The aim of the study was to analyze arrhythmias and heart rate variability parameters in the presence and absence of silent myocardial ischemia (SMI).
Methods. The results of Holter monitoring (HM) of 288 patients (mean age — 63.2±10.7 years), were analyzed. The following parameters were studied: ECG rhythm; heart rate (HR); ventricular extrasystoles (VE); ventricular tachycardia (VT); QT interval; ST segment displacement; T-wave; heart rate variability (HRV), standard deviation of NN interval (SDNN); root mean square of the differences in successive R-R interval (rMSSD), circadian index (CI), and circadian profile (CP).
Results. Patients with SMI more often ($p<0.00005$) had permanent atrial fibrillation (AF), while it is not a complication of myocardial infarction. The SMI group has higher mean daytime HR ($p<0.05$) and maximum HR ($p<0.00001$). compared to the control group (CG). SMI patients had lower minimum HR ($p<0.05$) and difference between maximum and minimum HR compared to CG ($p<0.0000005$). In the SMI group of patients with VE ($p<0.005$), the number of VE per day ($p<0.001$), the mean number of VT episodes ($p<0.05$) per day were significantly lower compared to CG patients. In SMI, the episodes of ST-segment depression ($p<0.05$) and negative T-waves ($p<0.005$) were significantly more frequent, and these changes were more often associated with physical activity (PA) compared to CG ($p<0.05$). Diurnal SDNN was significantly higher in the SMI group compared to CG ($p<0.0005$). Decreased CI ($p<0.000005$) and rigid CP ($p<0.005$) were less frequent in SMI patients compared to CG patients.
Conclusion. VE and VT were less frequently detected during HM in patients with SMI, indicating a milder course of coronary heart disease (CHD), where ventricular arrhythmias (VA) are one of the indicators. In patients with SMI, HRV data show normal autonomic innervation of the heart, which may be an additional reason for less severe VA along with a milder course of CHD.