52ⁿᵈ CARDIOCON 2023: ABSTRACT

RISK FACTOR PROFILE AND HOSPITAL OUTCOMES IN PATIENTS ≤ 45 YEARS VS. >45 YEARS OF AGE PRESENTING WITH ACUTE ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION

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Objectives: In Pakistan, cardiovascular risk factors for acute myocardial infarction are increasing. There are few studies available on atherosclerotic risk factors in young patients and its outcome The purpose of this study was to compare pattern of traditional CVD risk factors, hospital mortality and major adverse cardiac events at discharge in young versus old patients (≤45years and above 45 years age respectively) admitted with STEMI and undergoing primary PCI.

Methodology: This retrospective cohort study was conducted on consecutive patients presenting with STEMI between June 2013 and June 2018 in a single centre cardiac only tertiary care setup. Institute's registry is fashioned along and is affiliated with US NCDR. Patients with cardiac arrest or cardiogenic shock at arrival were excluded. MACE was defined as post PCI cardiac arrest or cardiogenic shock, heart failure, major bleed or hospital death. Models were built using stepwise forward logistic regression method.

Results: Total of 5343 patients were admitted with STEMI during study period, after exclusion data of 1642 patients were analyzed. Among young patients, the frequency of the male gender, any tobacco use and family history of premature coronary artery disease were significantly higher (all p values < 0.001). While in older STEMI patients frequency of heart failure, hypertension, prior myocardial infarction, diabetes mellitus ,abnormal creatinine clearance (<90 mL/min/1.73 m²) , multi-vessel coronary disease, advanced Killip class and higher body mass index was more prevalent (all $P<0.001$). Among young patients advanced Killip class and femoral access site(all P values <0.001), diabetes mellitus (p=0.03), abnormal creatinine clearance(p=0.04),and left ventricular ejection fraction less than 40%(p=0.01), were more significant in-hospital mortality predictor whereas advanced Killip class, Left ventricular ejection fraction less than 40% male gender(p=0.04), diabetes mellitus(p=0.001),femoral access site(p=0.001), and Left ventricular ejection fraction less than 40% were more significant MACE predictors (all $P<0.001$).

Conclusion: There were no significant difference in hospital mortality and MACE among young versus old STEMI patients when adjusted for diabetes mellitus, abnormal creatinine clearance (<90 mL/min/1.73 m²), multi-vessel coronary disease, advanced Killip class. Tobacco use is the main modifiable risk factors for young patients with STEMI. Surprisingly, being a woman and having a positive family history with premature coronary artery disease were protective.

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