

POSTER PRESENTATIONS

THE INFLUENCE OF RENAL DYSFUNCTION DEGREE IN THE DEVELOPMENT OF ENDOTHELIAL DYSFUNCTION IN PATIENTS WITH CHRONIC HEART FAILURE

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The currently available data suggest that the presence of dyslipidemia (DL) in patients with chronic heart failure (CHF) is a significant pathogenetic link that worsens the disease prognosis. Although the primary cause of CHF is coronary artery disease, with or without concomitant arterial hypertension, DL is undoubtedly a risk factor that significantly worsens the course and prognosis of the disease. Moreover, the prevalence of DL is approaching that of cardiovascular diseases (CVD) and diabetes mellitus, and it can serve as a prognostic marker for the development of nearly all CVDs in general and CHF in particular. All of the above formed the basis for dividing the patients into three groups according to the severity of their DL.

The results of our research established that patients with CHF have endothelial dysfunction (ED), and the severity and nature of this dysfunction depend on the presence and characteristics of DL. The analysis of the vascular wall's response to changes in blood flow velocity is crucial for assessing endothelial function. Thus, in patients with CHF developing against a background of varying DL severity (groups II and III), an inadequate vasodilation is observed in response to a significant increase in stimulus. Despite a significant acceleration of blood flow after the reactive hyperemia test, their vessel diameter was smaller than that of the control group, which is a sign of ED manifested as impaired endothelium-dependent vasodilation (EDVD).

The data obtained indicate a decrease in endothelium-dependent vasodilation in patients with CHF. The combination of RD and CHF further exacerbates this pathological process. Thus, the results of the ultrasound study established an impairment of endothelium-dependent vasodilation of the brachial artery in patients with CHF. An increase in the severity of RD aggravates this pathological process. This is evidenced by the smallest BA diameter with the highest blood flow acceleration during the reactive hyperemia test.

Numerous available data indicate that endothelial function is influenced not only by metabolic and hemodynamic parameters but also by age-related aspects. Specifically, our analysis revealed a negative correlation between EDVD and patient age, disease duration, and time since AMI. This indicates that the presence of RD in patients with CHF aggravates the endothelial dysfunction already present with age, IHD, and post-infarction atherosclerosis.

The results of the analysis of the relationship between the functional state of the endothelium and the severity of RD in patients with CHF and RD revealed a consistent dependence of EF on the severity of RD. The identified moderate negative correlation between EDVD indicators and RD factors in patients with CHF and RD indicates that high levels of creatinine and cystatin C, albuminuria, as well as a decrease in GFR, play a particular role in the development and aggravation of ED.