

Comparative Study Of Myocardial Infarction In Elderly And Middle Aged Patients

Neelima S. Deshpande¹, Pravin K. Salame², Shashikala Sangale³, V. N. Dhadake⁴, Ashok D. Shinde⁵

Associate Professor^{1,4}, Medical Officer², Professor and HOD³, Dean⁵

Department of Medicine^{1,2,3,4},

Dr. V. M. Government Medical College, Solapur,

Abstract: In India, Acute myocardial infarction is one of the main causes of sudden death. In present study we have compared risk factors and outcome of acute myocardial infarction of middle age (35-60 Yr) - Group 1 to the elderly (above 60 Yr) - Group 2 patients. Both the groups were studied clinically, investigated and followed up for 1 month. In Group 1, obesity, smoking & family history were common risk factors, whereas dyslipidaemia was found to be the common risk factor in Group 2. 30% Patients had not a single known risk factor. In present study chest pain was the common presentation in all patients. But atypical presentation was common in elderly group. Anterior wall myocardial infarction was found in 36 % patients followed by inferior wall in 25 % and anterolateral infarct in 20% patients. Incidence of congestive cardiac failure, arrhythmias & cardiogenic Shock was higher in group 2.

Key words: Myocardial Infarction, cardiac failure, cardiogenic shock.

Introduction:

In India, the survey in the hospital patients has shown a definite rise in the incidence of myocardial infarction in all age groups. The risk factors are obesity, hyperlipidaemia, hypertension, smoking, defective diet habits i.e. intake of excessive polyunsaturated fats etc. The role of conventional cardiovascular risk factors in older age is incompletely understood because only fragmentary and inadequate data is available in most of the instances and manifestations of acute myocardial infarction are generally atypical in elderly.

Myocardial infarction becomes notorious because of its wide distribution and the main cause of sudden death.

Aims And Objectives

1. To study the risk factors, clinical features, complications and outcome in acute myocardial infarction in patients, who were admitted in tertiary care hospital.
2. To compare risk factors, clinical features and outcome of middle age (35 to 60 yr) patients to elderly (60 yrs) patients and acute myocardial infarction.

Materials And Methods:

In this study 100 cases of acute myocardial infarction were studied. Subjects were divided into two groups.

1. Age of 35 to 60 years
2. Above 60 Years.

One month follow up of all cases was done.

Eligibility criteria:

1. All patients having acute myocardial infarction including both sexes were selected above the age of 35 years.
2. Above mentioned patients were diagnosed to have acute myocardial infarction based on their history, physical examination, ECG changes raised troponin T.

Baseline clinical history, risk factors, complications, past illness was documented in prescribed proforma. A detailed clinical examination was carried out. Investigations included ECG, Chest X-ray Serum Troponin T, 2 D-echo, lipid profile, blood sugar and any other related investigation.

Patients were categorized at the time of admission according to the classification of Killip's and Kimball for signs of heart failure. The complications like cardiogenic shock, heart blocks, arrhythmias, left ventricular failure, cerebrovascular accidents were recorded. All patients were followed up for 30 days.

The common risk factors for AMI were Hypertension (25 %), Dyslipidaemia (17%), Diabetes Mellitus(13%), Smoking (13%).

Various sites of Infraction - Anterior Wall Myocardial Infarction was commonest (36%) in elderly population followed by inferior wall Myocardial Infraction(23%) in present study.

Table no.1 : Comparission of risk factors for acute Myocarial infraction

Risk Factors	Group 1 35-60Yr		Group 2 > 60Yr		Total
	Male	Female	Male	Female	
Hypertension	9	4	7	5	25
Diabetes Mellitus	7	1	4	1	13
Smoking	8	1	4	0	13
Dyslipidaemias	3	0	10	4	17
Obesity	5	1	1	0	7
Family History of CAD	5	1	0	0	6
No risk factor	12	5	6	7	30
Alcohol addiction	6	0	4	0	10

Table No.2: Distribution of acute myocarial infraction

Myocardial Infarction	Group 1 (35-60Yr)		Group 2 > 60Yr		Total
	Male	Female	Male	Female	
Anterior Wall	15	3	13	5	36
Anterolateral Wall	2	2	4	3	11
Anteroseptal Wall	10	2	6	2	20
Global	0	0	1	0	1
Inferior Wall	10	2	7	4	23
Inferolateral Wall	1	0	0	0	1
Inferoposterior Wall	1	2	1	3	7
Subendocardial Wall	0	1	0	0	1

Table No.3: Complications of AMI during hospital stay on seven days

Complications	Group 1 35-60Yr		Group 2 > 60Yr		Total
	Male	Female	Male	Female	
Congestivecardiacfailure	16	5	13	10	44
Cardiogenic Shock	7	2	8	4	21
Reinfarction	5	1	5	2	13
Arrhythmias	9	3	10	5	27
Cardiac Arrest	0	0	1	0	1
Right Hemiparesis	2	0	2	1	5
Left Hemiparesis	0	1	0	0	1
Intracranial Bleed	0	0	0	1	1
Death	8	2	10	6	26

Discussion:

In present study the most frequent presenting symptom of AMI was chest pain 58 % followed by dyspnoea 52% >

However percentage of chest pain in 35-60Yr (Group 1) i.e. 58.5% was higher than the elderly (Group 2) i.e. 25.5%. This finally correlates well with study and V.C Woonet al.

