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ORIGINAL INVESTIGATION

Digoxin Discontinuation and Outcomes in Patients With Heart Failure With Reduced Ejection Fraction

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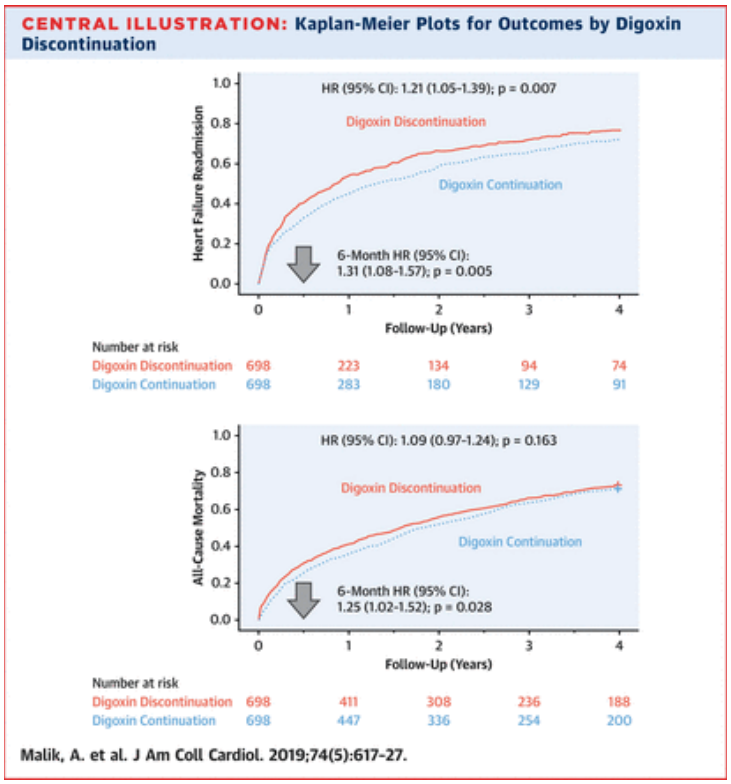
Central Illustration



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Abstract

Background The deleterious effects of discontinuation of digoxin on outcomes in ambulatory patients with chronic heart failure (HF) with reduced ejection fraction (HFrEF) receiving angiotensin-converting enzyme inhibitors are well-documented.

Objectives The authors sought to determine the relationship between digoxin discontinuation and outcomes in hospitalized patients with HFrEF receiving more contemporary guideline-directed medical therapies including beta-blockers and mineralocorticoid receptor antagonists.

Methods Of the 11,900 hospitalized patients with HFrEF (EF ≤45%) in the Medicare-linked OPTIMIZE-HF (Organized Program to Initiate Lifesaving Treatment in Hospitalized Patients with Heart Failure) registry, 3,499 received pre-admission digoxin, which was discontinued in 721 patients. Using propensity scores for digoxin discontinuation, estimated for each of the 3,499 patients, a matched cohort of 698 pairs of patients, balanced on 50 baseline characteristics (mean age 76 years; mean EF 28%; 41% women; 13% African American; 65% on beta-blockers) was assembled.

Results Four-year post-discharge, digoxin discontinuation was associated with significantly higher risks of HF readmission (hazard ratio [HR]: 1.21; 95% confidence interval [CI]: 1.05 to 1.39; p = 0.007), all-cause readmission (HR: 1.16; 95% CI: 1.04 to 1.31; p = 0.010), and the combined endpoint of HF readmission or all-cause mortality (HR: 1.20; 95% CI: 1.07 to 1.34; p = 0.002), but not all-cause mortality (HR: 1.09; 95% CI: 0.97 to 1.24; p = 0.163). Discontinuation of digoxin was associated with a significantly higher risk of all 4 outcomes at 6 months and 1 year post-discharge. At 30 days, digoxin discontinuation was associated with higher risks of all-cause mortality (HR: 1.80; 95% CI: 1.26 to 2.57; p = 0.001) and the combined endpoint (HR: 1.36; 95% CI: 1.09 to 1.71; p = 0.007), but not of HF readmission (HR: 1.19; 95% CI: 0.90 to 1.59; p = 0.226) or all-cause readmission (HR: 1.03; 95% CI: 0.84 to 1.26; p = 0.778).

Conclusions Among hospitalized older patients with HFrEF on more contemporary guideline-directed medical therapies, discontinuation of pre-admission digoxin therapy was associated with poor outcomes.

Key Words

digoxin discontinuation **heart failure** **mortality** **readmission** **reduced ejection fraction**

Footnotes

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