

THE PARAMETERS OF CARDIOHEMODYNAMICS AND CAROTID ARTERIES ATHEROSCLEROTIC LESIONS IN PATIENTS WITH COPD COMBINED WITH CORONARY HEART DISEASE AND OSAS

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Abstract

The aim was to study the parameters of cardiac hemodynamics and the peculiarities of atherosclerotic lesions of the carotid arteries in patients with COPD and concomitant coronary heart disease and obstructive sleep apnea syndrome (OSAS).

Materials and methods. To identify OSAS 145 patients with COPD and concomitant coronary artery disease were screened. In a further study 67 (44,14 %) patients with confirmed OSAS were selected. Patients were allocated into 3 groups according to the severity of OSAS: mild, moderate and severe. Noninvasive assessment of hemodynamics was determined by Doppler echocardiography. Special attention to the assessment of structural and functional condition of the right heart was paid.

Results and discussion. It was found that in patients with moderate-to-severe and severe OSAS a remodeling of right heart with the development of diastolic dysfunction (DD) of the right and left ventricles of the heart had occurred. In patients with moderate OSAS blood flow velocity ratios in early and late diastole (E/Atmk and E/Attk) corresponded to moderate diastolic dysfunction of both heart ventricles. In severe OSAS moderate diastolic dysfunction remained in the presence of restrictive spectrum of trans-tricuspid blood flow, indicating elevation of right atrium diastolic blood pressure and the pulmonary hypertension. In patients with moderate and severe OSAS a significant thickening of the intima-media complex in carotid arteries and the presence of stenosis lesions of the internal carotid artery were revealed ($p < 0,05$).

Conclusions. OSAS occurs in 46,2% of patients with COPD and concomitant coronary artery disease. The average value of apnea/hypopnea index was 24,76 (18,95) events per hour, which corresponded to moderate OSAS. With the increase of the OSAS severity the structural and functional disorders of the right heart and atherosclerotic changes in the carotid arteries progressed.

Key words: chronic obstructive pulmonary disease, coronary artery disease, comorbidity, OSAS, cardiohemodynamics.

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