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*Research Article*

## STUDY TO KNOW OUTCOMES OF MYOCARDIAL INFARCTION IN DIABETIC AND NON-DIABETIC PATIENTS TREATED WITH STREPTOKINASE HAVING ST SEGMENT ELEVATION

Dr Syed Zuhair<sup>1</sup>, Dr Marriam Nadeem<sup>2</sup>, Dr Mariam Siddique<sup>3</sup>

<sup>1</sup> University College of Medicine & Dentistry, The University of Lahore

<sup>2,3</sup> Allama Iqbal Medical College, Lahore

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**Abstract:**

***Objective:** To compare the efficacy of streptokinase in MI with diabetic and non-diabetic patients with ST-segment elevation.*

***Study design:** A randomized clinical trial.*

***Duration:** For one Year Duration, from August 2018 to July 2019.*

***Materials and methods:** The myocardial infarction Patients with ST segment elevation were taken from the Department of Cardiology of Services Hospital Lahore.*

***Results:** The initial characteristics of patients with non-diabetic and diabetic myocardial infarction, ie, the mean age of the patients in both groups were similar and  $49.43 \pm 4.27$  in diabetics, and  $46.74 \pm 3.12$  in the group. 82.5% of non-diabetic patients were male and 74.5% were diabetic. A comparison of streptokinase activity was recorded in the diabetic and non-diabetic patients in ST segment elevation, 85% in patients who were non-diabetic and only 30% in patients who were diabetic. P value was calculated as 0.00.*

***Conclusion:** In the light of current results, it can be concluded that thrombolytic therapy is more effective in diabetic patients than in patients with STEMI diabetes; However, more attention should be paid to diabetic individuals before thrombolytic therapy is administered.*

***Key words:** STEMI, Diabetic, Non-diabetic, Thrombolytic therapy, Efficacy.*

**Corresponding author:**

**Dr. Syed Zuhair,**

*University College of Medicine & Dentistry, The University of Lahore*

QR code



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## INTRODUCTION:

Myocardial infarction with ST elevation is the most severe form of (ACS) acute coronary syndrome after sudden cardiac arrest. NRMI-4 of the Euro (Fourth National Registry of Myocardial Infarction) 29% of heart attack patients, on the other hand, indicates a European survey of STEMI, EHS-ACS-II (Second Questionnaire for heart Acute coronary syndromes, 47% of patients with ACS Diabetes has become a universal problem in the elderly, with the most concern being the most common BMI and increased in people with a sedentary lifestyle, with the risk of AMI in patients with diabetes increased by 2 to 4 times. Diabetes mellitus occurs 4 times higher in men with increased morbidity / mortality Acute STEMI. The diabetes mellitus patients are often at higher risk of adverse outcomes compared to non-diabetic patients, possibly with excessive heart disease or poor left ventricular function. Thanks to thrombolytic agents, most streptokinase is the most popular and for the treatment of acute MI with availability in the country Approximately 400,000 to 500,000 patients receive thrombolytic therapy every year around the world<sup>6</sup>. A more effective efficacy of streptokinase has been noted in patients with diabetes than in diabetic patients. Main concern for this study was that Pakistan was lacking data on the effect of streptokinase in patients with diabetes and non-diabetic ST segment elevation myocardial infarction. Acute myocardial infarction, obtained in large clinical trials, developed thrombolytic therapy, significantly enhanced survival rate, both in diabetic and non-diabetic patients. However, rather than these developments, the mortality rate increases in diabetes up to two times. Because cardiovascular diseases are increased in diabetes, clinical trials with the possible effects of care of ischemic heart disease patients may be claimed to be specifically delineate to assess the impact of thrombolytic therapy in diabetic patients.

## MATERIALS AND METHODS:

A cross-sectional comparative study was performed in Services Hospital, Lahore for one year period from August 2018 to July 2019 in the Cardiology Department with 40 cases in each group (diabetic and non-diabetic). All patients, including myocardial infarction diagnosis with ST elevation diabetic or diabetic or diabetic group (age > 40 years in both sexes), they are known in the diabetic or diabetic hospital during the period they stay (in 12 hours after chest pain) While the blood glucose estimate for the non-diabetic group was known to have not been established during the hospitalization period, subjects with a history of myocardial infarction undergoing streptokinase treatment were excluded from the study. The efficacy of the drug in both groups was

considered to decrease the height of ST segment elevation (ST resolution) to the baseline after 90 minutes of streptokinase infusion. 17. frequency and percent t The demographics were reported to be expressed in both groups and the groups were entered and analyzed using the frequency of streptokinase activity. P ir0.05 is considered significant.

