Management of coronary artery disease in elderly patients with ischemic heart failure and reduced ejection fraction - insights from the COMMIT-HF study

Authors:
L Pyka¹, M Hawranek¹, M Tajstra¹, L Siedlecki¹, J Gorol¹, E Gadula-Gacek¹, D Pres¹, A Lekston¹, M Gasior¹, ¹Silesian Center for Heart Diseases (SCHD), 3rd Department of Cardiology - Zabrze - Poland,

Topic(s):
Coronary Intervention: Outcome

Citation:

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Background. Heart failure (HF) is one of the most important global health problems in developed and ageing societies. Coronary artery disease (CAD) is the most common etiologic factor, related to poor outcomes. Data on CAD management in HF is scarce, especially when addressing subpopulations often omitted in randomized trials, such as the elderly.

Purpose. With a large cohort of HF patients (n=2730) we have decided to assess the clinical profile, treatment modalities and outcomes in elderly patients undergoing percutaneous coronary intervention (PCI).

Methods. We analyzed a large single-center all-comer registry of HF patients (left ventricular ejection fraction LVEF=35%) treated in a large-volume cardiovascular center (2009-2015). Acute coronary syndromes on admission were excluded. Patients with ischemic etiology were selected for further analysis (n=1703) and subsequently divided into the elderly (=75 y.o., n=346) and young (<75 y.o., n=1357) subgroups.

Results. The elderly group had understandably a worse clinical profile (mean age 79,1±3,5 vs 61,2±8,2, p<0,001; male 75,2 vs 85,4%, p<0,001; NYHA III & IV 60,3 vs 49,6%, p=0,07; diabetes 50,3 vs 44,9%, p=0,07; AF 35,8 vs 22,0%, p<0,001; anemia 52,6 vs 36,7%, p<0,001; chronic kidney disease stage III-V 54,1 vs 28,9%, p<0,001; severe mitral insufficiency 13,3 vs 8,7%, p=0,01; history of myocardial infarction 68,8 vs 67,4%, p=0,62). ICD or CRT-D were implanted less frequently in the elderly (56,1 vs 68,5%; p<0,001). Echo analysis revealed significantly better LVEF (27,95,3± vs 25,9±6,0%, p<0,001) and less ventricular dilation (LVEDV 159±61 vs 205±82 ml, p<0,001).

Coronary angiography was performed frequently in both groups (78,6 vs 74,9%, p=0,15). Significant lesions were observed in 73,5 and 65,0% of cases respectively (p=0,008). The elderly were insignificantly less frequently qualified for CABG (9,0 vs 12,5%, p=0,17). Proportion of patients qualified for medical management of CAD was similar (23,5 vs 20,7%, p=0,40). PCI was performed frequently in both groups (59,5 vs 57,9%, p=0,69), often as multi-vessel procedures (34,4 vs 32,4%, p=0,67). There was a trend towards more complete revascularization in the younger patients (50,0 vs 59,5%, p=0,06). 12-month all-cause mortality was significantly higher in the elderly (20,3 vs 7,8%, p<0,001). Periprocedural complications were very low and comparable (bleeding and/or need for transfusion, stroke and myocardial infarction). PCI itself was not a factor influencing long term outcomes (HR 0,75, 95% CI 0,51-1,1, p=0,15). Cox regression analysis revealed that prior stroke, ejection fraction, ICD and beta-blockers were the factors influencing survival (figure 1).

Conclusions. The analysis shows that PCI is a viable treatment option in the elderly population and when indicated can be performed safely, with good short and long term results. Interventions such as ICD implantation or optimal medical therapy of HF should always be considered.
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