



Acute Coronary Syndromes

THE ASSOCIATION OF LEFT VENTRICULAR EJECTION FRACTION WITH 1-YEAR MORTALITY AFTER MYOCARDIAL INFARCTION: FINDINGS FROM THE ACTION REGISTRY-GWTG MEDICARE LINKED DATABASE

Poster Contributions
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Background: Although measurement of left ventricular ejection fraction (EF) after acute myocardial infarction (MI) is a performance measure, little is known about the relationship between EF and post-discharge mortality among MI patients in contemporary clinical practice.

Methods: Data on 82,558 patients ≥ 65 years of age with STEMI or NSTEMI in the ACTION Registry-GWTG (2007-2011) were linked to Medicare claims data. Multivariable Cox modeling was used to assess the association between EF measured during the index hospitalization and 1-year mortality. The relationship was examined with EF as a categorical variable, utilizing four clinically relevant categories (EF ≤35%, >35% and ≤45%, >45% and <55%, and ≥55%), and also with EF as a continuous variable (fit to linear splines).

Results: Among MI patients ≥ 65 years of age, a graded inverse association was seen between EF category and mortality (Table). For patients with EF ≤40%, mortality increased by ~25% for every 5% decrease in EF (unadjusted HR 1.26, 95% CI 1.24-1.27), a finding that remained significant after risk adjustment (adjusted HR 1.11, 95% CI 1.09-1.12). The relationship was attenuated in patients with EF >40% (unadjusted HR 1.08, 95% CI 1.07-1.10, and adjusted HR 1.05, 95% CI 1.04-1.07 per 5% decrease in EF).

Conclusion: In contemporary practice, low EF after MI remains an important risk factor for post-discharge mortality, even after extensive adjustment for patient and hospital characteristics.

Table: Relationship between 1-Year Mortality and Ejection Fraction after Myocardial Infarction

Ejection Fraction	Unadjusted				Adjusted*		
	1-Year Mortality Estimate	Hazard Ratio	95% Confidence Intervals	P-Value	Hazard Ratio	95% Confidence Intervals	P-Value
≤ 35% (n = 19,278)	29.0%	2.49	2.38-2.60	< 0.0001	1.58	1.51-1.66	< 0.0001
>35% and ≤ 45% (n = 18,103)	17.7%	1.40	1.34-1.47	< 0.0001	1.23	1.17-1.29	< 0.0001
>45% and [[Unsupported Character - &#706;]] 55% (n = 13,365)	14.5%	1.12	1.06-1.19	< 0.0001	1.11	1.05-1.17	0.0002
≥ 55% (n = 31,812)	13.0%	reference			reference		

*Adjusted for demographics, past medical history, vital signs, clinical labs, in-hospital clinical events, bleeding risk score, discharge medications, and hospital characteristics