## RESULTS:

The initial characteristics of patients with non-diabetic myocardial infarction and diabetic patients are presented in Tables 1 and 2, and the common ages of the patients in both groups did not show similar and significant differences, ie, 49.43 + 4.27 and 46.74 + 3.12 in diabetic patients were male in both groups. that was 82.5% in diabetics and 72.5% in non-diabetic patients.

Table 1: Age distribution of the subjects

Age in years	Diabetic (n=40)	Non diabetic (n=40)
30-40	8(20%)	9(22.5%)
41-50	19(47.5%)	17(42.5%)
51-60	13(32.5%)	14(35%)

A comparison of streptokinase activity was recorded in the non-diabetic patients and diabetic patients in ST segment elevation, 85% in patients who were non-diabetic and only 30% in patients who were diabetic. P value was calculated as 0.00.

Table 2: Gender distribution

Gender	Diabetic (n=40)	Non diabetic (n=40)
Male	33(82.5%)	29(72.5%)
Female	7(17.5%)	11(27.5%)

## DISCUSSION:

The reduction in mortality in acute MI patients is linked to the effectiveness of thrombolytic therapy after reduction of the elevation of the initial ST (ST resolution) within 90 min after infusion of streptokinase. For myocardial infarction the main risk factor is Diabetes mellitus. It is a dyslipidemic disease that enhances the atherosclerotic vascular obstruction rate. 10-30% of patients with acute MI are diabetic. When thrombolytic was applied, in diabetic subjects the results showed a change after thrombolysis, prognosis in patients would be worse than diabetic patients in left ventricular dysfunction. While large clinical trials observed improvement in acute myocardial infarction, thrombolytic therapy, the survival of streptokinase in patients with ST elevation in diabetics and diabetics in our country before diabetic survivors and non-diabetic survivors have not been studied to survive. Patients This discrepancy compares streptokinase efficacy with MI in non-diabetic and diabetic patients with elevation of ST-segment.

Table 3: Compare the efficacy of streptokinase on ST segment elevation MI in diabetic and non-diabetic

Efficacy	Diabetic (n=40)	Non diabetic (n=40)
Yes	12(30%)	33(85%)
No	28(70%)	7(15%)

P Value = 0.00

The streptokinase efficacy in non-diabetic and diabetic patients in ST MI was 85% in patients who were non-diabetic and only 30% in patients who were diabetic. P value was calculated as 0.00. In their study, Michael N. Zairis and his colleagues found less ST recovery in non-diabetic individuals than diabetic subjects ( $p = 0.04$ ). These results are consistent with the analysis of our study. In another study, Chowdhury AR et al. Found that streptokinase thrombolytic effect, which is a myocardial infarction between non-diabetic and diabetic patients, was higher statically in diabetics than patients who were non-diabetics without successful reperfusion ( $p < 0.001$ ). 0.001) and in patients of diabetes mellitus, acute myocardial infarction may affect thrombolytic outcomes. These results greatly support the analysis of our study. Our results show that type 2 diabetes is a strong predictor of acute intravenous thrombolytic deficiency during STEMI. In this context, this relationship can significantly confers in non-diabetic patients with poor prognosis as compared with type 2 diabetes. If confirmed by larger prospective studies, optimal therapeutic approaches to accelerate and accelerate successful reperfusion at cellular level may improve prognosis further in patients with type 2 diabetes mellitus with STEMI. However, these findings require additional effort to know new pharmacological agents to reduce reperfusion without success after treatment with streptokinase in diabetic patients with MI. In order to further improve the results of thrombolysis and myocardial infarction in diabetic patients, new strategies such as primary angioplasty and peri-infarction metabolic control should be considered.

### CONCLUSION:

In the light of the current results, we can conclude that thrombolytic therapy is more effective in diabetic patients than in patients with STEMI; However, more attention should be paid to diabetic people before thrombolytic therapy is administered.

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