

Ortolani P, Marzocchi A, Marrozzini C, Palmerini T, Saia F, Taglieri N, Alessi L, Nardini P, Bacchi Reggiani ML, Guastaroba P, De Palma R, Grilli R, Picoco C, Gordini G, Branzi A.

Pre-hospital ECG in patients undergoing primary percutaneous interventions within an integrated system of care: reperfusion times and long-term survival benefits.

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Source

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Abstract

AIMS

Treatment delay is a powerful predictor of survival in STEMI patients undergoing primary PCI. We investigated the effectiveness of pre-hospital triage with direct referral to PCI, alongside more conventional referral strategies.

METHODS AND RESULTS

From January 2003 to December 2007, 1,619 STEMI patients were referred for primary PCI at our cathlab through two main triage groups: i.e., 1) following pre-hospital triage (n=524), 2) via more conventional triages (n=1,095) represented by the S. Orsola-Malpighi hospital emergency department triage (hub hospital) and local hospital triage. Pre-hospital diagnosis was associated with a 76 minute reduction in pain-to-balloon time (143 [107-216] vs. 219 [149-343], $p=0.001$) allowing mechanical revascularisation within 90 minutes from the first medical contact in the vast majority of the patients (>80%). Clinically, pre-hospital triage showed no significant reductions in terms of adjusted long-term mortality (HR 0.81, 95% CI 0.61-1.08; $p=0.16$) in the overall population. However, significant adjusted survival benefits were observed in high-risk groups (i.e., cardiogenic shock, TIMI risk score >30, diabetes mellitus).

CONCLUSIONS

This study shows that pre-hospital diagnosis allows for significant reductions in primary PCI treatment delays and suggests the hypothesis that this referral strategy might provide long-term survival benefits especially in high-risk patients.