



ORIGINAL RESEARCH PAPER

General Medicine

A STUDY OF CLINICAL PROFILE OF PATIENTS WITH ACUTE INFERIOR WALL MYOCARDIAL INFRACTION ATTENDED IN A TERTIARY CARE HOSPITAL IN A SUB URBAN POPULATION

KEY WORDS: RVMI, JVP, AIWMI

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ABSTRACT

Myocardial infarction is the term used when the myocardium is necrosed due to ischemia. The early recognition of RVI is important, because the time of onset of its haemodynamic consequence is unpredictable and these may be prevented by the administration of intravenous fluid load. This study highlights the importance of delivery of early management of such infraction gives good prognosis. Aim is to study the clinical profile of 50 cases of Acute Inferior Wall Myocardial Infarction with Right Ventricular Infarction and to analyse the age and sex distribution, symptomatology, clinical features, complications and outcome in a tertiary care hospital in a sub urban population. 50 Patients were screened in casualty. All patients included in the study were subjected to ECG examination of V₄R and V₆R in addition to the conventional 12 leads. ECGs were examined at the time of admission, second day and on the day of discharge. Only those cases with hyper acute inferior wall infarction were included in the study. SPSS 24 was used for statistical analysis. The incidence of Acute Inferior Wall Myocardial Infarction is much higher in males than in females, the difference being less as age advances. In males, there is a distinct increase in the incidence after age of 40 years in this study. Smoking was the most prevalent risk factor (56%). The incidence of Right ventricular infarction in this study was 38%. Chest pain was the most common symptom observed. Triad of raised JVP, Hypotension and clear lung fields were seen in 15 patients (30%). Incidence of true posterior wall myocardial infarction in this study was 16%. Mortality is higher in patients with right ventricular infarction when compared with those without this complication. The incidence of Acute Inferior Wall Myocardial Infarction is much higher in males than in females. Mortality is higher in patients with right ventricular infarction⁷. The study highlights the importance of delivery of early management of such infraction gives good prognosis.

INTRODUCTION

Myocardial infarction is the term used when the myocardium is necrosed due to ischemia. Inferior wall infarction has got some special features like association with right ventricular infarction and bradyarrhythmias especially sinus bradycardia and second degree AV block. Initially the diagnosis of right ventricular infarction was done by biopsy. In 1948, Wartman and Hallerstein, described 22 instances of RVI out of 164 cases of myocardial infarction they autopsied.¹ In 1959, Wade described 19 patients with right ventricular infarction. Even though the description of right ventricular infarction appeared more than 60 years ago, it was not considered as an important entity, because in various animal studies experimentally induced isolated right ventricular damage caused no substantial change in systemic venous pressure, pulmonary pressure or cardiac output. Typically right ventricular infarction occurs with occlusion of RCA proximal to acute marginal branches². Occlusion of a dominant left circumflex artery may also produce Right ventricular myocardial infarction⁵. LAD occlusion may also result in the infarction of right ventricle.³

Isolated right ventricular infarction accounts for less than 2% of all cases of infarction, but may result in considerable morbidity.⁴ Therefore, the patient that presents with an acute inferior wall myocardial infarction 30 – 50% of these patients may have some right ventricular involvement. Ischemia or infarction of right ventricle results in decreased right ventricular compliance, reduced filling and decreased RV stroke volume, in turn leading to diminished left ventricular filling and drop in cardiac output that results in systemic hypotension and shock^{9,10} leading to death of the patient.

Need for the study:

It highlights the importance of delivery of early management of such infraction gives good prognosis. And also scarcity of studies on acute inferior myocardial infarction in people from sub urban population in India.

Aims & Objectives of the study-

To study the clinical profile of 50 cases of Acute Inferior Wall

Myocardial Infarction with Right Ventricular Infarction and to analyse the age and sex distribution, symptomatology, clinical features, complications and outcome in a tertiary care hospital in a sub urban population.

MATERIALS AND METHODS:

This was a cross sectional study. After getting necessary permission, 50 patient's presented in casualty with acute inferior wall infarction were observed. All patients included in the study were subjected to ECG examination of V₄R and V₆R in addition to the conventional 12 leads. ECGs were examined at the time of admission, second day and on the day of discharge. Only those cases with hyper acute inferior wall infarction were included in the study. For statistical convenience people were divided into diagnostic group. Statistical analysis was done using SPSS24.

RESULTS:

In acute inferior wall MI out of the 50 patients observed 41(82 %) were males and 9(18 %) were females.

Table I- In presenting illness associated with acute anterior wall myocardial infarction, chest pain was the most common symptom seen in 49(98%) people followed by sweating 43(86%) and vomiting 26(56%)

It was observed that among risk factors contributing to acute anterior wall myocardial infarction, smoking was found to be highest and was observed in 26 (56%) patients followed by hypertension 17 (34%) and diabetes 11(26%)

Table II- while presenting with acute anterior wall myocardial infarction in our study most common clinical sign observed was raise in JVP which was seen in 16(32%) patients followed by blood pressure dropping below 100 mmhg systolic seen in 15 (30%) patients and pulse below 60 in 14 (28%)

Table III- following a acute anterior wall infraction various complications were seen and in our study highest incidence was complete heart block which was seen in 7 (14%) patients followed by Second degree heart block – Mobitz Type I seen

in 4(8%) patients and Second Degree heart block – Mobitz Type II with 3 patients (6%)

Table – 1 Presenting Symptoms

Sl.No	Symptoms	No.	Percentage
1.	Chest pain	49	98%
2.	Sweating	43	86%
3.	Vomiting	26	52%
4.	Palpitation	8	16%
5.	Syncope	7	14%
6.	Dyspnoea	4	8%

Table – 2 Clinical Signs At The Time Of Presentation

Clinical sign	No. of patients	Percentage
Pallor	9	18%
Pulse < 60 / min	14	28%
Pulse > 100 / min	6	12%
BP < 100 mm Hg systolic	15	30%
JVP	16	32%
Right sided S ₃ / S ₄	10	20%
Tender hepatomegaly	2	4%

Table – 3 Complication Developed During Follow Up

Complications	No. of patients	Percentage
Atrial Fibrillation	2	4%
First Degree heart block	3	6%
Second degree heart block – Mobitz Type I	4	8%
Second Degree heart block – Mobitz Type II	3	6%
Complete Heart Block	7	14%
RBBB	1	2%
LAHB	1	2%
Mortality	3	6%

DISCUSSION:

The study population included data of the patients who presented in casualty with acute inferior wall myocardial infarction. Majority of patients belonged to male gender 41 (82%) remaining were 9 (18%) females. Most of the patients belonged to age group 60-64 years (20%). This could be due to the fact that there is a higher chance of comorbid illness in this age group. Syncope or presyncope was a prominent symptom in patients with right ventricular infarction. Triad of raised JVP, Hypotension and clear lung fields were seen in 15 patients (30%). Incidence of true posterior wall myocardial infarction in this study was 16%. Mortality is higher in patients with right ventricular infarction when compared with those without this complication. This study highlights the importance of delivery of early management of such infarction gives good prognosis.

Limitations:

1. Small sample size
2. Study period was very short .

CONCLUSION:

The incidence of Acute Inferior Wall Myocardial Infarction is much higher in males than in females. Mortality is higher in patients with right ventricular infarction. The study highlights the importance of delivery of early management of such infarction gives good prognosis.

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