TRENDS IN THE DEVELOPMENT OF QUALITY TRAINING OF FUTURE SPECIALISTS

Proceedings of the XX International Scientific and Practical Conference

Oslo, Norway
May 21 – 24, 2024

THE FEATURES OF LIPID ABERRATION IN HYPERTENSIVE PATIENTS

Buriak Viktor
Ph.D., Associate Professor
Zaporizhzhia State Medical-Pharmacy University

Tokarenko Oleksandr
D.Sc., Professor
Zaporizhzhia State Medical-Pharmacy University

Tokarenko Oleksandr
Ph.D., Assistant Professor
Zaporizhzhia State Medical-Pharmacy University

Sholokh Serhii
Ph.D., Assistant Professor
Zaporizhzhia State Medical-Pharmacy University

Hlavatskyi Oleksandr
Ph.D., Associate Professor
Zaporizhzhia State Medical-Pharmacy University

Arterial hypertension is the cardiovascular pathology because of atherosclerosis, associated with one of the most severe risk factor – dyslipidemia, the study of which will contribute to the optimization of the cardiovascular continuum [1-19].

The aim of the study was to analyze the clinical characteristic of lipid spectrum components and their cross-correlation in hypertensive patients.

There were examined 193 male and 139 female hypertensive patients (medium systemic blood pressure level was 141,19 ± 1,3 [138,65; 143,74] / 87,79 ± 0,78 [86,26; 89,33] mmHg, age and anamnesis duration were 55,57 ± 0,7 [54,2; 56,94] years and 6,53 ± 0,47 [5,61; 7,46] years accordingly. The lipid spectrum components were assessed via automatic clinical biochemical analyzer.

The medium fasting range of total cholesterol, high, low and very low density lipoproteins, triglycerides and indices of atherogenicity was 5,2 ± 0,08 [5,05; 5,35] mmol/L, 1,31 ± 0,02 [1,26; 1,36] mmol/L, 3,05 ± 0,07 [2,91; 3,18] mmol/L, 0,84 ± 0,03 [0,78; 0,89] mmol/L, 1,84 ± 0,07 [1,71; 1,97] mmol/L and 3,26 ± 0,08 [3,1; 3,42] units respectively. Based on statistical analysis there were defined correlations between next parameters: total cholesterol and low density lipoproteins ($r = 0,92$, $p < 0,001$), very low density lipoproteins and triglycerides ($r = 0,99$, $p < 0,001$), indices of atherogenicity and high ($r = -0,59$, $p < 0,05$), low ($r = 0,58$, $p < 0,05$), very low density lipoproteins ($r = 0,59$, $p < 0,05$), triglycerides ($r = 0,59$, $p < 0,05$) as well, systolic and diastolic blood pressure ($r = 0,69$, $P < 0,001$).

Conclusions: 1. There are no found any statistically reliable correlations between lipid spectrum components and age, duration of hypertension, systemic blood pressure level too in hypertensive patients. 2. In hypertensive population the positive correlations between total cholesterol and low density lipoproteins, very low density lipoproteins and triglycerides are the most significant as well as systemic blood pressure level parameters. 3. Indices of atherogenicity level equally depends on both pro- and antiatherogenic lipid spectrum components in subjects with partially controlled hypertension.

References:

1. 2016 ESC/EAS Guidelines for the Management of Dyslipidaemias. Alberico L. Catapano, et al. European Heart Journal. 2016. Vol. 37. P. 2999–3058. doi: 10.1093/eurheartj/ehw272

2. 2016 European Guidelines on cardiovascular disease prevention in clinical practice. Massimi F. Piepoli, et al. European Heart Journal. 2016. Vol. 37. P. 2315–2381. doi: 10.1093/eurheartj/ehw106

3. 2018 ESC/ESH Guidelines for the management of arterial hypertension. Williams B., et al. European Heart Journal. 2018. Vol. 39. P. 3021–3104. doi: 10.1093/eurheartj/ehy339

