



Indicators of vascular inflammation in patients with exertional angina after

Shoalimova Z.M., Jalilov Sh.Z., Mahmudova M.S.
Cardiology department.

"Tashkent Medical Academy" Tashkent city, Republic of Uzbekistan

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Relevance: The degree of activity of systemic inflammation in patients who underwent COVID-19 with concomitant coronary artery disease and diabetes mellitus can be considered as the most important characteristic of the processes leading to the accelerated development of damage in the vascular wall and destructive changes in atherosclerotic plaques.

The purpose of the work was the study of markers of the vascular inflammatory process in patients with coronary artery disease in combination with type 2 diabetes who underwent COVID-19.

Materials and ~~none~~ methods. A total of 69 patients (male and female) aged 60.3 ± 9.8 years with coronary artery disease, stable exertional angina were examined, hospitalized in the Department of Cardiology of the TMA Multidisciplinary Clinic. Patients who had undergone COVID-19 from 3 to 9 months ago were selected for the examination. All patients are divided into 2 groups. Group 1 - IHD patients ($n = 33$), Group 2 - IHD with T2DM ($n = 36$).

In patients with coronary artery disease with concomitant type 2 diabetes, who underwent COVID-19, there were more pronounced significant changes in the atherogenic index, total cholesterol, as well as CRP and fibrinogen. In patients of group 1 at rest, the PA diameter was 4.47 ± 0.06 mm. In the phase of reactive hyperemia (immediately after decompression), the PA diameter increased by 7.4%, amounting to 5.17 ± 0.89 mm ($p < 0.05$). In patients of the second group, the initial diameter was 3.30 ± 0.48 mm., Which is 25,

Results and discussion. Characteristics of clinical and anamnestic data in the groups of IHD patients with the presence and absence of type 2 diabetes did not have statistically significant differences ($p > 0.05$): in terms of age, gender, individual risk factors, the presence and duration of concomitant pathology, the fact of smoking, the presence of dyslipidemia, duration of ischemic heart disease, type 2 diabetes. Patients of both groups were comparable in terms of drug therapy taken at the outpatient stage.

Conclusion. In patients with coronary artery disease, stable angina pectoris in combination with type 2 diabetes, compared with patients with coronary artery disease without diabetes, against the background of equivalently increased levels of atherogenic parameters of the lipid profile and disorganization of the endothelial system, significant hyperactivation of markers of vascular inflammation was recorded, which may be associated with the previous coronavirus infection.

When analyzing the results in patients of both groups, there was an increase in lipid spectrum indicators, markers of inflammation. Within the normative values, but with a tendency to an increase in values, the levels of CRP and fibrinogen were noted in patients of the 1st group. In the 2nd group of patients, there was a significant hyperactivation of markers of systemic inflammatory responses: CRP ($p < 0.05$), fibrinogen ($p < 0.05$).

Index		FC II	FC III
1st group	V, cm / s	46.9 ± 2.6	$54.6 \pm 2.7 *$
	D, cm	0.52 ± 0.023	0.54 ± 0.024
	EDVD,%	2.6 ± 0.94	$4.1 \pm 0.93 *$
	ENZVD,%	17.1 ± 1.32	14.9 ± 1.35
	τ , dyn / cm ²	18.1 ± 0.7	$20.3 \pm 0.7 *$
	τ , dyn / cm ²	38.9 ± 1.34	40 ± 1.48
	K, conv. units	0.03 ± 0.010	0.04 ± 0.011
2nd group	V, cm / s	47.7 ± 2.6	$58.2 \pm 2.7 *$
	D, cm	0.52 ± 0.019	0.55 ± 0.017
	EDVD,%	2.5 ± 1.19	$6.0 \pm 1.81 *$
	ENZVD,%	17.3 ± 0.93	13.3 ± 1.02
	τ , dyn / cm ²	18.3 ± 0.9	21.4 ± 1.0
	τ , dyn / cm ²	38.7 ± 1.9	40.7 ± 1.8
	K, conv. units	0.03 ± 0.011	$0.08 \pm 0.025 *$