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ORIGINAL RESEARCH

Demographic profile of patients presenting with acute coronary syndrome in a tertiary care centre during covid era –A prospective study

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Abstract
Background: Cardiovascular disease is the leading cause of death in India. Our aim is to study the demographic profile presenting with acute coronary syndrome in a tertiary care hospital in Jammu division of Jammu and Kashmir
Methods: We did a prospective single center observational study of the 200 patients presenting with
ACS to a tertiary referral center in Jammu over a period of one year (November 2020 till October 2021).**Results**: the mean age presenting with acute coronary syndrome was 59 years ±11.6 years. It was about 57 years ± 11.28 years among males and 62 years ±11.9 years among females. 54.5 % of patients were in the age group of 40-60 years, 40.5% of patients aged greater than 60 years and 5% of patients were in younger age group of less than 40 year. 141 patients were males forming 70.5% of total study population whereas females formed 29.5% (59) of the population study. 89 (44.5%) of the enrolled patients were from Jammu .23 (11.5%) patients were from Poonch, 27 patients (13.5%) from Rajouri, 13 (6.5%) patients were from Doda, 10(5%) patients from Kathua. Rest of the patients were from Ramban (1.5%), Reasi (3.5%), Samba (4.5%), Udhampur (3.5%) and Kishtwar (3.5%).5(2.5%) patients were from outer states who either worked here or had been travelers.
Conclusion: In our study, majority of the patients were males and mostly presented in the general average age group as conducted in most of the other studies. About 5% of patients were in younger age group of less than 40 year. Further 53% of patients enrolled were referred from other hospitals.
Keywords: Cardiovascular, Disease, Acute Coronary Syndrome, demography

Introduction

Coronary artery disease (CAD) represents an important form of cardiovascular disease (CVD) which has turned into an emerging epidemic in developing countries[1].
Acute coronary syndrome (ACS) is often the first presentation and serious acute life-threatening clinical manifestation of CAD. The clinical presentation of acute coronary syndromes (ACS) is broad. It ranges from cardiac arrest, electrical or haemodynamic instability with cardiogenic shock (CS) due to ongoing ischaemia or mechanical

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complications such as in severe mitral regurgitation, to pain free interval at the time of presentation.[2]

Based on the ECG, patients can be grouped as:

1. Patients with acute chest pain and persistent (>20 min) ST-segment elevation.
2. Patients with acute chest discomfort but no persistent ST-segment elevation [non-ST-segment elevation ACS (NSTEACS)] exhibit ECG changes that may include transient ST-segment elevation, persistent or transient ST-segment depression, T-wave inversion, flat T waves, or pseudo normalization of T waves; or the ECG may be normal.

It is a remarkable cardiac issue accounting for disability both in men and women resulting in high personal, clinical, and financial burdens.[3]These burdens are not constrained to the rich or the elderly, with affecting even the poor nowadays; it has been observed in young age groups more frequently; thus ACS requires timely risk detection, prompt diagnosis, and early care.[4] There are very few studies describing the ACS profile in the population of Jammu. The objective of this study was to analyse the demographic profile of patients of Jammu division of Jammu and Kashmir state with ACS.

Methods

This was a prospective observational study conducted in Government Medical Collage Jammu & Associated hospital for one year during covid era from November 2020 till October 2021.Patients more than 18 years of age and diagnosed with acute coronary syndrome were included in the study while patients less than 18 years of age, history of heart failure/ischemic heart disease, patients unwilling to participate in the study, patients diagnosed with pulmonary embolism, acute pericarditis, myocarditis, patients oncardiotoxic chemotherapeutic agents e.g. anthracycline, cyclophosphamide, paclitaxel and patients not fulfilling the diagnostic criteria of acute coronary syndrome were excluded from the study. Data collection was done in two phases – in hospital and 30- day telephonic/opd follow-up. The in-hospital survey was performed when the patient presented with ACS for the first time. The post discharge survey was done on 30th day either telephonically or on OPD basis

Results

Table 1: Age wise frequency distribution of patients presenting with acute coronary syndrome

Age group (years)	Cases	Percentage (%)
<40	10	5
40-60	109	54.5
>60	81	40.5

In the study conducted the mean age presenting with acute coronary syndrome was 59 years ±11.6 years. It was about 57 years ± 11.28 years among males and 62 years ±11.9 years among females. 54.5 % of patients were in the age group of 40-60 years, 40.5% of patients aged greater than 60 years and 5% of patients were in younger age group of less than 40 year

