

Title: Comparison of cardiovascular risk profile and outcomes after acute myocardial infarction in patients from South-Asian and Middle-Eastern background

Category: Acute Coronary Syndromes

Abstract

Background: Ethnic related difference in patients presenting with acute myocardial infarction (AMI) have not been fully characterized in Middle East countries. Our aim is to study the cardiovascular risk profile of AMI patients with diverse ethnic background and its impact on hospital care and outcomes

Method: A retrospective cohort single center study includes 2112 patients referred to our center for management of AMI from 2015 to 2018

Result: Out of 2112 patients, 614(29%) were South-Asian and 1498(71%) were Middle-Eastern. South-Asian patients presented with AMI at slightly younger age than Middle-Eastern patients (55.49 ± 10.9 vs. 56.75 ± 11.8 ; $P=0.023$). Cardiovascular risk factors such as diabetes mellitus, obesity, smoking, and previous stroke were more prevalent among patients of Middle-Eastern background compared with South-Asian background ($P <0.0001, <0.0001, <0.0001$ and 0.003 respectively). Patients from Middle East countries were also more likely to have valve dysfunction (3.6% vs 1.2%; $p=0.02$) on echocardiography and higher tendency to have atrial fibrillation (1.8% vs 0.5%; $p= 0.07$) compared with South-Asian patients. South-Asian patients were more likely to present with anterior STEMI, less likely to receive thrombolytic therapy (14% vs 19%; $p=0.004$), more likely to have multi-vessel disease in their coronary angiogram (15% vs 13%) and more likely to receive tirofiban post coronary angiogram (30% vs 27%) compared to patients of Middle-Eastern background. There were no significant differences in post acute myocardial infarction complications including LV systolic dysfunction, pulmonary edema, cardiogenic shock, left ventricular thrombus or in-hospital mortality between the two groups

Conclusion: Significant differences in cardiovascular risk profile and clinical presentation of AMI in various ethnic groups. Subtle differences in management including use of tirofiban and thrombolytic therapy. Reassuringly, all ethnic groups had similar outcomes including mortality. Understanding these ethnic differences might help to implement proper primary prevention programs, utilize all available resources and improve management of AMI patients.