

Original Article

CLINICAL PROFILE & RISK FACTORS IN ACUTE CORONARY SYNDROME

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ABSTRACT

Coronary Artery Disease (CAD) is becoming a major cause of morbidity & mortality burden in the developing world. Indians have been associated with a more severe form of CAD that has its onset at a younger age group with a male predominance.

A prospective study was carried out to identify the risk factors and to know the emerging clinical profile in acute coronary syndrome (ACS) including S T elevation & Non S T elevation myocardial infarction. We enrolled 200 consecutive patients with typical ECG changes & clinical history, admitted in emergency department from January 2009 to December 2009. A predefined Performa was completed in every patient with a detailed clinical history, physical examinations, and investigation studies. The clinical history revealed information about age, gender, risk factors, and modes of presentation and duration of symptoms. The details of physical examination including anthropometric data, vital signs and complete systemic evaluation were recorded. The regions of infarction and rhythm disturbances were also documented.

Our study showed a significant male predominance with mean age being 56 years. Tobacco was identified as major risk factors (65%) & obesity (BMI more than 25) is least common risk factor (13%). Patients had typical chest pain (94%) and ECG showed anterior wall changes in 54%. Forty percent patients developed complications, majority being arrhythmias (60%) and least common is mechanical complication (2.5%) Thus we conclude that ACS is more common in adult male with tobacco being major risk factors in our population.

Keywords: Coronary artery disease, young male, tobacco arrhythmia, anterior wall infarction, chest pain

INTRODUCTION

It is predicted that more than half the worldwide cardiovascular disease risk burden will be borne by Indian sub continent in the next decade according to a recent epidemiological studies¹. There is Significant differences in the prevalence of coronary artery disease exist with respect to gender, age and ethnicity. Cardiovascular disease has emerged as a major health burden in developing countries.²

Cardiovascular risk factors for ischemic heart disease and ACS are on the rise in people of Indian origin have a high burden of coronary artery disease and the latter is now the leading cause of death.^{3,4} The purpose of this study is to collect data of patients presenting with ACS in central India.

METHODOLOGY

The study is conducted in Shri Aurobindo Institute of Medical Science Indore, a tertiary care institute & associated with Bhandari group of hospitals. Study is design by taking sample size of 200 consecutive cases of acute coronary syndrome (according to ACC/AHA guideline) during a period of 1 year from January 2009- December 2009. It is a Cross sectional study.

All the patients were examined & interviewed during hospital stay. All the information was filled up in a specially prepared Performa.

RESULT

200 consecutive patients presenting with features of acute coronary syndrome were studied. This patients were predominately male (72%) with male to female ratio being 2.57:1.

Table 1: Age & sex wise Distribution of cases of AMI.

S.No	Age Interval (yrs)	Male (%)	Female (%)
1.	31-40	16 (8)	4 (2)
2.	41-50	34 (17)	8 (4)
3.	51-60	46 (23)	18 (9)
4.	61-70	36 (19)	20 (10)
5.	71-80	10 (5)	6 (3)
Total		142 (72)	56 (28)

The age range is between 31 to 81 yrs and means age is 56 yrs as shown in table 1. The commonest presenting symptom was chest pain (94%), followed by sweating (78%) and breathlessness Table 2.

Tobacco consumption is a major risk factor in our present study (65%), hypertension (33%), diabetes mellitus (16%), family history of coronary artery disease (14%) obesity (13%) and dyslipidimia (12%), Table 3.

Table 2: Distribution of presenting symptoms

SN	Symptoms	No. of patients (%)
1.	Chest pain	188 (94)
2.	Sweating	156 (78)
3.	Breathlessness	134 (67)
4.	Palpitation	116 (58)
5.	Vomiting	86 (43)
6.	Giddiness	76 (38)
7.	Abdominal pain	8 (4)

All other risk factors are modifiable illustrating the enormous potential for prevention of ACS.

Table 3: Distribution of selected risk factors.

SN.	Risk factor	No. of pts. (%)
1.	History of tobacco consumption in any form	130 (65)
2.	History of hypertension	66 (33)
3.	History of diabetes mellitus	32 (16)
4.	Family history of CHD	28 (14)
5.	Obesity	26 (13)
6.	Dyslipidimia	24 (12)

It is observed that maximum number of patients (53%) had anterior wall infarction

Table 4: Distribution of cases according to site of infarction.

SN	Site of infarction on E.C.G.	No. of pts (%)
1.	Anterior wall	108 (54)
2.	Inferior wall	82 (41)
3.	Global (combined) wall	10 (5)
Total		200 (100)

In our study 80 patients (40%) developed complication in form of arrhythmia 48 (60%), cardiac failure 28 (35%) CVA 2 (2.5) and mechanical complication like VSD, MR and PMD in 2 (2.5%).^{4,15} Complication in ACS Patients 80/200 (40%).

Table 5: Distribution of cases according to complication.

SN	Complications	No. of patients (n=80) (%)
1.	Arrhythmias	48 (60)
2.	Cardiac failure	28 (35)
3.	CVA	2 (2.5)
4.	Mechanical complication (VSD, MR, PMD)	2 (2.5)

DISCUSSION

Heart disease is the lethal cause of death more common in adult male & smoking is the major risk factor.

In the present study maximum no. of cases of ACS were in the age group 51 to 60 (32%) the cases were predominately male (23%) suggesting that it is predominately a disease of men.^{5,6}

The present study shows that with increasing age the preponderance of male patients admitted with ACS decreases and sex ratio becomes smaller. This possibly reflexes a higher percentage of female and elderly population and more equal distribution of risk factors for ACS in both genders at high age group.^{7,8}

Our study also showed that anterior wall myocardial infarction as common site of presentation (54%) as seen in Deshpandey J.D. et al.⁹ The clinical presentation of present study showed that chest pain as predominant symptom (94%) followed by sweating (78%) breathlessness (67%).

Other non specific symptoms like abdominal pain giddiness, syncope were observed in higher age group as observed in yang XL et al study.¹⁰ Smoking was the leading risk factors (65%). Male preponderance and smoking being the major risk factor as seen in Yusuf S et al.¹¹

Diabetes alone was a risk factor in 32% and hypertension alone in 33%. Diabetes mellitus is well known to have and adverse influence on the prognosis of patients with ACS as noted in Hasdai D et al study.¹²

In our study 80 patients (40%) developed complication in form of arrhythmia 48 (60%), cardiac failure 28 (35%) CVA 2 (2.5%) and mechanical complication like VSD, MR and PMD in 2 (2.5%).^{13,14,15}

There are several limitation of this study as medium and long term out comes of these patients are not available.

CONCLUSION:-

In spite of the limitations highlighted above, it seems reasonable to draw some conclusion about the emerging profile of the patients presenting with ACS. Amongst the central Indian population most common sufferers of ACS are adult males. Cigarette smoking is the major risk factor. Anterior myocardial infarction is the most common site. The majority of patients presented with typical symptoms of chest pain in a stable haemodynamic status and complication were noted in 40%.

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