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Effect of comorbidities on the prognosis of patients with acute coronary syndromes

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Background: To evaluate the impact of cardiovascular (CV) and non-cardiovascular (non-CV) comorbidity in real life pts with ACS.

Methods: From 1997 to 2007 all consecutive pts admitted in 24h of ACS, were studied. CV and non-CV comorbidity data were collected. Non-CV comorbidity included renal insufficiency, COPD, malignancy, endocrine gland dysfunction, anaemia, gastrointestinal disease, rheumatic and chronic inflammatory diseases, neurological/mental/psychiatric status, infections, dental hygiene and alcohol use. Pts socioeconomic status was collected. In-hospital mortality and 1-year composite of death and re-hospitalisation due to MI or heart failure were studied.

Results: A total of 8,455 pts were studied, including 3,585 STEMI (or new LBBB) and 4,870 NSTEMI-ACS pts. By multivariate Cox regression analysis signs of heart failure (HR=4.89; $p<0.001$), diabetes mellitus (HR=2.30; $p<0.001$), cardiac arrest (HR=8.04; $p<0.001$), no reperfusion or revascularization (HR=1.42; $p=0.018$), a LVEF<35% (HR=1.33; $p=0.029$) and history of peripheral artery disease or cerebrovascular accident (HR=1.47; $p=0.002$) were the CV predictors of in-hospital mortality. Moreover age ≥ 75 (HR=2.72; $p<0.001$), females (HR=1.32; $p<0.001$), eGFR<30 (HR=3.72; $p<0.001$), COPD (HR=1.23; $p=0.003$), dementia/depression/psychosis (HR=1.23; $p=0.047$), anaemia or bleeding in the last 3 months (HR=1.95; $p<0.001$) and hs-CRP>5mg/L (HR=1.21; $p=0.034$) were the independent non-CV factors of in-hospital mortality.

By 1-year, after discharge, 24.8% pts died due to CV reasons or re-hospitalised due to MI or heart failure. By multivariate Cox regression analysis, no reperfusion or revascularization (HR= 3.51; $p<0.001$), a LVEF<35% (HR=2.71; $p<0.001$), diabetes mellitus (HR= 1.52; $p=0.009$), multivessel CAD (HR=1.71; $p=0.002$), history of peripheral artery disease or cerebrovascular accident (HR=1.23; $p=0.003$) and history of significant valvular heart disease (HR=1.12; $p=0.007$) were the significant CV predictors. Age ≥ 75 (HR=4.13; $p<0.001$), eGFR<30 (HR=3.19; $p<0.001$), endocrine gland dysfunction (HR=1.19; $p=0.002$), dementia/depression/psychosis (HR=1.21; $p=0.008$), rheumatic disease (HR=1.37; $p=0.004$), bleeding during the follow-up (HR=2.77; $p<0.001$), low socioeconomic status (HR= 3.12; $p<0.001$), hs-CRP>5mg/L (HR=1.52; $p<0.001$) and moderate alcohol use (HR=0.78; $p<0.001$) were the independent non-CV predictors.

Conclusions: Several CV and non-CV conditions seem to contribute to the final short- and long-term outcome of real life ACS patients. More comprehensive risk scores based on such data sets would be useful for more accurate risk stratification in this setting.