

The Role of Immune Inflammation Processes in the Pathogenesis of Types of Ischemic Heart Diseases

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Abstract: In this article, the importance of immune inflammatory processes in ischemic heart diseases and their impact on diseases is statistically studied and an examination is conducted among a certain population. In addition, it is noted that the occurrence of diseases depends on several factors, such as the patient's age, gender, harmful habits, and concomitant diseases. It is discussed how immune inflammatory processes cause changes in the body in somatic diseases. Ischemic heart disease is a common disease of the cardiovascular system; is accompanied by myocardial ischemia and coronary circulation disorders. Ischemic heart disease is mainly caused by the lack of blood circulation in the heart muscles as a result of atherosclerosis of the coronary arteries

Keywords: ischemia, heart, risk groups, immunity, immune processes, inflammation, pathogenesis.

The immune system is a network of biological processes that protect the body from diseases. It recognizes various pathogens, from viruses to parasitic worms, as well as cancer cells and even wood shavings, mounts an immunological response to them, and separates them from healthy body tissues. In most biological species, the immune system consists of two main subgroups. The innate immune system provides protection through preformed immune responses to a variety of conditions and exposures. By readily recognizing molecules it has encountered before, the adaptive immune system mounts an adaptive response to each subsequent stimulus. Both systems use molecules and cells to perform their functions. Inflammation is one of the first responses of the immune system to infection. Signs of inflammation include redness, swelling, local warmth, and pain caused by increased blood flow to the tissues. Inflammation is triggered by eicosanoids and cytokines, which are in turn produced by damaged or infected cells. Eicosanoids include

prostaglandins, which cause vasodilation associated with fever and inflammation, and leukotrienes, which attract certain types of white blood cells (leukocytes).

The purpose of the study: to study the relationship between the production level of IL-1, IL-4, IL-10, TNF- α cytokines and clinical variants of cardiovascular diseases.

Materials and methods of the study: 84 patients with ischemic heart disease were examined, including 36 (42.85%) with stable angina pectoris and 48 (57.15%) with unstable angina pectoris. The diagnosis of chronic stable angina (SBS), unstable angina or non-ST-segment elevation myocardial infarction (STSKBMI) and ST-segment elevation myocardial infarction was established according to ESC recommendations. The basic therapy of ischemic heart disease includes antiaggregants, β -blockers, calcium antagonists, nitrates, statins, and APF inhibitors. As a control group, 53 healthy people, 26 men and 27 women, with an average age of 55 ± 11.0 years, were examined. Individuals in the control group were physically healthy and did not have cardiovascular diseases. To characterize immune-inflammatory reactions, the content of pro-inflammatory (IL-1b, TNF- α) and anti-inflammatory (IL-4, IL-10) cytokines in blood serum was measured using VektorBest test systems AO (Novosibirsk, Russia). was studied using

Results of the study: In the blood serum of patients with ischemic heart disease, the concentration of pro-inflammatory cytokines IL-1 β , TNF α was significantly higher than that of almost healthy people in the control group. The mean value of IL-1 β at hospitalization was 101.4 ± 1.44 pg/ml, which was 3.8 times higher than that of the control group. A 3.3-fold increase in TNF α levels (70.4 ± 0.70 pg/ml) after hospitalization was observed in the total group of patients with YUIK. An increase in the concentration of IL-10 is noted in the general group of patients hospitalized with ischemic heart disease.

Conclusion: There are 2 different types of immunity, divided into innate and acquired types. An increased type is formed during diseases. In this case, active and passive types are also distinguished. The above types of immunity are important in somatic diseases.

In conclusion, the factors involved in immune inflammatory processes and the importance of risk factors, which play a role in ischemic heart diseases. That is, the types of ischemic diseases depend on the factors of the environment and, of course, immune processes. The immune process and weakening of the immune system causes the disturbance of nutritional processes in the heart. As the process deepens, the types and degree of ischemic diseases become more severe.

Literature

1. Togaydullaeva, D. D. (2022). ARTERIAL GIPERTONIYA BOR BEMORLARDA KOMORBIDLIK UCHRASHI. TA'LIM VA RIVOJLANISH TAHLILI ONLAYN ILMIY JURNALI, 2(11), 32-35.
2. Togaydullaeva, D. D. (2022). Erkaklarda yurak ishemik kasalligining kechishida metabolik sindrom komponentlarining ta'siri. *Fan, ta'lim, madaniyat va innovatsiya*, 1(4), 29-34.
3. Dilmurodovna, T. D. (2023). MORPHOLOGICAL ASPECTS OF THE THYROID GLAND IN VARIOUS FORMS OF ITS PATHOLOGY. *American Journal of Pediatric Medicine and Health Sciences* (2993-2149), 1(8), 428-431.
4. Dilmurodovna, T. D. (2023). Morphological Signs of the Inflammatory Process in the Pancreas in Type I and II Diabetes Mellitus. *EUROPEAN JOURNAL OF INNOVATION IN NONFORMAL EDUCATION*, 3(11), 24-27.
5. Dilmurodovna, T. D. (2023). КЛИНИКО-МОРФОЛОГИЧЕСКИЕ ОСОБЕННОСТИ ТЕЧЕНИЕ ВОСПАЛИТЕЛЬНОГО ПРОЦЕССА В ПОДЖЕЛУДОЧНОЙ ЖЕЛЕЗЕ ПРИ САХАРНОМ ДИАБЕТЕ I И II ТИПА. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, 33(1), 173-177.

