

**Acute Decompensated Heart Failure Precipitated by Acute Coronary Syndromes versus Other Causes – Lessons from HFSIS 2003**

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Background: Acute decompensated heart failure (ADHF) is a common complication of acute coronary syndromes (ACS). ADHF registries and trials have not distinguished ADHF precipitated by ACS vs. other causes.

Aim: To determine whether the outcome of ADHF is impacted by ACS as its principal cause vs. other causes.

Methods: We examined in a prospective, nationwide hospital-based survey the adjusted short- and long-term outcomes of pts whose ADHF was precipitated primarily by ACS vs. other causes.

Results: Of the 2336 pts with ADHF, 923 (39.5%) had ACS as the principal cause. These patients were younger, more likely to be males, to have risk factors for atherosclerotic disease, and to be admitted in Killip class III-IV. While in-hospital, these pts were more likely to receive IV inotropes, IV vasodilators, to undergo coronary angiography, and revascularization, but less likely to receive IV diuretics. At discharge, ACS pts were more likely to be treated with antiplatelet agents, beta-blockers, angiotensin converting enzyme antagonists and statins, and less likely with diuretics, aldospirone, digoxin, calcium antagonists, and oral anticoagulants. The unadjusted in-hospital, 30d, 1y, and 4y mortality rates for ADHF pts with or without ACS were 6.5% vs. 5.0% (p=0.13), 10.3% vs. 7.5% (p=0.02), 26.6% vs. 31.0% (p=0.02), and 55.3% vs. 63.3% (p=0.0001), respectively. In multivariate analysis, the adjusted odds/hazard (95% confidence intervals) for mortality for pts with ACS at the respective time points were 1.46 (0.99-2.10), 1.67 (1.22-2.30), 1.02 (0.86-1.20), and 0.93 (0.82-1.04).

Conclusions: ACS accounted for a significant proportion of admissions due to ADHF. ACS pts were treated differently while in-hospital and thereafter. The unadjusted mortality in pts whose ADHF was precipitated by ACS was significantly worse in the short-term, but better in the long-term. The adjusted mortality in pts whose ADHF was precipitated by ACS was significantly worse only in the short-term. Thus, the outcomes of ADHF registries and trials, especially those focusing on short-term outcomes, should be interpreted accounting for the relative proportion of ACS pts in the cohort.