Spectrum Journal of Innovation, Reforms and Development
Volume 21, November, 2023 | ISSN (E): 2751-1731
Website: www.sjird.journalspark.org

CARDIAC ARRHYTHMIAS IN RHEUMATOID ARTHRITIS

Yarmatov Suvon Totlibayevich
Assistant of Samarkand State Medical University

Ismoilova Sitora Isroilovna
Student of 506-group 2-Medical Faculty

Qo'chqorova Muhlisa Zafarovna
Student of 506-group 2-Medical Faculty

Khamidov Jasur Bakirovich
Student of 618-group 1-Medical Faculty

Abstract
35 patients (82% of women) with an established reliable diagnosis of rheumatoid arthritis (RA) according to the criteria of the ARA were examined, the average age was 46.9 ± 1.2 years. Along with general clinical methods, all patients underwent a 2-echocardiogram study and daily monitoring of the Holter ECG (HM). 68.6% have a gray-positive variant of RA. According to 2DECHOCG, pericardial damage was detected in 12.9%, endocardial damage of heart valves - in 32.8% of patients. After Holter monitoring, the presence of ventricular extrasystoles (VES) of high gradations was revealed in 65.7% of cases, among which paired VES occurred in 48.6%, episodes of unstable tachycardia - in 5.7% and early "R on T" - in 11.4% of patients. At the same time, there were no clinical signs of angina and/or episodes of pain-free myocardial ischemia. A clear trend has been demonstrated in the increase in the number of ventricular arrhythmias of high gradations in combination with damage to the endocardium of the heart valves and/or pericardium with an increase in RA activity, which illustrates the inflammatory nature of heart damage and reflects the subclinical course of rheumatoid carditis. The obtained results demonstrate polymorphism of clinical and instrumental signs of rheumatoid heart disease, which significantly complicates its timely diagnosis.

Keywords: rheumatoid arthritis, heart, arrhythmias, inflammation.

Introduction

The prognosis and mortality rates for rheumatoid arthritis (RA) are comparable with those for lymphogranulomatosis, diabetes mellitus, severe forms of coronary heart disease. The defeat of the cardiovascular system is usually considered as an extra-articular manifestation of RA. Nevertheless, cardiac pathology in RA patients is often not diagnosed, receding into the background compared to the pronounced articular syndrome. However, according to recent studies, there has been a significant increase in total mortality and mortality from cardiovascular diseases in RA patients compared to the general population. Currently, much

attention is paid in domestic and foreign literature to the accelerated progression of atherosclerosis in RA patients, which is associated with a chronic autoimmune process underlying the pathogenesis of both diseases and leading to endothelial dysfunction. In this regard, a number of authors indicate that RA may be a risk factor for the premature development of such manifestations of atherosclerosis as coronary artery disease, as evidenced by an increase in mortality rates from acute myocardial infarction in groups of patients with RA in comparison with the general population. Often, clinical manifestations of heart damage are masked by a bright articular pain syndrome and restriction of motor activity of patients, and therefore their identification is required. The greatest difficulties in the clinical interpretation of the nature of the pathological process arise in patients with RA with clinical signs of myocardial damage, which in 50-67% of patients is regarded by clinicians as myocardiodystrophy and much less often (in 3.6-9.4%) as rheumatoid myocarditis, amyloidosis or coronariitis. It is believed that any clinical and electrocardiographic signs of heart muscle damage in RA and other collagenoses are considered exclusively as manifestations of myocarditis. With the exception of rare cases when granulomas are found, rheumatoid myocarditis is nonspecific and histological examination reveals foci of infiltration of the heart muscle by lymphocytes, histiocytes and plasma cells. Foci of nonspecific inflammatory infiltration are located in the subendocardial and subepicardial layers of the myocardium, as well as near the mitral valve. Granulomas in the heart muscle can be detected only in isolated cases, while granulomatous myocarditis is usually combined with focal nonspecific interstitial myocarditis or foci of myocardial fibrosis. The most serious myocardial lesion is observed in a severe and rapidly progressing variant of RA, when diffuse interstitial myocarditis is found on autopsy, often histologically manifested by necrotic degeneration of muscle fibers. Numerous clinical and anatomical comparisons have shown that focal myocarditis in the vast majority of patients is almost asymptomatic, does not lead to the development of congestive heart failure and is often an accidental finding at autopsy.

