|| ISSN(online): 2589-8698 || ISSN(print): 2589-868X ||
International Journal of Medical and Biomedical Studies
Available Online at www.ijmbs.info
NLM (National Library of Medicine ID: 101738825)
Index Copernicus Value 2019: 79.34
Volume 5, Issue 6; June: 2021; Page No. 01-02

Original Research Article

TO STUDY RISK FACTOR OF PATIENTS OF ACS AGED ≤ 45 YEARS ADMITTED IN CCU OF DEPARTMENT OF MEDICINE, I.G.MEDICAL COLLEGE, SHIMLA

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Article Info: Received 06 April 2021; Accepted 26 May 2021
DOI: https://doi.org/10.32553/ijmbs.v5i6.1936
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Conflict of interest: No conflict of interest.

Abstract

Background: To study risk factor of patients of ACS aged ≤ 45 years admitted in CCU of Department of Medicine, I.G.Medical College, Shimla.
Methods: The hospital based observational study was carried out in patients of ACS aged ≤ 45 years, admitted to Cardiac Care Unit (CCU) of Department of Medicine I.G. Medical College Shimlafrom 1st June 2013 to 31st May 2014.
Results: Smoking was most significant risk factor associated with ACS. Dyslipidemia (total cholesterol, LDL-C), alcohol abuse, hypertension, metabolic syndrome and Prediabetes/Diabetes Mellitus were other risk factors associated.
Conclusion: In ACS in young, smoking was most common risk factor.
Keywords: ACS, LAD, Age, Sex.

Introduction

Coronary disease mortality, incidence, and clinical presentation vary greatly over time. In many countries with a high prevalence of coronary heart disease, mortality is now falling rapidly.[1] Concomitantly, there is evidence that acute myocardial infarctions (AMIs) are becoming smaller,[2] and unstable angina pectoris, a less lethal form of the acute coronary syndromes (ACS), now accounts for a substantial proportion of all admissions. Additionally, the mortality from ACS is decreasing more than the incidence, with important decreases also in out-of-hospital deaths. Changes in mortality and incidence have been attributed to changes in coronary care and secondary prevention. Changes in risk factors may also have a role, with falling rates of smoking and more obesity in many areas of the world.[3]

Material and methods

The hospital based observational study was carried out in patients of ACS aged ≤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. TheInformed consent was taken from all patients.

Patient Selection

Inclusion Criteria:

1) Age of patient was 45 years or below.

2) Patients who fulfilled the criteria of ACUTE CORONARY SYNDROME were included

1)
2)

I. 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:

a) Symptoms of ischemia.

b) Electrocardiographic changes indicative of ischemia and/or infarction.

c) Development of pathologic Q waves in the ECG.

d) Imaging evidence of new loss of viable myocardium or new regional wallmotion abnormality.

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

a) Occurring at rest (or minimal exertion) and usually lasting >10 minutes.

b) Being severe and of new onset (i.e. within the prior 4-6wks).

c) Occurring with a crescendo pattern (i.e., pain that awakens the patient from sleep or that is more severe, prolonged, or frequent than previously).

III. 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 comorbid 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 administrationwhich affect lipid metabolism.

Patients with expected transfer to another hospital within 48 hours or if followup not possible.

Statistcal 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: frequency distribution of patients according to riskfactors.

CARDIOVASCULAR RISKFACTOR	ACS IN YOUNG PATIENTS(n=50)		p VALUE
	PRESENT	ABSENT	
SMOKING	42(84%)	8(16%)	0.039
DYSLIPIDEMIA	24(48%)	26(52%)	0.178
HTN	22(44%)	28(56%)	0.357
PREDIABETES/DIABETES	31(62%)	19(38%)	0.091
ALCOHOL ABUSE	26(52%)	24(48%)	0.192
METABOLIC SYNDROME	15(30%)	35(70%)	0.677

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, family history of CAD was present in 50% of the patients and these patients havegenetic predisposition to CAD. Maximum number of patients had history of CAD in parents than siblings. Parental or family history of myocardial infarction (MI) is an independent risk factor for cardiovascular disease. Parental history of MI is often considered a surrogate for coronary risk factors, having associations with high blood pressure, poor lipid profiles, and obesity in children and adults, as well as other biochemical and genetic markers. A study by Zimmerman et al[4] found higher incidence of CAD in younger men with family history of CAD.

In our study 43(86%) patients were smokers ($p<0.05$), smoking causes spasms in the coronary arteries and also predisposes to coronary artery atherosclerosis. Smoking-induced oxidative stress is considered to favour oxidation of low-density lipoprotein (LDL) and subsequently promotes the atherogenic process.[5] In our study smoking was significantly associated with chest pain and sweating ($p<0.05$). CAD in young patients is a rapidly progressive form of atheromatous process. Conventional risk factors like smoking, alcoholism, HTN and diabetes play a larger part in younger patients who had MI. Studies in China and other countries demonstrated that young AMI patients have smoking rates as high as 70–90% and showed association of smoking with chest pain and STEMI in young patients ($p<0.05$). A study by Wang Y et al showed association of smoking with chest pain and STEMI in young patients ($p<0.05$).[6] Most of the previous studies showed smokingas the most significant risk factor in young patients.[5,6]

Conclusion

In ACS in young, smoking was most common risk factor.

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