

## 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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**Purposes:** to investigate effects of combination therapy with fenofibrate and  $\alpha$ -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  $60.5 \pm 4.7$  years). Baseline characteristics of patients included history of IHD ( $7.2 \pm 2.3$  years), T2DM ( $4.7 \pm 0.5$  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- $\alpha$ , 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- $\alpha$  by  $7 \pm 2\%$  ( $P < 0.05$ ) 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  $19 \pm 3\%$  ( $P = 0.001$ ). The serum VEGF concentrations in patients received combination of fenofibrate with  $\alpha$ -lipoic acid were significantly reduced from  $320 \pm 26$  pg/mL at baseline to  $195 \pm 22$  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  $\alpha$ -lipoic acid significantly reduced proinflammatory mediators, VEGF and increased adiponectin level in patients with IHD and T2DM.