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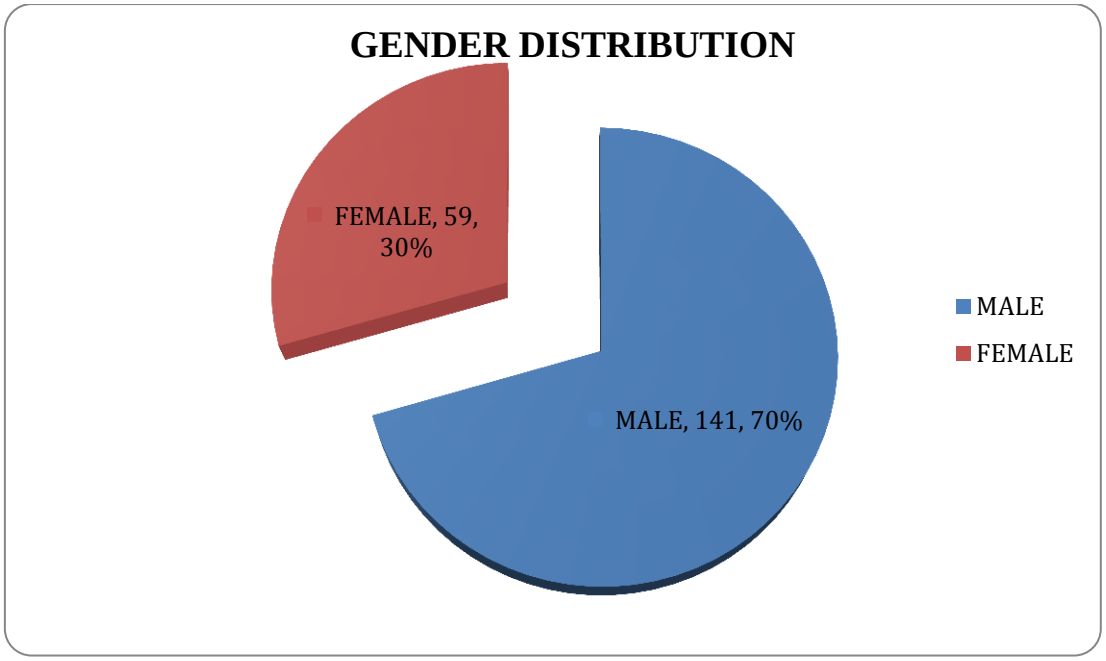

Figure2: Pie chart depicting gender wise distribution of patients presenting with acute coronary syndrome.

In the study conducted 141 patients were found to be males forming 70.5% of total study population whereas females formed 29.5% (59) of the population study.

Table 3: District Wise distribution of patients presenting with acute coronary syndrome

District	No.cases	Percentage
JAMMU	89	44.5
RAMBAN	3	1.5
POONCH	23	11.5
KATHUA	10	5
REASI	7	3.5
SAMBA	9	4.5
UDHAMPUR	7	3.5
RAJOURI	27	13.5
DODA	13	6.5
KISHTWAR	7	3.5
OTHERS	5	2.5

In our study, 89 (44.5%) of the enrolled patients were from Jammu .23 (11.5%) patients were from Poonch, 27 patients (13.5%) from Rajouri, 13 (6.5%) patients were from Doda, 10(5%) patients from Kathua. Rest of the patients were from Ramban (1.5%), Reasi (3.5%), Samba (4.5%), Udhampur (3.5%) and Kishtwar (3.5%). 5(2.5%) patients were from outer states who either worked here or had been travelers.

Discussion

In our study, males constituted 70.5% of the study population and females constituted 29.5%. This predominance of male gender reflected in our study is in agreement with the results of the study by Sharma Y P, *et al* 2021[5] (74.6% Males, 25.4% Females). Many other studies from Asia concur with our results e.g. as in the study conducted by Ralapanawa, *et al* 2019[6] in which the sex ratio between male and female was 2:1.

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A possible explanation for this gender predisposition could be higher prevalence of risk factors like smoking in men than in women and also the protective effects of estrogen in premenopausal women. This has been explained in the study conducted by A. Haider *et al*. 2020[7]. As the population ages, particularly with women progressing into the postmenopausal state and also with the increase in the prevalence of lifestyle associated risk factors, the incidence of MI in women would be comparable to that of men as concluded by Millett ERC, *et al* 2018.[8]

Most of our patients were in the age group of 40 to 60 years (109; 54.5%) with only 10 (5%) patients in < 40 years age group and 81 (40.5%) patients in more than 60 years age group. The young age group of less than 40 years contributed 5% of our total study subjects which was much lower than that reported by Sharma Y P, et al 2021[9], (8.2%), and Kadam VK 2019[10], (11%). The lesser number of patients reported in the younger age group in our study are possibly due to ethnic differences and also majority of our patients being from a rural background have physically active lifestyles with lesser reach of modern life risk factors and last but not the least, less healthcare awareness. More so, these studies were conducted with a relatively larger sample size. Also Sharma YP et al[9] conducted their study in an institute which caters to referrals from multiple states. The mean age of the subjects in our study was 59 ± 11.6 years which is comparable to that reported in most of the Indian studies. While Sharma Y P, et al 2021[9], in their study reported mean age as 58.14 (±12.5) years, Negi PC et al 2019[11] reported it as 59.9 years and Sharma R et al 2014(13) reported it as 54.71 ± 19.90 years. Other ACS registries in the country also have comparable results - CREATE 2001-2005 (57.5yrs), KERALA ACS 2007 - 2009 (60.4 yrs), DEMAT 2007 - 2008 (59.2yrs), Negi PC et al 2019[11] (60.9yrs), Sharma Y P, et al 2021[9] (58.44yrs). The percentage of females also increased as they age from 20% to 34.5% due to the loss of protective effect from estrogen.

In our study, 89 (44.5%) of the enrolled patients were from Jammu district itself and rest of the patients were referred from peripheral district hospitals due to lack of optimum cardiology services there. Other referral patients, (106; 53%) were from Ramban (3; 1.5%), Udhampur (7; 3.5%), Reasi (7; 3.5%), Rajouri (27; 13.5%), Poonch (23; 11.5%), Samba (9; 4.5%), Kathua (10; 5%), Doda (13; 6.5%) and Kishtwar (7; 3.5%). 2.5% of the study population (5 patients), belonged to other states and most of these were yatris/tourists/travellers.

Conclusion

In our study we observed that most of the patients presenting with symptoms of the acute coronary syndrome were of younger population compared to the western counterparts. Majority of the patients were males and mostly presented in the general average age group as conducted in most of the other studies. About 5% of patients were in younger age group of less than 40 year. Further 53% of patients enrolled were referred from other hospitals.

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