6. Khafiza, J., & Dildora, T. (2023). Frequency of Comorbid Pathology among Non-Organized Population. *Research Journal of Trauma and Disability Studies*, 2(4), 260-266.
7. Dilmurodovna, T. D. (2023). Clinical and Diagnostic Features of the Formation of Arterial Hypertension in Young People. *EUROPEAN JOURNAL OF INNOVATION IN NONFORMAL EDUCATION*, 3(12), 41-46.
8. Dilmurodovna, T. D. (2024). DIABETES MELLITUS IN CENTRAL ASIA: PROBLEMS AND SOLUTIONS. *Лучшие интеллектуальные исследования*, 12(4), 204-213.
9. Тогайдуллаева, Д. Д. (2024). ОБЩИЕ ОСОБЕННОСТИ ТЕЧЕНИЕ САХАРНОГО ДИАБЕТА В СРЕДНЕЙ АЗИИ. *Лучшие интеллектуальные исследования*, 12(4), 193-204.
10. Tog'aydullaeva, D. D. (2024). GIPERTENZIYA BOR BEMORLARDA MODDALAR ALMASINUVINING BUZULISHI BILAN KELISHI. *Лучшие интеллектуальные исследования*, 14(4), 130-137.
11. Dilmurodovna, T. D. (2024). FACTORS CAUSING ESSENTIAL HYPERTENSION AND COURSE OF THE DISEASE. *Лучшие интеллектуальные исследования*, 14(4), 138-145.
12. Dilmurodovna, T. D. (2024). PREVALENCE INDICATORS OF ARTERIAL HYPERTENSION IN THE POPULATION. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, 41(4), 78-87.
13. Тогайдуллаева, Д. Д. (2024). ИШЕМИЧЕСКАЯ БОЛЕЗНЬ СЕРДЦА, МЕТОДЫ ЛЕЧЕНИЯ И ЭФФЕКТИВНОСТЬ ЛЕЧЕНИЯ СТЕНОКАРДИИ. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, 39(5), 107-115.
14. Dildora, T. (2021, June). CHRONIC RENAL FAILURE. In *Archive of Conferences* (pp. 85-89).
15. Tog'aydullayeva, D. D. (2024). MORPHOLOGICAL ASPECTS OF ANEMIA IN SOMATIC DISEASES. *EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE*, 4(4), 212-219.
16. Nematilloeyevna, X. M., & Qilichovna, A. M. (2024). MORPHO-FUNCTIONAL CHANGES IN ACUTE FORMS OF APHTHOUS STOMATITIS: Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rni va rivojlanish omillari. *Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rni va rivojlanish omillari*, 6(4), 177-186.
17. Qilichovna, A. M., & Nematilloeyevna, X. M. (2024). METABOLIK SINDROMI VA QON BOSIMI BOR BEMORLARDA O'ZGARISH XUSUSIYATLARI BAHOLASH: Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rni va rivojlanish omillari. *Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rni va rivojlanish omillari*, 6(4), 187-196.
18. Qilichovna, A. M., & Nematilloeyevna, X. M. (2024). TIBBIYOT TILI HISOBLANMISH LOTIN TILINI SAMARALI O'RGANISH OMILLARI: Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rni va rivojlanish omillari. *Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rni va rivojlanish omillari*, 6(4), 197-206.
19. Tog'aydullayeva, D. D. (2024). Embrional Davrda Gemopoez Va Unda Jigar Va Taloqning Roli. *Journal of Science in Medicine and Life*, 2(6), 132-134.
20. Tog'aydullayeva, D. D. (2024). Occurrence of Combination Diseases in Ischemic Heart Disease and Metabolic Syndrome and their Diagnosis. *Journal of Science in Medicine and Life*, 2(6), 126-131.
21. Tog'aydullayeva, D. D. (2024). Occurrence of Combination Diseases in Ischemic Heart Disease and Metabolic Syndrome and their Diagnosis. *Journal of Science in Medicine and Life*, 2(6), 126-131.

