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Research Article

**A CROSS SECTIONAL STUDY OF MYOCARDIAL INFARCT
AND LEFT VENTRICULAR THROMBUS CORRELATION IN
ADULTS**¹Dr. Anam Iqbal, ²Dr Amar Ejaz, ³Dr. Hafiza Sumbal Afzal¹Fatima Jinnah Medical College Lahore, Pakistan.²DHQ Faisalabad³Sir Ganga Raam hospital**Abstract:**

Objective: Study aims to find out the cardiac injury as a result of left ventricular thrombus formation. **Methods:** Study was conducted at Faisalabad Institute of Cardiology, Pakistan over a period of 6 months from October 2017 to March 2018 following cross sectional study design. The cases of acute anterior wall myocardial infarction were included in the study. Diagnosis was made on the basis of signs and symptoms along with electrocardiographic changes which includes ST segment and T wave changes and cardiac enzyme troponin T positive. All the enrolled cases were investigated further for the presence of left ventricular thrombus by transthoracic echocardiography. **Results:** 170 MI patients were enrolled which were 78 females and 92 males. Mean age was 54.9 ± 8.7 years. Out of 170 MI cases ST elevation was observed in 66 cases and 44 had left ventricular thrombus. LVT was not affected by age or gender of patient. P value was 0.85 and 0.96, respectively. Patients with STEMI had higher incidence of LVT as compared to NSTEMI patients, 24 and 20 respectively. P value was 0.05 which was statistically significant. **Conclusion:** Left ventricular thrombus is commonly seen in patients with myocardial infarct and it is more commonly associated with ST segment elevation MI.

Key Words: Myocardial infarction, left ventricular thrombus, STEMI, NSTEMI.**Corresponding author:**

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INTRODUCTION:

Assessment of LVT shortly after ST segment elevation MI using percutaneous coronary intervention after clinical onset of signs and symptoms was test on a large cohort by Mao TF, et al. and LV thrombus was noticed in 1.6% of cases [2]. One of the complication seen in patients undergoing percutaneous coronary intervention is multiple embolic foci [3].

The myocardial infarct is the coronary vascular disease caused by spasm or occlusion of coronary vessels most commonly involved vessel is LAD, left anterior descending artery which supplies left ventricle. As a result of coronary vessel occlusion and lack of collateral blood supply the myocardial infarct occurs [1].

Glycemic variability is associated with impaired myocardial salvage in acute ST-elevation myocardial infarction (STEMI). Hypokinesia variability at infarct size was assessed from contrast left ventriculography to predict infarct size in STEMI [4].

METHODS:

Patients more than 30 years of age who presented with history of chest pain for half an hour and

showed changes in two or more leads on ECG from V1 to V6 were included in study. Both males and females were considered the part of study. Troponin T enzyme level was performed on these patients and was found positive. Those with past history of myocardial infarction or those having ECG changes due to electrolyte imbalance were excluded from study. All the enrolled patients underwent transthoracic echocardiography on fourth day of admission in order to detect LVT.

Statistical analysis was done using SPSS 22. Chi square test was applied and effect modifiers were stratified. P value less than 0.05 was considered significant.

RESULTS:

170 MI patients were enrolled which were 78 females and 92 males. Mean age was 54.9 ± 8.7 years. Out of 170 MI cases ST elevation was observed in 66 cases and 44 had left ventricular thrombus. LVT was not affected by age or gender of patient. P value was 0.85 and 0.96, respectively. Patients with STEMI had higher incidence of LVT as compared to NSTEMI patients, 24 and 20 respectively. P value was 0.05 which was statistically significant. Results are shown in the form of tables.

Table 1: LVT in males and females.

Gender	LVT		Total (%)
	Yes	No	
Males	23 (25%)	69 (75%)	92 (100%)
Females	21 (29%)	57 (73.08%)	78 (100%)
Total	44 (25.8%)	126 (74.12%)	170 (100%)

Table 2: LVT in different age groups.

Age	LVT		Total (%)
	Yes	No	
30-49	7 (21.2%)	26 (78.7%)	33 (100%)
50-70	37 (27%)	100 (73%)	137 (100%)
Total	44 (25.8%)	126 (74.12%)	170 (100%)

Table 3: LVT in STEMI and NSTEMI.

MI type	LVT		Total
	Yes	No	
STEMI	20 (19.2%)	84 (80.7%)	104 (100%)
NSTEMI	24 (36.6%)	42 (63.6%)	66 (100%)
Total	44 (24.8%)	126 (74.1%)	170 (100%)

DISCUSSION:

AlloCSC-01 can be safely administered in ST-segment-elevation myocardial infarction patients with left ventricular dysfunction early after revascularization. Low immunogenicity and absence of immune-mediated events will facilitate adequately powered studies to demonstrate their clinical efficacy in this setting [5].

A significant increase in both left ventricular end-systolic ($P=0.009$) and end-diastolic volume ($P=0.02$) from baseline to 60 months follow-up was recorded in patients with extracted thrombus length ≥ 2 mm. Pre-revascularization elevated CWP was associated with increased left ventricular volumes and decreased ejection fraction at long-term follow-up. CWP was a predictor of severe left ventricular enlargement, besides extracted thrombus quantity. The effect was studied by Marc MC, et al. [6].

LVT is most commonly associated with STEMI as compared to NSTEMI. The effects have been studied in multiple cases and studies based on large cohort[7,8].

CONCLUSION:

Left ventricular thrombus is commonly seen in patients with myocardial infarct and it is more commonly associated with ST segment elevation MI.

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