

## FIRST YEAR MORTALITY AND MORBIDITY AFTER AMI IN PESHAWAR

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*Two hundred and ten patients with acute myocardial infarction (AMI) were studied for mortality and morbidity in a tertiary hospital setting.*

*Out of these, 117(56%) had anterior MI, 73(35%) had inferior MI, 12(6%) had non Q- wave MI, 8(4%) had lateral MI and 6(3%) had both interior and inferior MI. 134(64%;) received thrombolytic therapy. 37(18%) were diabetic and 33(16%) were hypertensive. 163(78%) could be followed for one year. The total first year mortality was 48(23%). The in- hospital mortality after AMI was 29(14%).*

*Among those alive at the end of first year 90(71%) were in NYHA functional class I 28(22%); in class II. 6(14%) in class III and 3(2%) in class IV.*

### INTRODUCTION

Acute myocardial infarction (AMI) is a clinical syndrome that results from an injury to myocardial tissue caused by an imbalance between myocardial oxygen supply and demand. Since it is a leading cause of human morbidity and mortality all over the world, this study was planned to see its morbidity and mortality in our community.

### MATERIALS AND METHODS

210 patients with AMI admitted in Cardiac Care Unit (PGMI. LRH) were randomly selected during October 1993 to October 1994. Diagnosis of AMI was made when at least two of the following were present:

1. Typical chest pain of at least 45 minutes in duration.
2. ECG evidence of AMI.

Increase in cardiac enzymes levels to twice the upper limit of normal.

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All the patients were kept in CCU for at least the first 24 hours and ECGs were monitored. Thrombolytic therapy was given if the patient was received within twelve hours of onset of chest pain and there was no obvious contraindication to it.

Morphine was used according to need. Routinely, nitrates and dispirin were given to all patients. Beta blockers were started if there were no contraindications like cardiac failure, conduction defects or COPD.

Most of the patients were discharged on the fifth day from the hospital and they were followed in the out-patient's department. It was made sure that all patients should have their own or office/relative/neighbor/friends' telephone contact numbers for future information.

Cardiac death was defined by:

1. If death was attended by doctor in or outside the hospital and to the best of his or her knowledge, the cause was cardiac.
2. Any sudden death or death during sleep where there was no secondary cause, was presumed to be cardiac.

163(78%) patient could be followed at the end of first year. Those who were alive were divided into four groups on the basis of symptomatology according to New York Heart Association (NYHA) functional classification:

**CLASS-I:** Included those in whom ordinary physical activity did not cause undue fatigue, dyspnea or palpitation.

**CLASS-II:** Included those who were comfortable at rest, but ordinary physical activity resulted in fatigue, palpitation, dyspnea or angina.

**CLASS-III:** Included those in whom less than ordinary physical activity led to symptoms.

**CLASS-IV:** Included those who were unable to carry out any physical activity without discomfort.

## RESULTS

Total Number of patients: 210 (Male 160, Female 50).

Number of patients with anterior MI: 117(56%).  
Number of patients with inferior MI: 73(35%).  
Number of patients with Non Q-wave MI: 12(6%).  
Number of patients with lateral MI: 8(4%). Number of patient with Ant & Inf. MI: 6(3%).

### ASSOCIATED RISK FACTORS:

37(18%) were diabetic.

33(16%) were hypertensive.

50% of the males were smokers while all the females were non-smokers.

### COMPLICATIONS IN HOSPITAL:

During initial hospital stay, 19 patients had ventricular tachycardia/ventricular fibrillation. Of these 15 were successfully cardioverted.

8 patients needed temporary pacing; three of them died of cardiac failure, the rest were sent home without pacemaker.

Two patients developed VSD; one died after two weeks, the other is still alive.

29 patients were having symptoms and signs of cardiac failure after AMI, and were treated with diuretics; 4 of them needed Swan-Ganz catheterization to monitor the fluid balance. Three of them died in hospital. 18 patients died of cardiac failure within the first six weeks after AMI; they were repeatedly admitted, 8 of them were diabetic and 4 of them had reinfarction.

### MORBIDITY AT THE END OF FIRST YEAR AFTER AMI:

Differences in the survival figures after the first year between the four NYHA classes were noted:

NYHA Class-I 90(71%).

NYHA Class-II 28(22%).

NYHA Class-III 6(4%).

NYHA Class-IV 3(2%).

## DISCUSSION

Ischemic heart disease is the most common cardiac disorder and is a leading cause of death all over the world. Mostly the mode of death is acute myocardial infarction. Twenty-five percent of the deaths after AMI occur within the first few minutes and mostly pass unnoticed. Fifty percent of the deaths after AMI occur within two hours of onset of symptoms \ The morbidity and mortality after AMI depends on the type of MI and extent of underlying CAD, associated cardiovascular risk factors, complications after MI and type of care provided <sup>2</sup>.

During the past two decades the mortality of patients with AMI has declined significantly because of introduction of coronary care units <sup>3,4,5</sup>. Education of the public and primary medical staff is also very important <sup>6</sup>. Patients with unstable angina must be admitted because there is 10 to 15% risk of progression to AMI <sup>1</sup>. Patients must be educated to seek medical attention once they develop symptoms of AMI, the paramedical staff should be trained enough to identify fatal arrhythmias and should be able to do cardiopulmonary resuscitation <sup>7</sup>. Mobile coronary care units have been introduced for the same reasons to have prompt response.

The quality of care provided in the cardiac care unit after AMI also plays a major role. If thrombolytic therapy is provided in time, patient is closely watched for arrhythmias, cardiac failure and other complications, and there are facilities for coronary angioplasty, then the mortality can be further reduced.

This study was conducted in the Cardiac Care Unit of the Post Graduate Medical Institute, Lady Reading Hospital, Peshawar, where all the latest facilities are available. Our in-hospital mortality after AMI is 14% which is comparable to that in developed countries. However, our first year mortality is slightly higher than the developed countries where it is mostly under 18% <sup>8</sup>. This is probably due to lack of specialized health facilities at the basic level. We hope that our morbidity and mortality can be further reduced if sincere attention is given to this problem.

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