Reducing Residual Vascular Risk Through 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 α-lipoic acid (ALA) on atherogenic dyslipidemia, which determines the residual vascular risk and endothelial dysfunction, levels of 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 145 mg once daily with ALA 600 mg once daily. In all patients were determined the levels of total cholesterol, low-density lipoprotein cholesterol (LDL), triglycerides (TG), high-density lipoprotein cholesterol (HDL) by enzymatic colorymetric method, and proinflammatory mediators (TNF-α, hsCRP) by ELISA method at baseline and in 6 months.

Results. As compared with baseline, combination therapy with fenofibrate and ALA substantially lowered plasma levels of TNF-α by 7±2% ($P<0.05$) and hsCRP from 1.58±0.19 to 0.98±0.17 pg/ml ($P<0.05$) compared to the 1st group. Furthermore, combination therapy increased plasma levels of HDL on 12% (0.13 mmol/L), decreased total cholesterol, LDL and TG levels on 7%, 9% and 12% respectively (all $p<0.001$).

Conclusions. Combination therapy with fenofibrate and α-lipoic acid significantly reduced total cholesterol, LDL, and TG, proinflammatory mediators, increased HDL and as a result reducing residual vascular risk in patients with IHD and T2DM.