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Original Research Article

A study of risk factors and clinical profile of patients with acute myocardial infarction

Manohar Shankarrao Chavan, M. Bhaktavatsalam*

Department of General Medicine, Mahavir Institute of Medical Sciences, Vikarabad, Telangana, India

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***Correspondence:**
Dr. M. Bhaktavatsalam,
E-mail: drbvmudda@gmail.com

ABSTRACT

Background: New cases of AMI tell us about the prevalence of risk factors in the community which lead to increased incidence of AMI. On the other hand, the occurrence of repeated attacks of AMI tells us about the quality of care received by the patient during the attack of AMI and its subsequent treatment. The objective was to study of risk factors and clinical profile of patients with acute myocardial infarction.
Methods: Present hospital based cross sectional study was carried out for a period of two years among 50 eligible subjects selected as per the inclusion and exclusion criteria laid down for the conduct of the present study to study the clinical profile and risk factors.
Results: The commonest age group was 61-70 years (36%). The average age of the patient in the study group was 53.88 years. The male patient dominated the study group. This male to female ratio need not necessarily indicate the epidemiological frequency of myocardial infarction. The most common MI in the present study group was inferior wall MI (46%). 18 (36%) were smokers, 20 patients (40%) among 50 patients presented with complications. Of them 13 patients had arrhythmias (26%).
Conclusions: The most commonly affected were elderly. AMI was more common in the males. Inferior wall myocardial infarction was the common lesion seen in the present study. Among the risk factors, smoking was the most common risk factor found in the present study.

Keywords: Clinical profile, Diabetes, Hypertension, Risk factors

INTRODUCTION

Recent developments in the modern medicine have drastically reduced the mortality from acute myocardial infarction (AMI). At the same time the life expectancy of the population globally has increased in the developed world and is on rise in the developing countries. This condition has led to the more and more number of people who are living with AMI. This population of people is at risk of developing a second attack of AMI. Second attacks are relatively less in number but if it happens carries a very poor prognosis mostly ending in death and thus increasing the mortality due to AMI.[1]

New cases of AMI tell us about the prevalence of risk factors in the community which lead to increased incidence of AMI. On the other hand, the occurrence of repeated attacks of AMI tells us about the quality of care received by the patient during the attack of AMI and its subsequent treatment.[2]

Inspite of the above-mentioned facts that there is availability of the superior quality of care AMI still is one of the most common reasons for mortality. It also imposes a huge burden on the health care system of the country. The surveillance system is poorly developed

even though there is need for continuous evaluation in some countries with special reference to AMI.[3]

Chronic health problems are age related and commonly affect the old age people. There are a number of chronic diseases. Hence it was estimated that almost around half of the population in the world is having at least one chronic health problem. In population above the age of 65years, this proportion can be estimated to be more than 90%. This age group of more than 65years has more than 50% of the patients with AMI. Various risk factors of AMI are hypertension, smoking, diabetes, obesity etc. If the patient develops any other co-morbidity, then it affects the treatment of the AMI.[4]

Co-morbidities in a patient with already known AMI affect the outcome in such patients. Study of risk factors and clinical profile of the patient is important.[5] Hence present study was carried out to study risk factors and clinical profile of patients with acute myocardial infarction

METHODS

Present hospital based cross sectional study was carried out for a period of two years among 50 eligible subjects selected as per the inclusion and exclusion criteria laid down for the conduct of the present study to study the clinical profile and risk factors.

Type of study

Hospital based cross sectional study

Period of study

Two years

Sample size

During the study period, it was possible to study the 50 cases of AMI selected as per the inclusion and exclusion criteria laid down for the conduct of the present study to study the clinical profile and risk factors.

Inclusion criteria

- Known cases of acute myocardial infarction,
- Patients willing to participate in the present study.

Exclusion criteria

- Cases other than AMI,
- AMI cases with complications and seriously ill patients.

Methodology

Detailed history was taken including name, age, sex, time of occurrence of AMI, time of admission to hospital after the occurrence of the AMI, history of alcohol intake in terms of duration, type, quantity, frequency, history of smoking in terms of duration, type, quantity, frequency was obtained and recorded in the pre-designed pre tested semi structured questionnaire for the present study.

Detailed clinical examination was carried out and necessary investigation was done for the present study. The data was analyzed using proportions.

RESULTS

Table 1: Distribution of study subjects as per age.

Age group (years)	Number	Percentage
< 40	2	4
41-50	14	28
51-60	16	32
61-70	18	36
Total	50	100

From the above table, it is evident that patients included in the present study group the commonest age group was 61-70years (36%). The least common group was less than 40years (4%), the oldest patient in the present study group was of 70years of age and the youngest patient was of 30years age. The average age of the patient in the study group was 53.88years.

Table 2: Distribution of study subjects as per sex.

