VOLUME-9, ISSUE-2, FEBRUARY-2020 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

General Medicine

A STUDY OF INCIDENCE OF ARRHYTHMIAS IN MYOCARDIAL INFARCTION IN A TERTIARY CARE HOSPITAL

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ABSTRACT Myocardial infarction is defined by the demonstration of myocardial cell necrosis due to significant and sustained ischemia. Cardiac arrhythmias routinely manifest during or following an acute coronary syndrome. Although the incidence of arrhythmia is directly related to the type of ACS the patient is experiencing, the clinician needs to be cautious with all patients in these categories for example, nearly 90% of patients who experience acute myocardial infarction (AMI) develop some cardiac abnormality and 25% have a cardiac conduction disturbance within 24 hrs of infarct onset

KEYWORDS : Myocardial Infarction ,arrhythmia

INTRODUCTION

Cardiovascular diseases (CVDs) have now become the leading cause of mortality in India. A quarter of all mortality is attributable to CVD. Ischemic heart disease and stroke are the predominant causes and are responsible for >80% of CVD deaths. The Global Burden of Disease study estimate of age-standardized CVD death rate of 272 per 100 000 population in India is higher than the global average of 235 per 100 000 population. Some aspects of the CVD epidemic in India are particular causes of concern, including its accelerated buildup, the early age of disease onset in the population, and the high case fatality rate. In India, the epidemiological transition from predominantly infectious disease conditions to noncommunicable diseases has occurred over a rather brief period of time.

Cardiac arrhythmias routinely manifest during or following an acute coronary syndrome. Although the incidence of arrhythmia is directly

related to the type of ACS the patient is experiencing, the clinician needs to be cautious with all patients in these categories for example, nearly 90% of patients who experience acute myocardial infarction (AMI) develop some cardiac abnormality and 25% have a cardiac conduction disturbance within 24 hrs of infarct onset.[1]

Arrhythmias often complicate AMI, that it is debatable, whether to consider them under complications or under the clinical spectrum of AMI. The nature, frequency, as well as timing of the arrhythmias are important factors in deciding the life expectancy and mortality of the patient.[2]

CASE STUDY

The study will be carried out in the emergency room, as well as the intensive coronary care unit (ICCU) and the cardiology ward of D.Y. Patil Hospital, Navi Mumbai, India. It will be a prospective observational study that will continue through the months of December 2017 to December 2018 (12 months) with a sample size of 100.

INCLUSION CRITERIA:

Patients within the ages of 18 who satisfy the who definition for the diagnosis of myocardial infarction will be included in this study:
The diagnosis is made upon the presence of the following three criteria:

- A clinical history of ischemic type of chest discomfort.
- Changes in serially obtained electrocardiographic tracings (new st – t changes, presence of pathologic q wave, new left bundle branch block [lllb])
- A fall/ rise in serum cardiac markers.

EXCLUSION CRITERIA:

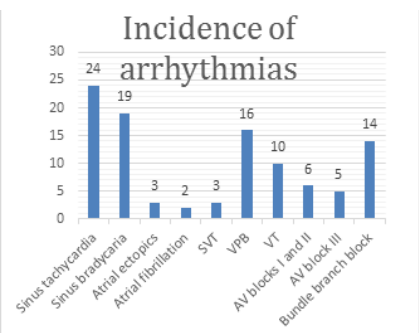
- Patients below the age of 18
- Gravid females.
- Patients with recurrent myocardial infarction
- Patients with valvular heart disease.
- Patient with history of arrhythmia

RESULTS

Table No. 1- Incidence of arrhythmias

Types	No. of cases	Percentage
Sinus tachycardia	24	24
Sinus bradycardia	19	19
Atrial ectopics	3	3
Atrial fibrillation	2	2
SVT	3	3
VPB	16	16
Ventricular tachycardia	10	10
AV Blocks I and II	6	6
AV block III	5	5
Bundle branch block	14	14

Table 1: shows incidence of various types of arrhythmias in AMI. Many of the cases presented with more than one type of arrhythmia. Ventricular arrhythmias were present in a total of 26 % of patients of which 10% had VT and 16% had VPBs. Sinus tachycardia was present in 24% and sinus bradycardia in 19%. SVT was present in 3%, AF in 2% and atrial ectopic in 3%. Bundle branch block was seen in 14 %, complete heart block in 5% and AV blocks (I and II) in 6% of patients



CONCLUSIONS:

Cardiac arrhythmias routinely manifest during or following ACS. Early recognition and management of post myocardial infarction arrhythmias can significantly modify the morbidity and mortality in myocardial infarction.

As for incidence of various types of arrhythmias in AMI, many of the cases presented with more than one type of arrhythmia. Ventricular arrhythmias were present in a total of 26% of patients, out of which 10% had VT and 16% had VPBs.

Sinus tachycardia was present in 24% and sinus bradycardia in 19%. SVT was present in 3%, AF in 2% and atrial ectopic in 3%. [3,4]

Bundle branch block was seen in 14%, complete heart block in 5% and AV blocks (I and II) in 6% of patients.

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