The Stent for Life initiative: Factors predicting system delay in patients with ST-segment elevation myocardial infarction

Authors

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Abstract

Introduction and Aims
System delay (time between first medical contact and reperfusion therapy) is an indicator of quality of primary percutaneous coronary intervention (pPCI) in ST-segment elevation myocardial infarction (STEMI) patients. This study aimed to assess changes in system delay between 2011 and 2015, and to identify its predictors.

Methods
The study included 838 patients admitted to 18 Portuguese interventional cardiology centers suspected of having STEMI with less than 12 hours' duration who were referred for primary percutaneous coronary intervention. Data were collected for a one-month period every year from 2011 to 2015. Univariate and multivariate logistic regression models were used to determine predictors of system delay.

Results
No significant changes in system delay were observed during the study. Only 27% of patients had a system delay of ≤90 min. Multivariate analysis identified four predictors of system delay: age ≥75 years (OR 2.57; 95% CI 1.50-4.59; p=0.001), attending a center without pPCI (OR 4.08; 95% CI 2.75-6.10; p<0.001), not calling the national medical emergency number (112) (OR 0.47; 95% CI 0.32-0.68; p<0.001), and Central region (OR 3.43; 95% CI 1.60-8.31; p=0.003).

Conclusions
The factors age ≥75 years, attending a center without pPCI, not calling 112, and Central region were identified as predicting longer system delay. This knowledge may help in planning interventions to reduce system delay and to improve the clinical outcomes of patients with STEMI.