Incidence of heart failure after acute coronary syndrome in multivessel patients a subanalysis of the coralys registry

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Introduction: Potential protective role of complete revascularization for development of Heart Failure (HF) after an Acute Coronary Syndrome (ACS) remains to be elucidated.

Methods: CORALYS is a multicenter, retrospective, observational registry enrolling consecutive patients admitted for ACS and treated with PCI. Patients with known history of HF or reduced left ventricular ejection fraction (LVEF) before index admission were excluded. The composite of first hospitalization for HF or cardiovascular (CV) death was the primary endpoint, while its single components along with all-cause death were the secondary ones. Complete vs. non complete revascularization (CR vs. non-CR) strategies were compared with Inverse Probability Treatment Weighting (IPTW) across all patients and for those admitted for STEMI and NSTEMI ACS and with Ejection Fraction (EF) at discharge above or below 50%.

Results: Out of 14699 patients, 5054 presented with multivessel disease. Of them, 1473 (29.2%) underwent CR. Over 5 years follow up, complete revascularization reduced the primary combined endpoint (9.2% vs. 16.2%, p<0.001) and the secondary endpoints of HF hospitalization (6.3% vs. 11.7%, p<0.001), CV death (3.7% vs. 6.6%, p<0.001), and all-cause death (9.3% vs. 14.9%, p<0.001). These results remained consistent according to ACS presentation with STEMI or NSTEMI (respectively with an incidence of the primary end point of 5.4% vs. 8.8%, p<0.001; and of 7.4% vs. 13.2%, p<0.001) and according to EF at discharge ≥ or < 50% (respectively the primary end point occurred in 3.7% vs. 8.5%, p<0.001; and 10.9% vs. 15.9%, p=0.003).

Conclusions: Complete revascularization after ACS reduces risk of CV death and of hospitalizations for HF, providing another explanation of the prognostic role of CR apart from prevention of recurrent infarctions and a clear therapeutic strategy.