

# THE INTERRELATION BETWEEN DIASTOLIC DYSFUNCTION AND INTERLEUKIN-1B LEVEL IN PATIENTS WITH DIABETIC CARDIOMYOPATHY

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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-1 $\beta$  (IL-1 $\beta$ ), which is the marker of severity and the predictor of the development of cardiovascular diseases. However, the extent of IL-1 $\beta$  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-1 $\beta$  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-1 $\beta$  (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  $0.82 \pm 0.022$  in the group of patients with DM-2 and  $1.4 \pm 0.075$  ( $p < 0.05$ ) in the control group. The mean level of IL-1 $\beta$  counted  $14.76 \pm 0.28$  ( $p < 0.05$ ) in group of patients with DM-2 and  $8.12 \pm 0.24$  in the control group. A significant reliable correlation was revealed between E/A ratio and IL-1 $\beta$  level ( $R -0.27$  ( $p < 0.05$ )).

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