Coronary arteries may also be involved in the inflammatory process, especially in RA patients with generalized rheumatoid vasculitis.

L.Sokoloff and J.Bunim were among the first to indicate the presence of inflammatory changes in small myocardial vessels in RA patients. Coronariitis, like other manifestations of rheumatoid carditis, is mainly described by pathologists. So, T.N.Kopyeva found rheumatoid coronariitis in 7 out of 38 deceased RA patients, and none of them had clinical manifestations of coronary insufficiency. S.A.Vinogradov et al. They also provide data on changes in the architectonics of coronary vessels detected during post-mortem coronary angiography in RA patients. Various authors found coronary vasculitis at autopsy in an average of 20% of RA patients. The outcome of rheumatoid coronariitis may be sclerosis of the coronary arteries, narrowing of their lumen.

In the vast majority of cases, rheumatoid rhinariitis is asymptomatic. The differential diagnosis between coronariitis and coronary heart disease remains difficult, since modern instrumental studies do not always allow us to answer this question. It is assumed that total forms of rheumatoid coronariitis may manifest as a myocardial infarction.

One of the clinical manifestations of rheumatoid coronariitis and myocarditis may be various rhythm and conduction disorders. Their cause is explained by lymphohistiocytic infiltration of the Gis system and localization of rheumatoid granulomas in the conduction system of the heart.

At the same time, the frequency, nature and pathogenesis of rhythm disturbances in rheumatoid heart disease have not been fully studied.

MATERIALS AND METHODS

35 patients (82% of women, 18% of men) with a reliable diagnosis of RA according to the criteria of ARA were examined. The age of the patients averaged 46.9 ± 1.2 years. At the time of examination, 68.6% of patients had a seropositive variant of RA, 80% of patients had extra-articular manifestations. Radiological changes and the severity of functional insufficiency of the joints corresponded to the duration of the disease. Along with general clinical methods, all patients underwent a 2-echocardiogram study, daily monitoring of the ECG by Holter.

RESEARCH RESULTS AND THEIR DISCUSSION

When registering a resting ECG, cardiac arrhythmias were detected in the form of a single ventricular extrasystole (IE) in 12.6%, single atrial extrasystoles were recorded in 17.1% of patients. Conduction disturbances in the form of incomplete blockade of the right or left leg of the Gis bundle were noted in 5.7% and 2.9% of patients, respectively.

With an increase in RA activity, there is a significant increase in signs such as tachycardia (from 11% with a minimum degree of RA activity to 22% with a high degree of activity, respectively). A similar trend was noted when analyzing such indicators as bradycardia (2.3 and 11.1% with medium and high activity, respectively) and especially ventricular extrasystole, which was not noted at all in the group of patients with minimal RA activity, and with medium and high activity, respectively, was observed in 11.6 and 44.4% of patients ($p < 0.05$). Nonspecific myocardial changes in the form of inversion of the T wave in the thoracic leads occurred in 8.6% of patients. Scarring of the myocardium and ST segment changes were not detected in any case. We did not observe any signs of ischemic changes in the resting ECG in the form of ST segment depression in any RA patient.

When analyzing the results of daily ECG monitoring, not a single episode of pain-free myocardial ischemia was detected in any RA patients of different genders, ages and with different activity of the process, which, together with the absence of documented episodes of angina pectoris, as well as significant risk factors for coronary artery disease, indicates the absence of clinical manifestations of coronary atherosclerosis. There were no cases of episodes of flickering, including paroxysmal, persistent and permanent (ACC/AAC/EOC, 2001) forms in RA patients.

Supraventricular rhythm disturbances in the form of supraventricular extrasystole were detected in 47.1% of RA patients. Ventricular extrasystoles were diagnosed more often than other cardiac arrhythmias in our study with daily ECG monitoring in 65.7% of RA patients. Among ventricular arrhythmias, extrasystole of high gradations, such as paired RE, was

detected in 48.6%, episodes of unstable ventricular tachycardia (LVT) - in 5.7% and early "I on T" RE - in 11.4% of patients.