22. Abdurashitovich, Z. F. (2024). APPLICATION OF MYOCARDIAL CYTOPROTECTORS IN ISCHEMIC HEART DISEASES. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, 39(5), 152-159.
23. Abdurashitovich, Z. F. (2024). ASTRAGAL O'SIMLIGINING TIBBIYOTDAGI MUHIM ANAMIYATLARI VA SOG'LOM TURMUSH TARZIGA TA'SIRI. *Лучшие интеллектуальные исследования*, 14(4), 111-119.
24. Abdurashitovich, Z. F. (2024). MORPHO-FUNCTIONAL ASPECTS OF THE DEEP VEINS OF THE HUMAN BRAIN. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, 36(6), 203-206.
25. Abdurashitovich, Z. F. (2024). THE RELATIONSHIP OF STRESS FACTORS AND THYMUS. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, 36(6), 188-196.
26. Abdurashitovich, Z. F. (2024). МИОКАРД ИНФАРКТИ UCHUN XAVF OMILLARINING ANAMIYATINI ANIQLASH. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, 36(5), 83-89.
27. Rakhmatova, D. B., & Zikrillaev, F. A. (2022). DETERMINE THE VALUE OF RISK FACTORS FOR MYOCARDIAL INFARCTION. *FAN, TA'LIM, MADANIYAT VA INNOVATSIYA JURNALI/ JOURNAL OF SCIENCE, EDUCATION, CULTURE AND INNOVATION*, 1(4), 23-28.
28. Salokhiddinovna, X. Y. (2023). Anemia of Chronic Diseases. *Research Journal of Trauma and Disability Studies*, 2(12), 364-372.
29. Salokhiddinovna, X. Y. (2023). MALLORY WEISS SYNDROME IN DIFFUSE LIVER LESIONS. *Journal of Science in Medicine and Life*, 1(4), 11-15.
30. Salokhiddinovna, X. Y. (2023). SURUNKALI KASALLIKLARDA UCHRAYDIGAN ANEMIYALAR MORFO-FUNKSIONAL XUSUSIYATLARI. *Ta'lim innovatsiyasi va integratsiyasi*, 10(3), 180-188.
31. Халимова, Ю. С. (2024). КЛИНИКО-МОРФОЛОГИЧЕСКИЕ ОСОБЕННОСТИ ВИТАМИНА D В ФОРМИРОВАНИЕ ПРОТОВОИНФЕКЦИОННОГО ИММУНИТА. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, 36(3), 86-94.
32. Saloxiddinovna, X. Y. (2024). CLINICAL FEATURES OF VITAMIN D EFFECTS ON BONE METABOLISM. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, 36(5), 90-99.
33. Saloxiddinovna, X. Y. (2024). CLINICAL AND MORPHOLOGICAL ASPECTS OF AUTOIMMUNE THYROIDITIS. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, 36(5), 100-108.
34. Saloxiddinovna, X. Y. (2024). MORPHOFUNCTIONAL FEATURES BLOOD MORPHOLOGY IN AGE-RELATED CHANGES. *Лучшие интеллектуальные исследования*, 14(4), 146-158.
35. Saloxiddinovna, X. Y. (2024). CLINICAL MORPHOLOGICAL CRITERIA OF LEUKOCYTES. *Лучшие интеллектуальные исследования*, 14(4), 159-167.
36. Saloxiddinovna, X. Y. (2024). Current Views of Vitamin D Metabolism in the Body. *Best Journal of Innovation in Science, Research and Development*, 3(3), 235-243.
37. Saloxiddinovna, X. Y. (2024). MORPHOFUNCTIONAL FEATURES OF THE STRUCTURE AND DEVELOPMENT OF THE OVARIES. *EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE*, 4(4), 220-227.

38. Saloxiddinova, X. Y. (2024). Modern Views on the Effects of the Use of Cholecalciferol on the General Condition of the Bod. *JOURNAL OF HEALTHCARE AND LIFE-SCIENCE RESEARCH*, 3(5), 79-85.
39. Toxirovna, E. G. (2024). QANDLI DIABET 2-TIP VA KOMORBID KASALLIKLARI BO'LGAN BEMORLARDA GLIKEMIK NAZORAT. *TADQIQOTLAR. UZ*, 40(3), 48-54.
40. Toxirovna, E. G. (2024). XOMILADORLIKDA QANDLI DIABET KELTIRIB CHIQUARUVCHI XAVF OMILLARINI ERTA ANIQLASH USULLARI. *TADQIQOTLAR. UZ*, 40(3), 63-70.
41. Toxirovna, E. G. (2024). DETERMINATION AND STUDY OF GLYCEMIA IN PATIENTS WITH TYPE 2 DIABETES MELLITUS WITH COMORBID DISEASES. *TADQIQOTLAR. UZ*, 40(3), 71-77.
42. Tokhirovna, E. G. (2024). COEXISTENCE OF CARDIOVASCULAR DISEASES IN PATIENTS WITH TYPE 2 DIABETES. *TADQIQOTLAR. UZ*, 40(3), 55-62.
43. Toxirovna, E. G. (2024). GIPERPROLAKTINEMIYA KLINIK BELGILARI VA BEPUSHTLIKA SABAB BO'LUVCHI OMILLAR.
Лучшие интеллектуальные исследования, 14(4), 168-175.
44. Tokhirovna, E. G. (2024). MECHANISM OF ACTION OF METFORMIN (BIGUANIDE) IN TYPE 2 DIABETES. *JOURNAL OF HEALTHCARE AND LIFE-SCIENCE RESEARCH*, 3(5), 210-216.
45. Tokhirovna, E. G. (2024). THE ROLE OF METFORMIN (GLIFORMIN) IN THE TREATMENT OF PATIENTS WITH TYPE 2 DIABETES MELLITUS. *EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE*, 4(4), 171-177.