

## The dynamics of indexes of functional state of the heart in patients with acute myocardial infarction accompanied with non-alcoholic steatohepatitis

Filonenko M.V., Zhuravljova L.V.

Chronic hepatobiliary pathology is known to be an independent factor, capable to influence the clinical course, complications occurrence and prognosis in patients with acute myocardial infarction (AMI). The presence of chronic liver diseases in patients with AMI worsens the derangements of intracardiac and systemic hemodynamics, decelerates the reparative processes in myocardium. A constant growth of percentage of patients with AMI accompanied with non-alcoholic steatohepatitis (NASH) is observed recently all around the world. That's why studying of dynamics of functional state of the heart in such patients is topical and important.

Purpose of this research is to determine the peculiarities of dynamics of functional state of the heart in patients with AMI accompanied with NASH.

Methods. 76 patients with Q-AMI accompanied with NASH and 31 patients with Q-AMI without liver pathology 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. Also the data of liver ultrasound and liver biopsy were analyzed in patients with NASH.

Results. Patients with Q-AMI accompanied with NASH had the following dynamics of indexes of functional state of the heart from 3<sup>rd</sup> to 28<sup>th</sup> day: left ventricular enddiastolic volume (LVEDV) was slightly decreased (-2,9%;  $60,74 \pm 4,16$  mm), left ventricular endsystolic volume (LVESV) showed a tendency to increase (+14,8%;  $54,36 \pm 5,13$  mm) as well as ejection fraction (EF) +14,6%;  $45,39 \pm 2,82\%$ . However, the mentioned above changes weren't reliable. Patients with Q-AMI without liver pathology demonstrated reliable decrease of LVEDV (-17,2% ;  $54,08 \pm 3,97$  mm;  $p=0,031$ ), as well as LVESV (-21,1%;  $39,49 \pm 3,25$  mm;  $p=0,042$ ); EF increased to 28% ( $51,93 \pm 2,69\%$ ;  $p=0,007$ ). The analysis of indexes on 28<sup>th</sup> day showed increase of EF in both groups (70,36 % and 84,57% of patients respectively,  $p = 0,048$ ); decrease of contractile ability determined in 23,6% and 15,13% of patients respectively,  $p = 0,042$ ).

Conclusion. Patients with Q-AMI accompanied with NASH had worse dynamics of indexes of functional state of the heart. These included insufficient improvement of left ventricular systolic function and its contractile ability, tendency to enlargement of left ventricular cavity. Such changes may cause future progress of heart failure, risk of life-threatening arrhythmias development.