

**Age-related differences in the clinical resentation, treatment and outcome of patients with acute coronary syndromes**

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**Introduction:** Previous studies investigating on age-related differences of patients with acute coronary syndrome (ACS) rarely assessed comorbidities beyond the cardiovascular risk factor profile or included non-contemporary data. The present study therefore determines age-related differences in the clinical presentation, treatment and outcome of contemporary patients with ACS.

**Methods:** 11 932 patients with ACS admitted to one of 55 participating hospitals and enrolled in a Swiss nationwide registry (AMIS Plus registry) between 2001 and 2006 were stratified into 5 age groups (50, 51-60, 61-70, 71-80, and ≥81 years).

Age-related differences of treatment assignment and outcome were assessed using multivariate regression models adjusting for the Charlson Comorbidity Index.

**Results:** Elderly patients were less likely to present with chest pain but more often showed symptoms of heart failure. The risk factor pattern varied with age: younger patients more often were current smokers or obese, and more often had hyperlipidemia, whereas the older patients more often had hypertension and diabetes. Age was a significant ( $P<.001$ ) predictor of early in-hospital drug use in multivariate analyses even after correction for comorbidities. Elderly patients were less likely to receive acetylsalicylic acid, beta-blockers, statins and unfractionated heparin. Age was also a significant ( $P<.001$ ) predictor of using percutaneous coronary interventions (PCI). 87% of patients <50 years received a PCI during the hospitalization whereas this proportion decreased to 26% of patients ≥81 years. In multivariate analyses, in-hospital mortality, major adverse cardiac events, and nursing home admissions were less frequent ( $P<.001$ ) when PCI was used.

**Conclusions:** Older patients with ACS were less likely to receive contemporary, evidence-based and guideline-adherent therapies due to their age which probably contributed to their worse outcome. Treatment decisions in the elderly patient should be individualized and directed by comorbidities rather than by age alone.