The formation of diabetic cardiomyopathy (DCMP) against the background of diabetes mellitus type 2 (DM-2) is associated not only with insulin resistance, hyperinsulinemia and glucose toxicity, but also with the activation of proinflammatory cytokins. One of the mediators of inflammation is interleukin-1β (IL-1β), which is the marker of severity and the predictor of the development of cardiovascular diseases. However, the extent of IL-1β involvement into the development of diastolic dysfunction (DD), typical for metabolic cardiomyopathy, is not well studied.

The purpose of our research was to evaluate the interconnection between the DD and the level of IL-1β in patients with DM-2.

Methods. 64 patients (35-60 years old) with DM-2 of moderate severity without signs of coronary artery disease, hypertension and heart failure were examined. Duration of DM-2 was from 1 to 8 years. The level of IL-1β (pg/mL) was determined by immune-enzyme assay. The maximal velocity of early diastolic stream E; stream velocity, caused by atrial systoles A; and an E/A ratio were measured by heart sonography. Control group included 20 relatively healthy individuals.

Results. The mean level of E/A composed 0.82 ± 0.022 in the group of patients with DM-2 and 1.4 ± 0.075 (p<0.05) in the control group. The mean level of IL-1β counted 14.76 ± 0.28 (p<0.05) in group of patients with DM-2 and 8.12 ± 0.24 in the control group. A significant reliable correlation was revealed between E/A ratio and IL-1β level (R -0.27 (p<0.05)). The changes of E/A and IL-1β in studied groups are demonstrated at figures 1-2.

Conclusion. The received data prove that proinflammatory IL-1β contributes into the formation of DCMP and favors the development of diastolic dysfunction, followed by formation of heart failure in patients with DM-2.

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