

# Incidence and predictors of early mortality in the emergency department following ST-elevation myocardial infarction thrombolysis in a percutaneous coronary intervention incapable tertiary hospital

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## ABSTRACT

**Introduction:** Data on early mortality in the Emergency Department (ED) following ST-elevation myocardial infarction (STEMI) thrombolysis is unknown. Objectives To assess the incidence and identify the predictors of early mortality in the ED following STEMI thrombolysis. **Methods:** This single-centre retrospective study involved STEMI patients given thrombolytic therapy from 2016 to 2020 in a tertiary hospital. Total population sampling was used in this study. Logistic regression analyses were used to assess independent predictors of early mortality. **Results:** Data from 941 patients was analysed. Their mean age was 53.0±12.2 years and predominantly male (n=846, 89.9%). The in-hospital mortality was 10.3% (n=97), with almost half (n=47, 48.5%) occurring in ED. The final multi-model found seven predictors for early mortality in ED: age ≥75 (aOR 4.474, p=0.001), female gender (aOR 3.059, p=0.003), pre-existing hypertension (aOR 2.105, p=0.030), ischemic heart disease (aOR 0.316, p=0.043), Killip class ≥2 (aOR 2.252, p=0.033), systolic blood pressure <100 mmHg at presentation (aOR 3.365, p=0.003), and COVID-19 pandemic (aOR 2.404, p=0.014). Following thrombolytic therapy, two predictors found to affect early mortality were failed fibrinolysis and ventricular fibrillation/tachycardia. **Conclusion:** Early mortality in ED following STEMI thrombolysis was high. The provision of comprehensive cardiac care can be challenging due to the ED's busy nature. The above-identified predictors of early STEMI mortality in ED allow clinicians to identify and manage high-risk STEMI patients better.