

Age and Gender distribution in patients with acute Myocardial Infarction.

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Abstract

Background: Coronary heart disease is still a leading cause of death in developing as well as in developed countries. Incidence and prevalence of myocardial infarction increase progressively with age. Women lag behind men by 10 years, however this difference in male and female genders narrows progressively with advancing age. The mortality rate is higher in women.

Objective: To determine the age and gender distribution in patients with acute myocardial infarction.

Methods: A hospital based descriptive study, conducted for two years, involving a sample of 40 patients with acute myocardial infarction after considering the inclusion and exclusion criteria. Study was conducted in patients who were admitted in ICCU Basaweshwar teaching general hospital. Detailed information of all patients were recorded as per proforma, any complications if present were also noted.

Results: Out of 40 patients with acute myocardial infarction, 15% belong to 30 - 39 years, 17.5% belong to 40 - 49 years, 22.5% belong to 50 - 59 years, and maximum patients (45%) were in age 60 years and above. Incidence of AMI is more in males than in females. Male population was 92.5% and female population was only 7.5%.

Conclusion: In the present study, males were more at risk than females. On comparison, the percentage of our female patients is far less. As age increases, incidence of acute myocardial infarction also increases, but the percentage of patients in age group 30 - 39 is also alarming. Less frequency of smoking or ignorance regarding consultation to hospital could be the cause of it, particularly in female gender. Further studies are required for the verification.

Key words: Acute myocardial infarction (AMI), Age, Gender, Coronary heart disease (CHD)

Introduction

Coronary heart disease is leading cause of death in adults in United states, accounting for about one third of all deaths in subjects above 35 years^[1]. The death rate is higher in men than in women (three times higher in age 25 to 34 years, falling to 1.6 times in age 75 to 84 years) and in blacks compared to whites. Among the Hispanic population coronary mortality is not as high as it is among blacks and whites.

In contrast to the above data, mortality from CHD is expected to increase in developing countries including China, India, Sub - Saharan Africa, Latin America and middle East, from estimated 9 million in 1990 to a projected 19 million by 2020^[2,3]. This projected westernized countries, leading to increased life expectancy, westernized diet, physical inactivity, and

cigarette smoking^[4].

After six years following a recognised MI, men have twofold increase in age - adjusted risk of recurrence, a fourfold increase in risk of developing angina, a fivefold increase in risk of Heart failure, and more than twofold increase in risk of Stroke. For women, the age adjusted outlook is substantially worse for all events except Angina. However, women who sustain MI, generally have a greater burden of major risk factors, when adjustment is made for these in addition to age, women fare no worse than men^[5].

Our main purpose of this study was to find out the age and gender pattern in AMI.

Materials and Methods

A hospital based descriptive study was conducted for

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two years involving 40 patients with AMI admitted in BTGH. Informed consent was obtained. Patients who had evidence of mitral valve disease or aortic valve disease were excluded from study.

The diagnosis of AMI was made on typical history, ECG changes, and Serum enzymes. A detailed information of all patients were recorded as per proforma, any complication if present were also noted. Drugs used for treatment of patient during study period were also documented. Investigations like ECG, CPKMB, RBS, CBC, Chest x-ray, serum creatinine, Echo colour Doppler study were done in all patients.

Results

The study consisted of 40 AMI patients whose age was 30 years and above. Out of 40 patients with AMI, 15% were in age group of 30 – 39 yrs, 17.5% were in age group 40 - 49 yrs, 22.5% in age group of 50 – 59 yrs, and maximum patients were in age group of 60 yrs and above (45%) (Figure 1).

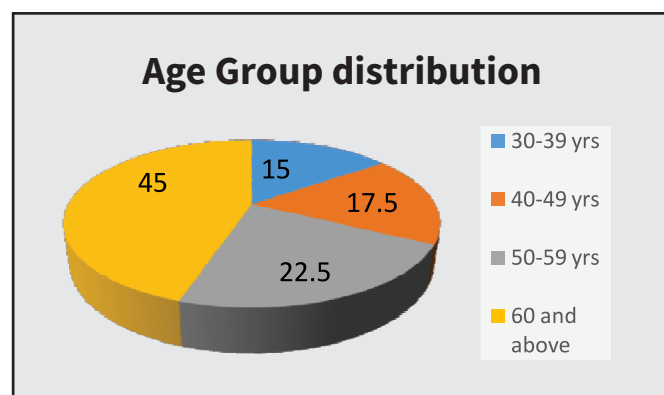


Figure 1. Age Group distribution

On analysis of gender distribution, we found 92.5% were males and only 7.5% were females (Figure 2).

