

ABSTRACT&REFERENCES

DOI: 10.15587/2519-4798.2017.111036

INDIVIDUAL-PSYCHOLOGICAL PREDICTORS OF FORMATION OF DYSADAPTATION STATES IN DOCTORS-INTERNS

p. 4–6

Valery Vjun, PhD, Associate Professor, Director, Education and Research Institute of Postgraduate Education, Kharkiv National Medical University, Nauky ave., 4, Kharkiv, Ukraine, 61022

E-mail: val.v.nipo@gmail.com

ORCID: <http://orcid.org/0000-0001-8889-0228>

Aim of research. *The study of individual-psychological predictors of dysadaptation states formation of doctors-interns for elaborating the system of their diagnostics, correction and psychoprophylaxis.*

Materials and methods of research. *For attaining the set aim, the complex examination of 213 doctors-interns of both genders of 22–25 years old (mean age 23±2 years) from the Kharkiv national medical university was realized in 2012–2016 with observing principles of bioethics and medical deontology.*

Methods of research: clinical-anamnestic, psychodiagnostic, statistical.

Results: *It was established, that 65,7 % of examined doctors-interns (55,7 % of men and 68,6 % of women) demonstrated dysadaptation states. The main role in dysadaptation states formation in doctors-interns is played by the following groups of factors: biological – chronic somatic pathology, organic pathology, bad habits, and psychosocial – discontent with labor conditions, deficit of positive emotions, imperfectness of mechanism of psychological defense, conflicts in the medical environment.*

It was established, that manifestations of dysadaptive states in doctors-interns are the feeling of internal strain with the impossibility to relax, anxious and depressive manifestations, decrease of the intellectual activity productivity.

Three levels of dysadaptation of a family doctor to the professional activity were separated.

Conclusions: *The formation of disorders of doctors-interns' adaptation to the professional activity is conditioned by many factors, biological, social and psychological ones, presented in the indissoluble complex in it. This fact determines the specificity of pathogenesis and syndrome genesis of dysadaptive states.*

The high, middle and low level of family doctors' dysadaptation to the professional activity were described

Keywords: *dysadaptation states, professional activity, doctors-interns, biological and social factors, mechanisms of formation*

References

1. Pshuk, N. H., Kaminska, A. O. (2014). Deiaki indyvidualno-psykholohichni predyktory formuvannia profesiinoi dez-

adaptatsyi likariv khirurhichnogo ta terapevtychnogo profilii. *Ukrainskyi visnyk psykhonevrolohyi*, 22 (1 (78)), 84–87.

2. Vitenko, I. S. (2011). Spetsyfika adaptatsiynykh reakt-syi likaria zahalno praktyky – simeinoi medytsyny do profesi-noi diyalnosti. *Medychna psykholohiya*, 6 (3 (23)), 10–13.

3. Vitenko, I. S. (2000). Psykholohichni osnovy profesi-noi pidhotovky simeinoho likaria. Kharkiv: Osnova, 224.

4. Dorozhkin, Yu. N., Mazitova, L. T. (2007). Problemy social'noy adaptatsii inostrannykh studentov. *Sociologicheskies issledovaniya*, 3, 73–77.

5. Kokun, O. M. (2005). Adaptatsiya ta adaptatsiyni mozhlyvosti liudyny: prykladni aspekty. Aktualni problemy psykholohiyi. *Psykhofizioloziya. Medychna psykholohiya. Henetychna psykholohiya*, 5 (4), 77–85.

6. Arshava, I. F. (2006). Funktsionalni stany liudyny v protsesi adaptatsyi do ekstremalnykh umov diyalnosti (u paradyhmi „osobystist-stan”). *Visnyk APN Ukrainy. Pedahohika i psykholohiya*, 4 (53), 82–90.

7. Kozhyna, A. M., Markova, M. V., Hrynevych, E. H. (2013). Problemy adaptatsyi studentiv do navchalnoi diyalnos-ti u VUZi v umovakh kredyno-modulnoi systemy osvity. *Naukovo-informatsiyni visnyk Akademiyi nauk vyshchoi osvity Ukrainy*, 3 (86), 87–93.

8. Sokolova, I. M. (2007). Psihofiziologicheskies mekhanizmy adaptatsii studentov. Kharkiv: HGMU, 412.

9. Voloshyn, P. V., Maruta, N. O., Kozhyna, H. M., Mar-kova, M. V. et. al. (2016). Sotsialno-stresovi rozlady (klinika, diahnostyka, profilaktyka). Kharkiv, 335.

10. Volosovets, O. P. (2006). Stratehiya yevrointehrat-siynoho reformuvannia vyshchoi medychnoi osvity Ukrainy. *Problemy medychnoi nauky ta osvity*, 1, 5–12.

DOI: 10.15587/2519-4798.2017.111033

CLINICAL AND PSYCHOPATHOLOGICAL FEATURES OF FORMATION AND COURSE OF DEPRESSIVE DISORDERS AND SUICIDAL BEHAVIOR IN CANCER PATIENTS

p. 7–10

Svetlana Isayenko, Psychiatrist, Kharkiv Regional Clinical Psychiatric Hospital No. 3, Akademika Pavlova str., 46, Kharkiv, Ukraine, 61001

E-mail: isaenko217@gmail.com

ORCID: <http://orcid.org/0000-0001-6460-0484>

Aim of research. *The study of clinical and psychopathological features of formation and clinical course of depressive disorders and suicidal behavior in cancer patients.*

Materials and methods of research. *For attaining the set aim, the complex examination of 154 patients of both genders with a cancer pathology of I and II degree and diagnosed depressive*

disorders was realized, with observing principles of bioethics and medical deontology. The main group included 103 patients with suicidal behavior signs, the control one - 51 men without suicidal behavior signs.

Methods of research: clinical-anamnestic, psychodiagnostic, statistical.

Results. There were described the features of the clinical picture of depressive disorders in cancer patients at adaptation disorders, such as depressive reaction, moderate or heavy depressive episode, organic depressive disorder.

It was determined, that the true suicidal behavior prevailed in all patients (53,2 % of patients with depressive reaction, 56,5 % of patients with depressive episode, 51,2 % with organic depressive disorder), affective variant of suicidal disorder was observed in 38,1 %, 40,1 % and 44,1 % of patients, respectively; demonstrative-chantage suicidal behavior was observed in 8,7 % of patients with depressive reaction, 3,4 % of patients with depressive episode, 4,7 % – with organic depressive disorder.

Patients from the main group demonstrated clinical manifestations of anxiety and depression by the hospital scale, high anxiety and depression by Hamilton scale, great depressive episode by Montgomery-Asberg scale, patients from the control group were characterized by clinical manifestations of anxiety and sub-clinical depression by the hospital scale, moderately expressed anxiety and depression by Hamilton scale, moderate depressive episode by Montgomery-Asberg scale.

It was established, that the high level of suicidal risk and low level of consciousness of death in cancer patients with depressive disorders is a precondition of the suicidal behavior formation.

Conclusions.

1. A malignant neoplasm it is a psychotraumatic factor for a patient and leads to the development of depressive disorders and suicidal behavior.

2. The clinical picture of depressive disorders in patients with a cancer pathology is characterized by the predomination of mood inhibition, effect of sorrow and anxiety, immersion into the feeling of an acute grief because of a cancer diagnosis, with narrowing of cognitive functions and predomination of the content of a psychic trauma in consciousness.

3. The main role in the formation of suicidal behavior of cancer patients is played by high indices of clinical scales of anxiety and depression, combined with the low level of death consciousness, burdened suicidal anamnesis

Keywords: suicidal behavior, cancer patients, depressive reaction, depressive episode, organic depressive disorder

References

1. Maruta, N., Yatsyna, A., Cherednyakova, O. (2014). Gender specificity of clinical manifestations of depressive disorders in male patients. XVI World Congress of Psychiatry. Madrid, 4, 51.
2. Savin, A. I., Volodin, B. Yu. (2015). Features of psychogenically conditioned mental disorders and psychological characteristics of cancer patients with different tumor localizations (approach to the problem). Science of young – Eruditio Juvenium, 3, 82–86.

3. Bambauer, K. Z., Zhang, B., Maciejewski, P. K., Sahay, N., Pirl, W. F., Block, S. D., Prigerson, H. G. (2006). Mutuality and specificity of mental disorders in advanced cancer patients and caregivers. Social Psychiatry and Psychiatric Epidemiology, 41 (10), 819–824. doi: 10.1007/s00127-006-0103-x

4. Kozhina, G. M., Korosty, V. I., Zelenska, K. O. (2014). Mekhanizmy formuvannia ta shliakhy profilaktyky suitsydalnoi povedinki u khvorykh na depresyvni rozlady. Kharkiv: KhNMU, 64.