The tendency of significantly more frequent detection of cardiac arrhythmias in RA was also noted by us when analyzing the frequency of detection of such arrhythmias of high gradations as group RE and early RE of the "I on T" type and paroxysms of unstable ventricular tachycardia. In 19.0% of patients in this group, we noted a combination of these rhythm disturbances.

There was a clear trend of an increase in the number of ventricular arrhythmias with an increase in RA activity, especially with regard to ventricular extrasystoles of the "I on T" type. Thus, in patients with a high degree of activity, compared with patients with a minimal degree, twice as many paired RE were registered; early RE of the "I on T" type were detected only with an average and high degree of activity, and with minimal activity they were not registered at all.

In our study, in patients with systemic manifestations of the disease, there was also a tendency to an increase in RE, including high gradations, although significantly insignificant. At the same time, data were obtained on a significant increase in the number of ventricular arrhythmias, including high gradations, in patients with seropositive RA in contrast to the seronegative variant of the disease ($p < 0.05$). This is probably due to active inflammatory processes in the myocardium in this category of patients. There were no significant differences in the frequency of detection and the number of RE per hour, depending on the gender of RA patients.

It is known that with increasing age of patients, the causes for electrical instability of the myocardium become more, but in our study there was no tendency to increase the frequency of detection and the number of arrhythmias per hour with increasing age of patients and duration of RA.

CONCLUSION

There was also no significant change in the number of extrasystoles depending on the radiological stage of RA.

In our work, we observed the development of pericarditis without any clinical manifestations in 9 (12.9%) patients with RA, of which 7 patients had exudative pericarditis according to EchoCG data; at the same time, the amount of effusion in all patients was small and did not cause any hemodynamic disorders. In 2 patients with RA, only thickening of the pericardial leaves to 6.5 mm was noted. In 5 patients of this group, RA was seropositive, in 4 - seronegative. In the clinical picture of RA in all patients, along with involvement in the process of the pericardium, other extra-articular manifestations were detected: weight loss (22.2%), fever to subfebrile figures in the afternoon (44.4%), anemia syndrome (44.4%).

LITERATURE

1. Akramovna, I. K., & Rustamovna, A. K. (2023, November). ULTRATOVUSH TEKHIRUV USULINING ERTA RIVOZHLANGAN OSTEOARTHROSIS KASALLIGIDAGI DIAGNOSTIC AHAMIYATI. In *International Conference on Medicine and Life Sciences* (pp. 72-75).
2. Akramovna, I. K., & Zaynobiddin o'g'li, F. J. (2023). RISK FACTORS OF EARLY DEVELOPED OSTEOARTHRITIS. *IMRAS*, *2*(1), 28-35.
3. Alexandrovna, I. O., Muxtorovna, E. M., & Shodikulova, G. Z. (2023). COMMUNITY-ACQUIRED PNEUMONIA AND CHRONIC HEART FAILURE. *Open Access Repository*, *4*(2), 744-754.
4. Alexandrovna, I. O., Shodikulova, G. Z., & Muxtorovna, E. M. (2023). QUALITY OF LIFE OF ELDERLY PATIENTS WITH OSTEOARTHRITIS. *Spectrum Journal of Innovation, Reforms and Development*, *12*, 145-155.
5. Alisherovna, K. M. (2021). DISORDERS OF KIDNEY AND LIVER FUNCTION IN HEART FAILURE. *POLISH SCIENCE JOURNAL*, 156.
6. Alisherovna, K. M. (2022). PSYCHOSOMATIC CHARACTERISTICS OF PATIENTS WITH RHEUMATOID ARTHRITIS AND GOUT. *Galaxy International Interdisciplinary Research Journal*, *10*(5), 665-671.
7. Alisherovna, K. M. CYSTATIN C IS AN EARLY MARKER OF DECREASED KIDNEY FUNCTION.
8. Alisherovna, K. M., & Tatlibayevich, Y. S. (2021). Renal hemodynamics and glomerular filtration in patients with hypertension disease at the age of 40-60 years. In *Euro-Asia Conferences* (Vol. 3, No. 1, pp. 146-149).
9. Alisherovna, K. M., & Tatlibayevich, Y. S. SCHOLASTICO-2021.
10. Alisherovna, K. M., & Xamroyevna, O. S. (2023). STUDY THE INFLUENCE OF CARDIOVASCULAR SYSTEM PATHOLOGY TO THE QUALITY OF LIFE. *Journal of new century innovations*, *36*(1), 148-155.
11. Alisherovna, K. M., Akramovna, I. K., Bakhtiyorovich, U. J., Nizamitdinovich, K. S., Jasurovna, J. S., Kairatovna, R. A., & Abdukholikovna, E. S. (2023). EXACERBATIONS OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND CORONARY ATHEROSCLEROSIS. *Journal of new century innovations*, *39*(1), 176-178.
12. Alisherovna, K. M., Alisherovich, B. Z., Ilyosxonovich, K. I., & Oybekovna, E. E. (2022). Changes In Hemodynamics Of The Cardiovascular System In Patients With Fibrosis Alveolitis. *Spectrum Journal of Innovation, Reforms and Development*, *4*, 203-209.
13. Alisherovna, K. M., Baxtiyorovich, Z. M., & Anvarovich, N. J. (2022). To Assess The Condition Of The Myocardium In Patients Chronic Heart Failure On The Background Of Rheumatoid Arthritis. *Spectrum Journal of Innovation, Reforms and Development*, *4*, 210-215.
14. Alisherovna, K. M., Sherzodovna, M. D., Tursunboyevna, I. K., & Uktamovna, U. U. (2023). LEFT VENTRICULAR HYPERTROPHY IN PERSONS WITHOUT

