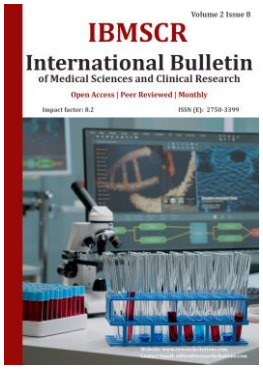

PATHOGENETIC SIGNIFICANCE OF HYPERLIPIDEMIA IN THE CLINICAL COURSE OF ARTERIAL HYPERTENSION

Umida Rakhmatulloevna Narzulaeva
PhD Head of the Department of Clinical Sciences of Asian International University. Bukhara Uzbekistan.
Email: narzulayevaumidaraxmatullayevna@oxu.uz
https://doi.org/10.5281/zenodo.10202475

Although hyperlipidemia is studied in many studies as one of the urgent problems in the medicine of civilized countries, according to statistics, it continues to grow rapidly. At the same time, the increasing incidence of hyperlipidemia among the younger population shows how serious the problem is.

Arterial hypertension and hypercholesterolemia, the risk of death from cardiovascular system diseases increases 3 times. The risk stratification of hypertension takes into account not only arterial blood pressure indicators, but also the presence of a number of other risk factors, damage to target organs (left ventricular hypertrophy, ultrasound signs of atherosclerosis of the trunk vessels, proteinuria) and the presence of concomitant diseases.

In clinical practice, the diagnosis of lipid metabolism disorders is based on the assessment of the state of the lipid spectrum, according to which the amount of total cholesterol, triglycerides, low-density lipoproteins and high-density lipoproteins is determined. Today, the treatment of lipid metabolism disorders and the selection of drugs are based on the risk of the cardiovascular system. It is known that the risk of developing ischemic heart disease increases from 1% to 2% in patients with hyperlipidemia in hypertension. 40% of adults with arterial hypertension in A QSh suffer from obesity (body mass index >30), and more than 3/1 of the obese population suffer from arterial hypertension.

Arterial hypertension, hyperlipidemia is invisible in the form of an increase in the amount of very low-density lipoprotein cholesterol and a decrease in the amount of high-density lipoprotein cholesterol. Often, in this case, the amount of low-density lipoprotein (low-density lipoprotein) cholesterol is either normal or slightly increased. The main risk factors of patients with hypertension include: levels of systolic arterial pressure and diastolic arterial pressure (arterial hypertension levels I–III); age (men over 55, women over 65); smoking; hyperlipidemia: total cholesterol > 6.5 mmol/l (250 mg/dL); or low density lipoprotein xs amount > 4.0 mmol/l (155 mg/dL); High-density lipoprotein <1.0 (for men) <1.2 (for women) mmol/l; family history of cardiovascular system diseases at an early age (age younger than 55 years for men and 65 years for women); abdominal obesity (abdominal circumference > 102 cm in men, > 88 cm in women); reactive protein > 1 mg/dL Hyperlipidemia is a violation of the ratio of atherogenic (mainly low-density lipoproteins) and non-atherogenic (high-density lipoproteins) lipoproteins, and hyperlipidemia is considered the leading risk factor for the development of atherosclerosis. For the first time, the largest epidemiological study (in particular Framingham and MRFIT) found a direct relationship between blood cholesterol levels and cardiovascular mortality. Further studies show that not only hypercholesterolemia, but also other disorders of lipid metabolism, such as an increase

in the amount of triglycerides and a decrease in the amount of high-density lipoproteins (High-density lipoproteins), are also important in the development of atherosclerosis. In particular, a 1% decrease in high-density lipoproteins increases the risk of cardiovascular diseases by 3-4%. According to the INTERHEART studies, the violation of the ratio of atherogenic and non-atherogenic lipoproteins is a strong predictor of the development of acute myocardial infarction, regardless of age, gender and ethnicity. In A , if such hyperlipidemias are combined with hypertension, the risk level is even higher. In clinical studies, elimination of excess weight reduces the risk of developing arterial hypertension and the level of arterial hypertension in hypercholesterolemic patients . NO-synthase activity decreases. Thus, arterial hypertension and hypercholesterolemia have a synergistic effect on the vascular wall, leading to functional and structural changes leading to the development of atherosclerosis. In statistical studies, no difference was observed in the analysis of the level of arterial hypertension and high-density lipoprotein cholesterol, but the development of arterial hypertension is often observed in patients with a low level of high-density lipoprotein cholesterol.

