

# Clinical and hemodynamic efficacy of prehospital thrombolysis in acute coronary syndrome with ST elevation

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**Abstract:** *According to the World Health Organization (WHO), cardiovascular disease (CVD) is the leading cause of death and disability in countries around the world, with ST segment elevated myocardial infarction (STEMI) leading the way. Despite advances such as the widespread introduction of many effective drugs, angioplasty and surgical treatments into clinical practice, CVD kills 17.3 million people annually, accounting for 30% of all deaths worldwide. This figure is projected to increase to 23.6 million by 2030. In the world, including in Uzbekistan, over the past two decades there has been an increase in morbidity and mortality from cardiovascular pathology.*

**Keywords:** *dogospital thrombolysis, acute coronary syndrome, acute myocardial infarction, primary percutaneous coronary intervention, echocardiography.*

## 1. INTRODUCTION

According to the American Heart Association, “the incidence of primary myocardial infarction (PMI) in a year is 550,000, and the recurrence of MI is 200,000. STEMI kills 15% of patients, and in half of these deaths occur within one hour of the onset of disease symptoms” [Mozaffarian D, Benjamin EJ, Heart disease and stroke statistics - 2016 update: a report from the American Heart Association. *Circulation*. 2016; 133: e38-e60.] (Mozaffarian D, Benjamin EJ, Go AS et al. Heart disease and stroke statistics - 2016 update: a report from the American Heart Association. *Circulation*. 2016; 133: e38-e60).

Early reperfusion in acute MI with ST elevation is one of the most pressing problems in cardiology in the world, and a number of experimental and clinical studies are being conducted to achieve its early diagnosis, new approaches to improving prognosis and treatment, high effectiveness in prevention. In recent years, there have been reports that early reperfusion in STEMI, such as pre-hospital reperfusion, primary percutaneous coronary intervention (PPCA), has a positive effect on myocardial infarction complications, reperfusion injury processes, and mortality rates. In patients with STEMI, evaluation of the impact of pre-hospital reperfusion therapy on myocardial dysfunction, improvement of pre-hospital thrombolysis treatment measures is one of the current issues. According to a study by the European Society of Cardiologists, the effectiveness of pharmacological reperfusion before hospitalization, such as PPCA and stenting, has been proven in many studies. Due to the lack of intervention laboratories in the world and in our country, the lack of

opportunities for invasive reperfusion of all patients with STEMI shows the urgency of the problem. In Uzbekistan, the number of centers with the ability to conduct intervention operations is growing day by day. However, the relatively small number of centers that can perform emergency PPCA at present now underscores once again the importance of widespread use of pre-hospital thrombolysis. Today, scientific studies have shown that the earlier reperfusion therapy is started, the more effective it is. One of the urgent directions in our country is the development of new approaches that can reduce the complications and mortality of MI through the use of EPT (efficacy of prehospital thrombolysis) in the prehospital stage of emergency care, organized with the right clinical and organizational-methodological approaches to prehospital thrombolysis.

## **2. THE AIM OF THIS STUDY**

STEMI bilan origan bemorlarda shifokhonagacha thrombolysis kasallikning clinics kechishiga, chap korinchaning functional kolatiga taisirini, reperfusion kilingan bemorlard chap korincha myocarding dysfunctional zonalarinqaniqaitaytaol.

Assessment of the clinical course of STEMI in patients undergoing reperfusion therapy by conducting pre-hospital thrombolysis;

Evaluation of the condition of the coronary arteries on the TIMI scale by means of PPCA after pre-hospital reperfusion in patients with STEMI and determination of the effectiveness of hospital-performed reperfusion;

Identification of zones of myocardial dysfunction in patients with pre-hospital thrombolysis, nosocomial and PPCA-performed STEMI;

Determination of global and regional systolic and diastolic activity of the left ventricle three months after reperfusion in patients with STEMI;

Clinical, electrocardiographic, echocardiographic, and laboratory indications for reperfusion syndrome in patients with STEMI include assessment of cardiac arrhythmias and subsequent left ventricular diastolic activity throughout the course of the disease;

evidence of correlation between reperfusion time and stagnant myocardial status, as well as indicators of myocardial infarction in the left ventricular functional status in STEMI.

## **3. MATERIAL AND METHODS**

Electrocardiography, echocardiography, Doppler-echocardiography, coronary angiography, troponin, KFK MV.

210 people aged 21 with STSEMI Patients under 70 years of age (mean age  $56 \pm 4.3$  years) underwent myocardial revascularization. Streptokinase drug, interventional laboratory, determination of echocardiographic parameters of systolic and diastolic functions of the heart.

Research results and discussion. The scientific novelty of the research is:

for the first time, the effect of prehospital thrombolysis on the left ventricular myocardial condition in patients with myocardial infarction with ST segment elevated myocardial infarction was demonstrated;

The effects of left ventricular myocardium on the clinical course of the disease were evaluated in patients with ST segment elevated myocardial infarction, who underwent pre-hospital and inpatient thrombolytic therapy and percutaneous coronary intervention;

The correlation between reperfusion time and myocardial status and left ventricular functional status in patients with ST segment elevated myocardial infarction in pre-hospital, inpatient, and primary PCA was determined;

for the first time, the dynamics of recovery of the clinic of the disease and the activity of the left ventricular myocardium as a result of the use of pre-hospital thrombolysis in patients with ST-segment elevated myocardial infarction was observed for 3 months.

The practical results of the study are as follows:

In the ST segment elevated myocardial infarction, complications are less likely to occur with the use of prehospital reperfusion, allowing for increased efficiency of the reperfusion process;

Echocardiography in the first days of the disease in patients with ST-segment elevated myocardial infarction is based on the identification of areas of myocardial dysfunction, the effectiveness of the conducted reperfusion and the prognosis of the disease.

Scientific and practical significance of research results. The scientific significance of the results of the study, the conclusions drawn and the suggestions made are theoretically significant contributions to the study of the features of diagnosis and treatment of left ventricular recurrent dysfunction in myocardial infarction. The clinical efficacy of prehospital thrombolysis in patients with STEMI has been scientifically confirmed. The results of the study are explained by the fact that it has allowed to improve the scientific conclusions on the pathogenesis, clinic, diagnosis, diagnosis and treatment of reperfusion syndrome, left ventricular dysfunction in myocardial infarction.

The practical significance of the results of the study is that as a result of the obtained studies, optimization of pre-hospital thrombolytic therapy and careful approaches in PCA in patients with STEMI was achieved. The use of pre-hospital reperfusion techniques in acute myocardial infarction provides cost-effectiveness. The results of the study allow to increase the effectiveness of reperfusion therapy in STEMI, reduce the frequency and severity of early complications of the disease.

#### **4. CONCLUSION**

The results of research on improving the results of diagnosis and treatment of myocardial infarction will be introduced into clinical practice of the Republican Scientific Center for Emergency Care, branches of the Republican Scientific Center for Emergency Care. The implementation of the results will lead to cost-effectiveness, increase the life expectancy of patients with myocardial infarction, reduce complications, reduce the length of hospital stay.

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