ARTERIAL HYPERTENSION: PSYCHOSOMATIC APPROACH TO THE STUDY OF THIS PHENOMENON.

15. Alisherovna, M. K. (2021). 24-Hour Abp Monitoring Of Blood Pressure In Patients With Chronic Heart Failure And The State Of Kidney Function. *Central Asian Journal of Medical and Natural Science*, *2*(1), 197-204.
16. Alisherovna, M. K. (2021). 24-Hour Abp Monitoring Of Blood Pressure In Patients With Chronic Heart Failure And The State Of Kidney Function. *Central Asian Journal of Medical and Natural Science*, *2*(1), 197-204.
17. Alisherovna, M. K. Stages Of Development Of Renal Dysfunction And Anemia In Patients With Chronic Heart Failure. *International Journal of Innovations in Engineering Research and Technology*, *8*(05), 50-53.
18. Alisherovna, M. K., & Tatlibayevich, S. Y. (2021). Prevention of the progression of chronic kidney disease by decompensation of chronic heart failure. In *Euro-Asia Conferences* (Vol. 4, No. 1, pp. 54-58).
19. ALISHEROVNA, M. K., SHAXMAXMUDOVNA, S. Z., & TATLIBAYEVICH, Y. S. (2021). Effectiveness of Treatment of Chronic Heart Disease Insufficiency Depending on the Functional State of the Kidneys. *JournalNX*, *7*(02), 240-333.
20. Buribayevich, N. M., & Tatlibayevich, Y. S. (2023). DIABETES MELLITUS IN COMBINATION WITH CORONARY HEART DISEASE. *World Bulletin of Public Health*, *27*, 42-47.
21. Buribayevich, N. M., & Tatlibayevich, Y. S. (2023). QUALITY OF LIFE OF PATIENTS WITH DIABETES MELLITUS. *World Bulletin of Public Health*, *27*, 48-52.
22. Islamova, K. A. (2022, November). Semizlik bor bemorlarda osteoartroz kasalligining klinik xususiyatlari. In *international conferences* (Vol. 1, No. 10, pp. 299-301).
23. Islamova, K. A., Olimdjanova, F. J. Q., Ziyadullaev, S. K., & Kamalov, Z. S. (2022). RISK FACTORS FOR EARLY DEVELOPMENT OF OSTEOARTHROSIS.
24. Khusainova, M. A. (2023). Comorbidity thyrotoxicosis with coronary heart disease. *Science and Education*, *4*(5), 205-213.
25. Khusainova, M. A. (2023). CYSTATIN C IS AN EARLY MARKER OF DECREASED KIDNEY FUNCTION. *Oriental renaissance: Innovative, educational, natural and social sciences*, *3*(1), 485-490.
26. Khusainova, M. A., & Yarmatov, S. T. (2021). CARDIAC ARRHYTHMIAS AND CARDIOHEMODYNAMIC DISORDERS IN PATIENTS VIRAL CIRRHOSIS OF THE LIVER. *Scientific progress*, *2*(2), 196-202.
27. Khusainova, M. A., Eshmamatova, F. B., Ismoilova, K. T., & Mamadiyorova, M. M. (2023). METABOLIC SYNDROME IN RHEUMATOID ARTHRITIS AS A CRITERION OF CARDIOVASCULAR RISK. *Oriental renaissance: Innovative, educational, natural and social sciences*, *3*(1), 331-339.
28. Khusainova, M. A., Vakhidov, J. J., Khayitov, S. M., & Mamadiyorova, M. M. (2023). Cardiac arrhythmias in patients with rheumatoid arthritis. *Science and Education*, *4*(2), 130-137.

