

CHANGES IN PERIPHERAL VESSELS DEPENDING ON THE LEVEL OF ARTERIAL HYPERTENSION IN PATIENTS WITH ISCHEMIC HEART DISEASE AND ARTERIAL HYPERTENSION

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Abstract. Arterial stiffness as a marker of subclinical target organ damage in patients with arterial hypertension (AH) is an important and independent predictor of mortality and cardiovascular morbidity. The review examines factors that contribute to increased vascular wall stiffness with a focus on smoking, mechanisms of increased arterial stiffness with aging, and the effect of arterial stiffness on increased systolic and pulse blood pressure (BP). Particular attention is paid to the effect of pulse blood pressure on the risk of cardiovascular complications, primarily on the incidence of stroke and cognitive impairment.

Key words: arterial hypertension, pulse blood pressure, stroke.

The purpose. During the study pronounced structural and functional changes in peripheral arteries were revealed with a decrease in their elasticity, increased elasticity of the vascular wall, early atherosclerotic changes in the CCA, both in patients with obesity and insulin resistance (IR) compared with patients with hypertension.

Materials and methods. 30 patients with hypertension were examined, of which 5 patients with stage II hypertension and 25 with obesity. To assess structural and functional changes peripheral arteries, duplex scanning was performed arterial imaging using linear ultrasound sensor 3-12 MNz on a Philips Envizor device with assessment IMT of the common carotid artery, common femoral artery, main renal artery in B-mode according to general accepted methodology.

Results. When assessing structural changes in the vessel wall, a significant decrease in the elasticity of the CCA was revealed. In patients with hypertension, AC decreased by 15.9%, and in patients with obesity - by 45.2% ($p < 0.01$) and by 57.8% with combination with IR ($p < 0.01$) without significant differences among themselves. More pronounced wall disorders OSA in obese patients revealed a highly significant increase in Ep by 82.5% ($p < 0.01$) and YEM - by 93.8% ($p < 0.01$), and when combined with IR - by 91.9% and 2.2 times respectively. At the same time, the elasticity index increased Si as an indicator independent of blood pressure level. In a group in HD patients it was 2.21 ± 0.3 ($p < 0.05$), increased by 28.7%, with obesity - 2.85 ± 0.22 ($p < 0.01$) and increased by 42.8%, with combination with IR - 4.03 ± 0.24 (with control 27.5 ± 0.27).

Conclusions: The definite connection obtained between metabolic disorders and increased elasticity of large arteries by thickening their walls in conditions of obesity, insulin inactivation, lipid metabolism disorders suggests that the vascular effect of hypertension leads to to a change in the wall in the form of its elasticity with a decrease elasticity.

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2. РЕМОДЕЛИРОВАНИЕ ПЕРИФЕРИЧЕСКИХ АРТЕРИЙ КАК ПРЕДИКТОР ЭНДОТЕЛИАЛЬНОЙ ДИСФУНКЦИИ ПРИ АРТЕРИАЛЬНОЙ ГИПЕРТОНИИ И АБДОМИНАЛЬНОМ ОЖИРЕНИИ Молчанова Н.Н., Загретдинов И.А., Терегулова А.М., Мингазитдинова Л.Н. *, Муталова Э.Г., Новикова Л.Б