Sex	Number	Percentage
Male	43	86
Female	7	14
Total	50	100

The male patients dominated the study group although this male to female ratio need not necessarily indicate the epidemiological frequency of myocardial infarction.

Table 3: Distribution of study subjects as per type of infarct.

Type of infarct	Number	Percentage
Inferior wall MI	23	46
Extensive anterior wall MI	20	40
Antero septal MI	7	14
Total	50	100

From the above table it is seen that the most common MI in the present study group was inferior wall MI (46%). Other groups were extensive anterior wall MI (40%) and antero septal MI in 14% of the patients.

From the below table, it is seen that 18 (36%) were smokers, 15 (30%) were diabetic, 13 (26%) were hypertensive, 5 (10%) were alcoholic and 7 (14%) of the patients had history of diabetes as well as hypertension. 20 patients (40%) among 50 patients presented with

complications. Of them 13 patients had arrhythmias (26%), 6 patients had congestive cardiac failure (12%) and only one patient presented with cardiogenic shock.

Table 4: Distribution of study subjects as per risk factors for AMI.

Risk factors	Number	Percentage
Hypertension	13	26
Diabetes mellitus	15	30
Smoking	18	36
Alcoholism	5	10
Diabetes + hypertension	7	14

DISCUSSION

The commonest age group was 61-70years (36%). The least common group was less than 40years (4%), the oldest patient in the present study group was of 70years of age and the youngest patient was of 30years age. The average age of the patient in the study group was 53.88years.

The male patients dominated the study group although this male to female ratio need not necessarily indicate the epidemiological frequency of myocardial infarction.

The most common MI in the present study group was inferior wall MI (46%). Other groups were extensive anterior wall MI (40%) and antero septal MI in 14% of the patients.

18 (36%) were smokers, 15 (30%) were diabetic, 13 (26%) were hypertensive, 5 (10%) were alcoholic and 7 (14%) of the patients had history of diabetes as well as hypertension. 20 patients (40%) among 50 patients presented with complications. Of them 13 patients had arrhythmias (26%), 6 patients had congestive cardiac failure (12%) and only one patient presented with cardiogenic shock (25).

Myftiu S et al in their study found that 15.4% of their patients had a previous AMI.[6] New cases were common in the younger age group compared to the recurrent cases. AMI was more common in females. But in the present study we found that AMI was more common in males. Smoking was less common. But we found that smoking was more common in the present study. Recurrent cases had 2.5 times more risk of developing heart failure as compared to the new cases. Recurrent cases had 1.97 times more risk of developing impaired left ventricular ejection fraction as compared to the new cases. Recurrent cases had 6.32 times more risk of developing multi-vessel disease as compared to the new cases.

Cao CF et al also found that repeat episode of AMI was common in older age group compared to the younger age group.[7] Diabetes was the most common risk factor present in 52.2% of the cases. In the present study we found that diabetes was present in 30% of the cases. Repeat episode of AMI was 1.03 times more common in the older age group as compared to the younger age group. Repeat episode of AMI was 1.86 times more common in the diabetics as compared to the non-diabetics. Mortality was 12.1% in cases with repeat episode of AMI compared to only 7.8% in new cases.

Schmidt M et al in their observations study observed that from 1984 to 2008 there was significant reduction in the mortality rates due to AMI.[8] Myftiu S et al found that 55.4% of the cases had more than three risk factors.[9] They concluded that females had not a very good clinical profile. In the present study we found that the clinical profile was bad in males.

Shapo L et al found that nearly one third of their study population was hypertensive.[10] It was more in males than females. 13% of the diagnosed cases were not receiving the treatment for hypertension. The author concluded that hypertension is a risk factor for AMI and should be studied in detail.

Lawoyin TO et al found that the prevalence of hypertension was 12.4%. Systolic blood pressure was more in males compared to the females.[11] Prevalence of obesity was 8%. It was more common in females as compared to females. Older age group and obesity were found to be significantly associated with hypertension.

Burazeri G et al observed that the family history of CHD was the strongest risk factor for AMI.[12] The authors also observed that in male's waist hip ratio was the most commonly associated risk factor with AMI. In females, obesity was the most commonly associated risk factor with AMI. Especially in males, present smoking status and hypertension were found to be the most important risk factors.

Sulo G et al studied effect of passive smoking on incidence of AMI.[13] They found that almost half of women with AMI accepted of having a smoker partner whereas it was 25%. The author concluded that if the partner is a smoker then the risk of AMI is more.

Bonita R et al studied the risk of stroke in association with passive smoking. They concluded that passive and active smoking was associated with the risk of stroke.[14]

CONCLUSION

The most commonly affected were elderly. AMI was more common in the males. Inferior wall myocardial infarction was the common lesion seen in the present study. Among the risk factors, smoking was the most common risk factor found in the present study.

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