Incident coronary revascularization and subsequent mortality in chronic heart failure: a propensity-matched study.

INTRODUCTION: Ischemic heart disease (IHD) is common in heart failure (HF), yet the association between incident coronary revascularization and mortality in these patients has not been examined in a propensity-matched study.

METHODS: In the Digitalis Investigation Group trial, 2853 patients without coronary revascularization and 120 patients with coronary revascularization during the first three years were alive at the end of three years. We used propensity scores to match 119 and 357 patients with and without coronary revascularization. Matched Cox regression models were used to estimate hazard ratio (HR) and 95% confidence interval (CI) for mortality during the fourth year of follow-up, for all patients and by the mean left ventricular ejection fraction (LVEF) of 35%.

RESULTS: Coronary revascularization was associated with higher mean LVEF (36% versus 32%; p<0.0001) and prevalence of angina pectoris (48% versus 32%; p<0.0001) but fewer prior myocardial infarction (80% versus 87%; p=0.023), all of which were balanced post-match. All-cause mortality occurred in 5.9% and 6.2% patients respectively with and without coronary revascularization (HR for coronary revascularization, 0.95; 95% CI, 0.39-2.32; p=0.910). HR for mortality associated with coronary revascularization for patients with LVEF ≤35% and >35% were respectively 1.34 (95% CI, 0.48-3.71; p=0.578) and 0.61 (95% CI,
CONCLUSION: Chronic HF patients with IHD receiving coronary revascularization were more likely to have angina and higher LVEF. However, in a balanced propensity-matched cohort, there was no association between coronary revascularization and mortality. The LVEF-associated variation in mortality needs to be prospectively studied.