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ANALYSIS OF PROTEIN PARAMETERS IN PATIENTS WITH CORONARY HEART DISEASE

Resume. Atrial fibrillation is classified by the world medical community as one of the three cardiovascular "epidemics of the XXI century", along with chronic heart failure and diabetes mellitus. Atrial fibrillation was found to be an independent predictor of death. Most often, atrial fibrillation occurs in various nosological units of coronary heart disease. There is insufficient research on predicting the risk of atrial fibrillation paroxysm in patients with coronary heart disease. The available data is often contradictory.

Key words: chronic heart failure, diabetes mellitus, fibrillation, ischemia, malondialdehyde, superoxide dismutase.

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АНАЛИЗ БЕЛКОВЫХ ПОКАЗАТЕЛЕЙ У ПАЦИЕНТОВ С ИШЕМИЧЕСКОЙ БОЛЕЗНЬЮ СЕРДЦА

Резюме. Фибрилляция предсердий отнесена мировым медицинским сообществом к числу трех сердечно - сосудистых «эпидемий XXI века» наряду с

хронической сердечной недостаточностью и сахарным диабетом. Установлено, что фибрилляция предсердий является независимым предиктором смерти. Наиболее часто фибрилляция предсердий возникает при различных нозологических единицах ишемической болезни сердца.

. Недостаточно исследований по вопросам прогнозирования риска развития пароксизма фибрилляции предсердий у больных ишемической болезнью сердца. Имеющиеся же данные зачастую носят противоречивый характер.

Ключевые слова: хронической сердечной недостаточностью, сахарным диабетом, фибрилляция, ишемия, малоновый диальдегид, супероксиддисмутаза.

Atrial fibrillation is classified by the world medical community as one of the three cardiovascular "epidemics of the XXI century", along with chronic heart failure and diabetes mellitus. Atrial fibrillation was found to be an independent predictor of death. Most often, atrial fibrillation occurs in various nosological units of coronary heart disease.

Despite the large number of studies conducted in this area, the pathogenesis of the appearance and progression of atrial fibrillation is not fully understood. It is now generally accepted that over time, atrial fibrillation tends to progress from short and rare episodes of arrhythmia to the appearance of a stable, permanent form of atrial fibrillation. There is insufficient research on predicting the risk of atrial fibrillation paroxysm in patients with coronary heart disease. The available data is often contradictory.

The purpose of the study. To study and analyze the parameters of protein and lipid oxidative stress in patients with coronary heart disease.

Materials and methods of research. We examined 85 patients with atrial fibrillation, divided into groups depending on the form of atrial fibrillation (paroxysmal, permanent) and the presence or absence of a combined pathology in the form of tension angina (STN). Somatically healthy individuals (30 people) formed the control group. There were no statistically significant gender and age differences between the groups of patients with atrial fibrillation and somatically healthy individuals.

All patients underwent a standard set of physical-instrumental and laboratory examinations. Additionally, the analysis of indicators of protein and lipid oxidative stress have been studied:

- Superoxide dismutase (SODs) ,SOD (CuZn-SOD + Mn-SOD + Fe-SOD) (units/ml) Determination of their levels in the serum was performed by ELISA using commercial test systems ("BCMDiagnostics", US and "Bender Medsystems", Austria).
- MDA, malondialdehyde (mmol / ml) - a marker of fat and OS peroxidation. The MDA concentration was determined in the blood serum using thiobarbituric acid according to the method of V. B. Gavrilova and co-authors [3].
- AORR, products of deep protein oxidation (mmol / l) were determined in blood serum by ELISA using commercial test systems ("Immundiagnostik", Germany). Statistical data processing was performed using the program Statistica 12.0 ("StatSoft, Inc.", USA).

The results of the study. The parameters of protein and lipid oxidative stress were studied and analyzed in 85 patients with atrial fibrillation of ischemic origin, accompanied by angina pectoris and without it. In patients with both paroxysmal and permanent atrial fibrillation, a decrease in the activity of copper/zinc-dependent and total superoxide dismutase was found, which reflects the inhibition of the body's

antioxidant defense. The revealed intensification of protein peroxidation was most pronounced in the group of patients with a constant form of atrial fibrillation with tension angina. The data obtained indicate the role of reduced antioxidant protection and the processes of protein peroxidation in the destabilization of coronary heart disease.

Conclusion. In the result of the analysis of the level of protein and lipid oxidative stress in patients with atrial fibrillation paroxysmal and permanent form in combination with angina pectoris and without it it has been found that the decrease in the activity of SOD and Ls. CuZn-SOD in patients with paroxysmal, as a permanent form of atrial fibrillation, independent of the presence of angina. At the same time, the most pronounced decrease in the level of SOD was observed in the group of patients with a permanent form of atrial fibrillation. No dependence of total SOD activity on the presence of tension angina was found in the group of patients with paroxysmal atrial fibrillation. An increase in the products of oxidative stress and the level of AORR in patients with paroxysmal and permanent atrial fibrillation is detected more often in groups of patients in combination with angina pectoris. The data obtained indicate the role of reduced antioxidant protection and the processes of protein peroxidation in the destabilization of coronary heart disease.

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