Original Article

Risk Factors and Complications of MI

Clinical Profile, Risk Factors, Complication and Hospital Outcome of Acute Myocardial Infarction among Patients in Coronary Care Unit Nishtar Hospital, Multan

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ABSTRACT

Objective: To find out facts about clinical sign and symptoms, causing factors and complications of Acute MI among patients

Study Design: Descriptive / cross sectional study.

Place and Duration of Study: This study was conducted at the Coronary Care Unit, Nishtar Hospital Multan from April to December 2016.

Materials and Methods: Data were collected from 100 patients admitted to coronary care unit of Nishtar Hospital Multan, tertiary health care center. Patients 18 years of age or above admitted in the coronary care unit of Nishtar Hospital Multan, with acute myocardial Infarction, ST segment elevation Myocardial infarction, Myocardial infarction less than 48 hours old were included while Patients less than 18 years of age, Myocardial infarction 48 hours old or more, on ST segment elevation myocardial infarction were excluded.

Results: Smoking (76%) and high blood pressure (23%) were the most common risk factors, followed by dyslipidemia (22%) in this study. The overall hospital mortality rate for this study was 15% -10 for males (66.7%) and 5% for females (33.3%).

Conclusion: Arrhythmias continue to be the most common complication of acute myocardial infarction, particularly during the first 48 hours. Acute myocardial infarction is a serious disease that has to be treated in intensive care unit of coronary heart disease. Death usually occurs with arrhythmia, and is a potentially reversible condition, the earliest treatment that can reduce mortality

Key Words: Myocardial infarction, hospital outcome, Clinical profile

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INTRODUCTION

It is impossible to find the first person to observe changes in cardiac rhythm. However, medical history reviews in this regard are helpful in identifying at least a few milestones in understanding this clinical problem. In ancient times it is said that the Egyptians were aware for the importance of impulse examination The Chinese believed it as a key to diagnosing many conditions in the 6th century BC.

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Only at this time, it is said that Ayurveda doctors know 600 types of pulses. In 1628, Sir William Harvey described the circulation of blood; in 1776, William Withering recognized the irregular pulse of atrial fibrillation. In 1835, Boull and recognized the pulse, two important abnormalities, which he called pulsed intermittent and ataxia (possibly atrial fibrillation).

Coronary care unit provide a wealth of knowledge about the incidence of arrhythmias and the prognosis of acute myocardial infarction in hospitalized patients. Coronary artery disease in the Pakistanis risk is 3-4 times higher than the United States white, six times higher than China. In Asian s[1] the prevalence of coronary artery disease has to be viewed with concern. Pakistanis are susceptible to coronary artery disease as a community at a very young age [2.]

In a study by SZ Abildstrom et al.[3], the risk of sudden cardiac death compared to sudden cardiac death was relatively high in younger groups, but absolute severe cardiac death was higher in the upper age group than younger.

In the Framingham Heart Study of male majority observed [4.]

In a prospective community-based study by Shmuel Gottlieb et al[5], consecutive coronary care unit in hospitalized patients with acute myocardial infarction in the mid-1990s showed that women's fares were significantly worse than men's for 30 days. In a study by Wolfe CL et al[6] polymorphisms found in VT in 2% of patients with Myocardial infarction were often rapid, with symptoms of hemodynamics and electrical instability. In a study by Torre et al. [7]mycardial infarction observed that 2% of patients sustained within 48 hours of VT were transient and not associated with long-term risk of sudden cardiac death.

MATERIALS AND METHODS

Data were collected from 100 patients admitted to coronary care unit of Nishtar Hospital Multan,, tertiary health care center. Patients 18 years of age or above admitted in the coronary care unit of Nishtar Hospital Multan, with acute myocardial Infarction, ST segment elevation Myocardial infarction, Myocardial infarction less than 48 hours old were included while Patients less than 18 years of age, Myocardial infarction 48 hours old or more, on ST segment elevation myocardial infarction were excluded.

Data Analysis: Data was put in SPSP software versions 21. Results were presented in the form of frequencies, percentages and tables.

