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EFFECTIVNES OF ANTIPLATELETS THERAPY IN PATIENTS WITH CORONARY HEART DISEASE BASED ON THE STUDY OF P-SELECTIN AND GALECTIN-3

Background: recent clinical studies have shown that increased levels of P-selectin and Galectin-3 are prognostic indicators of cardiovascular morbidity and mortality in patients with CAD. To further reduce cardiovascular mortality, it is necessary to reduce the so-called “residual” cardiovascular risk, which is largely determined by the presence of systemic inflammation in patients. One of the ways to individualize the treatment of patients with high cardiovascular risk is the assessment of new biomarkers, including P-selectin and Galectin-3, reflecting at the individual level different ways of activating the systemic inflammatory response.

Purpose: is devoted to the optimization of the prediction of clinical course and

treatment of patients with coronary heart disease in combination with type 2 diabetes mellitus on the grounds of the study of the levels of P-Selectin and Galectin-3.

Methods: The results of the study and treatment of 39 patients with coronary heart disease and concomitant type 2 diabetes mellitus , including 21 women and 18 men aged from 38 to 89 years (average age 63.96 ± 11.77 years), were analyzed to achieve the goal. All the patients had stable angina on the grounds of clinical manifestations, cardiac stress tests and coronary angiography and diabetes mellitus type 2. The average level of Galectin-3 in plasma was 12.2 ± 5.5 ng/ml, P-Selectin was 90.0 ± 46.5 ng/ml. An analysis of the relationships between the level of P-Selectin and Galectin-3 in the plasma of patients with stable angina showed a reliable correlation of the analyzed biomarkers levels ($r = 0.417$, $p = 0.033$).

Before the study all the patients received monotherapy with Aspirin. Patients by randomization method were divided into 2 groups. The first group included 20 patients who had been converted to Clopidogrel 75 mg monotherapy once a day; 19 patients were included in the control group, who continued treatment with Aspirin at a dose of 75 mg once a day. Repeated inspections took place after 3 and 12 months. The final analysis included 19 patients from the first group and 18 patients from the control group. The level of P-selectin in the group of patients in which therapy was changed from Aspirin to Clopidogrel tended to decrease after 3 months, which did not achieve a reliable and significant decrease compared with baseline (from 82.4 ± 32.2 to 54.6 ± 23.5 ng / ml, $p < 0.05$, respectively) after 12 months of treatment with Clopidogrel. Unlike the level of P-selectin and Galectin-3, there were no significant differences in the comparison of Clopidogrel 75 mg once daily and Aspirin at a dose of 75 mg 1 time per day.

Conclusion: it has been shown that in patients with coronary heart disease in combination with type 2 diabetes mellitus, therapy with Clopidogrel is associated with a decrease in the level of P-Selectin, which reflects a decrease in the activity of the platelet component of the systemic inflammatory response in atherosclerosis. Unlike Clopidogrel, Aspirin does not affect the level of P-Selectin. Neither Aspirin no Clopidogrel showed any influence to the level of Galectin-3. Above mentioned

became the basis to propose the new method of medical treatment of patients with coronary heart disease combined with type 2 diabetes , to examine the blood level of P-selectin and if it is higher than 100 ng / ml as antiplatelet therapy prescribe Clopidogrel in a dose of 75 mg once a day.

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