In hyperlipidemia, on the pathogenetic basis of hemorheological indicators, the shift of cholesterol concentration in the erythrocyte membrane from the optimal level to one side or the other has a negative effect on the membrane surface tension viscosity and fluidity, which determines the deformability of erythrocytes. In most patients with arterial hypertension, hyperlipidemia is manifest in the form of an increase in the amount of very low-density lipoprotein cholesterol (very low-density lipoprotein) and a decrease in the amount of high-density lipoprotein cholesterol. Often, in such a case, the level of low-density lipoprotein (low-density lipoprotein) cholesterol is either normal or slightly increased. According to various sources, free radical oxidation processes are activated and oxidant stress develops in hypertension, which leads to an increase in proatherogenic lipid metabolism disorders, an increase in the amount of low-density lipoprotein cholesterol and the level of atherogenicity. It is known that the risk of developing IUD increases from 1% to 2% in patients with hyperlipidemia in hypertension. In this case, an increase in the amount of triglycerides and low-density lipoprotein cholesterol increases the risk of developing complications in the cardiovascular system in patients with hypertension. In the Framingham study, middle-aged men with hypertension, whose arterial blood pressure did not exceed 160/95 mm Hg, had a 5-fold higher incidence of CHD compared to men with normal arterial blood pressure. According to other sources, every 10 mmHg increase in arterial blood pressure increases the risk of cardiovascular disease and complications by 30% . A negative impact of lipid spectrum disorders and atherosclerosis on arterial blood pressure has been demonstrated in studies conducted among the American population, and the study noted that increased levels of triglycerides and very low-density lipoproteins in patients were associated with increased arterial blood pressure .

Reducing excess weight leads to an increase in the amount of high-density lipoproteins. Each kilogram of weight loss causes a 0.01 mmol/l (0.4 mg/dL) increase in high-density lipoprotein. Aerobic physical activity, for example, walking 25-30 km per week at a fast pace, increases the amount of high-density lipoproteins by 0.05-0.15 mmol/l (3.1-6 mg/dl).

Summary. Considering that hyperlipidemia is a risk factor that can be corrected, it is important to maintain body weight through active promotion and implementation of a healthy lifestyle, not only in patients with arterial hypertension, but also in the entire

population over 30 years of age. allows to lower the indicators and increase resistance of the cardiovascular system to physical stress.

References:

1.Umida Rakhmatulloevna Narzulaeva, & Xamrayeva Muxlisa Farmon qizi. (2023). ETIOPATHOGENESIS OF HEMOLYTIC ANEMIA. Web of Medicine: Journal of Medicine, Practice and Nursing, 1(1), 1–4. Retrieved from https://webofjournals.com/index.php/5/article/view/26

2.Нарзулаева, У., Самиева, Г., & Насирова, Ш. (2023). Гемореологические нарушения на ранних стадиях гипертензии в жарком климате. Журнал биомедицины и практики, 1(1), 221–225. https://doi.org/10.26739/2181 -9300-2021-1-31

3.Umida Rakhmatulloevna Narzulaeva. (2023). Important Aspects of Etiology And Pathogenesis of Hemolytic Anemias. American Journal of Pediatric Medicine and Health Sciences (2993-2149), 1(7), 179–182. Retrieved from https://grnjournal.us/index.php/AJPMHS/article/view/817

4.Нарзулаева, У. Р., Самиева, Г. У., & Насирова, Ш. Ш. (2021). ИССИҚ ИҚЛИМДА КЕЧУВЧИ ГИПЕРТОНИЯ КАСАЛЛИГИНИНГ БОШЛАНҒИЧ БОСҚИЧЛАРИДА ГЕМОРЕОЛОГИК БУЗИЛИШЛАР. ЖУРНАЛ БИОМЕДИЦИНЫ И ПРАКТИКИ, 6(1).

5.Нарзулаева, У., Самиева, Г., Лапасова, З., & Таирова, С. (2023). Значение диеты в лечении артериальной гипертензии . Журнал биомедицины и практики, 1(3/2), 111–116. https://doi.org/10.26739/2181-9300-2021-3-98

6.Narzulaeva Umida Rakhmatulloevna, Samieva Gulnoza Utkurovna, & Ismatova Marguba Shaukatovna (2020). SPECIFICITY OF THE CLINICAL COURSE OF THE INITIAL STAGES OF HYPERTENSION IN ARID ZONES OF UZBEKISTAN AND NON-DRUG APPROACHES TO TREATMENT. Кронос, (4 (43)), 15-17.