5. Kozhina, A. M., Zelenskaya, E. A. (2013). Modern approaches to the therapy of depressive disorders. Ukrainian Journal of Psychoneurology, 21 (4 (77)), 90–93.

6. Mukharovska, I. P. (2016). Features of emotional condition cancer patients at the stage of primary treatment. Ukrainian Journal of Psychoneurology, 24 (4 (89)), 69–71.

7. Holland, J. C., Breitbart, W. S., Jacobsen, P. B. et al. (2010). Psycho-Oncology. Oxford: Oxford University press, 720. doi: 10.1093/med/9780195367430.001.0001

8. Walter, F., Webster, A., Scott, S., Emery, J. (2012). The Andersen Model of Total Patient Delay: A Systematic Review of Its Application in Cancer Diagnosis. Journal of Health Services Research & Policy, 17 (2), 110–118. doi: 10.1258/jhs-rp.2011.010113

9. Markova, M. V., Piontkovska, O. V., Kuzhel, I. R. (2012). Stan is the perspective of rozvitku suhasnoi psychoneurology. Ukrainian Journal of Psychoneurology, 20 (4 (73)), 86–91.

10. Cancer in Ukraine 2013–2014. Available at: http://www.ncru.inf.ua/publications/BULL_16/index.htm

DOI: 10.15587/2519-4798.2017.110898

FACTORS ASSOCIATED WITH LONG-TERM PROGNOSIS IN PATIENTS WITH MYOCARDIAL INFARCTION OF THE RIGHT VENTRICLE, EVALUATED BY THE KAPLANE-MEYER METHOD

p. 10–15

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>

Aim of research. To determine the influence of myocardium infarction (MI) of the right ventricle (RV) on the development of cardio-vascular (CV) events at the long-term observation and to establish the role of factors, associated with the unfavorable prognosis of patients with myocardium infarction of the right ventricle. **Materials and methods.** There were examined 309 patients with Q-MI of the left ventricle (LV), age 65,5±4,42 years old. Patients were divided in 3 groups: 1 group – 155 patients with MI RV

on the background of Q-MI of the back wall of the LV, 2 group – 53 patients with MI RV on the background of Q-MI of the circular localization, 3 group – 101 patients with Q-MI of the back wall of LV. The observation period was 30,6±4,5 months. The end points were considered as: unstable angina (UA), repeated MI, acute disorders of the cerebral blood circulation (ADCB), hospitalization because of heart failure (HF) decompensation and CV-death. The statistical researches included the method of Kaplan-Meier and χ^2 -Pearson test.

Results. After 30,6 months of observation the frequency of CV-complications was reliably higher in both groups of patients with MI RV ($p=0,0039$; $p=0,00012$) comparing with the third group. There was no any essential difference in the frequency of end points between 1 and 2 group with MI RV ($p=0,053$). The planned revascularization is connected with the increase of the life quality of patients after MI RV after the reliable influence of CV-death index. In 30,6 months of rehabilitation men and women in both groups with MI RV had no essential difference in the frequency of repeated MI, ADCB, HF and HF-hospitalizations, but the index of CV-death was reliably higher among female persons ($p<0,05$).

Conclusion. The presence of MI RV in patients with Q-MI LV is connected with the higher frequency of CV-events during 30,6 months of observation. MI RV in women is associated with the essential increase of the risk of CV-mortality during 30,6 months of observation. The delayed revascularization is associated with the decrease of the risk of CV-events development, without influencing CV-death index

Keywords: prognosis, myocardium infarction of the right ventricle, delayed revascularization, gender factor, Kaplan-Meier's method

References

- Andersn, H. R., Falk, E., Nielsen, D. (1987). Right ventricular infarction: Frequency, size and topography in coronary heart disease: A prospective study comprising 107 consecutive autopsies from a coronary care unit. *Journal of the American College of Cardiology*, 10 (6), 1223–1232. doi: 10.1016/s0735-1097(87)80122-5
- Pereira, A. C., Franken, R. A., Sprovieri, S. R. S., Golin, V. (2006). Impact on hospital mortality and morbidity of right ventricular involvement among patients with acute left ventricular infarction. *Sao Paulo Medical Journal*, 124 (4), 186–191. doi: 10.1590/s1516-31802006000400003
- 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
- George, S., Patel, M., Thakkar, A. (2014). Clinical Profile and In-Hospital Outcome of Patients with Right Ventricular Myocardial Infarction. *International Journal of Clinical Medicine*, 5 (8), 459–463. doi: 10.4236/ijcm.2014.58064
- Foussas, S. G., Zairis, M. N., Tsiaousis, G. Z., Theodossis-Georgilas, A., Prekates, A. A., Kontos, C. F. et. al. (2009). The Impact of Right Ventricular Involvement on the Postdischarge Long-Term Mortality in Patients With Acute Inferior ST-Segment Elevation Myocardial Infarction. *Angiology*, 61 (2), 179–183. doi: 10.1177/0003319709335302
- Ninkovic, V. M., Perunicic, J. Z., Ninkovic, S. M., Miloradovic, V. M., Vojislav, G. et. al. (2013). Predictors of In-Hospital Mortality in Patients with Acute Inferior Infarction of the Left Ventricle Accompanied by Right Ventricular Infarction when Treated with Percutaneous Coronary Intervention. *Journal of Clinical & Experimental Cardiology*, 4 (7), 253–258. doi: 10.4172/2155-9880.1000253
- Halkin, A., Singh, M., Nikolsky, E., Grines, C. L., Tch- eng, J. E., Garcia, E. et. al. (2005). Prediction of Mortality After Primary Percutaneous Coronary Intervention for Acute Myocardial Infarction. *Journal of the American College of Cardiology*, 45 (9), 1397–1405. doi: 10.1016/j.jacc.2005.01.041
- Zornoff, L. A. M., Skali, H., Pfeffer, M. A., St. John Sutton, M., Rouleau, J. L., Lamas, G. A. et. al. (2002). Right ventricular dysfunction and risk of heart failure and mortality after myocardial infarction. *Journal of the American College of Cardiology*, 39 (9), 1450–1455. doi: 10.1016/s0735-1097(02)01804-1
- Anavekar, N. S., Skali, H., Bourgoun, M., Ghali, J. K., Kober, L., Maggioni, A. P. et. al. (2008). Usefulness of Right Ventricular Fractional Area Change to Predict Death, Heart Failure, and Stroke Following Myocardial Infarction (from the VALIANT ECHO Study). *The American Journal of Cardiology*, 101 (5), 607–612. doi: 10.1016/j.amjcard.2007.09.115
- Jneid, H., Fonarow, G. C., Cannon, C. P., Hernandez, A. F., Palacios, I. F. et. al. (2008). Sex Differences in Medical Care and Early Death After Acute Myocardial Infarction. *Circulation*, 118 (25), 2803–2810. doi: 10.1161/circulationaha.108.789800
- Kvakkestad, K. M., Wang Fagerland, M., Eritslund, J., Halvorsen, S. (2017). Gender differences in all-cause, cardiovascular and cancer mortality during long-term follow-up after acute myocardial infarction; a prospective cohort study. *BMC Cardiovascular Disorders*, 17 (1), 75–84. doi: 10.1186/s12872-017-0508-3
- 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. doi: 10.1093/eurheartj/ehs215
- Velazquez, E. J., Lee, K. L., Deja, M. A., Jain, A., Sopko, G., Marchenko, A. et. al. (2011). Coronary-Artery Bypass Surgery in Patients with Left Ventricular Dysfunction. *New England Journal of Medicine*, 364 (17), 1607–1616. doi: 10.1056/nejmoa1100356
- Lupi-Herrera, E., Gonzalez-Pacheco, H., Juarez-Herrera, U. et. al. (2014). Primary reperfusion in acute right ventricular infarction: An observational study. *World J Cardiol*, 6 (1), 14–22. doi: 10.4330/wjc.v6.i1.14

15. Steg, P., Thuaire, C., Himbert, D., Carrie, D., Champagne, S., Coisne, D. et. al. (2004). DECOPI (DEsobstruction COronaire en Post-Infarctus): a randomized multi-centre trial of occluded artery angioplasty after acute myocardial infarction. *European Heart Journal*, 25 (24), 2187–2194. doi: 10.1016/j.ehj.2004.10.019

