



**ORIGINAL RESEARCH PAPER**

**General Medicine**

**STUDY OF CLINICAL PROFILE OF ACUTE MYOCARDIAL INFARCTION IN ELDERLY PATIENTS**

**KEY WORDS:** Acute Myocardial infarction.

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**ABSTRACT**

**BACKGROUND AND OBJECTIVE:**

Coronary heart disease is the leading cause of death among elderly patients. Although chest pain is the most common presentation of acute myocardial infarction (AMI) in elderly patients, they have also been reported to present with atypical symptoms such as giddiness, dyspnoea, vomiting, sweating and epigastric pain with out chest pain. The aim is to determine the differences in presentation, risk factors, short term complications and outcome in patients with the age of 60years or older.

**METHODS:**

This is a prospective study conducted in elderly patients admitted to Narayana medical college and hospital with the diagnosis of acute myocardial infarction during february 2018 to April 2019. Total of 50 elderly patients satisfying the criteria were included and their clinical profile was recorded.

**RESULTS :**

Among the fifty patients the majority of the patients are with the age of 60-69 years. Sixteen percent of the patients presented without chest pain. The patients presented with atypical symptoms included dyspnoea, giddiness, vomiting, sweating and epigastric pain. Mortality rate was 18%.

**CONCLUSION :**

This study showed that even though chest pain was the most common presentation in elderly AMI patients, they were also found to have atypical presentations like shortness of breath, giddiness, vomiting, sweating and epigastric pain. Knowledge of these atypical presentations will help us to consider an acute cardiac event when the elderly present atypically.

**INTRODUCTION:**

Coronary heart disease is the leading cause of death among elderly patients. Although, chest pain is the most common presentation of acute myocardial infarction (AMI) in elderly patients, they also known to present with atypical symptoms such as giddiness, dyspnoea, vomiting, sweating and epigastric pain without chest pain. However there has been a lack of studies on the extent of atypical presentations in elderly AMI patients. The aim is to determine the differences in presentation, risk factors, short term complications and outcome in patients with the age of 60 years or older. Knowing the differences of clinical profile of elderly AMI patients will be helpful in identifying the aspects ,formulation of strategies to improve the outcome in elderly with MI.

**OBJECTIVES :**

To study the clinical presentation, risk factors and complications of AMI in elderly patients.

**METHODS :**

**type of study : prospective study**

**duration of the study : February 2018 to April 2019**

Data of fifty elderly patients admitted to this hospital with the diagnosis of AMI were collected. Detailed History regarding age, gender , symptomatology were collected. Detailed clinical examination done and recorded.

Relavant investigations done like complete blood picture, ECG , chest xray PA view, 2D Echocardiogram , Fasting lipid profile , random blood sugars , fasting, post prandial sugars, glycosylated hemoglobin , complete urine analysis done and recorded.

The complications of these patients developed in the hospital were recorded.

**Inclusion criteria:**

- 1) patients with the Age of >=60 yrs (ICMR guidelines)
- 2) patients having Typical ECG pattern (ST segment

elevation of ≥0.1 mV in at least 2 consecutive limb leads or ≥0.2mV in at least 2 consecutive chest leads for ST elevation MI)

- 3) Elevated cardiac enzyme levels (CKMB or Troponin T/I)

**Exclusion criteria:**

Patients with stable or unstable angina were excluded from the study.

**RESULTS :**

This is a prospective study done over a period of one year. Fifty elderly patients with the diagnosis of AMI were included and their clinical profile was recorded. Among the fifty patients, majority were found to be at the age of 60-69 years old. Mean age was 69.82 years.

**TABLE NO. 1: AGE DISTRIBUTION**

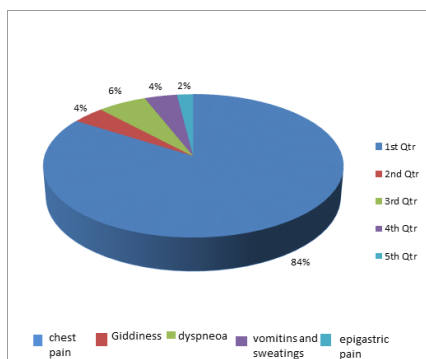
Age (yrs)	Frequency	Percentage
60 - 69	26	52
70 -79	17	34
>= 80	7	14
Total	50	100