29. Shamsiev E.A., Islamova K. A., & Ziyadullayev Sh.X. (2023). ARTERIAL HYPERTENSION IN PATIENTS WITH COVID-19. Scholastic: Journal of Natural and Medical Education, 2(11), 13–18.
30. Tatlibayevich, Y. S., & Buribayevich, N. M. (2023). FEATURES OF THE QUALITY OF LIFE IN PATIENTS WITH PNEUMONIA. *World Bulletin of Public Health*, *27*, 53-57.
31. Tatlibayevich, Y. S., & Buribayevich, N. M. (2023). Study of Clinical and Laboratory Features of Rheumatoid Arthritis. *Miasto Przyszłości*, *40*, 433-437.
32. Totilboyevich, Y. S. (2021). Character of ihd course in women of climacteric age.
33. Totlibayevich, Y. S. (2022). Circadian rhythm blood pressure in patients heart failure in renal dysfunction.
34. Yarmatov, S. T. (2021). Yurak Ishemik Kasalligi Va Bachadon Miomasi Bo'lgan Bemorlarni Davolashda Antikougulyant Va Antitrombositar Terapiyani O'tkazish Bo'yicha Klinik Kuzatuvni Olib Borish. *Scientific progress*, *2*(3), 792-797.
35. Yarmatov, S. T., & Yarmahammadov, U. K. (2022). Semizlik–Zamonaviy Tibbiyotda Dolzarb Muammo Sifatida Qolmoqda. *Scientific progress*, *3*(4), 1196-1203.
36. Ибадова, О. А., Махматмурадова, Н. Н., & Курбанова, З. П. (2020). ПОТЕНЦИАЛЬНЫЕ ФАКТОРЫ РИСКА В РАЗВИТИИ И ПРОГРЕССИРОВАНИИ НЕСПЕЦИФИЧЕСКОЙ ИНТЕРСТИЦИАЛЬНОЙ ПНЕВМОНИИ. *Journal of cardiorespiratory research*, *1*(1), 72-76.
37. Исламова, К. А. (2023). Факторы Риска Раннего Развития Остеоартроза. *Journal of Science in Medicine and Life*, *1*(3), 1-7.
38. Исламова, К. А., & Тоиров, Э. С. (2019). EATURES OF CLINICAL CHARACTERISTICS OF OSTEOARTHROSIS ON THE BACKGROUND OF OBESITY. *Новый день в медицине*, (2), 167-170.
39. Исламова, К. А., & Хамраева, Н. А. (2023). Факторы Риска И Качество Жизни Больных Остеартрозом. *Central Asian Journal of Medical and Natural Science*, *4*(6), 268-273.
40. Хусаинова, М. А. (2022). OZONETHERAPY IN RESTORATIVE TREATMENT PATIENTS WITH CORONARY HEART DISEASE. *Журнал кардиореспираторных исследований*, *3*(4).