7.Umida Raxmatulloevna Narzulaeva, & Mohigul Abdurasulovna Bekkulova (2023). Arterial gipertenziya etiologiyasida dislipidemiyaning xavf omili sifatidagi roli. Science and Education, 4 (2), 415-419.

8.Narzulaeva, U. R., & Samieva, G. U. (2021). Nasirova ShSh. Hemoreological Disorders in The Early Stages Of Hypertension In Hot Climates. Journal of Biomedicine and Practice, 6(1), 221-225.

9.Dilsora Nuriddinovna Juraeva, Umida Rakhmatulloevna Narzulaeva, & Kurbonova Gulbahor Aslamovna. (2022). GENDER DIFFERENCES IN THE PARACLINICAL FEATURES OF THE COURSE OF TRIGEMINAL NEURALGIA. World Bulletin of Public Health, 8, 186-190. Retrieved from https://www.scholarexpress.net/index.php/wbph/article/view/751

10.Нарзуллаева, У. Р., Самиева, Г. У., & Пардаева, З. С. (2020). Pathogenetic aspects of verified risk factors such as arterial hypertension and dyslipidemia in the development of chronic heart failure. American Journal of Medicine and Medical Sciences, 10(10), 776-779.

11.Жураева, Д. Н., & Нарзулаева, У. Р. (2020). Эркак ва аёлларда уч шохли нерв невралгияси кечишининг параклиник хусусиятлари. ЖУРНАЛ НЕВРОЛОГИИ И НЕЙРОХИРУРГИЧЕСКИХ ИССЛЕДОВАНИЙ, 1(1).

12.Narzulyeva, U., & Ismoilova, N. (2023). DETECTION OF EATING BEHAVIOR DISORDERS IN STUDENTS BEFORE THE EXAM USING THE DEBQ QUESTIONNAIRE. Наука и инновация, 1(15), 112-114.

13.Narzulaeva, U. (2023). PATHOGENETIC MECHANISMS OF MICROCIRCULATION DISORDERS. International Bulletin of Medical Sciences and Clinical Research, 3(10), 60–65. Retrieved from https://researchcitations.com/index.php/ibmscr/article/view/2811
14.Juraeva , DN, va Narzulaeva , UR (2022). Trigeminal nevralgiya hujumi paytida vegetativ o'zgarishlarning gender farqlari . AKADEMİKA: An Xalqaro Ko'p tarmoqli Tadqiqot Jurnal , 12(5), 322-326.
15.Hikmatullaeva , A. S., Raximov, R. A., Abduqadirova , M. A., Egamova , I. N., & Yarmuxamedova , N. A. (2020). Sovremenno predstavlenie o virusnoy infektsiya. Vestnik nauki i obrazovaniya, (22-2 (100)), 58-66.
16.Raximova, V. Sh., & Yarmuxamedova , N. A. (2021). NEKOTORYE ASPEKTY PORAJENIYA PECHENI PRI SARS-COV-2. Biologiya, 1, 125.
17.Oripova , O. O., Samieva , G. U., Xamidova , F. M., & Narzulaeva , U. R. (2020). Sostoyanie plotnosti raspredeleniya limfoidnyx kletok slisistoy obolochki gortani va proyavleniya mestno immuna pri xroncheskom laringite (tahlil seksionnogo material). Akademiya, (4 (55)), 83-86.
18.Qobilovna, A. M. (2023). COMMUNICATIVE COMPETENCE AS A FACTOR OF TEACHER'S PROFESSIONAL COMPETENCY. American Journal Of Social Sciences And Humanity Research, 3(09), 32-44.
19.Ataullayeva, M. (2023). COMMUNICATIVE COMPETENCE AS A FACTOR OF PERSONAL AND PROFESSIONAL DEVELOPMENT OF A FUTURE SPECIALIST. International Bulletin of Medical Sciences and Clinical Research, 3(10), 109-114.
20.Qobilovna, A. M. (2021). BOSHLANG ‘ICH SINF O ‘QITUVCHILARIDA KOMMUNIKATIV KOMPITENTLIK SHAKLLANISHINING IJTIMOIY-PSIXOLOGIK DETERMINANTLARI. Central Asian Research Journal for Interdisciplinary Studies (CARJIS), (Special Issue), 102-105.
21.Ахмедова, М. (2020). НАРУШЕНИЯ ЭНДОТЕЛИАЛЬНОЙ ФУНКЦИИ ПРИ РАЗВИТИИ АФТОЗНОГО СТОМАТИТА. Достижения науки и образования, (18 (72)), 65-69.
22.Axmedova Malika Qilichovna. (2023). THE IMPACT OF SOCIOCULTURAL FACTORS ON THE PERVASIVENESS OF DENTAL CARIES AS A COMPLEX HEALTH CONDITION IN CONTEMPORARY SOCIETY. INTERNATIONAL BULLETIN OF MEDICAL SCIENCES AND CLINICAL RESEARCH, 3(9), 24–28.
23.Axmedova, M. (2023). USE OF COMPUTER TECHNOLOGY AT THE STAGES OF DIAGNOSIS AND PLANNING ORTHOPEDIC TREATMENT BASED ON ENDOSSEAL IMPLANTS. International Bulletin of Medical Sciences and Clinical Research, 3(11), 54-58.
24.Ostonova, G. (2023). ICHKI SEKRETSIYA BEZLARI FIZIOLOGIYASI. Центральноазиатский журнал образования и инноваций, 2(10 Part 3), 110-115.
25.Yomgirovna, R. G. (2023). AGROBIOLOGICAL PROPERTIES OF BENTONITE IN AGRICULTURE. TA'LIM VA RIVOJLANISH TAHLILI ONLAYN ILMIY JURNALI, 3(9), 126-130.
26.Rakhimovna, T. D., & Yomgirovna, R. G. (2023). AGROBIOLOGICAL PROPERTIES OF BENTONITE IN AGRICULTURE. Conferencea, 9-14.
27.Rahimova, G. (2023). MAKTABLARDA BIOLOGIYA FANINI O'QITISHDA ZAMONAVIY INTERFAOL METODLARDAN FOYDALANISH. B CENTRAL ASIAN JOURNAL OF EDUCATION AND INNOVATION (Т. 2, Выпуск 10, сс. 103–109).Zenodo.
28.Djalilova, Z. (2023). PEDAGOGICAL EDUCATIONAL TECHNOLOGY: ESSENCE, CHARACTERISTICS AND EFFICIENCY. Академические исследования в современной науке, 2(23), 29-38.

