

# Incidence, Predictors and Outcomes of Stress Hyperglycemia in Patients with ST Elevation Myocardial Infarction Undergoing Primary Percutaneous Coronary Intervention

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## ABSTRACT

### BACKGROUND

Stress hyperglycemia is a common finding during ST elevation myocardial infarction in diabetic patients and is associated with a worse outcome. However, there are limited data about stress hyperglycemia in non-diabetic patients and its outcome especially in patients undergoing primary percutaneous coronary intervention.

### METHODS:

The study was conducted on 660 patients with ST elevation myocardial infarction who were managed with primary percutaneous coronary intervention. Patients were classified into two groups according to the presence of stress hyperglycemia: group I (patients with stress hyperglycemia) and group II (patients without stress hyperglycemia). Patients were analysed for clinical outcome including mortality and the occurrence of major adverse cardiac events.

### RESULTS:

Incidence of stress hyperglycemia was 16.8%, multivariate regression analysis identified the independent predictors of stress hyperglycemia, that

were family history of diabetes mellitus odds ratio 1.697 (95% confidence interval: 1.077–2.674,  $p = 0.023$ ), body mass index  $>24$  kg/m<sup>2</sup> odds ratio 1.906 (95% confidence interval: 1.244–2.922,  $p = 0.003$ ) and cardiogenic shock on admission odds ratio 2.517 (95% confidence interval: 1.162–5.451,  $p = 0.019$ ). Mortality, cardiogenic shock, contrast induced nephropathy and no reflow phenomenon were significantly higher in stress hyperglycemia group with  $p$  value = 0.027, 0.001, 0.020 and 0.037, respectively.

### CONCLUSIONS:

Stress hyperglycemia in non-diabetic patients with ST elevation myocardial infarction undergoing primary percutaneous coronary intervention is associated with increased incidence of no reflow phenomenon, contrast induced nephropathy, cardiogenic shock and higher mortality.

### KEYWORDS:

Stress hyperglycemia, ST elevation myocardial infarction, primary percutaneous coronary intervention

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