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### **ABSTRACT**

**Title:** Long-term outcomes of a coordinate care program in patients after myocardial infarction (KOS-MI).

**Background:** The Coordinated Care in Myocardial Infarction Program (KOS-MI), which includes unlimited access to rehabilitation, complete revascularization, electrotherapy and cardiac care, showed very good results in one-year follow-up. The aim of this study was to assess outcomes of patients enrolled in the KOS-MI at 3-year follow-up.

**Methods:** This is a retrospective, multicenter registry of patients treated for myocardial infarction between November 2017 and November 2018. The study group (KOS-MI) of 963 patients was compared to the control group (standard of care) of 1009 patients. At 3-year follow-up major adverse cardiac and cerebrovascular events (MACCE) including death, MI, stroke and repeated revascularization were reported. Additionally, hospitalization due to heart failure was analyzed. Propensity score matching (PSM) was utilized for group baseline characteristics adjustment.

**Results:** Patients in the KOS-MI group were younger (65 years [IQR 58-72] vs. 68 years [IQR 61-77];  $p<0,001$ ), mostly men (70% vs. 62,9%;  $p<0,001$ ), more frequently admitted with ST-elevation myocardial infarction (STEMI) (44,6% vs. 36,2%;  $p<0,001$ ). Patients in the control group had more comorbidities and were admitted more often with non ST-elevation myocardial infarction (NSTEMI) (63,8% vs. 55,4%;  $p<0,001$ ) and acute heart failure (5,1% vs. 2,7%;  $p=0,007$ ). Following PSM 530 well matched pairs were selected. After PSM, the relative risk reduction was significant: 25% in MACCE (HR: 0,71; 95% CI: 0,55-0,91;  $p=0,008$ ), 38% in mortality (HR: 0,60; 95% CI: 0,41-0,87;  $p=0,008$ ), 29% in repeated

revascularization (HR: 0,69; 95% CI: 0,48-0,99; p=0,044) and 28% ((HR: 0,70; 95% CI: 0,49-1,0; p=0,0496) in the hospitalization for heart failure in the KOS-MI group.

**Conclusions:** The combination of contemporary invasive techniques, complete revascularization, cardiac rehabilitation and ambulatory care included in the KOS-MI program improves long-term prognosis of patients after MI up to 3-year follow-up, despite the end of the program after one year.