



Journal Homepage: -[www.journalijar.com](http://www.journalijar.com)

## INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/14014  
DOI URL: <http://dx.doi.org/10.21474/IJAR01/14014>



### RESEARCH ARTICLE

#### RISK FACTORS AND CLINICAL PROFILE OF PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

Nasir Ali<sup>1</sup>, Owais Ahmed Wani<sup>2</sup>, Syed Maqbool<sup>1</sup>, Suhail Masood Khan<sup>3</sup> and Parvez Mohi Ud Din Dar<sup>4</sup>

1. Consultant Cardiology, SSH, GMC Jammu, Jammu and Kashmir, India.
2. DrNB Cardiology, SSH, GMC Jammu, Jammu and Kashmir, India.
3. DrNB Urology, SSH, GMC Jammu, Jammu and Kashmir, India.
4. Assistant Professor And Head of Trauma and Emergency Medicine, All India Institute of Medical Sciences, Vijaypur, Jammu, Jammu and Kashmir, India.

#### Manuscript Info

##### Manuscript History

Received: 05 November 2021  
Final Accepted: 09 December 2021  
Published: January 2022

##### Key words:-

Clinical Profile, Diabetes, Hypertension,  
Risk Factors

#### Abstract

**Background:** New instances of AMI reveal the presence of risk factors in the population that contribute to a rise in AMI. The occurrence of recurring AMI attacks, on the other hand, indicates the quality of care received by the patient during the AMI attack and subsequent treatment. The goal was to look into the risk factors and clinical profiles of those who had an acute myocardial infarction.

**Methods:** The current hospital-based cross-sectional study lasted two years and involved 50 eligible participants who were chosen based on the inclusion and exclusion criteria established for the purpose of determining the clinical profile and risk variables.

**Results:** The most typical age range was 61-70 years (36 percent). The average age of the study group's patients was 53.88 years. The study group was dominated by male patients. This male-to-female ratio does not necessarily reflect the prevalence of myocardial infarction in the population. In the current study group, the most prevalent MI was inferior wall MI (46 percent). 18 patients (36%) were smokers, and 20 patients (40%) of the 50 patients had problems. Thirteen of the patients developed arrhythmias (26 percent).

**Conclusions:** The elderly were the most typically impacted. Males were more likely to have AMI. In the current investigation, the most common lesion was inferior wall myocardial infarction. Smoking was the most common risk factor discovered in this investigation.

Copy Right, IJAR, 2022., All rights reserved.

#### Introduction:-

Acute myocardial infarction mortality has been dramatically lowered thanks to recent advances in contemporary medicine (AMI). At the same time, global population life expectancy has risen in wealthy countries and continues to rise in underdeveloped ones. As a result of this condition, the number of persons living with AMI is increasing. This group of persons is at danger of experiencing another AMI incident. 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.<sup>1</sup> 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.<sup>2</sup>

Despite the fact that improved quality care is available, AMI remains one of the most common causes of death. It also places a significant strain on the country's health-care system. Even while ongoing evaluation is required in some countries, particularly with regard to AMI, the surveillance infrastructure is underdeveloped.<sup>3</sup>

Chronic health problems are age-related, and they disproportionately impact the elderly. A variety of chronic diseases exist. As a result, it is estimated that over half of the world's population suffers from at least one chronic health condition. This proportion is estimated to be higher than 90% in the population over the age of 65. Patients above the age of 65 account for more than half of all AMI patients. Hypertension, smoking, diabetes, obesity, and other risk factors for AMI are only a few. Any other co-morbidity that the patient develops has an impact on the AMI treatment.<sup>4</sup>

The fate of a patient with an existing AMI is influenced by co-morbidities. It's crucial to look into the patient's risk factors and clinical profile.<sup>5</sup> As a result, the current study looked into the risk factors and clinical profile of individuals who had an 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 research

A cross-sectional research conducted in a hospital

#### Studying period :

two years

#### Size of the sample

During the study period, the clinical profile and risk factors of 50 AMI cases were examined according to the inclusion and exclusion criteria established for the current study's conduct.

#### Inclusion criteria

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

#### Exclusion criteria

1. Cases other than AMI,
2. 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 61-70 years (36%). The least common group was less than 40 years (4%), the oldest patient in the present study group was of 70 years of age and the youngest patient was of 30 years age. The average age of the patient in the study group was 53.88 years.

**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 most common age group was 61-70 years old (36 percent). The least prevalent age category was under 40 years old (4%), with the oldest patient in the current study group being 70 years old and the youngest patient being 30 years old. The average age of the study group's patients was 53.88 years.

The study group was dominated by male patients, albeit this does not always represent the epidemiological frequency of myocardial infarction.

In the current study group, the most prevalent MI was inferior wall MI (46 percent). Extensive anterior wall MI (40 percent) and antero septal MI (14 percent) were the other two groups.

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.

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.<sup>6</sup> 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.<sup>7</sup> 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.

According to Schmidt M et al's observations, there was a considerable decline in AMI-related death rates from 1984 to 2008. 85.4 percent of the cases had more than three risk factors, according to Myftiu S et al.<sup>9</sup> They came to the conclusion that females had a poor clinical profile. In this investigation, we discovered that males had a poor clinical profile.