16. Briffa, T., Hickling, S., Knuiman, M., Hobbs, M., Hung, J., Sanfilippo, F. M. et. al. (2009). Long term survival after evidence based treatment of acute myocardial infarction and revascularisation: follow-up of population based Perth MONICA cohort, 1984–2005. *BMJ*, 26 (2), 338–346. doi: 10.1136/bmj.b36

17. Otten, A. M., Maas, A. H., Ottervanger, J. P., Kloosterman, A., van't Hof, A. W. et. al. (2013). Is the difference in outcome between men and women treated by primary percutaneous coronary intervention age dependent? Gender difference in STEMI stratified on age. *European Heart Journal: Acute Cardiovascular Care*, 2 (4), 334–341. doi: 10.1177/2048872612475270

18. Mehta, L. S., Beckie, T. M., DeVon, H. A., Grines, C. L., Krumholz, H. M., Johnson, M. N. et. al. (2016). Acute Myocardial Infarction in Women. *Circulation*, 133 (9), 916–947. doi: 10.1161/cir.0000000000000351

DOI: 10.15587/2519-4798.2017.111009

STUDY OF FIBROSIS FACTORS IN PATIENTS WITH FIRSTLY DIAGNOSED MULTIDRUG-RESISTANT PULMONARY TUBERCULOSIS

p. 16–21

Irina Ovcharenko, Postgraduate student, Department of Phthysiology and Pulmonology, Kharkiv national medical university, Nauky ave., 4, Kharkiv, Ukraine, 61022

E-mail: arlabhf@i.ua

ORCID: <http://orcid.org/0000-0001-6953-9029>

Olga Shevchenko, MD, professor, Head of Department, Department of Phthysiology and Pulmonology, Kharkiv national medical university, Nauky ave., 4, Kharkiv, Ukraine, 61022

E-mail: diva5002007@yahoo.com

ORCID: <http://orcid.org/0000-0002-5476-3981>

Aim. To study the levels of tissue factors of fibrosis and markers of destruction of the pulmonary tissue in patients with firstly diagnosed multidrug-resistant pulmonary tuberculosis.

Materials and methods. There were examined 48 patients with firstly diagnosed multidrug-resistant pulmonary tuberculosis, divided in groups depending on treatment results, with studied levels of general oxyproline, free and protein-bound oxyproline and also aldosterone, matrix metalloproteinase-9 and tissue inhibitor of metalloproteinase-1 at the beginning of the treatment. Pearson's χ^2 and Fisher methods, Kruskal-Wallis criteria, Spearman methods were used.

Results. The group of patients, who finished their treatment successfully, demonstrated the mean values of oxyproline and

MP-9, the highest levels of aldosterone and TIMP-1 compared with other groups of patients. Patients, who died before the finish of the main course of chemotherapy, had demonstrated the highest levels of bound oxyproline and MP-9, and also a bit lower levels of free oxyproline and TIMP-1 compared with the group of effectively treated ones. The least levels of all studied parameters were observed in the group of unsuccessfully treated patients.

Conclusion. The processes of decay of the pulmonary tissue prevailed over the reparation ones in the groups of the non-effective treatment that is indicated by an imbalance of free and protein-bound oxyproline and MP-9/TIMP-1 ratio. The exhaustion of compensatory mechanisms may be indicated by the lower level of aldosterone in the groups of the non-effective treatment and its reverse correlation with the prevalence of tuberculosis process and intoxication signs

Keywords: multidrug-resistant pulmonary tuberculosis, fibrosis, oxyproline, aldosterone, metalloproteinase-9, tissue inhibitors of metalloproteinase-1

References

1. Nizova, N. M. et. al.; Nizova, N. M. (Ed.) (2016). Tuberkuloz v Ukraini: analitychno-statystychnyi dovidnyk. Kyiv: Alians hromadskoho zdorovia, 238.

2. Feshchenko, Yu. I., Melnyk, V. M., Turchenko, L. V. (2015). Kontseptualni zasady optymizatsiyi protytuberkuloznykh zakhodiv i re-formuvannya protytuberkuloznoi sluzhby Ukrainy. Available at: <ftp://ftp1.ifp.kiev.ua/original/2015/feshchenko2015.pdf>

3. Unifikovanyi klinichniy protokol pervynnoi, vtorynnoi (spetsializovanoi) ta tretynnoi (vysokospetsializovanoi) medychnoi dopomohy doroslym (2014). Kyiv, 103.

4. Filipova, O. Yu. (2017). Stan fibrozuvannya pechinky u khvorykh na nealkoholnyi steatoz ta steatohepatyt z komorbidnym ozhyrinniam i patolohieiu biliarnoho traktu. Visnyk VDNZU «Ukrainska medychna stomatolohichna akademiya». Aktualni problemy suchasnoi medytsyny, 17 (2 (58)), 204–209.

5. Golomedova, A. V., Galygina, N. E., Stahanov, V. A., Dan'kevich, E. N. (2008). Sovershenstvovanie patogeneticheskoy terapii v pervye vyavlenykh bol'nykh infil'trativnym tuberkulezom legkih. Vestnik RUDN. Ser.: Medicina, 7, 209–213.

6. Brew, K., Nagase, H. (2010). The tissue inhibitors of metalloproteinases (TIMPs): An ancient family with structural and functional diversity. *Biochimica et Biophysica Acta (BBA) – Molecular Cell Research*, 1803 (1), 55–71. doi: 10.1016/j.bbamcr.2010.01.003

7. Bellayr, I., Mu, X., Li, Y. (2009). Biochemical insights into the role of matrix metalloproteinases in regeneration: challenges and recent developments. *Future Medicinal Chemistry*, 1 (6), 1095–1111. doi: 10.4155/fmc.09.83

8. Tarasova, L. G., Strel'cova, E. N., Kantemirova, B. I. (2015). Immunogeneticheskie predposylki narusheniya metabolizma kollagena pri tuberkuleze. Tuberkulez i bolezni legkih, 11, 4–9.

9. Elkington, P. T., Ugarte-Gil, C. A., Friedland, J. S. (2011). Matrix metalloproteinases in tuberculosis. *European Respiratory Journal*, 38 (2), 456–464. doi: 10.1183/09031936.00015411

10. El Margoushy, N. M., Khaleel, A. T. (2013). Metalloproteinase and tissue inhibitor of metalloproteinase in tuberculosis and malignant pleural effusion. *Egyptian Journal of Chest Diseases and Tuberculosis*, 62 (2), 235–240. doi: 10.1016/j.ejcdt.2013.03.008

11. Kulish, M. V. (2013). Vplyv kortykosteroidiv na funktsiiu kory nadnyrnnykiv u khvorykh na vpershe diahnostovanyi destruktyvnyi tuberkuloz lehen. *Problemy ekolohiyi ta medytsyny*, 17 (3-4), 21–26.

12. Sharaev, P. N. (1981). Metod opredeleniya svobodnogo i svyazannogo oksiprolina v syvorotke krovi. *Lab. delo*, 5, 283–285.

13. Poteiko, P. I., Shevchenko, O. S., Lebid, L. V., Liashenko, O. O., Ovcharenko, I. A. (2014). Pat. No. 96483 UA. Sposib diahnostyky mozhlyvoho perebihu tuberkulozu leheniv. MPK6G01N 33/48. No. u201408719; declared: 02.08.2014; published: 10.02.2015, Bul. No. 3, 5.

14. Hung, C.-S., Chou, C.-H., Liao, C.-W., Lin, Y.-T., Wu, X.-M., Chang, Y.-Y. et. al. (2016). Aldosterone Induces Tissue Inhibitor of Metalloproteinases-1 Expression and Further Contributes to Collagen Accumulation Novelty and Significance. *Hypertension*, 67 (6), 1309–1320. doi: 10.1161/hypertensionaha.115.06768

DOI: 10.15587/2519-4798.2017.111188

PNEUMONIAS IN IMMUNOCOMPROMISED PATIENTS: IMPROVEMENT OF TREATMENT USING THE IMMUNOMODULATOR

p. 21–27

Inna Borisova, PhD, Postgraduate student, Department of Medical and Social Expertise and Rehabilitation, SE «Dnipropetrovsk Medical Academy of Health Ministry of Ukraine», Volodymyra Vernadskogo str., 9, Dnepr, Ukraine, 49044

E-mail: doctorinnaborisova1@gmail.com

ORCID: orcid.org/0000-0001-6998-4974

Tetyana Pertseva, MD, Professor, corresponding member of NAMS, Department of Internal Medicine No. 1, SE «Dnipropetrovsk Medical Academy of Health Ministry of Ukraine», Volodymyra Vernadskogo str., 9, Dnepr, Ukraine, 49044

ORCID: orcid.org/0000-0001-6998-4974

Aim of research: to optimize the approach to the treatment of pneumonias in patients on the background of acute leucosis from positions of immunoresistance based on using disodium glutamyl-cysteinile-glycine by the method of extracorporeal pharmacotherapy.

