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CLINICAL PRESENTATION OF MYOCARDIAL INFARCTION AMONG HOSPITALIZED PATIENTS

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ABSTRACT

Objective: To determine the clinical features, characteristics, presentation patterns, and acute MI triggers. **Study Design:** A Case series. Place and duration: In the Cardiology department of Sheikh Zayed Hospital Rahim Yar Khan for Six months duration from March 2019 to September 2019. **Methods:** This study included 1,500 patients admitted for acute myocardial infarction. The acute myocardial infarction diagnosis was based on ECG findings, cardiac enzymes and characteristic clinical after other possible alternative diagnosis exclusion. **Results:** Men were dominant in the study (n = 1080, 72%). The 53 ± 11 years was the mean age at admission. The majority of patients (90%) had typical chest pain and only 10% had atypical symptoms. During the presentation, 81% of the patients had normal examination and only 19% had left ventricular failure (basal crepts, S3 gallop). During the presentation, normal electrographic rhythms were observed in 95% of the patients. **Conclusion:** Most patients with myocardial infarction are male. Smoking is the main risk factor. Most patients showed typical symptoms over a sufficient period of time.

KEYWORDS: AMI, STEMI, NSTEMI, CAD.

INTRODUCTION

Patients with chest pain represent a large and growing portion of all acute medical presentations in the world. Only a minority of applicants have (ACS) acute coronary syndrome.[1] Defining which patients have ACS is a diagnostic challenge. The main ACS pathophysiological mechanism is myocardial decrease perfusion caused by the overlap of the thrombus, caused by tearing or abrasion of atherosclerotic plaques. Electrocardiography (ECG) provides the first classification.[2] Patients are divided into patients without persistent ST-segment elevation and with ST-segment elevation or non-ST segment elevation ACS (NSTEACS). Cardiovascular risk factors (AMI) are increasing in Pakistan.[3] Changeable risk factors include smoking, diabetes, hyperlipidemia, hypertension, obesity, sedentary lifestyle, depression and stress.[4-5] Factors that cannot be changed are male gender, age, family history of (CAD) coronary artery disease, personality type and menopause.[6] New emerging risk factors include high sensitivity C-reactive protein (hsCRP) levels, lipoprotein (a), Homocysteine, D dimers, fibrinogen, myeloperoxidases and interleukin 6.[7-8] There is a definite change in lifestyle along with the increase in wealth and life opportunities, and there is a tendency to grow towards idle habits. Exercise and outdoor activities

seem diminished. In conclusion, cardiovascular diseases such as stroke and myocardial infarction have become the main reason of mortality and morbidity in Pakistan.[9] Dyslipidemias are increasingly recognized as an important contributor to the development of coronary vascular disease (CVD). The Framingham study showed that a 1% increase in total cholesterol resulted in a 2% increase in the incidence of HRA.[10] Our study focused on patients with ST-segment elevation myocardial infarction (NSTEMI) and STsegment elevation (STEMI) myocardial infarction to determine the presentation patterns and risk factors of AMI.

MATERIALS AND METHODS

This case series study was held in the Cardiology department of Sheikh Zayed Hospital Rahim Yar Khan for Six months duration from March 2019 to September 2019. In this study, we obtained 1500 consecutive cases with significant chest pain and significant changes in ECG or a significant increase in serum cardiac enzymes. Based on the definition of myocardial infarction created by the European Society of Cardiology and American College of Cardiology, the diagnosis is considered to be an increase in cardiac troponin I or T or an increase in the percentage of CK-MB above the percentage with at least one of the following; development of pathological

Q waves in ECG, ischemic symptoms, changes in ischemic ECG (ST-segment elevation or depression) or coronary artery intervention.
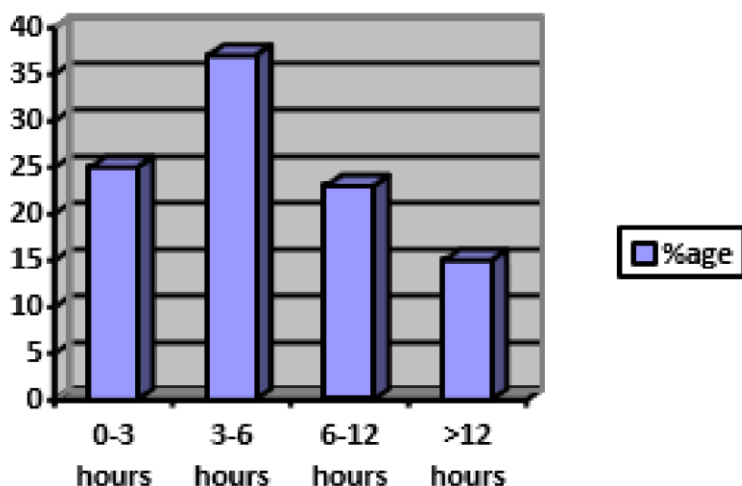
We record demographic data including age, gender, weight, height, and other arguments in a predefined format. Conventional cardiovascular risk factors were observed (smoking-induced hypertension, diabetes mellitus, dyslipidemia, obesity in sedentary lifestyle). Two presentations (typical chest pain, sweating in the epigastric region and atypical pain, neck and shoulder or painless) and the onset of symptoms (0-6, 6-12, 12-24 and> 24 hours) have been clinically documented,