Symptoms of a typical chest pain, altered sensorium, syncope and stroke were more common in Group 2 i.e. above 60 years in present study.

Endothelial dysfunction resulting from different risk factors such as smoking, dyslipidaemia and diabetes mellitus, hypertension associated with coronary spasm and thrombosis play important role in the genesis of Acute myocardial infarction.

Summary And Conclusion:

- Chest pain was the most common presentation of AMI in all groups.
 - Most common atypical presentation in elderly (60 Yr) patients was shortness of breath.
 - A typical presentation of AMI was found to be more common in elderly age group (Group 2) than young. (group 1).
 - Among the risk factors, hypertension, diabetes mellitus, smoking, obesity, and family history of coronary artery disease were common in 35-60 year male patients. Dyslipidaemia was more common risk factor in group II i.e. above 60 Yrs.
 - The most important thing to note was that 30% of the patients in the study had no risk factor at all.
 - Anterior wall myocardial infarction was commonest site of infraction (36%) than inferior wall myocardial infarction (25%) followed by of anteroseptal wall myocardial infarction (20%)
 - The incidence of congestive cardiac failure was higher in elderly patients. Most of them presented with congestive cardiac failure-killip's class II followed by various arrhythmias and cardiogenic shock.
- In the present study Mortality was higher in elderly age group of patients.

References:

1. Mehta RH, Rathore SS, Radford MJ, Wang Y, Krumholz HM, Acute myocardial infarction in the elderly: differences by age. J Am CollCardiol 2001; 38(3): 736-41.
2. MP Holay A Janbandhu, A Javahirani, MS Pandharipande, SD Suryavanshi :clinical profile of acute myocardial infarction in elderly (prospective study) <http://www.japi.org/march2007/o-188.htm>.
3. Paul S.D., O Gara PT, Mahjoub ZA, et at. geriatric patients with acute myocardial infarction: cardiac

- risk factor profiles, presentation, thrombolysis, coronary interventions and prognosis. *Am Heart J* 1996;131:710-5
4. Rajesh Baheti, PurnimaLaddha, RS Gehlot, Value of Troponin-T Test in the Diagnosis of Acute Myocardial Infarction *JACM* 2002; 3(1): 55-8
 5. Marisa F. Leal, Newton Fernando stadler de souzafilho, HerminioHaggiFilho, Estela Regina Klosoviski, Eva cantalejoMunhoz: acute myocardial infarction in elderly patients. Comparative analysis of the predictors of mortality. The elderly versus the young: *arq.bras. cardiol.* vol. 79 no.4sao Paulo oct.2002)
 6. Wai-kwangchan, Po-tin Lam, Woon-Leung Ng, Kwok-Fai Hui, Yin-Man Ngai: differences in clinical presentation of acute myocardial infarction between elderly and younger patients: a three year prospective study in a regional hospital, *journal of Hong Kong Geriatric Society* vol 8 no 1 Dec. 1997
 7. Shi Wen Wang, Guo Chun Ren, Shu Fun, ShioShu Yuan Yu and Fu-Ying Zhen. Acute myocardial infarction in elderly Chinese. Clinical analysis of 631 cases and comparison with 389 younger cases. *Apanese Heart Journal* 1988:301-07
 8. Chester M, Kaski JC, clinical factors and angiographic features associated with premature coronary artery disease *chest* 1995; 108: 364-9 79 William Kannel, Philip A, wolf joelverter and patricia m.: Framingham study insights on the hazards of elevated blood pressure. *JAMA*, 2008 - vol 300, NO.21
 9. Gikas, A.SotiropouIos, D. Panagiotakos V Pastromas, A. Papazafiropoulou and S. Pappas: prevalence trends for myocardial infarction and conventional risk factors among greek adults (2002-06), *QJ Med* 2008:101 :705-712)
 10. VC Woon, K H Lim: acute myocardial infarction in elderly- the differences compared with the young; *Singapore Med J* 2003 Vol 44(8):414-418

Corresponding Author:

Dr. Neelima Shrinivas Deshpande
Associate Professor , Dept. of Medicine
(M.D. Medicine, M.D. Physiology)
Dr. V. M. Government Medical College,
Solapur, Maharashtra.
Email- Drneelima08@gmail.com