Materials and methods. Research group – 39 patients with pneumonia on the background of acute leucosis, who underwent the treatment according to the form and stage of the disease on the base of the hematological center “MI city multi-profile

clinical hospital No. 4» Dnipro city, 2015–2016. Mean age of patients 31,5±6,5 years, 11 women and 38 men. Patients of the main group were additionally administered with disodium glutamyl-cysteinile-glycine in 2 ml of 3 % solution (60 mg) i/v No. 5 each second day. The parameters of the immune response were studied: T and B-lymphocytes and their subpopulational composition (CD3⁺, CD4⁺, CD8⁺, CD19⁺, CD16⁺, CD56⁺) by the method of flow laser cytofluometry (BeckmanCoulter–USA). There were additionally determined; immunoregulatory index, leuco T-cellular index, leuco B-cellular index and index of leucocytes activation; phagocytosis state was assessed by the parameters: phagocytic number, phagocytic indicator, NBT-tests. The state of humoral immunity was assessed by levels of immunoglobulins of classes A, M and G by the method of immunoturbidimetry (BeckmanCoulter–USA).

Results. The analysis of parameters of cellular and humoral immunity of patients with pneumonias on the background of AL by the improved method of treatment of pneumonia using the immunomodelling preparation disodium glutamyl-cysteinile-glycine proved the positive influence on the immune reactivity of patients' organism, manifested by the reliable increase of the relative quantity of the pool of T-helpers (CD4⁺), NK-cells, increase of immunoregulatory index, PI, PN and increase of humoral immunity indices.

Conclusions. The improved method of pneumonia treatment on the background of AL using the immunomodelling preparation disodium glutamyl-cysteinile-glycine by ECPT method proved the positive influence of the immune reactivity of patients' organism, manifested by the reliable activation of phagocytosis and anti-infectious protection, manifested by the more expressed effect of pneumonia treatment: improvement of the clinical course of disease; decrease of the prognosticated number of ABT days and earlier return to the program treatment of AL. The obtained effects of the improved method of pneumonia treatment in patients with acute leucosis at using the immunomodelling preparation disodium glutamyl-cysteinile-glycine by ECPT method proves the pathogenetic validity of the possibility of optimization of pneumonia treatment from positions of immunoresistance

Keywords: pneumonia, immunity disorders, glutamyl-cysteinile-glycine disodium, cellular and humoral immunity indices

References

1. Galstyan, G. M., Klyasova, G. A., Katrysh, S. A., Zolotovskaya, I. K., Galstyan, A. G., Gorodetskiy, V. M. (2011). Etiologiya nozokomial'nyh pnevmoniy u onkogematologicheskikh bol'nyh v otdelenii reanimatsii i intensivnoy terapii. *Klinicheskaya mikrobiologiya i antimikrobnaya himioterapiya*, 3, 231–240.

2. Rukavitsyn, O. A. (Ed.) (2015). *Gematologiya*. Moscow: GEOTAR-Media, 776.

3. Rumyantsev, A. G., Maschan, A. A., Samochatova, E. V. (2009). *Soprovoditel'naya terapiya i kontrol' infektsiy pri gematologicheskikh i onkologicheskikh zabolovaniyah*. Moscow: Medpraktika-M, 448.

4. Feshchenko, Yu. I., Holubovska, O. A., Honcharov, K. A. (2012). Nehospitalna pnevmoniya u doroslykh osib: etiolohiya, patohenez, klasyfikatsiya, diahnostryka, antybiotybakterialna terapiya (Proekt klinichnykh nastanov). Ukr. pulmonol. Zhurnal, 4, 5–17.

5. Feshchenko, Yu. I., Rekalova, E. M. (2013). Terapevticheskie vozmozhnosti innovatsionnogo imunomodulyatora v pul'monologii i ftiziatrii. Astma ta alerhiya, 1, 6–12.

6. Parahonskiy, A. P. (2017). Narusheniya immunnyy sistemy u bol'nykh pnevmoniey i metody ih korrektsii. Sovremennyye problemy allergologii i immunologii. Available at: http://econf.rae.ru/pdf/2004/07/Parahonskii_2.pdf

7. Kozhemyakin, L. A. (2002). Mekhanizmy deystviya preparata Glutoksim. Opportunisticheskie infektsii: problemy i perspektivy. Omsk: Omskaya meditsinskaya akademiya, 50–53.

8. Shvetsov, D. A. (1996). Napravlenyy transport antibiotikov v lechenii ostrykh nespetsificheskikh vospalitel'nykh zabolevaniy lyogkih i plevry. Karaganda, 22.

9. Standarty diahnostryky ta likuvannia onkolohichnykh khvorykh (2007). Nakaz MOZ Ukrainy «Pro zatverdzhennia protokoliv nadannia medychnoi dopomohy za spetsialnistiu «Onkolohiia» vid 17.09.2007 r. No. 554 iz dopovnenniamy zghidno Nakazu MOZ Ukrainy No. 645 vid 30.07.2010 r.

10. Nehospitalna ta nozokomialna (hospitalna) pnevmoniya u doroslykh osib: etiolohiya, patohenez, klasyfikatsiya, diahnostryka, antybakterialna terapiya (metodychni rekomendatsyi) (2007). Nakaz MOZ Ukrainy «Pro zatverdzhennia klinichnykh protokoliv nadannia medychnoi dopomohy za spetsialnistiu «Pulmonolohiya» vid 19.03.2007 r. No. 128. Kyiv: Veles, 105–146.

11. Borysova, I., Pertseva, T., Kaplan, P. (2016). Pat. No. 1007559U UA. Sposib likuvannia pnevmoniy na tli hostrykh leukoziv hlutoksymom. MPK A61K 31/451 (2006.01), A 61R 31/00, A61R37/00. No.113883; declared: 19.04.2016; published: 27.02.2017, Bul. No. 4, 8.

12. Glants, S. (1998). Mediko-biologicheskaya statistika. Moscow: Praktika, 459.

13. Serediuk, N. M., Bardiak, Ye. M. (2012). Doslidzhenia imunnykh porushen u khvorykh iz riznymi formamy hemoblastoziv ta suputnim zahostrenniam khronichnoho pielonefritu. Ukr. zhurn. klinichn. ta laborator. Medytsyny, 7 (4), 56–59.

14. Pardoll, D. M., Topalian, S. L. (1998). The role of CD4+ T cell responses in antitumor immunity. Current Opinion in Immunology, 10 (5), 588–594. doi: 10.1016/s0952-7915(98)80228-8

15. Feshchenko, Yu. I., Ishchuk, S. G., Matvienko, Yu. A. (2012). Osobennosti sovremennoy immunomoduliruyushchey terapii. Ukr. pul'monol. zhurnal, 3, 50–53.

16. Easton, D. M., Nijnik, A., Mayer, M. L., Hancock, R. E. W. (2009). Potential of immunomodulatory host defense peptides as novel anti-infectives. Trends in Biotechnology, 27 (10), 582–590. doi: 10.1016/j.tibtech.2009.07.004

17. Mostovoi, Yu. M. (2013). Dosvid zastosuvannia imunomoduliruyushchoi terapii Hlutoksymom u khvorykh iz ti-azhkyim perebihom ne hospitalnoi pnevmoniyi. Pulmonolohiya, 12, 52–53.

18. Shvetsov, D. A. (1996). Napravlenyy transport antibiotikov v lechenii ostrykh nespetsificheskikh vospalitel'nykh zabolevaniy legkih i plevry. Karaganda, 22.

19. Protopopova, G. M., Vlasov, S. V., Kreynes, V. M. (1998). Reinfuziya kletochnoy massy krovi posle ee inkubatsii s antibiotikom v lechenii neoslozhnennoy pnevmonii u detey. Efferentnaya terapiya, 4 (4), 47–50.

