Effects of Combination Therapy with Fenofibrate and Alpha-Lipoic Acid in Patients with Ischemic Heart Disease and Type 2 Diabetes Mellitus

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Purpose: to investigate effects of combination therapy with fenofibrate and α-lipoic acid (ALA) on endothelial dysfunction, levels of adiponectin and proinflammatory mediators in patients with ischemic heart disease (IHD) and type 2 diabetes mellitus (T2DM).

Methods. We examined 42 patients with IHD and T2DM (19 males, age 60.5 ± 4.7 years). Baseline characteristics of patients included history of IHD (7.2 ± 2.3 years), T2DM (4.7 ± 0.5 years). The level of HbA1c was less than 7.5%. All patients were divided into 2 groups: the 1st (n = 22) – received the standard therapy, the 2nd (n = 20) in the standard therapy received combination of fenofibrate with ALA. In all patients were determined the levels of proinflammatory mediators (TNF-α, hsCRP), vascular endothelial growth factor (VEGF) and adiponectin at baseline and in 6 months.

Results. Combination therapy with fenofibrate and ALA substantially lowered plasma levels of TNF-α by 7±2% (P <0.05) and hsCRP from 1.21 to 0.88 mg/l (P<0.05) compared with the 1st group. Combination therapy increased plasma levels of adiponectin by 19±3% (P=0.001). The serum VEGF concentrations in patients received combination of fenofibrate with α-lipoic acid were significantly reduced from 320 ± 26 pg/mL at baseline to 195 ±22 pg/mL in 6 months (P=0.022). There were correlations between changes in adiponectin levels and the serum VEGF concentrations (r=-0.31, P=0.043).

Conclusions. Combination therapy with fenofibrate and α-lipoic acid significantly reduced proinflammatory mediators, VEGF and increased adiponectin level in patients with IHD and T2DM.