Shapo L et al discovered that approximately a third of the people in their study were hypertensive.<sup>10</sup> Males were affected more than females. Thirteen percent of the identified individuals were not receiving hypertension therapy. The author came to the conclusion that hypertension is a risk factor for AMI that should be investigated further.

Lawoyin TO et al found that the prevalence of hypertension was 12.4%. Systolic blood pressure was more in males compared to the females.<sup>11</sup> Prevalence of obesity was 8%. It was more common in females as compared to males. 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.<sup>12</sup> The authors also observed that in males, 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.

The effect of passive smoking on the incidence of AMI was investigated by Sulo G et al.<sup>13</sup> They discovered that nearly half of women with AMI tolerated having a smoker partner, compared to 25% of non-smokers. The author came to the conclusion that if one of the partners smokes, the risk of AMI increases.

The risk of stroke associated with passive smoking was investigated by Bonita R et al. They came to the conclusion that both passive and active smoking were linked to an increased risk of stroke.<sup>1</sup>

### **Conclusion:-**

The elderly were the most typically impacted. Males were more likely to have AMI. In the current investigation, the most common lesion was inferior wall myocardial infarction. Smoking was the most common risk factor discovered in this investigation.

### **Funding:**

No funding sources Conflict of interest: None declared

### **Ethical approval:**

The study was approved by the institutional ethics committee

**References:-**

1. Sulo E, Vollset SE, Nygård O, Sulo G, Igland J, Egeland GM, et al. Trends in 28-day and 1-year mortality rates in patients hospitalized for a first acute myocardial infarction in Norway during 2001-2009: a "Cardiovascular disease in Norway" (CVDNOR) project. *J Intern Med.* 2015;277(3):353-61.
2. Kangovi S, Grande D. Hospital readmissions - not just a measure of quality. *JAMA.* 2011;306(16):1796-7.
3. Fox KA, Steg PG, Eagle KA, Goodman SG, Anderson FA Jr, Granger CB, et al. Decline in rates of death and heart failure in acute coronary syndromes, 1999-2006. *JAMA.* 2007;297(17):1892-900.
4. Krumholz HM, Gross CP, Peterson ED, Barron HV, Radford MJ, Parsons LS, et al. Is there evidence of implicit exclusion criteria for elderly subjects in randomized trials? Evidence from the GUSTO-1 study. *Am Heart J.* 2003;146(5):839-47.
5. Nicolau JC, Auxiliadora Ferraz M, Nogueira PR, Coimbra Garzon SA, Serrano CV Jr, Ramires JA. The role of gender in the long-term prognosis of patients with myocardial infarction submitted to fibrinolytic treatment. *Ann Epidemiol.* 2004;14(1):17-23.
6. Myftiu S, Sulo E, Burazeri G, Daka B, Sharka I, Shkoza A, et al. Clinical profile and management of patients with incident and recurrent acute myocardial infarction in Albania - a call for more focus on prevention strategies. *ZDRVARST.* 2017;56(4):236-43.
7. Cao CF, Li SF, Chen H, Song JX. Predictors and in-hospital prognosis of recurrent acute myocardial infarction. *J Geriatr Cardiol.* 2016;13(10):836-9.
8. Schmidt M, Jacobsen JB, Lash TL, Botker HE, Sorensen HT. 25-year trends in first-time hospitalisation for acute myocardial infarction, subsequent short and long term mortality, and the prognostic impact of sex and co morbidity: a Danish nationwide cohort study. *Br Med J.* 2012;344:e356.
9. Myftiu S, Sulo E, Burazeri G, Sharka I, Shkoza A, Sulo G. A higher burden of metabolic risk factors and underutilization of therapy among women compared to men might influence a poorer prognosis: a study among acute myocardial patients in Albania, a transitional country in Southeastern Europe. *Croat Med J.* 2015;56(6):542-9.
10. Shapo L, Pomerleau J, McKee M. Epidemiology of hypertension and associated cardiovascular risk factors in a country in transition: a population based survey in Tirana City, Albania. *J Epidemiol Comm Heal.* 2003;57(9):734-9.
11. Lawoyin TO, Asuzu MC, Kaufman J, Rotimi C, Owoaje E, Johnson L, et al. Prevalence of cardiovascular risk factors in an African, urban inner city community. *West Afr J Med.* 2002;21(3):208-11.
12. Burazeri G, Goda A, Sulo G, Stefa J, Roshi E, Kark JD. Conventional risk factors and acute coronary syndrome during a period of socioeconomic transition: population-based case-control study in Tirana, Albania. *Croat Med J.* 2007;48(2):225-33.
13. Sulo G, Burazeri G, Dehghan A, Kark JD. Partner's smoking status and acute coronary syndrome: population-based case-control study in Tirana, Albania. *Croat Med J.* 2008;49(6):751-6.
14. Bonita R, Duncan J, Truelsen T, Jackson RT, Beaglehole R. Passive smoking as well as active smoking increases the risk of acute stroke. *Tob Control.* 1999;8(2):156-60.