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Predictors of Cardioprotective Medication Prescription versus Mortality in Patients Hospitalized with Acute MyocarditisAndrea Cardona, Balaji K. Tamarappoo, Preethi Chandrasekaran, Suzanne Smart, Edwin Mandieka, Daniel Lee, Xia Ning, Subha V. Raman

Importance: High-sensitivity blood biomarkers and cardiovascular magnetic resonance (CMR) have increased recognition of myocarditis in acutely symptomatic patients. Cardioprotective medications (CPM) such as renin-angiotensin-aldosterone system (RAAS) inhibitors and beta-blockers have proven mortality benefit across other cardiac conditions, yet their benefit in acute myocarditis remains uncertain.

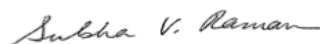
Objectives: We sought to test the hypothesis that CPM prescription is driven by low LV ejection fraction (EF), whereas myocardial injury burden drives mortality.

Methods: We retrospectively analyzed electronic health records of patients hospitalized for a first episode of acute myocarditis at two quaternary referral centers. Logistic regression and survival analysis were used to evaluate the association between clinical parameters, treatment, and all-cause mortality.

Results: Of 362 patients identified with acute myocarditis, 177 (48.9%) were prescribed at least 1 new CPM at discharge; as expected, such therapy was more frequent with LV dysfunction (56% of patients with reduced LVEF vs 17% with preserved LVEF, $p < 0.001$). In a multivariable model, myocardial injury by CMR portended greater all-cause mortality (OR=1.81, 95% CI 1.26-2.61, $p = 0.001$), which persisted after accounting for segmental wall motion abnormality (WMA; OR=1.4, 95% CI 1.02-1.92, $p = 0.04$). While LVEF best accounted for CPM prescription, CPM prescription after adjustment for injury burden was not associated with improved outcomes.

Conclusions: All-cause mortality in patients hospitalized with acute myocarditis is predicted by myocardial injury burden by LGE-CMR after accounting for segmental WMA, and not overcome by CPM prescription per current LVEF-guided practice. Myocardial injury itself as a treatment target warrants investigation to reduce mortality after acute myocarditis events.

- 1) Please identify members by underlining their name.
- 2) Please use box above, Abstract (with spaces) = 500 Word limit
- 3) Talk duration 15 min, questions 10 min (total time 25 min)



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