Management of acute myocardial infarction in patients over 80 years old

Authors:
M Broslavskyte1, R Serpytis2, G Navickas2, R Samalavicius3, P Serpytis2, 1Vilnius University, Faculty of Medicine - Vilnius - Lithuania, 2University Hospital Santariskiu Klinikos, Center of Cardiology and Angiology - Vilnius - Lithuania, 3University Hospital Santariskiu Klinikos, Emergency medicine center - Vilnius - Lithuania,

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Introduction: The very elderly (>80 years) age group is steadily increasing. Acute coronary syndrome (ACS) is a leading cause of hospital admission and mortality in these patients. However, the oldest patients often face difficulties to receive optimal treatment based on the guidelines due to advanced age.
Purpose: To compare invasive versus conservative treatment strategies and evaluate mortality rates in very elderly patients with ACS.

Methods: A retrospective study included 868 cases of older than 80 years patients with non-ST-elevation myocardial infarction (NSTEMI) and ST-segment elevation myocardial infarction (STEMI). Patients were divided into invasive (N=611) and conservative (N=257) treatment groups.

Results: The mean age of study participants was 84.9 ± 3.29 years. The majority of the patients were women (60%) and 52% of elderly people were admitted with NSTEMI diagnosis. Percutaneous coronary intervention (PCI) was performed in 68.8% patients and coronary artery bypass surgery (CABG) for 2.3%. In-hospital mortality in the conservative treatment group was 19.8%, while in invasive group it was 13.1%, p=0.011. Higher left ventricular ejection fraction (LVEF) (40% vs. 35%, p=0.022) and mean Troponin I (12884,12 vs. 3418,46 ng/l, p=0,002) were more common in invasive group. More often presence of atrial fibrillation (AF) (38,9% vs. 28,2%, p=0,002) and higher mean B-type natriuretic peptide (1272,95 vs. 803ng/l, p=0,01) were in the conservative group (38,9% vs. 28,2%, p=0,002). There were no differences in bleeding complications in both groups (9,2% vs. 10,1%, p=0,662, respectively, for invasive vs. conservative group).

Conclusions: Invasive treatment is more beneficial for very elderly patients due to lower mortality rate 13,1% and brings no impact on higher prevalence of bleeding complications. Atrial fibrillation is more common in the conservative treatment group, where in-hospital mortality is 19,8%.