



## **Clinical Profile of Acute Coronary Syndrome**

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### **Authors' contributions**

*This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.*

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## **ABSTRACT**

**Background:** In the developing world, coronary artery disease (CAD) is considered to be a leading source of illness and ultimately death. Indians are nowadays linked to a more dangerous variant of coronary artery disease (CAD) with a lower age of onset and is more common in men.

**Aim:** To analyse the clinical profile of patients with ACS syndrome for the purpose of drawing predominance in demography, metabolic disorders and tobacco use.

**Materials and Methods:** We enrolled 50 patients with characteristic ECG alterations and clinical history who were admitted to the emergency department between January and August 2021 in a prospective research at Saveetha Medical College and Hospital. Every patient had a predetermined Performa filled out, which included a full clinical history and investigation procedures. The clinical history disclosed details regarding the patient's age, gender, and risk factors.

**Results:** On analysis, results were conclusive of male predominance probably accentuated by tobacco use, alcohol consumption and other metabolic disorders.

**Conclusion:** With prevalence of risk factors on rise, younger individuals are also affected. Proper risk factor management will help in preventing Acute coronary syndrome.

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### 1. INTRODUCTION

Acute coronary syndrome refers to a pathology due to acute, decreased blood distribution to the cardiac muscles. Pathological occlusion may be acute or chronic. The heart requires steady blood supply for its efficient functioning. As a result any deviation from supply due to any clot or other occlusive disorders can lead to infarction of the cardiac muscles.

Acute coronary syndrome is a broadly used term for 3 variants of heart disorders:

- Unstable angina.
- Non-ST-segment elevation myocardial infarction.
- ST-segment elevation myocardial infarction.

According to recent epidemiological studies, the Indian subcontinent is expected to bear more than half of the global cardiovascular disease risk load in the next decade [1]. There is in terms of gender, age, and ethnicity, there are significant disparities in the prevalence of coronary artery disease. In emerging countries, cardiovascular risk has become a serious health concern [2].

### 2. AIMS AND OBJECTIVES

- To assess the demographic characteristics like age and gender distribution of stroke.
- To analyze the site of lesion.
- To assess the incidence of other co-morbid conditions and risk factors.
- To assess the duration of hospitalisation and in-hospital mortality rate.

### 3. METHODOLOGY

The clinical study was conducted in Saveetha Institute of Medical and Technical Sciences,

Chennai. The study took 50 consecutive instances of acute coronary syndrome [3-4] throughout the course of seven months, from January to August 2021. It is a cross-sectional research.

During their stay in the hospital, all of the patients were evaluated and interviewed.

#### 3.1 Inclusion Criteria

- Patients presenting to emergency department with ACS.

#### 3.2 Exclusion Criteria

- Patients less than 18 years of age and who are unwilling to take part in the study
- Patient who gets discharged against medical advice before the advised duration of hospitalisation.

### 4. RESULTS

**Table 1. Out of the 50 patients who came with ACS clinical features, majority were males. The male to female ratio was found to be 4:1**

<b>Male</b>	30	60%
<b>Female</b>	20	40%

**Table 2. The age limits for the study was set at 31-81 years as depicted in the table. On further analysis the mean age of presentation was found to be 56 years**

<b>31-40 years</b>	2	4%
<b>41-50 years</b>	7	14%
<b>51-60 years</b>	31	62%
<b>61-70 years</b>	10	20%

**Table 3. Majority of the patients presented with symptoms of chest pain (92%) in our study. This was followed by complaints of breathless (40%), arm pain (16%), jaw pain (10%). In our study none of the patients came with complaints of syncope**

<b>Presenting complaint</b>	<b>Number</b>	<b>Percentage</b>
Chest pain	46	92%
Breathlessness	20	40%
Arm pain	8	16%
Jaw pain	5	10%
Syncope	0	0

**Table 4. Out of all the risk factors, tobacco use was found to be the leading cause ahead of hypertension, diabetes. Interestingly in our study one patient presented without history of any risk factors**

Risk factors	Number	Percentage
Tobacco consumption	30	60%
Hypertension	17	34%
Diabetes mellitus	14	28%
Obesity	6	12%
Family history	10	20%
Absent risk factors	1	2%

**Table 5. In our study anterior wall infarction (58%) was predominant followed by posterior wall infarction (30%)**

S. no	Site of infarction	No of patients	Percentage
1	Anterior wall	29	58%
2	Posterior wall	15	30%
3	Global	6	12%

**Table 6. In our study, Anti platelet drugs were given to 56%. This was followed by thrombolytics (44%)**

S. no	Treatment	Number	Percentage
1	Aspirin	28	56%
2	Clopidogrel	22	44%
3	PCI	18	36%
4	CABG	2	4%

## 5. DISCUSSION

Coronary artery disease is a major reason for death, predominately in the male demography with smoking being the cause in most cases.

The majority of ACS patients (62%) in this study were in the age category 51 to 60, and the sex demographic were mostly males (60%) showing that it is primarily a male condition [5-6].

The current study found that when patients' ages increase, the proportion of male predominance of ACS drops and the male to female ratio shrinks. This could be due to a higher percentage of females and the elderly in the population, as well as a more equal dissemination of ACS causative agent in either sex in the older age range [7-8].

In Our study, the anterior wall was the predominant area of involvement (58%) which is in line with the study carried out by Deshpandey J.D. et al. [9] Chest pain (92%) was found to be the commonest presenting feature. Syncope was found to be extremely rare.

Reperfusion therapy was given to majority of the patients which is higher related to the study carried out by Mohannan et al. [10].

Minor symptoms like abdominal discomfort, syncope were found to be in older age groups as seen in yang XL et al study [11]. Tobacco consumption being the predominant causative agent (60%). Higher incidence in Male demographic with tobacco consumption being the major risk factor as observed in Yusuf S et al. [12].

Diabetes mellitus was a leading factor in 28% of the cases and hypertension was a leading factor in 34% of the cases which was consistent with the studies carried out by Hasdai D et al study [13].

## 6. CONCLUSION

Adult males presenting with chest pain are the most predominantly affected in the Indian population with tobacco consumption being the biggest risk factor.

## CONSENT AND ETHICAL APPROVAL

As per international standard or university standard guideline participant consent and ethical approval has been collected and preserved by the authors.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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