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ACS AND ITS IN-HOSPITAL OUTCOMES

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ABSTRACT

Objective: To determine the frequency of in-hospital outcomes in cases admitted for acute coronary syndrome (ACS). **Methodology:** This was a descriptive case series study carried out at Cardiology Department Holy Family Hospital, Rawalpindi during January 2018 to June 2018. The cases of ACS were selected via non-probability consecutive sampling irrespective of their gender and with age more than 30 years. These cases were then followed to look for the present of cardiogenic shock, heart failure, recurrent infarction, arrhythmias and death according to standard American heart association (AHA) guidelines. **Results:** In this study there were total 100 cases admitted for ACS and out of these 65% were males and 35% females. The mean age of the cases was 61.39±8.24 years. Over all complications were seen in 42% of the cases. The most common in-hospital complication was seen as arrhythmias which was observed in 39% of the cases. It was followed by heart failure seen in 19% cases. recurrent infarction and cardiogenic shock was seen in 4% cases each while death in 3% of cases. **Conclusion:** Complications are common during hospital stay in ACS patients and arrhythmias are the most common one.

KEYWORDS: ACS, Outcome, Arrhythmias.

INTRODUCTION

Acute coronary syndrome covers a wide spectrum of clinical, pathological and electrophysiological changes and can be a fatal cardiac entity. It comprises a significant burden out of the 6 million cases that present with the complaint of chest pains in the emergency departments.[1] it can be divided into two major types i.e. myocardial infarction (MI) and Angina Pectoris (AP) where the latter had normal cardiac enzymes.[2-3]

It is diagnosed on the basis of ECG changes and cardiac enzymes like Troponin T, I and CK-MB. There are different risk factors that not only lead to its development but also have impact on its poor outcome and include hypertension (HTN), smoking, Diabetes Mellitus (DM). dyslipidaemias and family history of ischemic heart disease.

The most common complication seen in cases of ACS include arrhythmias, heart blocks, cardiac arrest, hypotension, cardiac rupture, mechanical defects, respiratory failure, recurrent infarcts and mortality etc.[4,5,6] Multiple studies have been done in the past to reveal this and Kunadian V et al found that recurrent ischemia was seen in 6.6%, major bleeding in 7.3% and increased likelihood of mortality in 4% of the cases as compared to Greenberg G et where they found mortality in 7.3% of anemic cases.[7-8] According to a study done

by Sulaiman K et al, the in hospital complications in anemic cases were seen as congestive heart failure in 20%, recurrent ischemia 20%, cardiogenic shock 9.4%, and in hospital mortality of 8.17% in their study.[9]

OBJECTIVE

To determine the frequency of in-hospital outcomes in cases admitted for acute coronary syndrome (ACS).

METHODOLOGY

This was a descriptive case series study carried out at Cardiology Department, Holy Family Hospital, Rawalpindi during January 2018 to June 2018. The cases of ACS were selected via non-probability consecutive sampling irrespective of their gender and with age more than 30 years. ACS was labelled on the basis of signs and symptoms of chest pain with ECG changes of T wave inversion or ST segment elevation or depression and raised cardiac enzymes in MI and normal in Angina pectoris. These cases were then followed to look for the present of cardiogenic shock, heart failure, recurrent infarction, arrhythmias and death according to standard American heart association (AHA) guidelines.

Statistical analysis

The data was processed by SPSS-23. The numerical data was presented as mean and standard deviation while categorical data as frequencies and percentages.

RESULTS

In this study there were total 100 cases admitted for ACS and out of these 65% were males and 35% females. The mean age of the cases was 61.39±8.24 years (Table I). Over all complications were seen in 42% of the cases. The most common in-hospital complication was seen as arrhythmias which was observed in 39% of the cases. It was followed by heart failure seen in 19% cases. recurrent infarction and cardiogenic shock was seen in 4% cases each while death in 3% of cases as in table II.

Table I: Demographics of study subjects.

	Mean	Range
Age	61.39±8.24	30-80 years
BMI	32.11±5.35	23-40
Duration of ACS	21.11±7.78	0.5-24 hours

Table II: In-hospital outcomes in ACS.

Outcomes	N	%
Arrhythmia	39	39%
Heart failure	19	19%
Recurrent infarction	4	
Cardiogenic shock	4	4%
Death	3	3%

DISCUSSION

Acute coronary syndrome is a fatal cardiac disease that can results in various complications that can be dreadful. The major risk factors include smoking, DM, HTN, dyslipidemia and family history of ischemic heart disease. In hospital majority of these complications are observed especially within first 24 hours.

In the present study over all complications were seen in 42% of the cases. The most common in-hospital complication was seen as arrhythmias which was observed in 39% of the cases. The results of the present study were in line to the majority of the studies done in the past and it was seen that almost half of the cases admitted for ACS usually have some kind of complication associated wit this. Maggioni AP et al conducted a similar study and it was seen that in their study arrhythmias were observed in the highest number of cases and was observed in 41% of the cases admitted with ACS. Amongst these different arrhythmias, premature ventricular contractions (PVCs) were the most common type observed.[10]

It was followed by heart failure seen in 19% cases, recurrent infarction and cardiogenic shock was seen in 4% cases each while death in 3% of cases.

This was also supported by the studies done across the globe regarding this context and heart failure was the second most common type of complications see in cases of ACS.[11-12] In a study from Pakistan by Sulaiman K et al cardiogenic shock was seen in 9.4%; slightly higher as compared to 4% of the cases in the present study.[9] The death rate was closer to the results of the past studies which was less than 5% in almost all of the studies and was 3% in the present study.[13-14]

CONCLUSION

Complications are common during hospital stay in ACS patients and arrhythmias are the most common one.

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