INTIMA-MEDIA THICKNESS OF INTERNAL CAROTID ARTERIES IN THE DIAGNOSIS OF CORONARY ATHEROSCLEROSIS IN PATIENTS WITH TYPE 2 DIABETES AND SILENT ISCHEMIA

Larysa Zhuravlyova, Natalia Lopina

Aims: to determine the role of intima-media (IMT) thickness of internal carotid artery (ICA) in the diagnosis of coronary atherosclerosis in patients with type 2 diabetes (T2D) and silent ischemia (SI).

Methods: we provide a retrospective analysis of 60 cases of patients with T2D (24 men, age 60.5 ± 4.7 years), history of diabetes – 4.7±0.5 years. SI was diagnosed by comparing complaints, anamnesis, ECG data and daily ECG monitoring. All patients underwent carotid ultrasound in B-mode to determine the degree of ICA IMT stenosis. The degree of coronary atherosclerosis was evaluated by coronary angiography (CAG).

Results: in 55% of patients with T2D and SI the presence of atherosclerotic lesions of two or three coronary arteries (CA) localized in the middle and distal segments was identified. In 13% of patients with T2D critical subocclusion of CA was found. ICA IMT values were significantly higher in patients with SI and coronary atherosclerosis compared to patients with T2D without atherosclerotic CA lesions (1.41 ± 0.12 vs 1.21 ± 0.11, $p<0.05$), in 20 % of patients with T2D and SI the presence of atherosclerotic plaques of ICA was revealed. When conducting multiple logistic regressions in patients with T2D and SI the following predictors of atherosclerotic CA lesions were identified: duration of T2D (OR 4.07, 95% CI 2.56-4.32; $p <0.05$), dyslipidemia (OR 2.17 95% CI 1.47-3.12; $p<0.05$), gender (OR 1.52, 95% CI 1.14-2.31; $p<0.05$), ICA IMT (OR 2.81, 95% CI 1.76-3.21; $p<0.05$). AUC value in the analysis of ROC-curve for ICA IMT was 0.75 (95% CI 0.61-0.79; $p<0.05$).

Conclusion: Increased thickness of ICA intima-media and CA atherosclerotic plaques combined with coronary atherosclerosis in patients with T2D and SI should be considered during the screening of this group of patients to identify those to perform CAG and early revascularization for the prevention of cardiovascular events.