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Research Article

**DESCRIPTIVE STUDY ON PATIENTS SURVIVAL RATE IN
MAYO HOSPITAL LAHORE WHO DEVELOPED
VENTRICULAR SEPTUM RUPTURE AFTER MYOCARDIAL
INFARCTION**Uzair Arshad Sohail^{1*}, Sajid Ali², Anum Altaf³¹Medical Officer, DHQ Hospital, Hafizabad.²DHQ Hospital, Medical Department, Sheikhpura,³House officer Surgical Unit 1, Services Hospital Lahore**Abstract:**

Objective: To determine the death rate or survival rate of patients who develop ruptured ventricular septum after myocardial infarction.

Study Design: A Descriptive Study.

Materials and Methods: This descriptive study was conducted between December 2016 and December 2017 in Mayo Hospital, Lahore's emergency department, coronary care units and cardiology ward. A total of 40 patients diagnosed with ventricular septal defect after infarction were selected. Myocardium for this study All patients were treated according to the treatment protocols of the Cardiology Department. The result (death / survival) was studied in the hospital for a week.

Results: The mean age of the patients was 61.0 ± 9.9 years. There were 21 (46.7%) male patients and 24 (53.3%) female patients. Eleven (24.4%) patients were thrombolized. Twenty-one patients (46.7%) survived and 24 (53.3%) patients died at the end of the one-week hospital stay.

Conclusion: This study shows high mortality rates in patients who have ruptured ventricular septum after myocardial infarction for a period of one week in the hospital. Old age and female sex have led to a significantly higher death risk.

Keywords: ventricular septal rupture, Acute myocardial infarction, Mortality in hospital, thrombus lysis.

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INTRODUCTION:

Despite the revolutionary advances in diagnosis and management in the last decades, acute myocardial infarction continues to be a major health problem all over the world. Cardiogenic shock is the most serious clinical manifestation of left ventricular failure (LVF) and causes greater damage to the left ventricular myocardium in more than 80% of patients with myocardial infarction with ST segment elevation (STEMI) [1]. Other 20% STEMI patients with LVF have a mechanical defect such as ruptured or predominant right ventricular infarction in the ventricular or papillary septum. Ventricular septum defect is rare, but it is undoubtedly a potentially lethal complication of ST-segment elevation and acute myocardial infarction. Thrombolytic therapy and primary percutaneous coronary intervention reduced the incidence of myocardial myocardium, ventricular septal infarction (VSD) [2]. The size of the VSD determines the magnitude of the shunt from left to right and the degree of hemodynamic deterioration. The incidence of VSD is higher in anterior myocardial infarction (about 60%) than in lower myocardial infarction (about 20-40%). VSD is generally associated with advanced age, female sex, anterior position of myocardial infarction, and low body mass index (BMI) [3].

The management of the VSD MI postage is a major challenge for both cardiologists and cardiac surgeons. IMVV diagnosis after MI can be easily performed with transthoracic echocardiography with sensitivity and specificity of about 100% at MI after MI [4]. There was a very high mortality rate, either surgically or surgically. Conservatively treated mortality rate in patients with septal rupture was 24% in the first 24 hours, 46% in the week and 67% to 82% in two months. Early surgical intervention, regardless of the clinical condition of the patient, is the preferred treatment according to the current guidelines of the American College of Cardiology. Recently, the closure of the percutaneous VSD has also been used to treat septal rupture associated with STEMI [5]. In Pakistan, mortality has been previously studied from acute myocardial infarction, but there is little data after IVCV. The reason for the study is to know the importance of the survival of patients with MI after IMVV in a tertiary hospital and to direct cardiologists to tertiary hospitals to reduce mortality in early referral of such patients. . This study was designed to determine the outcome of patients suffering from MI after IMV [6].

MATERIALS AND METHODS:

This descriptive study was conducted from December 2016 to December 2017 in Mayo Hospital, Lahore's

emergency department, coronary care units and cardiology ward. The sample size was 45 MI patients with a margin of error. 15%, 95% fraud - a level of confidence that reduces the expected percentage of hospitalization time by 46% in one week. An unintentional deliberate sampling technique was used. Incorporation criteria included patients with both sexes, both sexes, who underwent VSD with echocardiography after MI, and those without thrombolysis who were thrombolized. Exclusion criteria were STD segment elevation without acute myocardial infarction and acute myocardial infarction, patients with congenital VSD, and follow-up VSD after MI. Informed consent was obtained from all patients or their residents. Thrombolysis was taken from all patients. All patients were treated according to the protocol of the Department of Cardiology. The result (death / survival) was studied in the hospital for a week. All information is compiled in a specially designed proform. Patient's stay in hospital was defined as the survival or death of MI-treated patients during their stay in hospital for the duration of their stay in the hospital. ST elevation and acute myocardial infarction (STEMI) were defined as ST segment elevations greater than 0,2 mV at at least two adjacent nipples or greater than 0.1 mV in at least two adjacent leads. limb. Verification of diagnosis is more than twice the reference value by cardiac enzymes at high levels (CK-MB).

Posterior VSD was defined as an acute ventricular septal defect after perforation or infusion of muscle ventricular septum that occurred in a myocardial region with acute infarction.

STATISTICAL ANALYSIS

All data were entered in SPSS version 19.0 and analyzed accordingly. Qualitative variables such as gender, survival / death are presented as frequency and percentage. Quantitative variables such as age were calculated as mean and standard deviation. The data were stratified for age, sex, and thrombolytic therapy to address impact modifiers.

