

3RD WORLD HEART CONGRESS

April 19-20, 2018 Amsterdam, Netherlands

Diastolic dysfunction as cardiac feature of rheumatoid arthritis

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Introduction: Rheumatoid arthritis is autoimmune disease characterized by injury not only the joints but also other organs, including the heart. It is known that the presence of rheumatoid arthritis increases the risk of fatal cardiovascular complications by 1.5 times compared to the general population.

Objective: To identify features of development of diastolic dysfunction in patients with rheumatoid arthritis.

Methods: We examined 180 patients with rheumatoid arthritis. The activity of disease was defined according to the scale of the DAS-28. By echocardiography in 101 patients (group 1) were identified diastolic dysfunction and in 79 patients (group 2) it was absent. We determined the following echocardiographic parameters: mitral E/A, tricuspid E/A, end-diastolic dimension of left ventricle. In addition, patients underwent the vectorcardiography with the assessment of electrophysiological parameters: the squares of loops P, QRS, T, maximum vector (MV), MV-azimuth and MV- ascent.

Results: When comparing the groups revealed that in the 1st group, DAS-28 was higher than in the 2nd ($p < 0.05$): 5.575 [5.17; 6.15] and 5.32 [4.8; 5.8] respectively. In the 1st group, the square of loop QRS and the MV- ascent directly correlated with E/A of mitral valve ($p < 0.05$), whereas in the 2nd group, we have established a direct relationship with end-diastolic dimension ($p < 0.05$).

Conclusion: The results indicate that increased activity of rheumatoid arthritis contributes to the development of diastolic dysfunction of the myocardium. In addition, the decrease in E/A observed in diastolic dysfunction, accompanied by electrophysiological remodeling and reduction in electrical activity of the myocardium of the left ventricle, diagnosed during registration of vectorcardiogram. Moreover, even in the absence of diastolic dysfunction, a tendency to its development in the presence of electrophysiological remodeling. This demonstrates the relationship between early electrophysiological, structural-geometric changes in patients with rheumatoid arthritis. Early diagnosis allows for timely start prevention of remodeling in patients with rheumatologic diseases.

Biography

Liutsiia Feiskhanova is an Associate Professor of Department of Hospital Therapy of Kazan State Medical University, Russia. She has published more than 25 articles in reputed journals. Her interests are in Cardiology, Arrhythmology and Rheumatology.

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