

Usefulness of prehospital triage in patients with cardiogenic shock complicating ST-elevation myocardial infarction treated with primary percutaneous coronary intervention.

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We investigated the impact of ambulance-based prehospital triage on treatment delay and all-cause mortality (in hospital and long term) in patients with ST-elevation myocardial infarction (STEMI) complicated by cardiogenic shock referred for primary percutaneous coronary intervention in a prospectively collected registry. During the study period (January 2003 to December 2005), a total of 121 patients was referred for primary percutaneous coronary intervention at our intervention laboratory through 2 main triage groups: (1) after prehospital, ambulance-telemedicine-based triage (42 patients) and (2) by more conventional routes (79 patients) represented by the institutional S. Orsola-Malpighi hospital emergency department triage (44 patients) and spoke hospital triage (35 patients). Total ischemic time was shorter in the prehospital triage (142 minutes, range 106 to 187, vs 212 minutes, range 150 to 366, $p = 0.003$). Patients with prehospital triage showed a lower rate (29% vs 54%, $p = 0.01$) of severely depressed ($\leq 35\%$) left ventricular systolic function and a 68% decrease in in-hospital mortality (9, 21%, vs 36, 46%, odds ratio 0.32, 95% confidence interval 0.14 to 0.77, $p = 0.01$). In the entire study population, patients revascularized within an optimal time (2 hours from symptom onset or 90 minutes from STEMI diagnosis) showed remarkably low in-hospital mortality (20% and 29%, respectively). At the 1-year follow-up, patients with prehospital triage had a higher survival rate (74% vs 52%, $p = 0.019$). In conclusion, this study indicates that prehospital triage with direct transportation to the intervention laboratory is associated with shorter treatment delay and better clinical outcome in patients with STEMI complicated by cardiogenic shock.