DOI: 10.15587/2519-4798.2017.111159

ACTUAL APPROACHES TO PHYSICAL REHABILITATION OF PATIENTS WITH ISCHEMIC HEART DISEASE AND COMPLICATED PATHOLOGY AFTER MYOCARDIUM SURGICAL REVASCULARIZATION

p. 28–32

Olena Kolodenko, PhD, SI «Ukrainian Research Institute of Medical Rehabilitation and Balneology Of Ministry of Health of Ukraine», Lermontovskiy lane, 6, Odessa, Ukraine, 65014
E-mail: kolodenkol@ukr.net

ORCID: <http://orcid.org/0000-0003-3555-4903>

The aim of the research is to assess the effectiveness of restoration treatment using hydrokinesotherapy in patients with ischemic heart disease (IHD) and concomitant pathology after surgical revascularization of the myocardium (SRM).

Methods of the research. 280 patients with IHD and concomitant pathology after SRM were examined. 135 patients (group 1) received the standard treatment. 145 patients (group 2) received differentiated complexes of restoration treatment depending on the concomitant pathology adding hydrokinesotherapy. The groups were divided in subgroups depending on the concomitant pathology: A – concomitant arterial hypertension, B – diabetes mellitus, C – osteoarthritis. We realized the dynamic clinical observation of the objective and subjective patients' states, instrumental and functional methods of examination (ECG, EchoCS, Holter monitoring of ECG, measurement of arterial pressure, heart rate, veloergometry, six-minute test (SMT).

Results. After the course of rehabilitation patients of all groups demonstrated the improvement, but the statistically reliable one was observed in group 2. According to the results of six-minute test of walking (SMT), the increase of the distance by 30,0, 19,6 and 30,0 % was observed in subgroup 2A, 2B, 2C corresponding to ($p \leq 0,05$). The reliable increase of tolerance to a physical load was observed in patients of 2 group, in subgroup A1 – by 80,4, in subgroup 2B – by 62,0, and in subgroup 3B – by 32,2 % ($p \leq 0,05$).

Conclusions. Thus, the inclusion of hydrokinesotherapy in the complex differentiated programs of rehabilitation of patients with ICD and concomitant pathology after SRM is safe and effective, moreover, it favors the myocardium contractile ability and increase of tolerance to a physical load

Keywords: ischemic heart disease, surgical revascularization of myocardium, restoration treatment, physical rehabilitation

References

1. Smith, S. C., Benjamin, E. J., Bonow, R. O., Braun, L. T., Creager, M. A., Franklin, B. A. et. al. (2011). AHA/ACCF Secondary Prevention and Risk Reduction Therapy for Patients With Coronary and Other Atherosclerotic Vascular Disease: 2011 Update. *Journal of the American College of Cardiology*, 58 (23), 2432–2446. doi: 10.1016/j.jacc.2011.10.824
2. Kornatsky, V. M. (2013). Regional medical and social problems of circulatory system diseases. Kyiv, 239.
3. Smith, S. C., Benjamin, E. J., Bonow, R. O., Braun, L. T., Creager, M. A., Franklin, B. A. et. al. (2011). AHA/ACCF Secondary Prevention and Risk Reduction Therapy for Patients With Coronary and Other Atherosclerotic Vascular Disease: 2011 Update: A Guideline From the American Heart Association and American College of Cardiology Foundation. *Circulation*, 124 (22), 2458–2473. doi: 10.1161/cir.0b013e318235eb4d
4. Boden, W. E., O'Rourke, R. A., Teo, K. K., Hartigan, P. M., Maron, D. J., Kostuk, W. J. et. al. (2007). Optimal Medical Therapy with or without PCI for Stable Coronary Disease. *New England Journal of Medicine*, 356 (15), 1503–1516. doi: 10.1056/nejmoa070829
5. Panagopoulou, E., Montgomery, A., Benos, A. (2006). Quality of life after coronary artery bypass grafting: evaluating the influence of preoperative physical and psychosocial functioning. *Journal of Psychosomatic Research*, 60 (6), 639–644. doi: 10.1016/j.jpsychores.2005.11.004
6. Bradshaw, P. J., Jamrozik, K. D., Gilfillan, I. S., Thompson, P. L. (2006). Asymptomatic long-term survivors of coronary artery bypass surgery enjoy a quality of life equal to the general population. *American Heart Journal*, 151 (2), 537–544. doi: 10.1016/j.ahj.2005.04.007
7. Hammill, B. G., Curtis, L. H., Schulman, K. A., Whellan, D. J. (2009). Relationship Between Cardiac Rehabilitation and Long-Term Risks of Death and Myocardial Infarction Among Elderly Medicare Beneficiaries. *Circulation*, 121 (1), 63–70. doi: 10.1161/circulationaha.109.876383
8. Leon, A. S. (2005). Cardiac Rehabilitation and Secondary Prevention of Coronary Heart Disease: An American Heart Association Scientific Statement From the Council on Clinical Cardiology (Subcommittee on Exercise, Cardiac Rehabilitation, and Prevention) and the Council on Nutrition, Physical Activity, and Metabolism (Subcommittee on Physical Activity), in Collaboration With the American Association of Cardiovascular and Pulmonary Rehabilitation. *Circulation*, 111 (3), 369–376. doi: 10.1161/01.cir.0000151788.08740.5c
9. Bykov, A. T., Malyarenko, T. N., Terent'ev, V. P. (2009). Hydrotherapy: the role of immersion in water and physical exercises in it. *Physical education in the prevention, treatment, rehabilitation*, 1, 30–43.
10. Doroshenko, D. A., Zubarev, A. R., Lapochkina, O. V., Konysheva, O. V., Tyulkina, E. E., Volov, N. A. (2016). Modern methods of intracardiac hemodynamics and cardiac deformability assessment in pregnant women with dilation cardiomyopathy syndrome. *Russian Journal of Cardiology*, 4, 59–63. doi: 10.15829/1560-4071-2016-4-59-63
11. Bokeria, L. A., Aronov, D. M. et. al. (2016). Russian clinical guidelines. Coronary bypass surgery in patients with coronary heart disease: rehabilitation and secondary prevention. *CardioSomatics*, 7 (3-4), 5–71.

DOI: 10.15587/2519-4798.2017.111190

THE TRIGGER MEANING OF PERSISTENT INTRACELLULAR PATHOGENS WITH PROLONGED FEVER AND SUBSEQUENT DEVELOPMENT OF SOMATIC PATHOLOGY IN CHILDREN

p. 32–36

Sergey Matvienko, Postgraduate student, Department of Pediatrics, Kharkiv Medical Academy of Postgraduate Education, Amosova str., 58, Kharkiv, Ukraine, 61176

E-mail: Samatvienko5@gmail.com

ORCID: <http://orcid.org/0000-0001-8415-9489>

Marina Diachenko, Postgraduate student, Department of Pediatrics, Kharkiv Medical Academy of Postgraduate Education, Amosova str., 58, Kharkiv, Ukraine, 61176

E-mail: marinausenko@ukr.net

ORCID: <http://orcid.org/0000-0002-2006-3346>

Despite the intense study of intracellular infections, the data as to their clinical-diagnostic and prognostic value still contradictory, especially in children of young age. Especially, prolonged fevers (fevers of an obscure generation) may be the manifestation of a series of infectious and somatic diseases with the further formation of a chronic somatic pathology.

The interest to this problem is connected, from the one side, with the necessity to prognosticate, early detect and primarily prevent a somatic pathology, forming groups of the high risk. From the other side, the possibility of transformation of an acute pathology in children in a chronic somatic pathology in adults is well-known.

The aim of the research was to improve the diagnostics of the infectious pathology, caused by intracellular pathogens in children, especially at prolonged fevers (fevers of an obscure generation), by improving the diagnostics quality, based on the deepened study of clinical-pathogenetic features of these pathological states.

Methods. There was realized the clinical and laboratory examination of 100 children with prolonged fevers (fevers of an obscure generation), admitted without a set diagnosis. The etiological interpretation was realized by the methods of serological markers (ELISA) and molecular-genetic ones (polymerase chain reaction). The interpretation of levels of blood interleukins was realized by IEA, using ProCon IL-1 β , 4, 6, TNF- α , interferon- γ reagents.

As a result of etiological pathogens verification, there were revealed beta-hemolytic streptococcus, virus of simple herpes of 1, 2 types, cytomegalovirus Epstein-Barr, chlamydiosis, mycoplasma, adenoviruses as both mono- and mixed infections. According to the research results, 90 % of children demonstrat-

ed the high severity and changed status of cytokines and local protective factors. More serious disorders of the immune system are revealed at mixed viral and atypical infections and somatic diseases. Different disorders of the autoimmune mechanism of development, namely system diseases of the connective tissue can appear in children with different variants of intracellular infections.

