

LEFT VENTRICULAR EJECTION FRACTION AS A PREDICTOR OF RESTENOSIS AND STENT THROMBOSIS AFTER PERCUTANEOUS CORONARY INTERVENTION

i2 Oral Contributions

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Background: Ischemic cardiomyopathy with severely depressed ejection fraction (EF) is predictive of death after percutaneous coronary intervention (PCI), but its association with restenosis and stent thrombosis (ST) is less clearly defined.

Methods: 6101 patients undergoing PCI were retrospectively evaluated. Multivariable Cox proportional hazards regression and ROC curve analysis were employed. The primary endpoint was one-year major adverse cardiac events (death/Q-wave myocardial infarction/ target lesion revascularization (TLR)).

Results: Patients with very severe systolic dysfunction (EF <25%), were compared to those with moderate (25-39%), mild (40-49%), and normal (>50%) EF. These patients were older, more commonly male, diabetic, and with renal failure (all p values <0.001). They also, more frequently received a drug-eluting stent (p= <0.001). The primary endpoint was significantly higher in the group with very severe dysfunction (22.1%, 19.7%, 12.3%, 9.8%, p= <0.001); this remained significant after adjustment (HR 1.70 95% CI 1.26 - 2.30). TLR was not different in patients with the lowest EF (p=0.909), but ST was significantly more frequent (1.7%, 0.7%, 0.5%, 0.2%, p= 0.001). On ROC curve analysis, an EF of 40% was identified as the best threshold for ST prediction.

Conclusions: Severely depressed EF is not associated with TLR, but does increase the risk of ST. Patients with an EF <40% could particularly benefit from optimal stent apposition and more aggressive antiplatelet therapies.

	Very Severe (EF <25%)	Moderate (EF 25-39%)	Mild (EF 40-49%)	Normal (EF ≥50%)	P value
Age (years)	68.48 ± 11.33	67.27 ± 11.78	65.53 ± 12.33	66.45 ± 11.52	<.001
Male	75.2%	69.5%	68.5%	63.8%	<.001
Diabetes	43.4%	42.0%	35.9%	33.2%	<.001
Renal Failure	27.7%	21.4%	14.9%	10.5%	<.001
Drug-eluting stent	69.4%	78.0%	76.3%	78.4%	<.001
Q-wave MI	1.1%	8.4%	6.5%	0.2%	0.325
TLR	1.0%	6.2%	6.2%	6.2%	0.939
Death	19.4%	11.8%	6.4%	4.2%	<.001

