51st CARDIOCON 2022: ABSTRACT

ACUTE HYPERGLYCEMIA, A RABBLE-ROUSER OR INNOCENT BYSTANDER? A PROSPECTIVE ANALYSIS OF CLINICAL IMPLICATIONS OF ACUTE HYPERGLYCEMIA IN STE-ACS PATIENTS

Kubbra Rahooja[1], Rajesh Kumar[1], Jawaid Akbar Sial[1], Musa Karim[1]
[1]National Institute of Cardiovascular Diseases, Karachi, Pakistan

Objectives: The acute hyperglycemia on admission is considered to be in independent prognosticators of both in-hospital and long-term outcome regardless of diabetic status in patients with acute coronary syndrome (ACS). The objective of this study was to analyse the incidence of acute hyperglycemia and its impact on subsequent adverse in-hospital outcome, irrespective of diabetic status, in patients with STE-ACS undergoing primary PCI.

Methodology: A total of 1756 patients were enrolled into the study, presenting with STE-ACS, and undergoing primary PCI at a tertiary care cardiac centre. Patients were categorised according to their random plasma glucose levels, at the time of presentation to ER, with RBS > 200mg/dl taken as acute hyperglycemia. All patients were observed during their hospital stay and post procedure complications and outcomes were recoded. Clinical profile and outcomes were compared between the two groups. Multivariable logistic regression analysis was performed to determine the predictive value of acute hyperglycemia for the prediction of in-hospital mortality.

Results: Of the 1756 patients, 79% (1388) were males and mean age was 55.59±11.23 years. In total, 29% (512) were found to have acute hyperglycemia and of these, 81.1% (415) were already diagnosed diabetic cases. Patients with acute hyperglycemia were observed to have higher incidence of heart failure (7% vs. 2.6%; p<0.001), CIN (13.3% vs. 8.1%; p=0.001), and in-hospital mortality (7.2% vs. 1.9%; p<0.001). On multivariable analysis, acute hyperglycemia was found to be an independent predictor of mortality with adjust OR of 2.33 [95% CI: 1.18-4.58; p=0.014]. Multi-vessel disease (2.22 [95%CI: 1.07-4.58; p=0.032]), pre-procedure LVEDP (1.07 [95%CI: 1.02-1.12; p=0.003]), and history of CVA/stroke (3.73 [95% CI: 1.2-11.59; p=0.023]) were found to be additional independent predictor of in-hospital mortality.

Conclusion: The acute hyperglycemia, regardless of diabetic status, is found to be an independent predictor of in-hospital mortality among patients with STE-ACS undergoing primary PCI. Acute hyperglycemia, along with other significant predictors such as multi-vessel involvement, LVEDP, and history of CVA/stroke, can be considered for the risk stratification of these patients.

Keywords: Hyperglycemia, acute myocardial infarction, acute coronary syndrome, diabetic, STEMI, primary PCI, in-hospital mortality, LVEDP

Citation: Rahooja K, Kumar R, Sial JA, Karim M. Acute Hyperglycemia, a Rabble-Rouser or Innocent Bystander? A Prospective Analysis of Clinical Implications of Acute Hyperglycemia in STE-ACS Patients. Pak Heart J. 2022;55(Supplement1):S30. https://doi.org/10.47144/phj.v55iSupplement1.2446

Corresponding Author: Kubbra Rahooja, National Institute of Cardiovascular Diseases, Karachi, Pakistan.