4. A Dictionary of Epidemiology. 6th edition / ed. by Porta M. New York: Oxford University Press, 2014. 376 p. URL: http://global.oup.com

5. Achievement of treatment goals for primary prevention of cardiovascular disease in clinical practice across Europe: the EURIKA study. Banegas J. R., et al. European Heart Journal. 2011. Vol. 32. P. 2143–2152. doi: 10.1093/eurheartj/ehr080

6. Cardiovascular disease in Europe: epidemiological update 2016. Townsend N., et al. European Heart Journal. 2016. Vol. 37. P. 3232-3245. doi: 10.1093/eurheartj/ehw334

7. Comprehensive comparative effectiveness and safety of first-line antihypertensive drug classes: a systematic, multinational, large-scale analysis. Suchard M. A., et al. The Lancet. 2019. Vol. 394. P. 1816-1826. doi: 10.1016/S0140-6736(19)32317-7

8. Cost-effectiveness of a European preventive cardiology programme in primary care: a Markov modeling approach. Mistry H., et al. British Medical Journal. 2012. Vol. 2. P. e001029. doi: 10.1136/bmjopen-2012-001029

9. Cost-effectiveness of optimizing prevention in patients with coronary heart disease: the EUROASPIRE III health economics project. De Smedt D., et al. European Heart Journal. 2012. Vol. 33. P. 2865–2872. doi: 10.1093/eurheartj/ehs210

10. Explaining the decline in coronary heart disease mortality in Portugal between 1995 and 2008. Pereira M., et al. Circulation: Cardiovascular Quality and Outcomes. 2013. Vol. 6. P. 634–642. doi: 10.1161/CIRCOUTCOMES.113.000264

11. GBD 2015 Risk Factors Collaborators. Global, regional, and national comparative risk assessment of 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015. Forouzanfa M. H., et al. The Lancet. 2016. Vol. 388.

P. 1659-1724. doi: 10.1016/S0140-6736(16)31679-8

12. Global status report on noncommunicable diseases 2014. World Health Organization : URL: https://apps.who.int/iris/bitstream/handle/10665/148114/WHO_NMH_NVI_15.1_rus.pdf

13. Long-term impact on healthcare resource utilization of statin treatment, and its cost effectiveness in the primary prevention of cardiovascular disease: a record linkage study. McConnachie A., et al. European Heart Journal. 2014. Vol. 35. P. 290–298. doi: 10.1093/eurheartj/eht232

14. Mendis S., Puska P., Norrving B. Global atlas on cardiovascular disease prevention and control. Geneva : WHO, 2013. 163 p. World Health Organization : URL: https://www.who.int/cardiovascular_diseases/publications/atlas_cvd/ru/.

15. NCD Risk Factor Collaboration. Worldwide trends in blood pressure from 1975 to 2015: a pooled analysis of 1479 population-based measurement studies with 19.1 million participants. Zhou B., et al. The Lancet. 2017. Vol. 389. P. 37–55. doi: 10.1016/S0140-6736(16)31919-5

16. Noncommunicable diseases country profile 2018. World Health Organization : URL: http://www9.who.int/nmh/countries/ukr_ru.pdf

17. Noncommunicable diseases. World Health Organization. 2018: URL: https://www.who.int/ru/news-room/fact-sheets/detail/noncommunicable-diseases.

18. Refinement of variant selection for the LDL cholesterol genetic risk score in the diagnosis of the polygenic form of clinical familial hypercholesterolemia and replication in samples from 6 countries. Futema M., et al. Clinical Chemistry. 2015. Vol. 61. P. 231–238. doi: 10.1373/clinchem.2014.231365

19. The polygenic nature of hypertriglyceridaemia: implications for definition, diagnosis, and management. Hegele R. A., et al. The Lancet. Diabetes and Endocrinology. 2014. Vol. 2. P. 655–666. doi: 10.1016/S2213-8587(13)70191-8