**Table No. 2: Sex distribution**

Sex	Frequency	Percentage
Female	14	28
Male	36	72
Total	50	100

**Table No. 3: Presentation with chest pain**

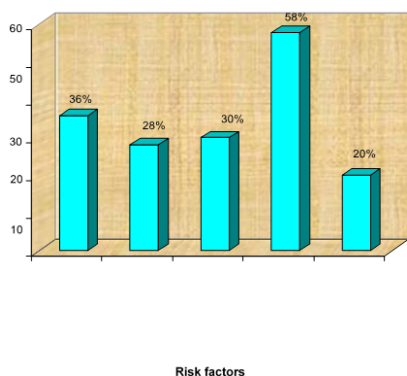
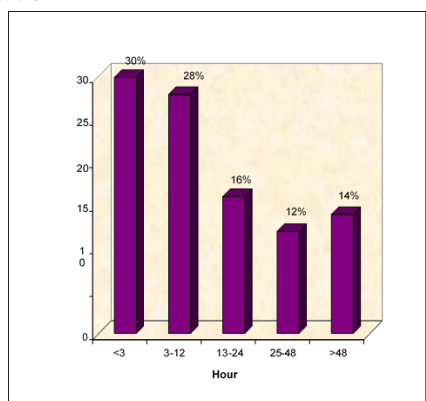
Chest pain	Frequency	Percent
Absent	8	16.0
Present	42	84.0
Present	50	100.0



**Figure 1: Atypical presentations in patients without chest pain**

Among the 50 patients, 8 patients had no chest pain. Out of the 8 patients, 3 patients had only complaints of dyspnoea, two patients had only symptoms of giddiness, two had only vomiting and sweating and one presented with epigastric pain without chest pain.

**Figure 2 : Time interval from the onset of symptoms to presentation**



**Figure 3: Risk factors**

Commonest risk factor found was smoking in 58% of the patients. Next common was hypertension (36%) followed by hypercholesterolemia (30%). Only 50% patients were thrombolysed. The main reason for not thrombolysing was delayed presentation to hospital. Among the 25 patients (50%) who were thrombolysed, 3 patients died while 6 of the 25 patients who were not thrombolysed died. However, with the P value being 0.462 no statistical significance was noted in the study. Among the complications noted, the commonest were acute pulmonary edema and arrhythmias seen in 14 and 16%

patients respectively. Arrhythmias were varying degrees of heart block, atrial fibrillation and ventricular tachycardia.

Mortality rate in this study was 18%.

**Table No.4 : Mortality with respect to age**

Age (yrs)	MORTALITY		Total
	Alive	Died	
60-69	22 53.7%	4 44.3%	26 52.0%
70-79	14 34.1%	3 33.3%	17 34.0%
>80	5 12.2%	2 22.2%	7 14%
Total	41 100%	9 100%	50 100%

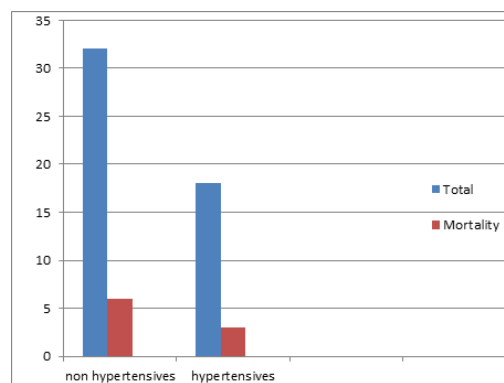
Out of the 26 patients who belonged to the age group 60-69 years, 4 patients died. Three patients died in the age group 70-79 years and 2 patients in the age group >80 years. There is no statistical significance noted (p=0.743).

Of the 14 female patients, 4 patients died and of the 36 male patients 5 patients died. P value is 0.225 which is not significant. So in this study mortality rate is not influenced by sex in elderly MI patients.

Comparing the mortality rate among those who presented with chest pain with those who did not have chest pain, no statistical significance was noted (P =0.287). In this study mortality rate was not significantly high in those who presented without chest pain.

Mortality rate was not influenced by the presence of hypertension in elderly MI patients (P value = 0.84).

**Figure no.4: mortality in relation to hypertension**



No significant increase in mortality rate was seen among diabetics when compared to non diabetics in this study (P value is 0.213).

In this study, mortality rate was not higher among smokers (P value is 0.874).

