Clinical Profile of Acute Coronary Syndrome in Rural Trivandrum

Anil Roby[1]*, TP Abhilash[1],SS Binu1, A Noufal[2]

[1] Sree Gokulam Medical College and Research Foundation, Venjarammoodu, Trivandrum 695607.
[2] A Noufal , Pharmacist, Directorate of Health Services, Kerala, India

Abstract

Objective: To determine the clinical profile of acute coronary syndromes in rural Trivandrum

Method: Retrospective study conducted at Sree Gokulam Medical College and Research Foundation, a teaching hospital in rural Trivandrum.Patients presenting with Acute Coronary Syndrome to the Coronary Care unit of this Hospital from July 2010 to Jan 2012 were included in the study. Patients were divided into ST segment elevation Myocardial Infarction (STEMI) and Non ST Segment elevation Myocardial Infarction/unstable angina (NSTEMI/UA) for the purpose of analysis.

Results: 342 patients were admitted during the study period. 252(74%) were males and 90(26%) were females. 162 patients (47%) had STEMI and 180 patients (53%) had NSTEMI/UA. STEMI cases were reported more among males (52%),while NSTEMI/UA were seen more among females (68%). Hypertension was the major risk factor (54%) followed by Diabetes(50%) and Smoking (47%). Majority of the patients (39%) reached the hospital within 3-6 hours. Chest pain was the major presenting symptom (76%), followed by sweating (66%) and breathlessness (28%). Among STEMI cases, AWMI was more in females (45%) , while IWMI was more in males (45%). PCI was done in 44% of cases with STEMI, while in NSTEMI cases, conservative treatment was done in majority of cases. CABG was done in 3 males and 4 females with NSTEMI and 10 males and 8 females with STEMI. Total mortality was 8 %. Higher mortality rates were observed among females and also among patients with STEMI.

Conclusion: CAD is an emerging epidemic in India. Males are commonly affected, though mortality is seen more among females. Even in rural areas, hypertension, Diabetes and Smoking were found to be major risk factors.

Key Words: Acute coronary syndrome; clinical profile; risk factor; dyslipidemia; anterior wall myocardial infarction;

INTRODUCTION

Cardiovascular disease has been the leading cause of morbidity and mortality worldwide. Acute Coronary Syndromes, which encompasses Unstable Angina (UA),Non ST Elevation Myocardial Infarction (NSTEMI) and ST Elevation Myocardial Infarction (STEMI) are the commonest causes of mortality in patients with Coronary Artery Disease. It is predicted that more than half of the worldwide cardiovascular risk burden will be borne by Indian Subcontinent in the next decade according to a recent epidemiological study.[1] Prevalence of Coronary Artery Disease is high both in Urban(11-13%) and rural (6-7%) areas of Kerala.[2]

Rising incidence of Acute Coronary Syndromes in Indians may be related to the changes in lifestyle, westernization of food practices, the increasing prevalence of Diabetes Mellitus and probably genetic factors. The purpose of this study is to analyse the clinical profile of Acute Coronary Syndromes in rural Kerala.[3]

MATERIALS AND METHODS

A Retrospective study was conducted at Sree Gokulam Medical College and Research Foundation , which is a teaching Hospital in rural Trivandrum. All patients who presented with Acute Coronary Syndrome to the Coronary Care Unit of this Hospital from July 2010 to Jan 2012 were included in the study.

Address for correspondence*

Anil Roby
Associate Professor,
Dept of Medicine,
Sree Gokulam Medical College and Research Foundation,
Venjarammoodu, Trivandrum.

The cases were grouped into two, those who presented with STEMI and those who presented with UNSTEMI/UA for the purpose of analysis. Cases of chest pain with elevation of ST Segment in electrocardiographic(ECG) leads or presumed new onset left bundle branch block were categorized as STEMI. Cases of angina at rest without ST Segment elevation were categorized as NSTEMI if their Trop T levels exceeded 0.1ng/ml and as UA if their Trop T levels were lower.

A detailed clinical history, risk factor for Coronary Artery Disease, clinical course in Hospital, treatment and complications related to ACS were analysed.

RESULTS

In this study we evaluated 342 hospital records during the study period. Of these, 252 (74%) males and 90 (26%) females. Mean age for study population is 62.4+4.8 (Range 30-90) and majority of subjects age range is 60-69 (n=101). Male predominance was seen upto 79 years. Beyond that female predominance was seen. In our study population majority of the subjects are skilled worker (N=90, 26.31%).