29.Djalilova, Z. (2023). THE SIGNIFICANCE AND POSITION OF TEACHING METHODS IN PROFESSIONAL TRAINING. Solution of social problems in management and economy, 2(10), 31-42.
30.Djalilova, Z. (2023). THE USE OF LATIN TERMINOLOGY IN MEDICAL CASE. Академические исследования в современной науке, 2(14), 9-15.
31.Джалилова, З. (2023). The notion of illocution in the theory of speech acts by John Austin. Современные тенденции при обучении иностранному языку в XXI веке, 1(1).
32.Obidovna, D. Z. (2023). ADAPTING TEACHING METHODS TO MODERN EDUCATIONAL TRENDS: PEDAGOGICAL ASPECT. International Journal of Pedagogics, 3(10), 72-77.
33.Musayeva, A. (2023). MADANIYATSHUNOSLIK YONDASHUVI ASOSIDA TALABA-YOSHLARNING KOMMUNIKATIV KOMPETENSIYALARINI RIVOJLANTIRISH. Science and innovation, 2(Special Issue 9), 97-99.
34.Караматовна, М. А. (2023). ФОРМИРОВАНИЕ В ЯЗЫКОЗНАНИИ ТЕОРИИ СЕМАНТИЧЕСКОГО ПОЛЯ. Мусаева, А. (2023). РУССКИЙ ЯЗЫК В МЕЖКУЛЬТУРНОЙ СРЕДЕ. Современная наука и исследования, 2 (4), 182–186.
35.Мусаева, А (2023). РУССКИЙ ЯЗЫК В МЕЖКУЛЬТУРНОЙ СРЕДЕ. Современная наука и исследования,2(4), 182-186 https://inlibrary.uz/index.php/science-research/article/view/19208
36.Kholliyev, A., & Boltayeva, Z. (2020). Resistance of cotton varieties to water deficiency. Збірник наукових праць ΛΌГОΣ, 70-72.
37.Холлиев, А., Махмудова, Ш., & Иргашева, Н. (2019). Меры борьбы против зерновок на зернобобовых культурах. НАУКА, ПРОИЗВОДСТВО, БИЗНЕС, 192.
38.Rasulov, Z. (2023). PEDAGOGIKA VA PSIXOLOGIYADA MANIPULYATSIYA TUSHUNCHASI. ЦЕНТР НАУЧНЫХ ПУБЛИКАЦИЙ (buxdu. uz), 39(39).
39.Kholliyev, A., Boltayeva, Z., & Norboyeva, U. (2020). Cotton water exchange in water deficiency. Збірник наукових праць ΛΌГОΣ, 54-56.
40.Ergashovich, K. A., & Akmalovna, A. C. (2022). Soybean Cultivation Technology and Basics of Land Preparation for Planting. Eurasian Journal of Research, Development and Innovation, 7, 8-13
41.Rasulov, Z. (2023). The principle of cognitive economy as an important factor in information transmission. ЦЕНТР НАУЧНЫХ ПУБЛИКАЦИЙ (buxdu. uz), 42(42).
42.Rasulov, Z. (2023). ПРИНЦИПЫ ЭКОНОМИИ ФОНАЦИОННОЙ ЭНЕРГИИ. ЦЕНТР НАУЧНЫХ ПУБЛИКАЦИЙ (buxdu. uz), 42(42).
43.Kazakova, N. N., & Sh, S. D. (2022). Evaluation of the prevalence and intensity of caries in children with rheumatism. INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT, ENGINEERING AND SOCIAL SCIENCES ISSN: 2349-7793 Impact Factor: 6.876, 16(5), 156-160.
44.Rasulov, Z., & Artikov, A. (2023, May). THE PRINCIPLE OF REDUNDANCY IN COMPOUND SENTENCES. In Integration Conference on Integration of Pragmalinguistics, Functional Translation Studies and Language Teaching Processes (pp. 1-4).
45.Togaydullaeva, D. D. (2022). ARTERIAL GIPERTONIYA BOR BEMORLARDA KOMORBIDLIK UCHRASHI. TA'LIM VA RIVOJLANISH TAHLILI ONLAYN ILMIY JURNALI, 2(11), 32-35.
46.Rasulov, Z. I. (2023). THE NOTION OF NON-EQUIVALENT WORDS AND REALIAS IN ENGLISH AND UZBEK LANGUAGES. Finland International Scientific Journal of Education, Social Science & Humanities, 11(6), 35-40.