patients also have left ventricle failure (third heart sound (S3), gallop and basal cracks). Infarction zones (anterior, inferior and combination), rhythm changes (atrioventricular sinus block (AV)) are also documented. Data were analyzed using statistical package (SPSS) version 10 for social sciences.
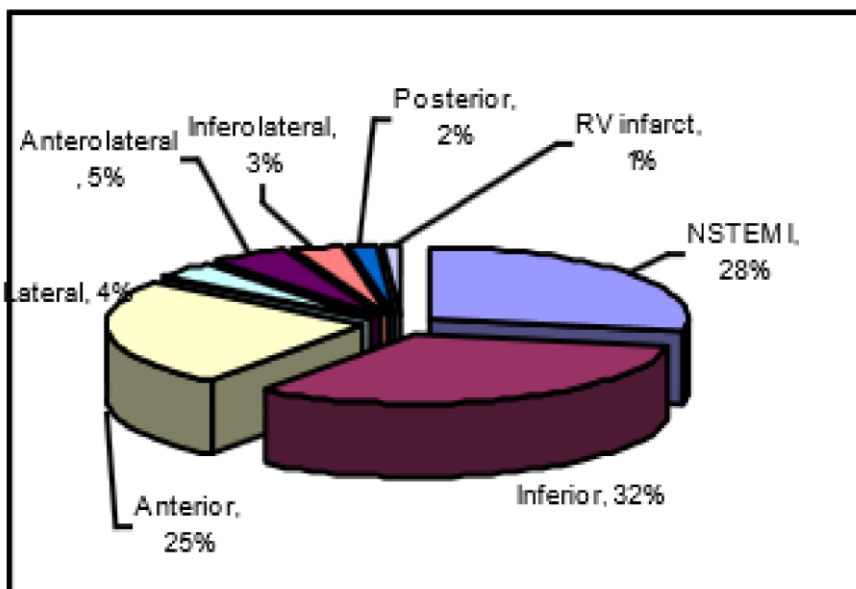
RESULTS
Men were dominant in the study (n = 1080, 72%). The mean age at presentation was 53 ± 11 years. The majority of patients (90%) had typical chest pain and only 10% had atypical symptoms.

Fig.1 Time of presentation after the onset of symptoms

During the presentation, 81% of the patients had a normal examination, and only 19% had left ventricular failure (third heart tone gallop, basal crepes).

Fig.2: Regions of infarction

During the presentation, normal electrographic rhythms were observed in 95% of the patients. Risk factors, family history, presentation time after the first onset of symptoms and infarct area are presented.

Table 1: Risk factors among patients.

Risk factors	Percentage
Smoking	56
Hypertension	53
Diabetes mellitus	42
Dyslipidemias	20
Sedentary life style	30
Obesity	32

Table 2: Risk factors in the family.

Risk factors	Percentage
Hypertension	48
IHD	40
Diabetes mellitus	35
Stroke	07
Dyslipidemias	01
No significant family history	20

DISCUSSION

The relative importance of coronary heart disease varies from one region to another and from one country to another. Although the disease is very common in western populations affecting most adults over the age of 60, it is also increasing in developing countries.[11] Patients with ischemic heart disease are divided into two main groups: patients with chronic coronary disease and patients with acute coronary syndrome (unstable angina and acute myocardial infarction).[12] Due to the distribution of the affected coronary artery, acute MI can produce a wide range of clinical sequelae from a small area of clinically silent necrosis to a large overwhelming tissue that produces cardiogenic shock and death.[13] In our study, various parameters of acute MI presentation were discussed. In our study consistent with Shahid Hafeez et al 2 (78%), there was a clear male superiority (78%), which revealed that it was essentially a male disease. The mean age at presentation was 53 ± 11 years, which was agreed with that reported by Makobol Jafary et al. (52 ± 10.8 years).[14] The most important factors were cigarette smoking (56%), diabetes (42%) and hypertension (53%). In fact, smoking is an important risk factor that can be prevented for a long list of chronic diseases, including coronary vascular disease. The majority of the patients were male Khan et al and Myocardial infarction (94%) of the inferior wall, Ranjith et al.[15]

CONCLUSION

It can be concluded that most of the cases of coronary heart disease (CAD) are male; Smoking, hypertension and diabetes are the main risk factors for CAD, and the inferior wall MI is a very common form of STEMI.

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