Original Research

Assessment Of Cases Of Acute Coronary Syndrome In Patients- A Clinical Study

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ABSTRACT
Background: Acute Coronary Syndrome (ACS) can manifest as sudden cardiac arrest due to ischemia- induced tachyarrythmias. The present study was conducted to assess the cases of acute coronary syndrome in patients. **Materials & Methods:** The present study was conducted in the department of general medicine. It comprised of 112 cases of ACS of both genders. All underwent echocardiography. Types, risk factors and clinical features of ACS were evaluated. **Results:** ST elevation MI was seen in 32 males and 30 females, non ST-elevation MI was seen in 12 males and 6 females and unstable angina was seen in 22 males and 18 females. Common risk factors in patients were smoking seen in 46, dyslipidemia in 32, sedentary lifestyle in 25, hypertension in 22, positive family history of premature IHD in 14, diabetes in 12 and obesity in 7. The difference was significant (P< 0.05). Clinical features in patients were chest pain seen in 62, SOB in 10, diaphoresis in 26 and syncope in 14. **Conclusion:** Common risk factors in patients were smoking, dyslipidemia, sedentary lifestyle, hypertension, positive family history of premature IHD, diabetes and obesity.
Key words: Acute Coronary Syndrome, diabetes, obesity

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INTRODUCTION

The Acute Coronary Syndrome (ACS) can manifest as sudden cardiac arrest due to ischemia- induced tachyarrythmias. ACS, a common complication of coronary heart disease is associated with more than 2.5 million hospitalizations worldwide each year.[1] Worldwide, according to the World Health Organization (WHO) in 2008 approximately 17.3 million people died because of CVD, of which 7.3 millions deaths were due to (CAD) while in The United States it is estimated that every 44 seconds someone will have a myocardial infarction (MI) which in 2010 resulted in 625 000 discharged patients with a diagnosis of acute coronary syndrome (ACS).[2]
The term ACS includes a spectrum of patients who present with chest pain or chest discomfort or other symptoms that may be caused by myocardial ischemia and that are caused by a similar pathophysiology, characterized by fissuring, erosion, or rupture of pre-existing plaque, leading to intravascular thrombosis and impaired myocardial blood supply.[3] The degree to which a coronary artery is occluded typically correlates with presenting symptoms and with variations in cardiac markers and electrocardiographic findings. Angina, or chest pain, continues to be recognized as the classic symptom of ACS. In unstable angina, chest pain normally occurs either at rest or with exertion and results in limited activity.[4] The present study was conducted to assess the cases of acute coronary syndrome in patients.

MATERIALS & METHODS

The present study was conducted in the department of general medicine. It comprised of 112 cases of ACS of both genders. The study protocol was approved from institutional ethical committee. Al subjects were informed regarding the study and written consent was obtained.
General information such as name, age, gender etc. was recorded. All underwent echocardiography. Types, risk factors and clinical features of ACS were evaluated.

Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.
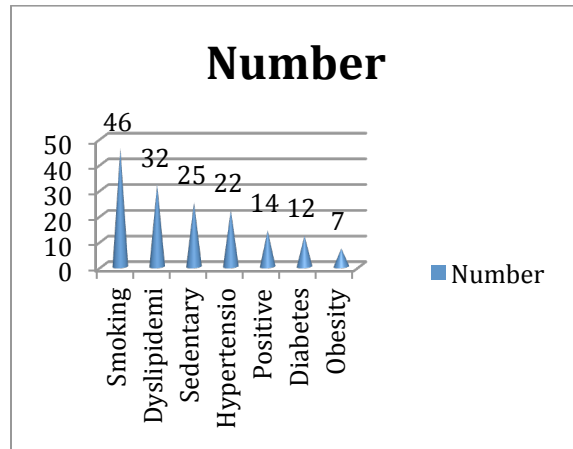
RESULTS

Table 1 Distribution of Patients

Subtype	Male	Female
ST- elevation MI	32	30
Non ST- elevation MI	12	6
Unstable Angina	22	18

Table I shows that ST elevation MI was seen in 32 males and 30 females, non ST-elevation MI was seen in 12 males and 6 females and unstable angina was seen in 22 males and 18 females.

Graph I Risk factor in patients

Graph I shows that common risk factors in patients were smoking seen in 46, dyslipidemia in 32, sedentary lifestyle in 25, hypertension in 22, positive family history of premature IHD in 14, diabetes in 12 and obesity in 7. The difference was significant (P< 0.05).

Table II Clinical features in patients

Symptoms	Number	P value
Chest pain	62	0.05
SOB	10	
Diaphoresis	26	
Syncope	14	

Table II shows that clinical features in patients was chest pain seen in 62, SOB in 10, diaphoresis in 26 and syncope in 14.

DISCUSSION

ACS begins when a disrupted atherosclerotic plaque in a coronary artery stimulates platelet aggregation and thrombus formation. It's the thrombus occluding the vessel that prevents myocardial perfusion. In the past, researchers supposed that the narrowing of the coronary artery in response to thickening plaque was primarily responsible for the decreased blood flow that leads to ischemia, but more recent data suggest that it's the rupture of an unstable, vulnerable plaque with its associated inflammatory changes.[5] The present study was conducted to assess the cases of acute coronary syndrome in patients.

In present study, ST elevation MI was seen in 32 males and 30 females, non ST-elevation MI was seen in 12 males and 6 females and unstable angina was seen in 22 males and 18 females. Goodman et al. (2009)[6] found that 9,557 patients (31%) had STEMI, 9,783 (32%) NSTEMI, and 8,037 (26%) UA.

In present study, common risk factors in patients were smoking, dyslipidemia, sedentary lifestyle, hypertension, positive family history of premature IHD, diabetes and obesity. Gui et al[7] in a prospective study found that male sex (77%) and sedentary lifestyle (73%) were identified as most common risk factors. Other risk factors in order of frequency were dyslipidemia (50%), diet (40%), diabetes mellitus (37%), oral tobacco addiction (37%), hypertension (33%), smoking (30%), alcohol (17%), family history (13%), obesity (13%) and OC pill intake (0%). Most of the patients (83%) had 3 or more risk factors.

We found that symptoms in patients were chest pain seen in 62, SOB in 10, diaphoresis in 26 and syncope in 14. Helmi et al[8] found that 70% of patients had chest pain and 30% had diaphoresis.

Coronary Artery Disease (CAD) is a major cause for morbidity and mortality in the developing countries. Indian populations have been observed to have a more severe CAD that has its onset at younger age with male predominance. Although a number of risk factors have been identified over the past several decades, the precise etiology and mechanisms leading to the development of CAD are not fully understood. These includes abnormal levels of circulating cholesterols with elevated level of LDL-cholesterol and reduced level of HDL-cholesterol, hypertension, cigarette smoking, diabetes mellitus, male gender, post-menopausal state, advanced age, sedentary life style, obesity and a positive family history of premature cardiovascular disease.

ACS epidemiology in India is characterized by premature occurrence in the young and low/middle income group, high mortality and high prevalence of diabetes. The high incidence of IHD in India in younger age group could not always be explained on the basis of prevalent conventional risk factors – particularly the conventional lipid profile. In recent decades there have been important changes in the exposure to risk factors in younger age group for ACS, e.g. the increased prevalence of sedentary lifestyles, obesity, metabolic syndrome and diabetes, and increase in smoking.[9]

CONCLUSION

Authors found that common risk factors in patients were smoking, dyslipidemia, sedentary lifestyle, hypertension, positive family history of premature IHD, diabetes and obesity.

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