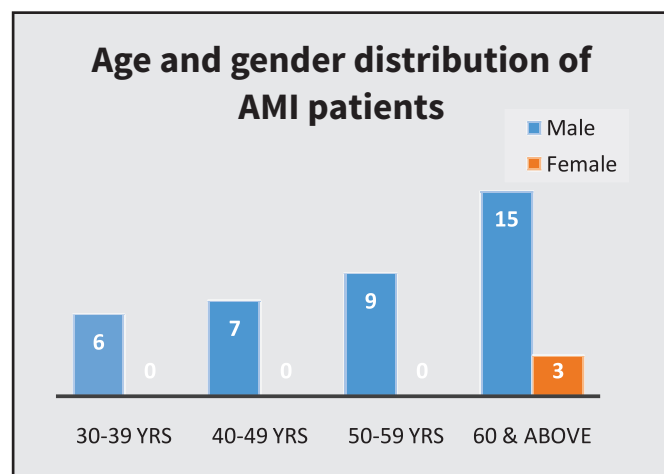


Figure 2. Age and gender distribution of AMI patients

Majority of male patients were 60 years and above (40 - 54% of males). While all i.e 100% females belong to age 60 years and above. There was no significant association noted (Fisher’s P = 0.1652) in patients with AMI according to their age and gender (Table 1).

Table 1. Age and Gender Distribution

Sl. No	Age Group (Years)	Male	Female	Total	%
1	30-39	6	0	6	15
2	40-49	7	0	7	17.5
3	50-59	9	0	9	22.5
4	60 & above	15	3	18	45
	Total	37	3	40	100

After merging row 1,2, and 3, Fisher P = 0.1652. fordf = 1.

Discussion

For total coronary events, the incidence rises steeply with age, with women lagging behind men by 10 years. For the more serious manifestation of coronary disease, such as MI, sudden death, women lag behind men by 20 years. However, the difference in male, female gender for incidence narrows progressively with advancing age.

For the people aged above 40 years, the lifetime risk of developing CHD is 49% in men and 32% in women. For those reaching age 70 years, the lifetime risk is 35% in men and 24% in women^[6].

Furthermore angina in women is more likely to be uncomplicated (80%), while angina in men often occurs after MI (66%). Infarction predominates at virtually all ages in men in whom only 20% of infarction are preceded by long standing angina. The percentage is even lower if MI is silent or unrecognized^[6].

The male predominance of CHD is least striking for angina pectoris under age 75 years the initial presentation of coronary disease in women is more likely to be angina pectoris than MI^[7].

At the turn of century, it was reported that coronary heart disease mortality was expected to increase approximately 29% in women and 48% in men in developed countries between 1990 and 2020. The corresponding estimated increases in developing countries were 120% in women and 137% in men^[8].

In premenopausal women, serious manifestation of coronary disease such as MI and sudden death are relatively rare. After menopause, the incidence and severity of coronary disease increases abruptly with rates three times more than those of women of

same age who premenopausal. The incidence and prevalence of MI increases progressively in older women, especially after age of 45 years, predominantly in old age (more than 65 years)^[9].

However, since the sample size we had in our study for females was small (only 3 patients out of total 40 patients). These findings need to be probed further to check whether these findings were incidental or if apply to our general population as well.

Conclusion

It is acknowledged from this study that in our community, like any other communities, males are more at risk for MI than females. Whereas in our study the predominant age group for MI is of 60 years and above. Another important finding is that majority of female patients were in postmenopausal period i.e. 60 years that is incidental and we found that percentage of our female patient is less in our study. This finding could be due less frequency of female smoking in our community, which decreases risk of MI in our female population or it could be due to ignorance in relating to symptoms or conveyance issues particularly for our female patients, so that many of the remain unreported. Further studies are required for the validation of these facts.

It is suggested that younger age males and premenopausal women should not be ignored regarding the risk of ST elevation MI (STEMI) and should be properly evaluated and managed if there is any sort of symptom or the presence of any risk factor.

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