Conclusions. Clinical-anamnestic, laboratory conclusions and immunologic research using the system analysis allow to prognosticate results in the catamnesis of children with intracellular infections of different somatic pathologies, and the multi-vector and correlation analysis allow to elaborate new diagnostic criteria

Keywords: intracellular pathogens, intracellular infection, interleukins, local protective factors, somatic pathology

References

1. Yeloyeva, Z. V., Akinina, M. N., Belovodskaya, I. V., Usenko, M. S. (2013). An atypically infectious pathology in children caused by intracellular pathogens. *Kharkiv Medical Journal*, 1, 31–35.
2. Yeloyeva, Z. V., Akinina, M. N., Belovodskaya, I. V. (2013). The value of intracellular pathogens in LDL in children. *Epidemiology, hygiene, infectious diseases*, 1 (8), 55–58.
3. Delyagin, V. M. (2012). Fever Variety of reasons and complexity of decision. *Health of the child*, 6, 171–176.
4. Yeloyeva, Z. V., Krasnozhen, N. N., Diachenko, M. S. (2014). Features of the course of an atypically leaky pathology caused by persistent intracellular infections. *Kharkiv: "Opinion"*, 29–32.
5. Bogadel'nikov, I. V., Krueger, E. A., Bobrysheva, A. V., Smirnov, G. I. (2012). Do not hide the infection in your pocket. *Health of the child*, 8 (43), 143–145.
6. Kopcha, V. S., Legeza, K. M. (2011). Long subfebrile and fever of unclear genesis. *Infectious Diseases*, 3, 59–74.
7. Akinina, M. N., Eloeva, Z. V., Kuznetsova, V. M., Shevchenko, Y. A., Korzhova, A. V. (2015). The role of streptococcal infection in the occurrence of fever in unclear genesis in children. *Kharkiv: Generous Estate Plus*, 17–19.
8. Yeloyeva, Z. V., Mishhenko, V. A., Akinina, M. N., Belovodskaya, I. V. (2014). Improvement of Diagnosis and Forecasting of Complications in Children with fever of unknown origin. *Epidemiology, hygiene, infectious diseases*, 2, 31–38.
9. Yulish, E. I. (2009) Persistent infections and man. Strategy of mutual relations. *Child's health*, 4 (19), 106–117.
10. García-Sastre, A. (2017). Ten Strategies of Interferon Evasion by Viruses. *Cell Host & Microbe*, 22 (2), 176–184. doi: 10.1016/j.chom.2017.07.012
11. Barron, K., Athreya, B., Kastner, D. (2011). Periodic fever syndromes and other inherited autoinflammatory diseases. *Textbook of Pediatric Rheumatology*, 642–660. doi: 10.1016/b978-1-4160-6581-4.10043-3
12. Xu, L., Zhu, Y., Ren, L., Xu, B., Liu, C., Xie, Z., Shen, K. (2017). Characterization of the nasopharyngeal viral microbiome from children with community-acquired pneumonia but negative for Luminex xTAG respiratory viral panel assay detection. *Journal of Medical Virology*. doi: 10.1002/jmv.24895
13. Kawai, Y., Miyashita, N., Kato, T., Okimoto, N., Narita, M. (2016). Extra-pulmonary manifestations associated with *Mycoplasma pneumoniae* pneumonia in adults. *European Journal of Internal Medicine*, 29, e9–e10. doi: 10.1016/j.ejim.2015.11.011
14. Wishaupt, J. O., Versteegh, F. G. A., Hartwig, N. G. (2015). PCR testing for Paediatric Acute Respiratory Tract Infections. *Paediatric Respiratory Reviews*, 16 (1), 43–48. doi: 10.1016/j.prrv.2014.07.002
15. Fujieda, M., Tsuruga, K., Sato, T., Kikuchi, H., Tamaki, W., Ishihara, M. et. al. (2016). Monitoring of Epstein–Barr virus load and killer T cells in patients with juvenile idiopathic arthritis treated with methotrexate or tocilizumab. *Modern Rheumatology*, 27 (1), 66–71. doi: 10.1080/14397595.2016.1177247
16. Kim, Y.-S., Kim, K.-R., Kang, J.-M., Kim, J.-M., Kim, Y.-J. (2017). Etiology and clinical characteristics of fever of unknown origin in children: a 15-year experience in a single center. *Korean Journal of Pediatrics*, 60 (3), 77. doi: 10.3345/kjp.2017.60.3.77
17. Yulish, E. I. (2010). Paradigm of the formation and development of chronic somatic diseases against the background of persistent infections. *Health of the child*, 6 (27), 92–101.

DOI: 10.15587/2519-4798.2017.111154

THE CENTRAL HEMODYNAMICS ASSESSMENT METHODS IN THYROTOXICOSIS PATIENTS UNDER INHALED ANESTHESIA

p. 37–42

Sergii Tarasenko, Anesthesiologist, Department of Anesthesiology and Intensive Care, Ukrainian Scientific and Practical Center of Endocrine Surgery, Endocrine Organs and Tissues Transplantation by Public Health Ministry, Klovisky descent, 13-A, Kyiv, Ukraine, 01021

E-mail: starasenko1@gmail.com

ORCID: <http://orcid.org/0000-0001-9970-4574>

Sergii Dubrov, MD, Professor, Department of Anesthesiology and Intensive Care, Bogomolets National Medical University, T. Shevchenko blvd., 13, Kyiv, Ukraine, 01601

E-mail: sergii.dubrov@gmail.com

ORCID: <http://orcid.org/0000-0002-2471-3377>

Mikhailo Kunatovskyi, Anesthesiologist, Head of Department, Department of Anesthesiology and Intensive Care, Ukrainian Scientific and Practical Center of Endocrine Surgery, Endocrine Organs and Tissues Transplantation by Public Health Ministry, Klovisky descent, 13-A, Kyiv, Ukraine, 01021

E-mail: info@endocenter.kiev.ua

Olena Efimova, Anesthesiologist, Department of Anesthesiology and Intensive Care, Ukrainian State Scientific- Ukrainian

Scientific and Practical Center of Endocrine Surgery, Endocrine Organs and Tissues Transplantation by Public Health Ministry, Klovisky descent, 13-A, Kyiv, Ukraine, 01021

E-mail: info@endocenter.kiev.ua

Aim: To assess the central hemodynamics using calculation forms and invasive-noninvasive systems on the background of using inhaled minimal-streaming anesthesia at thyroidectomies in patients with thyrotoxicosis.

Materials and methods. The study included 44 patients with the syndrome of thyrotoxicosis (diffuse thyrotoxic goiter – 31 patients (70,45 %), multi-node goiter – 10 (22,74 %) and toxic adenoma – 3 patients (6,81 %)), operated under the general anesthesia as inhaled anesthesia by sevoflurane by the method of minimal stream (FGF=400 ml/min., Sev 3,0 vol%). Women – 40 patients (91,9 %), men – 4 (9,1 %) patients. Mean age 47,61±2,39 years, BMI 25,89±0,53 c.u., body surface area 1,82±0,02 m². The assessment of systolic arterial pressure (APs), diastolic (APd), mean AR (MAP), sphygmic pressure (SP), HR, mean pressure in the aorta, (MPA). There was studied the index of the proper minute volume of blood circulation (PMCB) based on values of the proper main metabolism (PMM). The parameters of the central hemodynamics were studied intraoperationaly (after patient's intubation) after esophageal dopplerography on the apparatus Cardio Q («Deltex Medical», Great Britain) and esCCO™ method (monitor Vismo, Nihon Kohden). esCCO™ method (calculative continuous heart ejection) and calculative formulas by: Starr, Lillier-Shtrander, Tsander, RU No. 2481785.

Results and discussion. Calculative indices by M.M. Savitsky formula don't reliably differ comparing with the objective instrumental method of hemodynamics control by DopplerEchoCG and can be used as initial indices for the comparison with instrumental and calculative ones. At the analysis of APs, APd, MAP, SP in control points, it was observed, that at patient's admission to a surgical room MAP and MPA on 2 control reliably ($p<0,001$) increased by 7,3 % and 6,7 % respectively comparing with 1 control, connected with the natural anxiety of a patients before the surgical intervention. After the input anesthesia the reliably ($p<0,001$) lowest indices of MAP, MPA, SP, APs, APs on 3 control by Wilcoxon criterion were observed. They were stabilized at following stages of anesthesia. MVB and HI on all control points, according to the data of calculative formulas by Starr, Lillier-Shtrander and Tsander, have reliably ($p<0,05$) lower values by Wilcoxon criterion than according to instrumental data by DopplerEchoCG. The calculative indices MVB and HI, according to the RU No.2481785 have reliably ($p<0,05$) higher values by Wilcoxon criterion on all control points than by DopplerEchoCG instrumental data. MVB, GPVR, HI, obtained using the method of esCCO Vismo monitoring had the least degree of deviations from DopplerEchoCG data. Spearman correlation between these indices was 0,83 (strong direct connection, $p<0,05$). Spearman correlation is absent between indices of the calculative formulas of Starr, Lillier-Shtrander and Tsander and data of DopplerEchoCG ($rs=-0,07$ and $rs=-0,14$ respectively).

