Evidence-based heart failure therapies at discharge of patients with acute coronary syndromes and reduced ejection fraction: Data from the ACSIS survey

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Background: Guideline-directed medical therapies for heart failure (HF) may benefit patients with reduced left ventricular ejection fraction (LVEF) following acute coronary syndromes (ACS), even in the absence of overt HF. Few real-world data are available regarding early implementation of HF therapies in patients with ACS and reduced LVEF.

Methods: Data collected from the 2021 nationwide, prospective ACS Israeli Survey (ACSIS). Drug classes included: (a) angiotensin-converting enzyme inhibitors (ACEI), angiotensin receptor blockers (ARB) or angiotensin receptor-neprilysin inhibitor (ARNI); (b) beta-blockers; (c) mineralocorticoid receptor antagonist (MRA) and (d) sodium-glucose cotransporter-2 inhibitors (SGLT2I). Utilization of HF therapies at discharge or 90-days following ACS was analyzed in relation to LVEF [reduced ≤40% (n=406) or mildly-reduced 41-49% (n=255)] and short-term adverse outcomes.

Results: History of HF, anterior wall myocardial infarction and Killip class II-IV (32% vs. 14% p<0.001) were more prevalent in those with reduced compared to mildly-reduced LVEF. ACEI/ARB/ARNI and BBC were used by >85% of patients in both LVEF groups, though ARNI was prescribed to only 3.9% (LVEF≤40%). MRA was used by 42.9% and 12.2% of patients with LVEF ≤40% and 41-49%, respectively, and SGLT2I in a quarter of both LVEF groups. Overall, ≥3 HF drug classes were documented in 44% of the patients. A trend towards higher rates of 90-day HF rehospitalizations, recurrent ACS or all-cause death was noted in those with reduced (7.6%) vs. mildly-reduced (3.7%) LVEF, p=0.084. No association was observed between the number of HF drug classes, or the use of ARNI and/or SGLT2I with adverse clinical outcomes.

Conclusions: In current clinical practice, the majority of patients with reduced and mildly-reduced LVEF are treated by ACEI/ARB and beta-blockers early following ACS, whereas MRA is underutilized and the adoption of SGLT2I and ARNI is low. A greater number of therapeutic classes was not associated with reduced short-term rehospitalizations or mortality.

Drug therapies for heart failure