



## CLINICAL PROFILE OF MYOCARDIAL INFARCTION IN YOUNG ADULTS

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**ABSTRACT**

The leading cause of death in the world is coronary heart disease (CHD) and while there is a large body of data available for CHD, literature focusing on premature CHD and myocardial infarction (MI) in the young is lacking. The consequences of MI can be devastating particularly at a young age due to its greater potential impact on the patient's psychology, ability to work and socioeconomic burden. As young MI patients may be the main income producer of the family, the aftermath of MI can also affect multiple dependents. Reducing premature MI and CVD is a key priority for our nations; however, there is a sparse synthesis of information on risk factors associated with premature MI. To address this knowledge gap, we are conducting a systematic review to describe the association between risk factors (demographics, lifestyle factors and biomarkers) and premature MI.

**KEYWORDS :** coronary heart disease, MI in young, risk factors in premature MI, systemic review

**INTRODUCTION:**

Coronary heart disease has been the leading cause of death in the world. A large body of data is available for CHD, but still, literature focusing on premature CHD and MI in young people is lacking. At a young age due to its greater potential impact on the patient's psychology, socioeconomic burden and ability to work, the consequences of MI can be more devastating and may also affect multiple dependents of the family as young MI patients may be the main income producer of the family.

As it occurs at a productive age it may carry significant morbidity, psychological impact and financial burden of the patients and their families.

Few data are still lacking for the young MI patients regarding the contemporary data about hospitalisation, clinical characteristics and mortality rates. Obesity, hypertension, dyslipidemia counters the protection offered by young age and increases the prevalence of risk factors for CHD.

A false sense of security and ignorance of CHD prevents young individuals from seeking medical advice. The most important thing for this population is early recognition and risk factor modification.

In India, the prevalence of CAD is 11% for non-diabetic patients and 21.4% for diabetic patients. India is facing a dual problem as the burden of communicable disease has been declining slowly but that of non-communicable disease (NCD) has been rising rapidly.

Diabetes, obesity, smoking, hypertension, dyslipidemia along with metabolic syndrome are the main risk factors for CAD. Before the patient reaches the age of 50 years, more than 50% of CAD death occurs and around 25% of MI occurs before the age of 40 years. As the CAD shows accelerated atherogenesis it results in higher premature morbidity and mortality due to which heart disease is occurring in Indians 5-10 years before other ethnicities. Since the prevalence of risk factors like hypertension, hypercholesterolemia, obesity are less, it is important to explore underlying causes of increased CAD prevalence.

Better cardiovascular health can be promoted by discouraging cigarette smoking, adopting an exercise routine and diet depending on the individual. Low sugar intake, reducing high-fat dairy and increasing daily intake of fruits and vegetables helps in improving health. Lowering the threshold medication of anti-atherosclerotic like statin should be done by the physician. Aggressive screening test for CAD in Indians is beneficial as the optimum triglycerides levels in Indians appear to be 150 mg/dL compared to 200mg/dL for others in western countries. The purpose of the present study is to assess the risk factors, clinical presentation, angiographic profile including severity, and in-hospital outcome of very young adults.

**Table Showing Risk Factors**

RISK OF FACTOR	NO.	%
DYSLIPIDEMIA	42	70.00%
HYPERTENSION	24	40%
DIABETES	19	31.67%
SMOKING/ TOBACCO CHEWING	17	28.33%
ALCOHOL	12	20%
TREATMENT MODALITIES	NO. OF PATIENTS	%
CABG	12	26.67%
Angioplasty	43	71.67%
Thrombolysis	4	6.67%
Failed Thrombolysis followed by PTCA	10	16.67%
Medical Management	1	1.67%

**Presenting Features**

PRESENTING FEATURES	NO. OF PATIENTS	%
Chest Pain	49	81.67%
Epigastric Pain	3	5.00%
Heaviness of chest	2	3.33%
Sweating	6	10.00%
Total	60	100.00%
INTERVENTION	NUMBER	%
CABG (LAD/LCX/RCA)	12	20.00%
CABG (LAD/RCA)	4	6.67%
LAD (PTCA Angioplasty)	30	50.00%

LCX (PTCA Angioplasty)	4	6.67%
LCX OM2 (PTCA Angioplasty)	2	3.33%
RCA (PTCA Angioplasty)	8	13.33%

### Ecg Findings

SITE OF MI	NO. OF PATIENTS	%
Anterolateral	23	38.33%
Inferolateral	7	11.67%
Lateral	1	1.67%
Posteroinferior	3	5.00%
Anteroseptal	24	40.00%
Inferior	2	3.33%

This prospective study was conducted on 60 patients fulfilling our inclusion and exclusion criteria in the Department of Cardiology and General Medicine of Geetanjali Medical College and Hospital, Udaipur. Various parameters were noted and analysed as under:

1. This study included a total of 60 patients. There were 58 men (96.67%) and 2 women (3.33%)
2. The age group ranged from 22–40 yrs, the youngest patient being a 20 yr old male. Majority of patients in our study were in the age group of 36-40 yrs (46.67%), and then in 31-35 yrs of age 36.67%. We had as young as the age of 22 yrs of patient having MI.
3. Majority of patients presented with typical chest pain (81.67%). 5 patients presented with atypical symptoms, six had sweating, two had chest heaviness of chest and three had epigastric pain.
4. On ECG, 24 patients had anteroseptal MI, 23 patients had anterolateral wall MI, seven had inferolateral wall MI. Three had posterolateral wall MI, two had anteroseptal MI and one had lateral wall MI.
5. Majority of patients (33) underwent PTCA and stenting (48.33%), 4 underwent thrombolysis (6.67%), 10 patients had to undergo rescue PTCA as one patient developed hypersensitivity reaction and one had failure of thrombolysis. 2 patients with TVD underwent CABG. One patient did not undergo either thrombolysis as he presented too late for thrombolysis, or PTCA could not be done as he had developed acute renal failure. He was treated with antiplatelet agents.
6. Out of 16 CABG cases 12 patients had LAD/LCX/RCA and 4 had LAD/RCA. Twenty nine underwent LAD angioplasty and 5 (8.33%) had LCX, 2 (3.33%) had LCX OM2 and 8 (13.33%) had RCA.
7. Dyslipidemia 42 (70%) was the most common risk factor followed by hypertension in 24 (40%), diabetes (68.7%) and smoking in (35.3%). 24 patients (40%) were diagnosed with hypertension, out of which two were known cases of diabetes on treatment. A diagnosis of hypertension was made if patient was previously diagnosed with hypertension or diastolic B.P on admission was more than 95 mm Hg No. of patients with elevated total cholesterol was 17, 9 patients had borderline high (200-239) and 8 patients had high value of (240 and above).

### CONCLUSION

It can be inferred from above that MI in young has certain typical features in terms of presentation and risk factors, many of which are readily modifiable. The present study provides evidence that young patients with a history of myocardial infarction have less extensive disease and a relatively favorable prognosis compared with older patients. A particular challenge remains for the clinician in the management of the young patient with coronary disease who might anticipate a life expectancy measured in decades rather than years.

### Limitations And Suggestions

This study did not have any control group and so the risk of each factor could not be analyzed. More studies with emphasis on associated risk factors in young adults with

eating habits are needed to be conducted in future times.

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