Abstract: **P4603**

**Exercise training after acute coronary syndromes in the octogenarians has beneficial effect on the course of the disease and the exercise tolerance - single-center, prospective 12-months evaluation.**

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Background. The population of elderly patients after acute coronary syndrome (ACS) is increasing due to the extension of life expectancy.

Purpose. The aim of the study was to demonstrate the impact of individual exercise training on the course of the disease, exercise tolerance and quality of life in patients over 75 years of age after ACS.

Methods. The randomized, prospective, controlled clinical trial included patients with ACS, age >75 years, after acute percutaneous coronary interventions (PCI). Patients were randomly assigned to two groups: a training group (ExT) subjected to individualized physical training and a control group, not subjected to training program (CG). ExT patients participated in trainings three times a week for 2 months according to model B or C of the second stage of rehabilitation. Patients from control group (CG) received general recommendations for activity. In addition, patients underwent exercise tolerance test (ETT), 6-minute walk tests (6-MWT), NHP questionnaires evaluation, laboratory tests, ECG, echocardiographic examinations.

Results. The study included 51 patients, mean age 80 years, men: 50%, n=25 ExT , n=26 (CG). The study was completed by all patients. Physical capacity at the beginning of the trainings assessed in ETT and 6-MWT was comparable in both groups, ns. After two months of training program the average ETT exercise time increased by 12.5% (from 416±152 to 468±153 sec, p=0.0114), and the load by 13% (69±5.2 WAT to 78±25.4 WAT, p=0.0005). The average distance in 6-MWT increased by 8.3% (446±90 to 483±60 m, p=0.006). In CG, the values of the ETT and 6-MWT parameters hadn’t significantly changed. After trainings cessation, the mean distances in the study after 6 months and after 12 months returned to the initial values of 474±73 and 476±80 m (respectively: p=0.069, p=0.062) in comparison to the test performed before the beginning of rehabilitation. Similarly, after 1 year, the average duration of the exercise test (242±147 sec) and the average load obtained (70±22.4 WAT) decreased significantly compared to the results after rehabilitation (p=0.0009, p=0.0006), obtaining similar levels as in the initial tests (p=0.481, p=0.593). In the NHP questionnaire in the ExT group the level of pain was significantly lower after the end of the training with respect to the initial measurements (p=0.007) and after 12-months follow-up (p=0.029). In the scale of emotional reactions, a significant deterioration of the quality of life in the ExT group was found after 12 months in relation to measurements after rehabilitation (p=0.040).

Conclusions. In the octogenarians after ACS, cardiac rehabilitation is safe and in a short period of time improves physical performance. The cessation of the 2-month training results in loss of achieved effects and the deterioration of the quality of life after 12 months since ACS.