Objective: To identify predictors of late presentation in patients with AMI and target interventions for those at high risk of late presentation.

Methods: In our cross-sectional study we prospectively analyzed a cohort of 1032 AMI patients for 1 year (from August, 2014 to May, 2015). Demographic factors, clinical characteristics, perception of health and access to health care were compared between early (within 12 h of symptom onset) and late presenters (>12 h of symptom onset). Bivariate comparison and multivariate logistic regression was done to identify independent predictors of late presentation. Odds ratio and 95% confidence intervals were calculated directly from the estimated regression coefficient.

Result: Our cohort was an average of 53 ± 10 years old. Of the total 1032 patients 384 (37.2%) were early presenters and 648 (62.8%) were late presenters. Average age of early presenters was 48.25 ± 12.71 and that of late presenter was 58.02 ± 13.76. Mean time interval between onset of symptom and presentation to hospital were 6.85 ± 8.06 h (range 1.5–12 h) in early and 37.88 ± 25.13 h (range 13–120 h) in late presenters respectively. Bivariate comparison found that having STEMI (late 64.2% vs. early 78.1%, p = 0.02) and >1 anginal episode over past 4 weeks (late 51.9% vs. early 33.3%, p = 0.004) were associated with early presentation. Multivariate analysis showed older age ≥65 years (OR 1.5 95% CI. 1.3–1.8), living alone (OR 1.6 95% CI. 1.4–1.7), traveling long distance ≥50 miles (OR 1.3 95% CI. 1.1–1.6), reporting one or more anginal episodes over past 4 weeks (OR 1.3 95% CI. 1.1–1.6) and misinterpreting chest pain as PUD (OR 3.5 95% CI. 2.6–4.9) were associated with late presentation.

Conclusion: A significant majority patients with AMI were late presenters. Having a STEMI was independently associated with early presentation. Misinterpreting chest pain as of peptic origin ≥1.6) and misinterpreting chest pain as of peptic origin was responsible for the delay in the majority. Reporting early presentation. Misinterpreting chest pain as of peptic origin presenters. Having a STEMI was independently associated with late presentation. Patient education, appropriate utilization of existing resources and use of tele-electrocardiography that allows transmission of ECG signal to a medical control officer may decrease late presentation and improve outcome.

Materials and methods: In this prospective observational study, 206 patients with diagnosis of ST Elevation Myocardial Infarction and age ≥45 years were included. Risk stratification was done as per conventional (male sex, family history of CAD, lifestyle, hyperlipidemia, hypertension, diabetes, tobacco in any use, and obesity) and novel Lipoprotein(a) (LPa) risk factors. Coronary angiography (CAG) was done in all patients. Correlation of these risk factors with severity of CAD was done.

Result: 94.2% of total patients were male and 5.8% were female. 72.3% had active lifestyle and 27.7% had sedentary lifestyle. 3.9% had positive and 72.1% had negative family history of CAD. 53.4% had normal BMI, 35% were overweight, 7.3% were obese and 4.4% were underweight. 12.1% were diabetic, 11.61% were hypertensive, 13.6% were dyslipidemic, 67.5% were smoker/using tobacco in any form, 29.1% were alcoholic and, 35.4% had high LPa (≥30 mg/dl). 70% of the patients had Anterior wall ST Elevation Myocardial Infarction and Left Anterior Descending (LAD) artery was the culprit artery in majority (68%) of the patients. Out of 206 patients 77% patients had critical CAD and 23% patients had non-critical CAD on coronary angiography. In majority of the patients (around 54%) had single vessel disease (SVD), and double vessel disease and triple vessel disease was present in 12% and 11% of the patients respectively and 23% had critical CAD.

All female (n = 12/206) had critical CAD. This value was very significant (p = 0.04) from statistic point of view. None of the other risk factors were significantly affecting the severity of CAD. On univariate analysis patients with hypertension (SVD/DVD/TVD – 40%/20%/40%) and dyslipidemia (SVD/DVD/TVD – 44%/12%/4%) had significant triple vessel disease with significant p value of 0.001 and <0.001 none of the other risk factors had statistically significant difference in severity of lesion. On multivariate analysis none of these variables were positively affecting the CAD severity.

Conclusion: In patients with critical CAD mean age of the patient in our study was 39.64 years. The mean age of those with non-critical CAD was 37.87 years. While there is talk of increasing CAD in females, our study shows that in younger individuals presenting with acute ST elevation MI male predominance continues. Diabetes, dyslipidemia and hypertension in our country is talked of a very important cause of CAD. However in our study of over 200 young patients DM, hyperlipidemia and hypertension were present in very few patients. Among the various risk factors, however diabetes mellitus was very important risk factors. In our population LPa has been often highlighted as a novel risk factor, however our study shows that in most of patient of this younger cohort LPa was mostly normal. Additionally CAD was equally distributed in normal and high LPa group of patients. When presence of higher level of LPa was correlated with risk factors, only female sex was positively correlated to CAD. Smoking is an another risk factor for CAD. Majority of younger patients of myocardial infarction studied were smoker, however the severity of CAD was not correlated to the smoking status. In our study patients who were thrombolysed had less critical CAD as compared to those who were not thrombolysed possibly because the thrombolyic lysed the clot and the residual disease was non-significant disease. Criticality of CAD in our study was not correlated with left ventricular dysfunction and critical CAD was equally present in both those with LV dysfunction and normal LV function.159 out of 206 patients with 77% had critical CAD in our study. More than half of these patients had SVD. In terms of arterial involvement SVD was present in more than half of the patients and LAD was the commonest culprit artery.

Risk factors and angiographic profile of young patients presenting with ST Elevation Myocardial Infarction

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Introduction: Acute coronary syndrome is a major health problem and accounts for a large proportion of the total number of hospitalizations all over the world. The incidence of coronary artery disease (CAD) in the young has been reported to be 12–16% in India. Contrary to other population, CAD in young Asian Indians has a poorer prognosis because of extensive atherosclerosis and multi-vessel disease.

Aims and objectives:

1. To assess the risk factors and angiographic profile of young patients ≤45 years of age presenting with ST Elevation Myocardial Infarction.