RESULTS:

The mean age of the patients was 61.0 ± 9.9 years. There were 2 (4.5%) in the age group up to 40 years, 5 (11.1%) and 14 (31.1%) patients in the age group of 41-50 years. There were 14 (31.1%) aged between 51-60 years and 61-70 ages and 10 (22.2%) aged between 71-80 years (Table 1). There were 21 (46.7%) male patients and 24 (53.3%) female patients. Only 11 (24.4%) patients were thrombolized and others were not thrombolized due to late presentation or hemodynamic instability (Table 1). In

the distribution of the patients, 21 (46.7%) and 24 (53.3%) patients died while in hospital. (Table 1).

Table 1. Baseline characteristics of the study population.

CHARACTERISTICS	NUMBERS (PERCENTAGES) n=45
AGE MEAN YEARS	61.0±9.9
AGE GROUPS	
Less or equal to 40	2(4.5%)
41-50	5(11.1%)
51-60	14(31.1%)
61-70	14(31.1%)
71-80	10(22.2%)
MALE	21(46.7%)
FEMALE	24(53.3%)
THROMBOLYSIS GIVEN	11(24.4%)
DIED	24(53.3%)

According to the results of age comparison, in the age group up to 40 years old, 1 (2.2%) surviving and 1 (2.2%) in the 41-50 age group died. Four patients (8.9%) survived and 1 (2.2%) died, 12 (26.7%) survived in the 51-60 age group and died at 2 (4.5%) years. 4 (8.9%) patients lost their lives between the ages of 61-70, 10 (22.2%) died and 10 (22.2%) patients died between 71-80 years of age (Table 2). Comparing the results with gender, 12 (26.7%) patients survived and 9 (20%) patients died in male patients. Among the patients, 9 (20%) survivors and 15 (33.3%) patients died (Table 2). When compared with thrombolytic therapy, 3 patients (6.6%) were alive and 8 (17.8%) died in patients treated with thrombolytic therapy. In patients without thrombolytic therapy, 18 (40%) survived and 16 (35.5%) died.

Table 2:

OUTCOME	DIED	SURVIVED
Age groups	n=24	n=21
Less or equal to 40	1(2.2%)	1(2.2%)
41-50	1(2.2%)	4(8.9%)
51-60	2(4.5%)	12(26.7%)
61-70	10(22.2%)	4(8.9%)
Male	9(20%)	12(26.7%)
Female	15(33.3%)	9(20%)
Thrombolysis given	8(17.8%)	3(6.7%)

DISCUSSION:

Myocardium rupture after acute myocardial infarction may affect left ventricular (LV), interventricular septum, or the free wall of papillary muscles. Although rupture of LV free wall and ventricular septum (IVC) defect are rare mechanical complications after AMI, they have a very high mortality rate. The frequency, timing, prognostic factors and clinical features of AMI complicated by VSD in the age of thrombolytic and prethrombolytic therapies and the rupture of the SV free wall have been discussed. However, there is an anterior myocardial infarction in the lower myocardial infarction (approximately 20-40%). The determinants of VSD are advanced age, female gender, previous location of myocardial infarction and low body mass index (BMI). The management of the VSD MI postage is a major challenge for both cardiologists and cardiac surgeons. IMVV diagnosis after MI can be easily performed with transthoracic echocardiography with sensitivity and specificity of about 100% at MI after MI. There was a very high mortality rate, either surgically or surgically. In patients with septal rupture, the conservative treatment mortality rate was 24% in the first 24 hours, 46% in the week and 67-82% in two months. Early surgical intervention, regardless of the clinical

condition of the patient, is the preferred treatment according to the current guidelines of the American College of Cardiology. Recently, the closure of the percutaneous VSD has also been used to treat STEMI-associated septal rupture.⁹ In our study, the mean age of the patients was 61.0 ± 9.9 years. Compared with the study by Larosa *et al.*, The mean age of the patients was 59.0 ± 9.0 years, which could be compared to our study. In our study, 46.7% of the patients were male and 53.3% were female.

Compared to the study by Chaux *et al.*, There were 40% of male patients and 60% of female patients. In our study, 24.4% of the patients did not receive thrombolytic therapy and 75.6% did not receive thrombolytic therapy. In our study, patients with ventricular septal rupture were treated conservatively according to the cardiology protocol, 46.7% of patients survived and 53.3% died during the period of stay in a one-week hospital. Yip *et al.* While ventricular septal ruptured patients were being treated conservatively during hospitalization for one week, 54% of patients survived and 46% died, which could be compared to our study. Poulsen *et al.* Patients with conservative treatment of myocardial infarction who had posterior ventricular septal rupture during the time you were hospitalized, 48% of patients survived

and 62% died in our study which is comparable to ours. About 0.2% of ventricular septal defect cases occur in myocardial infarction, a serious complication. If not treated, mortality is high and necrotic bleeding is difficult due to early surgical repair. Percutaneous closure in selected patients may be an alternative treatment option. Ahmad *et al.* In a study conducted by, ventricular septal defect post myocardial infarction survival rate was 60% and mortality rate was 40%. patients with ventricular septal rupture The survival rate of patients in our study was 46.7% and the mortality rate was 53.3% in the previous study.

CONCLUSION:

This study concluded that patients with a defect in ventricular septum after myocardial infarction for a period of one week in the hospital had a high mortality rate. Old age and female sex have led to a significantly higher mortality risk in heart failure and no beneficial effect of thrombolytic therapy on outcome.

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