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A HOSPITAL BASED STUDY ON THE CLINICAL PROFILE OF THE PATIENTS PRESENTING WITH ACUTE CORONARY SYNDROME

General Medicine

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ABSTRACT

Objective: To analyse risk factors and clinical profile of patients presenting with acute coronary syndrome(ACS).
Methods: This hospital based study was carried out from December 2017 to June 2019 in College of Medicine & JNM Hospital, Kalyani, West Bengal. The 120 consecutive patients presenting with typical symptoms and ECG changes to the emergency and Medicine department of our hospital were recruited in the study.The clinical history revealed information about age, sex, risk factors, and mode of presentation.The regions of infarction ,circadian pattern and complications were also documented.
Results: Our study showed a significant male predominance with the mean age being 55 years.Tobacco consumption was identified as a major risk factors in 85 (71%) of patients.Majority of patients 111(92.5%) presented with chest pain.45(37.5%)cases had history of Hypertension(HTN) and 25 (21%) cases had history of Diabetes Mellitus.34 % patients developed complications,majority being arrhythmia(60%) and least common was mechanical complication(2%).Majority of the infarction was noted in Anterior wall 44(36.5%) .
Conclusion: Thus, we conclude that ACS is more common in late middle aged (51-60 years) males with Tobacco, HTN and Diabetes being a major risk factors in Kalyani,West Bengal.

KEYWORDS

Acute Coronary Syndrome,Tobacco,Hypertension,Diabetes,Chest pain

INTRODUCTION

It is predicted that more than half the worldwide cardiovascular disease risk burden will be borne by the Indian subcontinent in the next decade according to recent epidemiological studies[1,2]. There are significant differences in the prevalence of coronary artery disease with respect to gender, age, and ethnicity. Cardiovascular disease has emerged as a major health burden in developing countries[3,4]. Cardiovascular risk factors for acute coronary syndrome (ACS) are on the rise in people of Indian origin, and ACS is now the leading cause of death [5,6].

The South Asian countries of Bangladesh, India, Nepal, Pakistan, Srilanka contribute to the highest proportion of the burden of cardiovascular disease. The early age of onset of cardiovascular disease in these populations is increasing the disease burden further [7,8]. Deaths due to cardiovascular disease tend to occur 10 or more years earlier in these countries than they do in western countries [9]. So, we attempted to study the risk factors and clinical profile of patients with myocardial infarction admitted in Emergency and Medicine Department of College of Medicine and JNM Hospital Kalyani,West Bengal.

METHODS

All the cases of Acute Myocardial Infarction (AMI) (from first few hours of onset to 7 days) presenting in Emergency and Department of medicine of COM&JNM Hospital,Kalyani had been taken up for the study.The study included both emergency and indoor patients.Duration of the study was from December 2017 to June 2019.

Inclusion criteria

Patients satisfying WHO definition[10] for diagnosis of myocardial infarction were included in the study.

Diagnosis was based in presence of at least two of the following three criteria:
1. A clinical history of ischemic type chest discomfort.
2. Changes in serially obtained electrocardiographic tracings.
3. A rise and fall of serum cardiac markers.

Exclusion criteria: Patients presenting with chest pain or atypical features of AMI but without positive ECG changes and increased cardiac biomarker levels.

A detailed history was taken in all the patients and a thorough physical examination was done. Electrocardiogram (ECG) findings (ST segment elevation or depression, Q wave, sinus rhythm, AV block, ventricular tachycardia) and regions of infarction (anterior, inferior or combined) were studied and documented . Data entry was done in MS Excel. Simple Quantitative data was analyzed by using descriptive and inferential statistical techniques via Epi-Info (7.1 version) and simple qualitative data was analyzed by Chi-Square test.

RESULTS

A total of 120 patients diagnosed with myocardial infarction were studied regardless of the therapeutic intervention they received. The patients were predominantly male (72%) . Majority of patients (34%) were between 51-60 years. [Table 1]

Table 1: Presentation Of Ami According To Age & Sex

Sl No.	Age interval	Male(%)/	Female(%)
1	31-40	9(8%)	4(2%)
2	41-50	18(15%)	5(4%)
3	51-60	30(25%)	10(9%)
4	61-70	22(19%)	12(10%)
5	71-80	7(5%)	3(3%)
Total		86(72%)	34(28%)

The most common presenting symptom was chest pain in 111 (92.5%), followed by shortness of breath in 90 (75%), sweating in 75(62.5%) and vomiting in 34(28.3%)cases[Figure1].

