javelot, H., Rougeot, C. (2011). Beneficial psychological effects of a probiotic formulation (Lactobacillus helveticusR0052 and-Bifidobacterium longumR0175) in healthy human volunteers. Gut Microbes, 2 (4), 256–261. doi: 10.4161/gmic.2.4.16108

22. Ahmed, N., Sechi, L. A., Megraud, F., Hasnain, S. E. (2009). Gut Pathogens: enteric health at the interface of changing microbiology. Gut Pathogens, 1 (1), 1. doi: 10.1186/1757-4749-1-1

23. Lunia, M. K., Sharma, B. C., Sharma, P., Sachdeva, S., Srivastava, S. (2014). Probiotics Prevent Hepatic Encephalopathy in Patients With Cirrhosis: A Randomized Controlled Trial. Clinical Gastroenterology and Hepatology, 12 (6), 1003–1008. doi: 10.1016/j.cgh.2013.11.006

24. Hemarajata, P., Versalovic, J. (2013). Effects of probiotics on gut microbiota: mechanisms of intestinal immunomodulation and neuromodulation. Therapeutic Advances in Gastroenterology, 6 (1), 39–51. doi: 10.1177/1756283x12459294

25. O'Mahony, L., McCarthy, J., Kelly, P., Hurley, G., Luo, F., Chen, K. et. al. (2005). Lactobacillus and bifidobacterium in irritable bowel syndrome: Symptom responses and relationship to cytokine profiles. Gastroenterology, 128 (3), 541–551. doi: 10.1053/j.gastro.2004.11.050

26. Mikulets, L. V. (2011). Osoblyvosti tsyrkadiannoi orhanizatsii pokaznykiv endohennoi intoksykatsii u krovi khvorykh na revmatoidnyi artryt ta yikh korektsiia za dopomohoiu preparatu enteroshel. Klinichna ta eksperymentalna patolohiia, 2, 59–64.

27. McCormack, W. J., Parker, A. E., O'Neill, L. A. (2009). Toll-like receptors and NOD-like receptors in rheumatic diseases. Arthritis Research & Therapy, 11 (5), 243. doi: 10.1186/ar2729