

Comorbidity assessment for mortality risk stratification in elderly patients with acute coronary syndrome

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Background: The Charlson's is the most used comorbidity index. It comprises 19 comorbidities, some of which are infrequent in elderly patients with acute coronary syndrome (ACS), while some others are manifestations of cardiac disease rather than comorbidities.

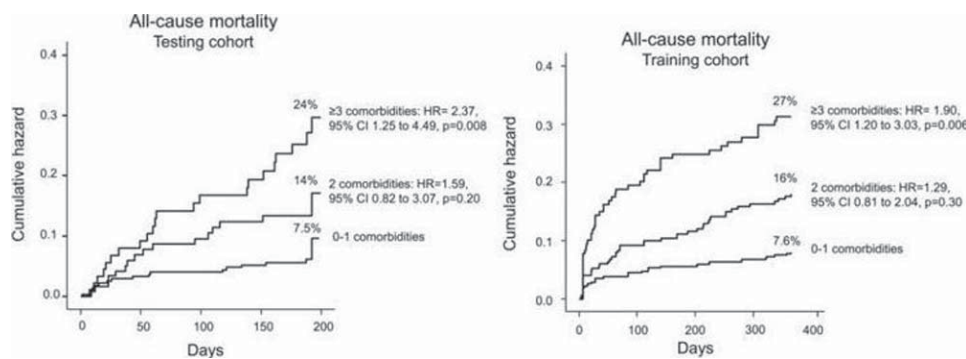
Purpose: Our goal was to simplify comorbidity assessment in elderly non-ST-segment elevation ACS patients.

Methods: The study group consisted of 1 training (n=920, 76±7 years) and 1 testing (n=532; 84±4 years) cohorts. The end-point was all-cause mortality at 1-year follow-up. Comorbidities were assessed selecting those medical disorders other than cardiac disease that were independently associated with mortality by multivariable analysis.

Results: A total of 130 (14%) patients died in the training cohort. Six comorbidities were predictive: renal failure, anemia, diabetes, peripheral artery disease, cerebrovascular disease and chronic lung disease. The in-

crease in the number of comorbidities yielded a gradient of risk on top of well-known clinical predictors: ≥3 comorbidities (27% mortality, HR=1.90, 95% CI 1.20–3.03, p=0.006); 2 comorbidities (16% mortality, HR=1.29, 95% CI 0.81–2.04, p=0.30); and 0–1 comorbidities (7.6% mortality, reference category). The discrimination accuracy (C-statistic= 0.80) and calibration (Hosmer-Lemeshow test, p=0.20) of the predictive model using the 6 comorbidities was comparable to the predictive model using the Charlson index (C-statistic=0.80; Hosmer-Lemeshow test, p=0.70). Similar results were reproduced in the testing cohort (≥3 comorbidities: 24% mortality, HR=2.37, 95% CI 1.25–4.49, p=0.008; 2 comorbidities: 14% mortality, HR=1.59, 95% CI 0.82–3.07, p=0.20; 0–1 comorbidities: 7.5% reference category).

Conclusion: A simplified comorbidity assessment comprising 6 comorbidities provides useful risk stratification in elderly patients with ACS



Kaplan-Meier curves for mortality