**DISCUSSION**

In the present study, 72% of the patients were males, with a male to female ratio of 2.57:1. In a study which compared the clinical picture of elderly MI patients with that of young patients it was seen that the male and female ratio was 3:1 and in young MI patients while it was 1.37:1 in elderly MI patients. In this study although chest pain was the commonest symptom, 16% of the patients are not having chest pain on presentation to hospital. The atypical presentations noted were shortness of breath, giddiness, vomiting, sweating, epigastric pain. A study which compared elderly and young

Mi patients ,atypical presenting symptoms were more likely in the elderly patients than in young (333.7% vs 10.7%)<sup>2</sup> .Only 58 % of patients presented to the hospital within 12 hours of onset of symptoms .This has accounted for one of the major reasons for not thrombolysing the patients.<sup>1</sup>

In this study, among the risk factors, commonest risk factor was smoking (58%). 36%patients were hypertensives, 30% had hypercholesterolemia and 28% were diabetics.Inferior wall MI was seen in 48% of the patients, anterolateral MI in 26% patients and anteroseptal in 22% of the patients. Non ST elevation was seen in 4% of the patients. Unlike this, a previous study comparing elderly and young MI patients found that more than half of the elderly patients with MI had a non diagnostic ECG<sup>3</sup>. 50% had elevated CKMB levels > 2 times the upper limit of normal. In this study with increasing age no increase in mortality was observed. Mortality rate was not influenced by risk factors such as hypertension, diabetes mellitus and smoking in this study.

### CONCLUSION

- Current study is a descriptive cross sectional study including 50 elderly MI patients.
- 52 % of the patients belonged to the age group 60-69 years.
- A male preponderance was observed with a male to female ratio of 2.57:1.
- Although commonest presenting symptom was chest pain, atypical presentations were seen in 16% of the patients which included dyspnoea, giddiness, vomiting and epigastric pain.
- 42%of the patients presented 12 hours after the onset of symptoms.
- Common risk factors noted in this study were smoking, hypertension, diabetes mellitus.
- Inferior wall MI was seen in 48% of the patients, anterolateral MI in 26% of the patients and anteroseptal MI in 22% of the patients. Non ST elevation MI was seen in 4% of the patients.
- Only 50% patients were thrombolysed.
- The common complications seen were acute pulmonary oedema due to cardiac failure, cardiogenic shock and arrhythmias.
- Mortality rate was 18%.

### SUMMARY

This study shows that eventhough chest pain is the most common presentation in elderly AMI patients, they can also present with atypical symptoms such as shortness of breath, giddiness, vomiting, sweating and epigastric pain in the absence of chest pain. Knowledge of these atypical presentations will help us to consider an acute cardiac event when the elderly present atypically.

### REFERENCE:

1. Holay MP, Janbandhu A, Javahirani A, Pandharipande MS, Suryawanshi SD. Clinical profile of acute MI in elderly. *J Assoc Physicians India* 2007;55:188-92.
2. Woon VC, Lim KH. Elderly differences with the young. *Singaporemed J* 2003;44(8):414-18.
3. Goldberg RJ, Gore JM, Gurwitz IH, Alpert IS, Brady P, Stronsitter W. The impact of age on the incidence and prognosis of initial AMI. The Worcester heart attack study. *Am heart J* 1989;117:543-49.
4. *J Cardiovasc Dis Res.* 2013 Jun; 4(2):107-111.
5. Lovleen C. Bhatiaa, and Ruchi H. Naikb
6. AMI Clinical profile in elderly.
7. 5..Monaldi *Arch Chest Dis.* 2006 Mar;66(1):13-9.
8. Corsini F1, Scaglione A, Iacomino M, Mascia G, Melorio S, Riccio C, Romano S, Vetrano A, Celardo S, Corsini G, Chieffo C.
9. *Arch Cardiovasc Dis.* 2013 Nov;106(11):586-92. doi: 10.1016/j.acvd.2013.04.010. Epub 2013 Nov 5. Significance of atypical symptoms for the diagnosis and management of MI in elderly patients .Grosmaître P1, Le Vasseur O, Yachouh E, Courtial Y, Jacob X, Meyran S, Lantelme P.
10. 7.Outcome of elderly patients undergoing primary percutaneous coronary intervention for acute ST-elevation myocardial infarction.
11. Wenaweser P, Ramser M, Windecker S, Lütolf I, Meier B, Seiler C, Eberli FR, Hess OM.
12. *Catheter Cardiovasc Interv.* 2007 Oct 1;70(4):485-90.

- 8.The clinical manifestation of myocardial infarction in elderly patients.Goch A, Misiewicz P,Rysz J,Banach M. *Clin Cardiol.* 2009 Jun;32(6):E46-51. doi: 10.1002/clc.20354.
13. 9. *Arch Intern Med.* 1996 May 27;156(10):1089-93. Comparison of elderly and younger patients without chest pain.Tresch DD1, Brady WJ, Aufderheide TP, Lawrence SW, Williams KJ.