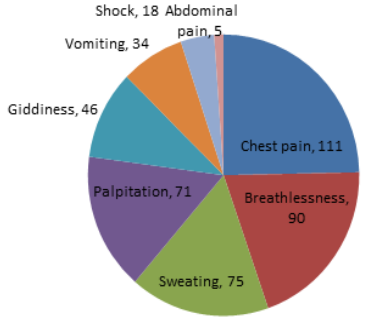
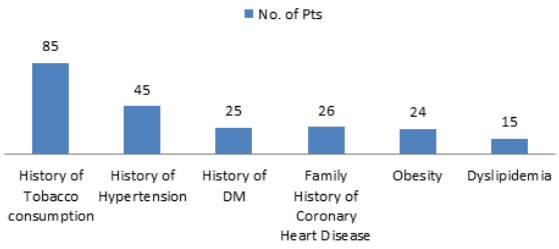


Figure 1: Distribution Of Presenting Symptoms

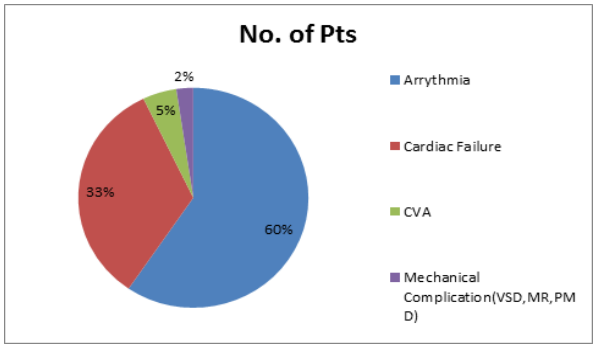
Tobacco smoking/chewing in 85cases (71%) was the major risk factor contributing to MI. Hypertension in 45 cases (37.5%) was the second most common risk factor followed by diabetes mellitus in 25 (21%) and dyslipidemia in 15 (12.5%). [Table 2]

Table 2:Distribution of Selected Risk Factors



Majority of patients (90.15%) on arrival to emergency department in our centre had ST segment elevation. Majority of infarction (36.5%) occurred on anterior wall and 23.6% occurred on inferior wall.

Total 41(34%) of total cases presented with complication on arrival ,of which 60% of the patients had arrhythmia followed with cardiac failure in 33% of cases .



DISCUSSION

Cardiovascular disease is a global public health problem contributing to thirty percent of global mortality and ten percent of the global disease burden. The burden of cardiovascular disease is greater in low- and middle-income countries as compared to high income countries because of much larger population size and widespread exposure to increasing levels of risk factors such as unhealthy diet, physical inactivity, obesity, tobacco use, diabetes, raised blood pressure and abnormal blood lipids[11].

The rate of MI was higher in males than females (72% versus 28%) which is consistent with findings in previous studies.[12-13]Present study demonstrated that with increasing age the number of females with MI also increased (3.33% at 41 to 50 years to 8.33% at 51 to 60 years). This may be due to loss of protective effect of estrogen in post-menopausal women. The vasodilatory action of estrogen may be responsible for this protective effect.[14].

Smoking was the commonest risk factor present in as many as 85 patients (71%). This figure is in accordance with the finding of Majeed et al.[15] who have reported it to be present in 73.3% of the patients. In this study hypertension was present in 37.5% of the patients. This finding co-relates with that of Parmeshwara V. et al[16]. who have reported hypertension as a risk factor in 37.4 % of the patients.

21% of the patients were diabetics. This is comparable with studies of Aggarwal et a[17]l, Subramanyam et al[18] and Bhattacharya et al[19] who have reported diabetes as risk factor in 19%. 19.54% and 19.09% of patients respectively.

In present study, 111 patients (92.5%) had chest pain as a most common presenting symptom. The findings of present study correspond with Subramanyam et al[18],Jacob et al[20],and Kudenchuk et al[21] who also have reported chest pain as a most common presenting symptom in 94%,91% and 99% respectively.

CONCLUSION

This study was done only for a short period of time and limited number of patients.In spite of the limitations, it seems reasonable to draw some conclusion about the emerging profile of the patients presenting with ACS.

It is important to identify the risk factors at earliest to prevent the progression of coronary heart disease, need for creating awareness in the community regarding risk factors, symptoms and signs of acute myocardial infarction so that early referral can be done to coronary care unit to prevent morbidity and mortality in the community .

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