

To study Demographic profile of patients of ACS aged \leq 45 years admitted in CCU of Department of Medicine,

I.G. Medical College, Shimla

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Abstract

Background: In recent years coronary artery disease (CAD) is emerging as a new epidemic afflicting people of Indian subcontinent at relatively young age.

Methods: The hospital based observational study was carried out in patients of ACS aged \leq 45 years, admitted to Cardiac Care Unit (CCU) of Department of Medicine I.G. Medical College Shimla from 1st June 2013 to 31st May 2014.

Results: In our study mean age of patients was 40.3 yrs with range 25-45yrs. Forty three (86%) were in age group 35-45 yrs, 7(14%) patients were in age group 25-35 yrs. Forty (80%) patients were from rural background. 44 (88%) patients were male and 6 (12%) were female.

Conclusion: In ACS in young, there was male preponderance; STEMI was most common with LAD most common territory involved.

Keywords: ACS, LAD, Age, Sex.

Introduction

In recent years coronary artery disease (CAD) is emerging as a new epidemic afflicting people of Indian

subcontinent at relatively young age¹. Acute Coronary Syndrome (ACS) is the disease of older people over 45 yrs of age but is being observed in an increasing number of younger patients. On an average, people here develop Myocardial Infarction (MI) about 10 years earlier than other populations² and its occurrence in patient less than 45 years is 5-10 folds higher. These studies suggest that South Asians are at an increased risk of MI at a younger age (\leq 45 yrs). As per literature, Acute Coronary Syndrome (ACS) in young is defined as being ACS occurring at age less than 40-45 years.³⁻¹⁴ It accounts for 3-12% of total AMI events.³⁻⁷ Although ACS in younger patients are generally associated with a favourable prognosis⁸⁻⁹, the burden of premature coronary disease is substantial. The occurrence of ACS in a young person leads to premature morbidity and mortality in the most productive years of life.

Material and methods

The hospital based observational study was carried out in patients of ACS aged \leq 45 years, admitted to Cardiac Care Unit (CCU) of Department of Medicine I.G. Medical College Shimla from 1st June 2013 to 31st

May 2014. Total of 50 cases (male= 44, female= 6) of young ACS were included in study. This study was approved by Institution Ethics Committee. The Informed consent was taken from all patients.

Patient Selection

Inclusion Criteria

- Age of patient was 45 years or below.
- Patients who fulfilled the criteria of ACUTE CORONARY SYNDROME were included

Acute, evolving, or recent MI defined as the typical rise and/or fall of biochemical markers of myocardial necrosis with at least one of the following:

- Symptoms of ischemia.
- Electrocardiographic changes indicative of ischemia and/or infarction.
- Development of pathologic Q waves in the ECG.
- Imaging evidence of new loss of viable myocardium or new regional wall motion abnormality.

Unstable Angina (USA) was defined as angina pectoris (or equivalent type of ischemic discomfort) with at least one of three features:

- Occurring at rest (or minimal exertion) and usually lasting >10 minutes.
- Being severe and of new onset (i.e. within the prior 4-6wks).
- Occurring with a crescendo pattern (i.e., pain that awakens the patient from sleep or that is more severe, prolonged, or frequent than previously).

NSTEMI- If a patient with USA develops evidence of myocardial necrosis, as reflected in elevated cardiac biomarkers.

Exclusion Criteria

- Patients not giving informed consent.
- Patients with advanced co morbid conditions, including malignancies, advanced heart failure or

valvular heart diseases.

- Patients already on statins.
- Patients with secondary causes of cardiovascular diseases like thyroid disorder, renal disorders, liver disorders, Cushing's syndrome, on estrogen administration which affect lipid metabolism.
- Patients with expected transfer to another hospital within 48 hours or if followup not possible.

Statistical analysis

Data collected was managed on a Microsoft Excel spreadsheet. All analysis was performed with the SPSS 10 version. Data were expressed using mean± standard deviation for continuous variables and frequency (percentage) was used to describe distribution of categorical variables. Association of risk factors of disease was carried by using Chi- Square Test.

Results

Table 1: Age Wise Distribution

Age Group	Number of Pts.N=50	Percentage
25-35	7	14%
35-45	43	86%
Total	50	100%

In our study mean age of patients was 40.3 yrs with range 25-45yrs. Forty three (86%) were in age group 35-45 yrs, 7(14%) patients were in age group 25-35 yrs. Forty (80%) patients were from rural background.

Table 2: Gender wise Distribution

Gender	No. of Patients (N=50)	Percentage
Males	44	88%
Females	6	12%
Total	50	100%

In our study 44 (88%) patients were male and 6 (12%) were female.

Table 3: distribution of patients according to diagnoses

Age Group	Diagnosis n=50			Total
	STEMI n=23	NSTEMI n=14	USA n=13	
25-35	5 (21.7%)	3(21.4%)	0(0.0%)	8(16%)
35-45	18(78.3%)	11(78.6%)	13(100%)	42(84%)
Total	23(100%)	14(100%)	13(100%)	50(100%)

Out of 50 patients in study 23(46%) were diagnosed as STEMI. Fourteen (28%) were diagnosed as NSTEMI and 13(26%) were diagnosed as USA.

Discussion

This study was a cross sectional Hospital based study done in 50 patients of CAD aged ≤ 45 yrs admitted in CCU of Department of Medicine, Indira Gandhi Medical College, Shimla, Himachal Pradesh from 1st June 2013 to 31st May 2014. During this period total of 927 patients of ACS of all age groups were admitted and out of those 50 (5.4%) were aged <45 years. In present study, clinical and risk factors profile patients of ACS was studied.

In our study, patients were in the age group of 25-45 and mean age of presentation was 40.28 years (S D 4.699) of which 84 % were in age group 35-45. In a study by Sricharan KN et al the mean age of the patients with acute MI was 37.03 years, with a maximum number of patients(70%) in the age group of 35-40 years¹⁴.

Number of males in our study were 44 (88%) and number of females were 6(12%) with ratio of 8:1. A study in Singapore by Sricharan K N et al showed male preponderance (90%). Male sex has been one of the best documented and the most consistent risk factors for coronary atherosclerosis. This can be explained by the fact that in women there is less prevalence of risk factors like smoking, alcohol abuse and dyslipidemia and majority of women were

premenopausal. The protective effects of oestrogens in preventing atherosclerosis have been clearly demonstrated in epidemiologic studies.¹⁴

In our study 28(56%) were from rural background. In Himachal Pradesh, 90% of population lives in rural areas. This is because of increased facilities and health awareness in urban area. A study by Sundaram M et al showed association of risk factors for MI with rural background. In this study, it was observed that, smoking, hypertension and dyslipidemia were found to be independent risk factors for CAD in rural population. All risk factors were significantly more in both sexes however, there was considerable heterogeneity in the prevalence among them; males had higher risk than females.¹⁵

Conclusion

In ACS in young, there was male preponderance; STEMI was most common with LAD most common territory involved.

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