The indices by the data of the patent RU No.2481785 have rather high mistake by the data of DopplerEchoCG comparing with esCCO method, but demonstrate the moderate correlation with them $rs=0,38$ ($p<0,05$). There is the strong direct correlation between indices of the invasive CardioQ EDM and non-invasive esCCO method ($rs=0,75$; $p<0,05$). Among calculative indices, the most correlation with data of esCCO method is demonstrated by indices by the patent CRU No. 2481785 ($rs=0,38$, $p<0,05$), indices by Starr, Lillier-Shtrander and Tsander formulas have no correlation with esCCO method.

Conclusions. Calculative indices by M. M. Savitsky formula don't reliably differ comparing with DopplerEchoCG data and can be used as initial indices for the comparison with instrumental and calculative ones.

Calculative indices by the data of Starr, Lillier-Shtrander and Tsander formulas underestimate MVB, HI and have no correlations comparing with instrumental assessment methods. Indices by the patent RU No.2481785 give overestimated values of MVB and HI, but have the moderate correlation ($rs=0,38$; ($p<0,05$) with both DopplerEchoCG and esCCO data.

After the input anesthesia there is observed the reliable ($p<0,05$) decrease of MVB and HI by doth data of invasive monitoring – esophageal dopplerography by Cardio Q system, and non-invasive esCCO™ monitoring method (calculative continuous hearth ejection), stabilized at 5–6 stages of the operation.

There is the moderate correlation between indices of data of invasive (Cardio Q) and non-invasive (esCCO™) monitoring at the level $rs=0,75$ ($p<0,05$).

esCCO method allows to study fluctuations of the central hemodynamics at equal stages of anesthesia maximally effectively, it is a simple non-invasive method of control of the central hemodynamics with the high degree of correlation with DopplerEchoCg indices

Keywords: central hemodynamics, methods of assessment, invasive/non-invasive control, inhaled anesthesia, thyrotoxicosis

References

- Cherenko, M. S. (2016). The current opinion on management and treatment of hyperthyroidism and other forms of thyrotoxicosis: review of the latest Guidelines of American Thyroid Association (2016). *Clinical endocrinology and endocrine surgery*, 4 (56), 87–94. doi: 10.24026/1818-1384.4(56).2016.87324
- Negovsky, A. A., Shpazhnikova, T. I., Znamen-sky, A. A., Zamyatin, M. N. (2008). Anesthetic Maintenance of Thyroid Surgery. *General Reanimatology*, IV (6), 65–68. doi: 10.15360/1813-9779-2008-6-65
- Fadel, B. M., Ellaham, S., Lindsay, J., Ringel, M. D., Wartofsky, L., Burman, K. D. (2000). Hyperthyroid heart disease. *Clinical Cardiology*, 23 (6), 402–408. doi: 10.1002/clc.4960230605
- Danzi, S., Klein, I. (2012). Thyroid Hormone and the Cardiovascular System. *Medical Clinics of North America*, 96 (2), 257–268. doi: 10.1016/j.mcna.2012.01.006
- Jabbar, A., Pingitore, A., Pearce, S. H. S., Zaman, A., Iervasi, G., Razvi, S. (2016). Thyroid hormones and cardio-

vascular disease. *Nature Reviews Cardiology*, 14 (1), 39–55. doi: 10.1038/nrcardio.2016.174

6. Biondi, B., Bartalena, L., Cooper, D. S., Hegedus, L., Laurberg, P., Kahaly, G. J. (2015). The 2015 European Thyroid Association Guidelines on Diagnosis and Treatment of Endogenous Subclinical Hyperthyroidism. *European Thyroid Journal*, 4 (3), 149–163. doi: 10.1159/000438750

7. Tarasenko, S. O., Dubrov, S. O., Lukavska, E. V., Kashchenko, M. V. (2017). Implementation of ERAS protocol in thyrotoxicosis patients undergoing thyroidectomy. *Clinical Endocrinology and Endocrine Surgery*, 1 (57), 69–78. doi: 10.24026/1818-1384.1(57).2017.96990

8. Starr, I. (1954). Clinical Tests of the Simple Method of Estimating Cardiac Stroke Volume from Blood Pressure and Age. *Circulation*, 9 (5), 664–681. doi: 10.1161/01.cir.9.5.664

9. Veyn, A. M. (Ed.). *Vegetativnye rasstroystva: Klinika, diagnostika, lechenie*. Moscow: OOO «Meditsinskoe informatsionnoe agentstvo», 752.

10. Pestryaev, V. A., Kinzhalova, S. V., Makarov, R. A. (2011). Pat. No. 2481785(13) C2 RU. Sposob opredeleniya minutnogo ob'ema krovi (MOK) i obshchego perifericheskogo soprotivleniya sosudov (OPSS). No. 2011128217/14; declared: 07.07.2011; published: 20.05.2013, Bul. No. 14, 6. Available at: <http://www.freepatent.ru/images/patents/478/2481785/patent-2481785.pdf>

11. Teregulov, Yu. E. (2012). Integral'nye pokazateli tsentral'noy gemodinamiki u zdorovyh lits i patsientov s gipertonicheskoy bolezn'yu v zavisimosti ot tipa gemodinamiki. *Prakticheskaya meditsina*, 8 (64), 164–168.

12. Yamada, T., Sugo, Y., Takeda, J., ResearchTeam, es-CCO. (2010). Verification of a non-invasive continuous cardiac output measurement method based on the pulse-contour analysis combined with pulse wave transit time. *European Journal of Anaesthesiology*, 27, 57. doi: 10.1097/00003643-201006121-00179

13. Ishihara, H., Sugo, Y., Tsutsui, M., Yamada, T., Sato, T., Akazawa, T. et. al. (2012). The ability of a new continuous cardiac output monitor to measure trends in cardiac output following implementation of a patient information calibration and an automated exclusion algorithm. *Journal of Clinical Monitoring and Computing*, 26 (6), 465–471. doi: 10.1007/s10877-012-9384-7

DOI: 10.15587/2519-4798.2017.111192

STUDY OF THE STRUCTURE OF HEPATITIS C VIRUS, WHICH CIRCULATE AMONG THE POPULATION OF THE REGION OF UKRAINE WITH AN AVERAGE DEGREE OF URBANIZATION

p. 43–49

Inna Khoronzhevskaya, PhD, Head of Laboratory, Laboratory of Virology, State Institution «Rivne Regional Laboratory Center of the Ministry of Health of Ukraine», Kotlyarevskogo str., 3, Rivne, Ukraine, 33018

E-mail: inna-kh2017@ukr.net

ORCID: <http://orcid.org/0000-0002-1837-0443>

Tetiana Sergeeva, MD, Deputy Director, State Institution «Institute of Epidemiology and Infectious Diseases named after L. V. Gromashevsky» of the National Academy of Medical Sciences of Ukraine, M. Amosova str., 5, Kyiv, Ukraine, 036670

E-mail: tas1960@ukr.net

Halyna Martyniuk, PhD, Head of the Rivne Regional Diagnostic and Treatment Hepatology Center, 16 Lypnya str., 36, Rivne, Ukraine, 33028

E-mail: chali2012@ukr.net

Viktor Moroz, Head of the Department, Department of Epidemiological Supervision (Surveillance), State Institution «Rivne Regional Laboratory Center of the Ministry of Health of Ukraine», Kotlyarevskogo str., 3, Rivne, Ukraine, 33018

E-mail: epidemiologses@ukr.net

Oleksandr Bialkovskiy, Deputy Director, State Institution «Rivne Regional Laboratory Center of the Ministry of Health of Ukraine», Kotlyarevskogo str., 3, Rivne, Ukraine, 33018

E-mail: rivneolc@ukr.net

Roman Safonov, Acting Director, State Institution «Rivne Regional Laboratory Center of the Ministry of Health of Ukraine», Kotlyarevskogo str., 3, Rivne, Ukraine, 33018

E-mail: rivneolc@ukr.net

The aim of the research is the study of hidden mechanisms of development of the epidemic process of hepatitis C, dynamics of changes of the structure of HCV genotypes that circulate among the population of the Ukrainian region with an average stage of urbanization.

