Original Article

Risk Factors and Presentation of Myocardial Infarction in Adult at M.Y. Hospital, Indore

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ABSTRACT:
Objective: The study the Risk Factors and Presentation of Myocardial Infarction in Adult. **Conclusion:** MI patients were mainly male, with a high incidence of a family history of premature CAD, cigarette smoking & obesity. Targeting the modifiable risk factors of CAD with a special focus on smoking cessation and reducing obesity is likely to the best strategy for primary prevention of young MI patients.
Study Designed: Observation Study
Key words: Coronary artery disease, myocardial infarction, risk factors

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INTRODUCTION
Coronary heart disease (CHD) is the leading cause of death in the West. Acute myocardial infarction (AMI) among young is relatively uncommon. Still, it is an important problem for the patient and the treating physician, as these patients have different risk factors, clinical presentation and prognosis than the older patients. There are few studies of risk factor profile and pattern of coronary artery involvement in AMI in young, so the purpose of the study.[1] Myocardial infarction (MI) in the ''young'' is a significant problem, however there is scarcity of data MI in the ''young''. Traditional differences described in the risk factor profile of younger MI compared to older patients include a higher prevalence of smoking, family history of premature CHD and male gender. Recently, other potentially important differences have been described.[2]

MATERIALS & METHOD
The Study was conducted at M.Y. Hospital, Indore. We identified a cohort of 200 patients aged 21-70 years presenting with acute MI between February 2017 and February 2018. We excluded patients with a diagnosis of unstable angina. Participation was voluntary, and informed written consent was taken.

Data Collection
Patient demographics, clinical characteristics were collected, Myocardial infarction was defined according to the third universal definition of myocardial infarction [1]. The young MI group was defined as patients aged 21-70 years. Diabetes mellitus, hypertension, dyslipidaemia, smoking, family history of premature coronary artery disease, were defined according to the American College of Cardiology definitions for measuring the clinical management and outcomes of patients with acute coronary syndromes[3]. Obesity was defined as a BMI of$\geq$ 30 kg/m^2. Lipids, fasting glucose and HbA1c were tested and blood pressure was documented. Categorical variables are expressed as frequencies and percentages. Continuous variables are expressed as mean and standard deviation.

RESULTS

Table 1: Baseline demographic and clinical data of study patients (n=200)

Characteristic	
Age (Years) (mean± SD, range)	52.7± 3.9 (21-70)
Sex	**No. (%)**
Male	133 (66.5%)
Female	67 (33.5%)
Type of Presentation	
STEMI	56 (28%)
NSTEMI	144 (72%)
Risk Factor	
Smoking	167 (83.5%)
Hypertension	133 (66.5%)
Dyslipidemia	116 (58%)
Family history of premature CAD	152 (76%)
Diabetes	57 (28.5%)
BMI(mean± SD)	33.76 ± 4.1
Obesity	113 (56.5%)

DISCUSSION

Little is known about group of patients presenting with MI in India**.** We found that MI patients were more likely to be male, current smokers, have a family history of premature CAD with a high BMI.

The higher proportion of males in the MI patients in our study is consistent with the fact that CAD is known to occur 7 to 10 years earlier in men than women and is also consistent with the previous international literature examining MI. [4-6]

MI is a disease of older population and is uncommon, though it occurs at younger age in India compared to Western population. In Global Registry of Acute Coronary Events (GRACE) study, the prevalence of young acute coronary syndrome (ACS) was 6.3%,[7] in Thigh ACS Registry, it was 5.8%[1.]

MI in young can be divided in to two groups, those with angiographically normal coronary arteries and those with coronary artery disease (CAD). Some MI patients have normal coronary arteries. The MI in them can be caused by arteritis, thrombosis, embolisation or spasm. As is the case with venous thrombosis, coronary thrombosis can be seen in hypercoagulabe states, such as protein C and protein S deficiency, antiphospholipid syndrome or nephrotic syndrome.[2] Coronary artery spasm can cause MI in patients with cocaine abuse[8] and also in association with alcohol binges. In the second group of young MI (those with CAD), it is mostly a result of atherosclerotic process, which starts in early childhood. Milanig *et al.*, in a necropsy study of 760 young patients, dying of various causes found that 20% of men and 8% of women in the age group between 30-34 yrs had evidence of Coronary heart disease (CHD).[8]

CONCLUSION

MI patients were mainly male, with a high incidence of a family history of premature CAD, cigarette smoking & obesity. Targeting the modifiable risk factors of CAD with a special focus on smoking cessation and reducing obesity is likely to the best strategy for primary prevention of young MI patients.

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