

# THE INFLUENCE OF PRECEDING HYPERTENSION ON FUNCTIONAL HEART PARAMETERS IN PATIENTS WITH MYOCARDIAL INFARCTION

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Hypertension and coexisting left ventricular hypertrophy are known to significantly affect mortality after acute myocardial infarction (AMI). One of the possible keys to negative prognosis is higher risk of heart failure development, which is still discussed.

The **purpose** of this study was to determine the influence of preceding hypertension on left ventricular parameters after AMI.

**Methods.** 35 hypertensive patients and 31 normotensive patients with their first AMI were examined. Cardiac ultrasound was done to all patients on 3<sup>rd</sup> and 28<sup>th</sup> day after AMI. The amount of troponin, creatine phosphokinase, transaminases was determined in blood of all patients.

**Results.** Patients of the hypertensive group had the following dynamics of functional heart parameters from 3<sup>rd</sup> to 28<sup>th</sup> day: left ventricular end-diastolic volume (LVEDV) and left ventricular end-systolic volume (LVESV) showed a tendency to increase (+ 4.1%;  $63.82 \pm 5.13$  mm; +13.9%;  $58.16 \pm 6.73$  mm, respectively) as well as the ejection fraction (EF) +12.8%;  $44.85 \pm 2.93\%$ . However, the mentioned above changes weren't reliable ( $p \geq 0.05$ ). Patients of the normotensive group demonstrated reliable decrease of LVEDV (-15.3%;  $52.75 \pm 4.23$  mm;  $p=0.027$ ), as well as LVESV (-19.7%;  $38.64 \pm 3.48$  mm;  $p=0.031$ ); EF increased to 23% ( $49.53 \pm 2.76\%$ ;  $p=0.008$ ). The analysis of indexes on 28<sup>th</sup> day showed increase of EF in both groups (68.85 % and 85.66% of patients respectively,  $p=0.039$ ); the decrease of contractile ability determined in 25.2% and 14.29% of patients respectively,  $p=0.034$ ).

**Conclusion.** Patients with AMI and preceding hypertension demonstrated worse dynamics of functional heart parameters than normotensive ones. This included insufficient improvement of left ventricular systolic and diastolic function as well as its contractile ability, tendency to left ventricular cavity dilatation. Such changes may favor the future progress of heart failure and increase the risk of life-threatening arrhythmias.