Research Article

In Hospital Outcomes after Acute Coronary Syndrome

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ABSTRACT

Objective; To determine the frequency of in-hospital outcomes after acute coronary syndrome.

Methodology; In this descriptive cases series study that was conducted at Department of Cardiology, Services Hospital Lahore during July to December 2017 the cases of both gender with age range 30 to 70 years were included. Acute coronary syndrome was labelled that had classical central chest pain and ECG changes in the form of ST depression, elevation or T wave inversion. There were assessed to look for standard definition of complications till discharge according to American heart association (AHA) guidelines in the form of arrhythmia, recurrent infarction, cardiogenic shock, mechanical defects i.e. VSD (ventricular septal defect)/ MR (mitral regurgitation), or death.

Results; In this study 100 cases of ACS were enrolled. The mean age of the including cases was 57.21±10.43 years. Out of these 100 cases, 61 (61%) were males and 39 (39%) females. Regarding different in-hospital outcomes, arrhythmia was the most common, seen in 38 (38%) of the cases. This was followed by cardiogenic shock 10 (10%) and recurrent infarction in 4 (4%) of cases. Only one case of mechanical defect was seen which was VSD. In-hospital mortality due to ACS was seen in 3 (3%) of cases.

Conclusion; Acute coronary syndrome can affect in various ways and the most common outcome seen after its development is cardiac arrhythmia.

Keywords; Acute coronary syndrome, in-hospital outcomes

INTRODUCTION

Cardiac diseases especially ischemic heart disease is one of the leading causes of death in both the developed as well as the developing countries. This is due to increase in various modifiable and non modifiable risk factors. Acute coronary syndrome is a set of clinical spectrum of chest pain, electrocardiogram changes with or without rise in cardiac enzymes like angina pectoris or myocardial infarction.[1-3]

The major risk factors that have shown strong correlation with this disease are male gender, Diabetes Mellitus (DM), deranged lipid profiles, Hypertension (HTN), hyper uricemia and family history. The risk of developing any complication is the 2nd major concern after management in cases of Acute coronary syndrome. ACS can end up in wide range of complications, comprising recurrent infarction, arrhythmias, heart blocks, cardiogenic shock, cardiac arrest, mechanical defects, and mortality etc. [4-6]

Kunadian V et al in their study observed these hospital outcomes specially in cases with or without anaemia and they observed that the cases with anaemia had more in hospital complications as compared to non anemics. They observed that ischemia was seen in 6.6%, bleeding in 7.3% and increased likelihood of mortality specially in cases of anaemia. In another study by Greenberg et al they found high degree of re-infarction i.e. 7.7%, and mortality in 7.3% of cases in their study.[7-8]

While Sulaiman et al conducted a similar study and they found that congestive heart failure was observed in 20%, recurrent infarct in 20%, shock in 9.4%, and mortality during in-hospital stay was observed in 8.17% cases in their study.[9]

OBJECTIVE:

To determine the frequency of in-hospital outcomes after acute coronary syndrome.

METHODOLOGY:

Study settings; Case series study.

Study site; Department of Cardiology, Services Hospital, Lahore

Study time; July 2017 to December 2017

Sampling technique; Non probability-consecutive sampling

In this descriptive cases series study the cases of both gender with age range 30 to 70 years were included. Acute coronary syndrome was labelled that had classical central chest pain and ECG changes in the form of ST depression, elevation or T wave inversion. There were assessed to look for standard definition of complications till discharge according to American heart association (AHA) guidelines in the form of arrhythmia, recurrent infarction, cardiogenic shock, mechanical defects i.e. VSD (ventricular septal defect)/ MR (mitral regurgitation), or death.

Statistical analysis;

The data was entered and assessed by SPSS version 23. The qualitative variables were presented in terms of frequency and percentages while quantitative data as mean and standard deviation.

RESULTS;

In this study 100 cases of ACS were enrolled. The mean age of the including cases was 57.21 ± 10.43 years as shown in table 01. Out of these 100 cases, 61 (61%) were males and 39 (39%) females. Regarding different in-hospital outcomes, arrhythmia was the most common, seen in 38 (38%) of the cases. This was followed by cardiogenic shock 10 (10%) and recurrent infarction in 4 (4%) of cases. Only one case of mechanical defect was seen which was VSD. In-hospital mortality due to ACS was seen in 3 (3%) of cases (table 02).

Table No 01. Demographics of study subjects

	Mean	**Range**
Age (years)	57.21 ± 10.43	30-70
Weight (kg)	78.32 ± 11.48	53-113
Duration of chest pain (mints)	97.29 ± 8.28	10-160

Table No 02. In hospital outcome in study subjects

In-Hospital Outcomes	**Number**	**Percentage**
Arrhythmia	38	38%
Cardiogenic shock	10	10%
Recurrent infarction	4	4%
Mechanical defect	1	1%
Mortality	3	3%

DISCUSSION;

Acute coronary syndrome (ACS) is called as fatal disease due to the association of various complications to it that can happen in the initial phases of the disease especially during the initial hospital stay. Various studies have been conducted in the past to look for these and arrhythmias are thought to be the most prevalent and most fatal in such cases. The risk of complication is high especially within first 24 hours of hospital stay.

In this study different complications are outcome were seen in cases of ACS and majority had overlapping each other. However, the arrhythmias were the most well studied and observed complication in the present study which were observed in 38 (38%) out of 100 cases. This finding was similar to many studies in the past where they observed this as the most

in-hospital complication among cases of ACS irrespective of its type in the form of premature ventricular contractions, atrial fibrillation, heart blocks, supraventricular tachycardia, ventricular tachycardia etc. Maggioni et al, in their study found arrhythmias in 43% of the cases and amongst them PVCs were the most prevalent arrythmia.[10] While in another study by Meroño O et al this was seen in 32% of the cases.[5] As the each cell of myocardium has the potential to generate an electrical activity; hence in the earlier phase arrhythmias were the most commonly seen due to electrical current generation from various sites due to ischemic myocardium.

Cardiogenic shock was the second most common outcome seen during hospital stay which was seen in 10 (10%) of the cases. The prevalence of cardiogenic shock varies between 9 to 21% of the cases in previous studies. Further more in a study by Sulaiman et al cardiogenic shock was seen in 9.4% of the cases.[9] The mortality in the present study was seen in 3 (3%) of cases. The results of the present study were comparable to the other studies where this was seen in 2% and 6% respectively.[13-14]

CONCLUSION;

Acute coronary syndrome can affect in various ways and the most common outcome seen after its development is cardiac arrhythmia.

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