47.Rasulov, Z. (2023). LISONIY TEJAMKORLIKNING AXBOROT IFODASIDAGI ORTIQCHALIKKA MUNOSABATI. ЦЕНТР НАУЧНЫХ ПУБЛИКАЦИЙ (buxdu. uz), 42(42).
48.Togaydullaeva, D. D. (2022). Erkaklarda yurak ishemik kasalligining kechishida metabolik sindrom komponentlarining ta'siri. Fan, ta'lim, madaniyat va innovatsiya, 1(4), 29-34.
49.Rasulov, Z. I. (2023). COMPARATIVE STUDY OF LINGUISTIC PHENOMENA OF A NATIONAL-CULTURAL NATURE, REPRESENTING MYTHOLOGICAL LINGUISTIC UNITS IN ENGLISH AND UZBEK LANGUAGES. FORMATION OF PSYCHOLOGY AND PEDAGOGY AS INTERDISCIPLINARY SCIENCES, 2(20), 19-24.
50.Gafurovna, A. N., Xalimovich, M. N., & Komilovich, E. B. Z. (2023). KLIMAKTERIK YOSHDAGI AYOLLARDA ARTERIAL GIPERTENZIYANING KECHISHI. ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ, 23(6), 26-31.
51.Rahimova, G. (2023). MAKTABLARDA BIOLOGIYA FANINI O'QITISHDA ZAMONAVIY INTERFAOL METODLARDAN FOYDALANISH. B CENTRAL ASIAN JOURNAL OF EDUCATION AND INNOVATION (Т. 2, Выпуск 10, сс. 103–109). Zenodo.
52.Yomgirovna, R. G. (2023). AGROBIOLOGICAL PROPERTIES OF BENTONITE IN AGRICULTURE. TA'LIM VA RIVOJLANISH TAHLILI ONLAYN ILMIY JURNALI, 3(9), 126-130.
53.Халимова, Ю. С., & Шокиров, Б. С. (2022). МОРФОФУНКЦИОНАЛЬНЫЕ ООБЕННОСТИ ВНУТРЕННИХ ОРГАНОВ ПРИ ХРОНИЧЕСКОМ АЛКОГОЛИЗМЕ. Scientific progress, 3(2), 782-789.
54.Halimova, Y. S. (2023). Morphofunctional Aspects of Internal Organs in Chronic Alcoholism. AMALIY VA TIBBIYOT FANLARI ILMIY JURNALI, 2(5), 83-87.
55.Salokhiddinovna, X. Y. (2023). INFLUENCE OF EXTERNAL FACTORS ON THE MALE REPRODUCTIVE SYSTEM. EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE, 3(10), 6-13.