

ARTERIAL STIFFNESS MARKERS IN PATIENTS WITH CORONARY ARTERY DISEASE AND TYPE 2 DIABETES MELLITUS

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Aims: To assess arterial stiffness (AS) markers in patients with coronary artery disease (CAD) and concomitant type 2 diabetes mellitus (T2DM).

Methods. We examined 62 patients with CAD (21 males, age 60.5 ± 4.7 years). All patients were divided into 2 groups: the 1st (n=32) – patients with concomitant T2DM, the 2nd (n=30) - without T2DM. The HbA1c was $<7.5\%$. The control group includes 20 healthy volunteers. In all patients were determined the lipid metabolism. We conducted coronary angiography, ultrasound of the carotid arteries (CA) with determination of intima-media thickness (IMT) of the common carotid artery (CCA), AS was measured as carotid-femoral pulse wave velocity (cf-PWV) on the rheovasography, ankle-brachial index (ABI).

Results. According to coronary angiography among 1st group of patients in 75% cases registered atherosclerotic lesion (AL) of two or more coronary arteries, in the 2nd - at 70% cases registered AL of one coronary arteries ($p < 0.05$). IMT-CCA values were significantly higher in the 1st group compared with the 2nd group (1.34 ± 0.12 vs 1.11 ± 0.11 , $p < 0.05$). cf-PWV and ABI value also were higher in the 1st group (9.32 ± 1.54 vs 7.53 ± 0.91 m/s and 1.51 ± 0.08 vs 1.12 ± 0.09 respectively). There were correlations between cf-PWV and IMT-CCA ($r = 0.41$, $P = 0.043$), cf-PWV and ABI ($r = 0.32$, $P = 0.039$), IMT-CCA and ABI ($r = 0.39$, $P = 0.037$). There were registered correlation between cf-PWV and extent of coronary atherosclerosis ($r = 0.31$, $P = 0.044$) and between IMT-CCA and extent of coronary atherosclerosis ($r = 0.32$, $P = 0.045$). IMT-CCA and cf-PWV were higher in diabetic patients with hypertriglyceridemia ($p < 0.05$).

Conclusion. Determination of noninvasive indicators of AS, such as cf-PWV, IMT-CCA and ABI, are necessary in the routine clinical practice for the early diagnosis and prevention of vascular complications, including coronary atherosclerosis in patients with T2DM.