

THE CONTRIBUTION OF PROINFLAMMATORY MARKERS INTO THE FORMATION OF CARDIOMYOPATHY IN PATIENTS WITH TYPE 2 DIABETES MELLITUS AND OVERWEIGHT

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Purpose: to evaluate the contribution of proinflammatory cytokines interleukin (IL)-1 β and IL-6 to the formation of cardiomyopathy (CMP) in patients with type 2 diabetes.

Methods. A total of 102 patients with type 2 diabetes mellitus (T2DM) of moderate severity were examined, duration of diabetes history - 1 to 9 years. Patients were divided into the following groups depending on CMP severity: group 1 (n = 35) - patients with moderate CMP and body mass index (BMI) <28.5 kg / m², group 2 (n = 67) patients with severe CMP and BMI > 28.5 kg / m². Control group included 20 healthy volunteers. IL-1 β and IL-6 levels were determined by the immune enzyme method. Echocardiography was used to determine the peak velocity of early filling of left ventricle (LV) E, peak velocity of late filling of LV A, E/A ratio, deceleration time DT of early diastolic filling.

Results. The level of IL-1 β (pg / ml) significantly differed in studied groups: control group - 8.12 ± 0.24 , group 1 - 11.37 ± 0.26 , group 2 - 14.79 ± 0.27 . The analysis of IL-6 (pg / ml) levels in studied groups also showed significant difference: 8.83 ± 0.22 , 11.3 ± 0.28 , 14.21 ± 0.29 , respectively. E/A ratio significantly differed in all groups: control group - 1.4 ± 0.075 , group 1 - 0.92 ± 0.005 , group 2 - 0.81 ± 0.021 . The following significant correlations were found in group 2: E/A ratio and IL-1 β (R = -0.32 (p <0.05)), E/A ratio and IL-6 (R = -0.28 (p <0.05)); DT and IL-1 β (R = 0.30 (p <0.05)). No significant correlations between proinflammatory cytokines and markers of diastolic function were found in group 1.

Conclusion. The disorders of the proinflammatory cytokines activity, namely increase of IL-1 β and IL-6 levels, along with other factors contributes to the formation of diabetic cardiomyopathy in patients with T2DM and overweight. Therefore, the elaboration of appropriate anti-inflammatory therapies to prevent the development and progression of cardiomyopathy and heart failure in this category of patients is highly topical.