On evaluation of the presenting symptoms, it was found that chest pain (76%) was the major presenting symptom. It was followed by sweating (66%) and breathlessness (28%). Vomiting and Abdominal pain was seen in 19% and 7% of patients respectively.(Table 1)

Hypertension was the major risk factor in our study (54%). It was followed by Diabetes Mellitus (50%) and Smoking (47%). Dyslipdemia was also seen as a major risk factor among these patients. Total Cholesterol more than 200 mg% was seen in 67% of patients, HDL less than 40 was seen in 34 %, LDL cholesterol more than 160 in 34 %, and TG more than 160 was seen in 39 % of patients. (Table 2).Most of the patients reached the hospital within

Table 1: Distribution According to Presenting Symptom

PRESENTING SYMPTOM	MALE	FEMALE	TOTAL (%)
Chest pain	201	59	260 (76%)
Sweating	180	45	225 (66%)
Breathlessness	49	48	97 (28%)
Abdominal pain	10	15	25 (7%)
Vomiting	45	20	65 (19%)

Table 2: Risk Factor

RISK FACTORS		MALE	FEMALE
SMOKING		158	3
HYPERTENSION		135	51
DIABETES		119	53
OBESITY(BMI >30)		44	17
FAMILY H/O IHD		22	15
TC	>200	84	29
	<200	168	61
LDL	<130	60	11
	130-160	110	37
	>160	102	42
HDL	<40	112	32
	>40	14	58
TG	<160	112	46
	>160	140	44

Table 3: Types of ACS

TYPE OF ACS	MALE	FEMALE	TOTAL
STEMI	136	26	162
NSTEMI	62	34	96
UA	54	30	84

Table 4: Distribution of STEMI cases

TYPE OF STEMI	MALE	FEMALE
AWMI	43	12
IWMI	61	6
IWMI+RVMI	32	8

patients.

Among the In hospital Complications, LV Dysfunction was seen in 30 patients with STEMI and 25 patients with NSTEMI. Tachyarrythmias like VF/VT, AF were seen in 44 patients with STEMI and 37 patients with NSTEMI. Other complications include MR, CHB, Mobitz type 2 etc. 28 patients (8%) died during hospital stay. Of these, 8 patients had STEMI and 20 patients had NSTEMI. Thus mortality was more with NSTEMI and also more in females compared to males.

DISCUSSION

In our study, the mean age of presentation is 62.4+-4.8 yrs. There was a male preponderance (74%) which was comparable to the Study by Mysriya et al[4]. Women with ACS are generally older with more clustering risk factors than men, and are less likely to present with ST Elevation[5].

Hypertension (54%) and DM (50%) were the major risk factors in our study. The prevalance of HT and DM was higher than reported in the CREATE Registry (37%)[6]. The higher prevalence of HT and DM could be explained by the comparatively higher development and increasing epidemic of CAD in India[7]. The proportion of NSTEMI/UA among ACS cases in our study was slightly higher than observed in CREATE Registry.(53% vs 39.4%). But it is comparable with the study of Mendelxweig et al in the Second Euro Heart Survey among Europeans[8].

35 % of patients with STEMI in our study underwent PCI,

3-6 hours of onset of symptoms. 29% reached before 3 hours and 31% reached 6 hours after the onset of symptoms.

Based on the type of ACS, it was found that NSTEMI/UA cases were more than STEMI cases (53 % vs 47 %). Among males STEMI cases outnumbered NSTEMI cases (54% vs 46%) while in females NSTEMI cases were more compared to STEMI CASES (70% VS 30%). (Table 3) Among STEMI cases, AWMI was 35%, IWMI 45% and IWMI +RVMI was 32% in males, while in females, AWMI was more (45%) followed by IWMI +RVMI (30%) and IWMI (26%). Table 4.

Majority of male patients with STEMI underwent primary angioplasty (44%). In females, majority underwent thrombolysis (36%). 18% of men underwent thrombolysis and remaining were treated conservatively mostly due to late presentation. Among NSTEMI /UA patients, majority were treated conservatively (70% in males and 54% in females).The rest were treated with PCI (22% in males and 29% in females). CABG was done in 25 cases. 7 patients had STEMI, out of which 3 were males and 4 females. 18 patients had NSTEMI out of which 10 were males and 8 were females.

Among the adjuvant therapies, Statins and Clopidrogel were given to all patients. Aspirin was given to98% of patients, Beta Blockers to 89% and Heparin/LMWH was given to 89% of

while 25 % underwent thrombolysis. The remaining 40 % underwent conservative treatment,many of whom presented late.. In UNSTEMI/UA, majority (62%) underwent conservative treatment. Mortality was 8 % which was higher than in CREATE Registry.

CONCLUSION

CAD is an emerging epidemic in India. Males are commonly affected, though mortality is seen more among females. Even in rural areas, hypertension, Diabetes and Smoking were found to be major risk factors.

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