In-hospital outcomes in nonagenarian patients undergoing primary percutaneous coronary intervention

F. Angelini[1], L. Franchin[1], P.P. Bocchino[1], O. De Filippo[1], N. Morici[2], W. Wanha[3], S. Savonitto[4], D. Trabattoni[5], E. Cerrato[6], L. Barbieri[7], L. De Luca[8], F. Fortuni[9], D. Capodanno[10], F. D'Ascenzo[1], G.M. De Ferrari[1]

[1]A.O.U. Citta della Salute e della Scienza di Torino, Division of Cardiology, Turin, Italy; [2]Niguarda hospital, Cardiology, Milan, Italy; [3]University of Silesia, Cardiology, Katowice, Poland; [4]Alessandro Manzoni Hospital, Cardiology, Lecco, Italy; [5]Monzino Cardiology Center, IRCCS, Cardiology, Milan, Italy; [6]Degli Infermi Hospital, Cardiology, Rivoli, Italy; [7]ASST Santi Paolo e Carlo, Milan, Italy; [8]S. Camillo-Forlanini Hospital, Cardiology, Rome, Italy; [9]Policlinic Foundation San Matteo IRCCS, Division of Cardiology, Pavia, Italy; [10]University of Catania, Catania, Italy

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Objective: The aim of the present analysis was to evaluate the incidence and predictors of in-hospital adverse outcomes in nonagenarian patients undergoing primary percutaneous coronary intervention (pPCI) for ST-segment elevation myocardial infarction (STEMI).

Methods: Consecutive nonagenarian patients undergoing pPCI for STEMI from 2009 to 2019 were retrospectively included in an international multicenter registry. In-hospital all-cause death was the primary outcome.

Results: A total of 308 patients were included (mean age 92.5±2.5 years, 65.6% female). Mean systolic blood pressure (SBP) at hospital admission was 130.7±33.5 mmHg, 46 (17%) patients presented with a Killip class III-IV, mean left ventricle ejection fraction (LVEF) was 40.0±11.5% and 147 (58%) patients were independent in everyday activities. In-hospital death occurred in 99 patients (32%). [Figure 1] After multivariate adjustment, lower LVEF (OR per unit reduction 1.08, 95% CI 1.03–1.11, p-value <0.001), lower SBP (OR 0.98 per mmHg reduction, 95% CI 1.01–1.03, p-value 0.001) and being not independent at home (OR 2.56, 95% CI 1.25–5.26, p-value 0.01) resulted independent predictors of in-hospital mortality. [Figure 2] A sensitivity analysis performed in final TIMI 3 flow population confirmed the prognostic role of LVEF and independency on in-hospital mortality.

Conclusion: Nonagenarian patients presenting with STEMI and undergoing pPCI have high in-hospital mortality. Independency in everyday life is a strong independent predictor of survival to hospital discharge.

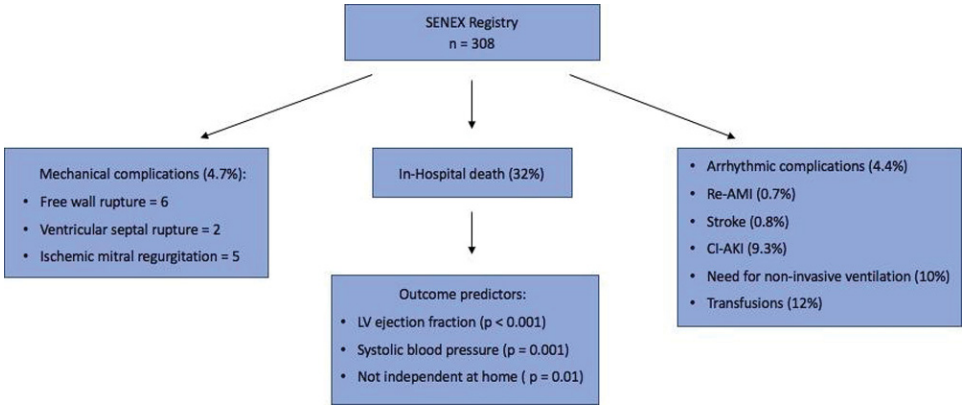

Figure 1

	Wald	OR	95% CI	p-value
LVEF (per unit reduction)	16.22	1.08	1.03-1.11	**< 0.001**
SBP (per unit reduction)	10.65	1.02	1.01-1.03	**0.001**
Not independent	6.64	2.56	1.25-5.26	**0.010**
History of hypertension	1.10	0.62	0.26-1.52	0.295
eGFR at admission (per unit reduction)	0.19	1.01	0.98-1.02	0.667

Figure 2