

Vasile Goldish Western University, Arad  
Faculty of Medicine, Pharmacy and Dentistry

International scientific and practical conference

# **TODAY'S PROBLEMS IN MEDICINE, PHARMACY AND DENTISTRY**

**December 17-18, 2020**

**Romania, Arad**

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• GENDER DIFFERENCES IN THE ACUTE PERIOD  
• OF MYOCARDIAL INFARCTION WITH ST-SEGMENT  
• ELEVATION IN PATIENTS AFTER PRIMARY CORONARY  
• INTERVENTION  
•

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Coronary artery disease (CAD) is currently one of the most pressing cardiological problems worldwide [1]. Such severe and acute form of CAD as myocardial infarction with ST-segment elevation (STEMI) has high mortality rate traditionally [2]. In recent years it was noticed a tendency of mortality reduction mostly due to organization and active development of reperfusion centers network [3]. Emergency reperfusion treatment is the most effective strategy in the treatment of STEMI [4]. According to the Ukrainian Register of Percutaneous Interventions, the number of patients receiving reperfusion therapy for STEMI by primary coronary intervention (PCI) has been increasing in recent years [5]. That is why the study of the features of the disease after invasive interventions and the development of prognostic criteria for the occurrence of adverse coronary events for their active drug prevention are among the pressing issues of modern cardiology.

To establish gender differences in the course of the acute period of myocardial infarction with ST-segment elevation in patients after PCI.

The study was performed on the clinical bases of the Department of Internal Medicine 1 and Simulation Medicine of Zaporizhzhia State Medical

University. We analyzed clinical and instrumental examinations of 51 patients with STEMI. Patients were divided into 2 groups by gender: group 1 ( $n = 30$ ) – men, median age 61.00 (56.00; 69.00) years, group 2 ( $n = 21$ ) – women, median age 68.00 (63.00; 76.00) years. All patients in the acute period of STEMI underwent a reperfusion therapy – PCI.

Patients underwent ECG, coronary angiography with subsequent stenting of the infarct-dependent artery, transthoracic echocardiography, laboratory examination. Statistical processing was performed using the software package Statistica 10.0 (StatSoft, Inc., USA). The assessment of the reliability of the distribution of qualitative binary features was performed using the criterion “Chi-square”. The presence of differences between the two independent quantitative variables was assessed using the Mann-Whitney U-test. To identify differences between groups on the selected qualitative gradations of any feature used a two-way version of Fisher’s exact test. Correlation analysis was performed by the Spearman method. Differences were considered significant at  $p < 0.05$ .

Statistical differences in age and conducted pharmacotherapy between groups 1 and 2 were not observed. In group 1 detected significantly lower level erythrocyte sedimentation rate (by 32.14%,  $p = 0.04$ ), low-density lipoproteins (by 32.14%,  $p = 0.006$ ), significantly higher level of potassium (by 4.61%,  $p = 0.016$ ), was observed tendency to higher concentration of MB-fraction of creatine phosphokinase on admission to the hospital (41.0%,  $p = 0.14$ ) than in group 2. According to the assessment of the hemostasis system in the 1st group revealed a significantly higher prothrombin index (by 41.56%,  $p = 0.014$ ) and significantly lower fibrinogen (by 34.95%,  $p = 0.045$ ) than in the 2nd group.

In patients of group 1 were observed reliably lower values of heart rate (HR) and diastolic blood pressure when discharged from the hospital in comparison with group 2 (8.74%,  $p = 0.002$  and 12.5%,  $p = 0.047$ , respectively). In the 1st group there were lower rates of systolic blood pressure (SBP) at discharge than at admission to the hospital (4.16%,  $p = 0.029$ ). In the 2nd group – heart rate and SBP at discharge were reliably lower than on admission to the hospital (by 5.04%,  $p = 0.037$  and 4%,  $p = 0.025$ ).

There was no significant difference between the groups in the number of patients with hyperthermia ( $p = 0.92$ ).

In the 1st group, structural and functional changes of the heart were characterized by a larger diameter of the ascending aorta (6%,  $p = 0.04$ ) and end-systolic diameter of the left ventricle (LV) (by 13.38%  $p = 0.04$ ),

significantly less the size of the posterior wall of the LV (11.47%  $p = 0.02$ ) compared with patients of group 2. In the 1st group there was a lower peak speed of the mitral valve (by 22.08%,  $p = 0.007$ ), a smaller number of patients with diastolic (type 1 – relaxation disorders) dysfunction (by 42.38%,  $p = 0.0012$ ) and the tendency to more patients with reduced ejection fraction of LV (9.85%,  $p = 0.33$ ) compared with group 2.

In group 2 there was a tendency to a smaller number of cases of formation of LV akinesia zones in comparison with group 1 (by 20.95%,  $p = 0.09$ ).

The postoperative period in men compared to women after PCI is more often accompanied by the formation of global and local systolic LV dysfunction, cavity dilatation and eccentric LV hypertrophy. For women, the formation of LV type I diastolic dysfunction and more pronounced manifestations of systemic inflammation were characteristic.

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