The morbidity of AHC for 1993–2016 and the morbidity of the CHC for 2010–2016 of the population of the Rivne region of the Northwestern region of Ukraine were analyzed in the study, as well as the morbidity of these infections was presented compared with other regions of Ukraine (for 2015–2016). The HCV genotypes for the period of 2011–2016 were determined in 70 primary blood donors in whom the HCV genetic markers were firstly detected by RT-PCR method and a change in the genotype structure was showed compared to data obtained in 1996–1997. Sequencing of the core HCV area of 322 n.s. was performed non-type by RT-PCR method of three HCV isolates.

Methods of research: epidemiological, molecular-genetic (RT-PCR and sequencing), statistical.

Results. The dynamics of HC epidemic virus at the territory of Rivne region of the Northern-Western region of Ukraine is conditioned by the self-reconstruction of HCV population that takes place as a result of evolutionally fixed mechanisms of changeability (3,7±2,09 % of persons with 1b HCV subtype at the area core HCV area with size 322 n.s. demonstrated the point natural changeability from 6 to 13 nucleotide sequences) and fluctuations in changeability indices of HCV population. For the last 20 years there was revealed the reliability of differences in the width of prevalence of separate HCV genotypes: decrease of the

specific weight of 1b HCV subtype from 85±8,19 % to 51,43±5,97 % ($p<0,05$) and increase of the specific weight of 3a HCV subtype from 10,0±6,88 % to 31,43±5,55 % ($p<0,05$).

Conclusions. It gives ground to recommend to realize the permanent molecular-genetic monitoring of HCV by RT-PCR method and sequencing of the part of HCV genome for detecting hidden mechanisms of the development of the epidemic process of hepatitis C at the studied territory

Keywords: acute hepatitis C, chronic hepatitis C, genotypes of virus of hepatitis C, natural changeability of virus

References

- Hural, A. L., Mariyevskiy, V. F., Serheieva, T. A. et al. (2011). Kharakterystyka i osoblyvosti epidemichnoho protsesu hepatytu S v Ukraini. Profilaktychna medytsyna, 1, 9–17.
- Serheieva, T. A., Shahinian, V. R., Ivskiv, O. S. (2015). P'yat rokiv ofitsiinoi reiestratsii khronichnykh virusnykh hepatyiv v Ukraini: statystyka ta epidemiolohichni osoblyvosti poshyrennia. «Infektsiyni khvoroby suchasnosti: etiolohiya, epidemiolohiya, diahnostyka, likuvannia, profilaktyka, biolohichna bezpeka» prysviachena shorichnym «Chytanniam» pam'yati akademika L. V. Hromashevskoho. Kyiv, 76–70.
- D. K. Lvov (Ed.) (2008). Medytsynskaia virusolohiya. Moscow: OOO "Medytsynskoe ynformatsyonnoe ahenstvo", 656.
- Shahgil'dyan, I. V., Mihailov, M. I., Onishchenko, G. G. (Eds.) (2003). Parenteral'nye virusnye gepatity (ehpidemiologiia, diahnostika, profilaktika). Moscow: GOU VUNMC MZRF, 384.
- Action plan for the health sector response to viral hepatitis in the WHO European Region (2016). WHO. Available at: http://www.euro.who.int/__data/assets/pdf_file/0017/318320/European-action-plan-HS-viral-hepatitis.pdf?ua=1
- Mokhort, H. A., Kovalchuk, A., Rodyna, R. (2017). Nozolohichna struktura infektsiynoi smertnosti v Ukraini (1965–2015). Rehionalnyi Naukovyi Sympozium v ramkakh kontseptsii «Yedynе zdorov'ya» ta Seminar iz retsenzuvannia ta vidboru naukovykh robit za pidtrymky PZSBD v Ukraini. Kyiv, 122.
- Gromashevskiy, L. V. (1978). Izbrannye trudy. Vol. 2. Teoreticheskie voprosy ehpidemiologii. Kyiv: Zdorov'ya, 360.
- Belyakov, V. D., Golubev, D. B., Kaminskiy, G. D., Tec, V. V. (1987). Samoregulyaciya parazitarnih sistem (molekularno-geneticheskie mekhanizmy). Leningrad: Medicina, 240.
- Cherkasskiy, B. L. (2007). Global'naya ehpidemiologiia. Moscow: Prakticheskaya medicina, 448.
- Simmonds, P. (2004). Genetic diversity and evolution of hepatitis C virus – 15 years on. Journal of General Virology, 85 (11), 3173–3188. doi: 10.1099/vir.0.80401-0
- Pokrovskiy, V. I., Tvorogova, M. G., Shipulin, G. A. (2014). Laboratornaya diahnostika infektsionnykh bolezney. Moscow: Binom, 648.
- Belyakov, V. D., Yafaev, R. H. (1989). Ehpidemiologiia. Moscow: Medicina, 416.
- Frolov, A. F., Zadorozhnaya, V. I. (2010). Molekul'yarnaya ehpidemiologiia virusnyh i prionnyh infektsiy. Kyiv: DIA, 280.
- Kalinina, O., Norder, H., Mukomolov, S., Magnus, L. O. (2002). A Natural Intergenotypic Recombinant of Hepatitis C Virus Identified in St. Petersburg. Journal of Virology, 76 (8), 4034–4043. doi: 10.1128/jvi.76.8.4034-4043.2002
- Smith, D. B., Bukh, J., Kuiken, C., Muerhoff, A. S., Rice, C. M., Stapleton, J. T., Simmonds, P. (2013). Expanded classification of hepatitis C virus into 7 genotypes and 67 subtypes: Updated criteria and genotype assignment web resource. Hepatology, 59 (1), 318–327. doi: 10.1002/hep.26744
- Simmonds, P., Bukh, J., Combet, C., Deléage, G., Enomoto, N., Feinstone, S. et al. (2005). Consensus proposals for a unified system of nomenclature of hepatitis C virus genotypes. Hepatology, 42 (4), 962–973. doi: 10.1002/hep.20819
- Andreichyn, A. M., Vasylyshyn, Z. P., Vynohrad, N. O.; Kolesnykov, I. P. (Ed.) (2012). Epidemiolohiya. Vinnytsia: Nova Knyha, 576.
- Mihaylova, Yu. V., Bystrova, T. N., Efimov, E. I. (2013). Osobennost' ehpidemicheskogo processa gepatita S na territorii krupnogo goroda evropeyskoy chasti Rossii. Medicinskiy Al'manah, 2 (26), 86–90.
- Malyi, V. P., Lyadova, T. I., Volobueva, O. V., Gololobova, O. V. (2012). Molekul'yarnaya ehpidemiologiia obligatno-gepatotropnykh virusov i ih vliyanie na klinicheskie proyavleniya i iskhody bolezni. Mezhdunarodnyy medicinskiy zhurnal, 1, 89–94.
- Martynyuk, G. A., Shahgil'dyan, I. V., Kramarev, S. A. et al. (1998). Gepatit S na territorii Severo-Zapadnoy Ukrainy. Ehpidemiologiia i infektsionnye bolezni, 4, 25–28.
- Ohno, T., Mizokami, M., Wu, R.-R. et al. (1997). New hepatitis C virus (HCV) genotyping system that allows for identification of HCV genotypes 1a, 1b, 2a, 2b, 3b, 4, 5a and 6a. J. of Clinical Microbiology, 35 (1), 201–207.
- Demografichniy pasport terytorii. Available at: http://database.ukrcensus.gov.ua/Mult/Dialog/statfile1_c_files/pasport1.htm
- Bystrova, T. N., Mihaylova, Yu. V. (2011). Molekularno-geneticheskaya harakteristika izolyatov virusa gepatita S, cirkuliruyushchih na territorii s umerennoy aktivnost'yu ehpidemicheskogo processa. Infektsionnye bolezni, 9 (2), 28–31.
- Kuzin, S. N., Krel', P. E., Ignatova, T. M. et al. (2011). Struktura genotipov vi rusa gepatita u pacientov s khronicheskim gepatitom S. Zhurnal mikrobiologii, ehpidemiologii i immunobiologii, 3, 33–38.
- Slepceva, S. S., A. G. Rahmanova, T.T. Bugaeva et al. (2013). Genotypy virusov gepatitov V, S i D i pervichnyy rak pecheni v Yakutii. Materialy V Ezhegodnogo Vserossiyskogo Kongressa po infektsionnym boleznyam. Moscow, 369.