

Ischemic Time and Risk Factors Associated With The Incidence Of Cardiogenic Shock In Patients Presenting With ST Elevation Myocardial Infarction

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INTRODUCTION

Cardiogenic shock (CS) is the number one predictor of mortality in patients with ST-elevation myocardial infarction (STEMI). Emergent evaluation and treatment including revascularization when indicated is recommended upon arrival to hospital. There is variation in time to presentation and total ischemic time in this patient population. We sought to evaluate the impact of ischemic time on incidence of CS and variables which may influence its presentation.

MATERIAL AND METHODS

In this retrospective study, we collected and analyzed data from 766 patients who presented to a tertiary-care university medical center with STEMI from 2008-2015. During this time period, 56 of the 766 patients who presented with STEMI had diagnosis of CS. Two sample t-test was used to compare ischemic time in patients with and without CS on presentation. Chi-squared test was used to compare in-hospital mortality between the two groups and assess the impact of initial symptoms on presenting with CS. Multivariate analysis was used to identify risk factors for CS in this patient population.

RESULTS

Ischemic time did not influence the incidence of CS ($P=0.75$). In-hospital mortality was significantly higher in patients who had

diagnosis of CS during index hospitalization vs those without (34% vs 4%, $p<0.001$). Elevated BMI was found to be associated with an increased risk of CS with a 6.7% increased risk for every unit of BMI >25 (95% CI 0.304-1.002). An analysis of initial presenting symptoms demonstrated that patients with syncope were at increased risk for CS (OR=4.9, 95% CI 1.50-15.81) and patients presenting with chest pain were at decreased risk for CS (OR = 0.27, 95% CI 0.15-0.049).

CONCLUSION

In our study of patients presenting with STEMI, ischemic time did not influence the incidence of CS. BMI and syncope were independent risk factors for patients presenting with CS, whereas female gender and chest pain presentation were associated with lower risk of presenting with CS. Additional studies are needed to further evaluate the mechanism between ischemic time and risk factors associated with CS

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Accepted for publication: November 2017

The authors have no funding, financial relationships, or conflicts of interest to disclose.

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