RESULTS

Out of 100 cases, 82 were males and 18 were females. The male to female ratio was 4.5:1.Smoking (76%) and hypertension (23%) were the most common risk factors in the present study, followed by dyslipidemia (22%). (Table 1)

Chest pain (96%) was the most common presenting symptom followed by sweating (81%) and vomiting (30%). (Table 2) 56 (56%) patients were admitted within 6 hours of onset of symptoms.(Table 3) Left ventricular failure was seen in 27 patients (27%). (Table 4)

Table No.1: Coronary risk factors

Risk factor	No of cases	Percentage
Smoking	76	76
Hypertension	23	23
Diabetes Mellitus	21	21
Dyslipidemia	22	22
Obesity	7	7
Family history of IHD	7	7

Maximum numbers of patients i.e. 52% develop acute MI between 4 am to 12 noon. The next highest number of patients i.e. 22(22%) developed acute MI between 4pm to 8pm. (Table 5)

Out of 83 patient's thrombolysis, 54 patients had arrhythmias. The overall in hospital mortality in this study was 15 % - 10 were males (66.7%) and 5 were females(33.3%). of the 15 patients who expired, 10 patients (66.7%) had anterior wall MI and 5 (33.3%) had inferior wall MI. 8 of the 15 deaths (53.3%) occurred within in 24 hours of admission.

Table No.2: Symptoms present at time of admission

Symptoms	No of cases	Percentage
Chest pain	96	96
Sweating	81	81
Vomiting	30	30
Breathlessness	17	17
Giddiness	13	13
Palpitation	7	7
Pain abdomen	4	4
Weakness of Right upper and lower limb	1	1

Table No.3: Time interval between onset of symptoms to hospitalization.

Duration (hours)	No of Patients	Percentage
≤ 1	2	2
1-6	56	56
7-12	24	24
13-24	09	09
25-48	09	09

Table No.4: Complications other than arrhythmias

Complications	No of cases	Percentage
Left ventricular failure	27	27
Cardiogenic shock	6	6
Congestive cardiac failure	1	1
Pericarditis	2	2
Intracranial hemorrhage	3	3

Table No.5: Circadian periodicity of onset of chest pain/ symptoms

Time of onset of chest pain/Symptoms	No of patients	%age
12 mid night to 4 am	10	10
4am to 8am	28	28
8am to 12noon	14	14
2 noon to 4 pm	10	10
4 pm to 8 pm	22	22
8pm to 12 midnight	06	06

DISCUSSION

There were 82 men (82%) and 18 women (18%) in this study. The ratio of male to female is 4.5: 1. This finding was consistent with Maggioni et al. [8]- - 4.65: 1; Pula et al. [9] - 4.2: 1 and Elizabeth GC [10] - were 5.2:1.

Smoking is the most common risk factor that exists in up to 76 patients (76%) in this study. This figure was based on the findings of Magej et al. [11] which has been reported in 73.3% of patients.

21% of patients are diabetic in this study. This was compared with the study of Bata et al. [12] as a risk factor for 19.09% of patients with diabetes mellitus.

In this study 23% of patients with hypertension were present. This finding is comparable with Kundue et al [13] where 22.55% of patients suffering from hypertension. This study 22 (21%) patients with hypercholesterolemia. This was closely related to the study of Bata et al. [12] reported by Majid et al. [11] that it was present in 21.43% and 21% of patients, respectively. The most common site of infarction in this study was anterior wall Myocardial infarction 66% of patients comparable to the authors Gupta et al. [14] Kundu et al. [13]

In this study, 30% of the incidence of MI in the inferior wall was comparable to that of Witt et al[15] indicating that the incidence was 44% and 33.78%, respectively.

CONCLUSION

Arrhythmias continue to be the most common complication of acute myocardial infarction, particularly during the first 48 hours. Acute myocardial infarction is a serious disease that has to be treated in intensive care unit of coronary heart disease. Death usually occurs with arrhythmia, and is a potentially reversible condition, the earliest treatment that can reduce mortality

Conflict of Interest: The study has no conflict of interest to declare by any author.

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