



INFERIOR WALL STEMI WITH POSTERIOR EXTENSION SUCCESSFULLY THROMBOLYSED WITH STREPTOKINASE: A CASE REPORT

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ABSTRACT

Inferior ST-elevation myocardial infarction (STEMI) with posterior extension represents a clinically important subgroup of acute coronary syndromes due to diagnostic challenges and the potential for adverse outcomes if reperfusion is delayed. Although primary percutaneous coronary intervention is the preferred reperfusion strategy, thrombolytic therapy remains essential in resource-limited settings. This report describes the clinical presentation, management, and outcome of a 55-year-old male presenting with acute chest pain of 90 minutes duration who was diagnosed with inferior STEMI with posterior extension based on electrocardiographic findings. The patient was hemodynamically stable at presentation and underwent timely thrombolysis with intravenous streptokinase after exclusion of contraindications. Following thrombolytic therapy, there was prompt relief of chest pain and favorable clinical evolution without immediate complications such as arrhythmias, hypotension, or bleeding. The patient remained stable throughout hospitalization. This case highlights the effectiveness of early streptokinase administration in achieving successful reperfusion in inferior STEMI with posterior extension when delivered within the therapeutic window. Early recognition, reduced door-to-needle time, and close clinical monitoring are critical determinants of outcome. Despite the availability of newer fibrinolytic agents, streptokinase continues to be a viable and effective option in appropriate clinical settings, particularly where access to primary PCI is limited.

KEYWORDS

Inferior STEMI; Posterior Myocardial Infarction; Streptokinase; Thrombolytic Therapy; Acute Coronary Syndrome

INTRODUCTION

Inferior ST-elevation myocardial infarction (STEMI) accounts for approximately 40–50% of all STEMI presentations and is most commonly caused by occlusion of the right coronary artery. Posterior extension of inferior MI often goes unrecognized due to the absence of direct posterior leads on standard electrocardiography, leading to potential delays in diagnosis and treatment.

Early reperfusion therapy remains the cornerstone of STEMI management. While primary percutaneous coronary intervention (PCI) is the preferred strategy, thrombolytic therapy continues to play a crucial role in centers without immediate PCI availability. Streptokinase, despite newer fibrinolytic agents, remains widely used due to its affordability and accessibility in developing countries.

We present a case of inferior STEMI with posterior extension successfully thrombolysed with streptokinase, highlighting clinical presentation, management, and outcome.

CASE PRESENTATION

A 55-year-old male presented to the emergency department with acute onset chest pain of 90 minutes duration. The pain was central, severe, and associated with diaphoresis. There was no reported history of syncope or cardiac arrest prior to arrival.

Pre-thrombolysis Clinical Examination

Temperature: Afebrile

Pulse: 102 beats/min

Blood Pressure: 106/70 mmHg

Respiratory System: Bilateral air entry present and equal

Cardiovascular System: S1 and S2 heard, no murmurs

Central Nervous System: Conscious and oriented

Per Abdomen: Soft and non-tender

Electrocardiography revealed ST-segment elevation in inferior leads with reciprocal changes suggestive of posterior wall involvement. A diagnosis of inferior STEMI with posterior extension was made.

The patient was promptly thrombolysed with intravenous streptokinase after ruling out contraindications. Continuous cardiac

monitoring was maintained.

Post-thrombolysis Course

Following thrombolysis, the patient showed clinical improvement with relief of chest pain. Vital signs remained stable, and no immediate complications such as hypotension, arrhythmias, or bleeding were observed. The patient continued to remain hemodynamically stable during subsequent monitoring.

DISCUSSION

Inferior STEMI with posterior extension poses diagnostic and therapeutic challenges due to atypical ECG findings and the risk of associated complications such as arrhythmias and hemodynamic instability. Early recognition using reciprocal ST depression in anterior leads and prompt initiation of reperfusion therapy are crucial.

Thrombolytic therapy is most effective when administered within the first 2 hours of symptom onset, as seen in the present case. Streptokinase, though associated with lower fibrin specificity compared to newer agents, has demonstrated acceptable reperfusion rates when given early. The successful outcome in this patient underscores the importance of reduced door-to-needle time.

Hemodynamic stability before and after thrombolysis is a favorable prognostic factor, particularly in inferior wall MI, where vagally mediated bradyarrhythmias and hypotension can occur. Absence of complications in this case further supports effective reperfusion.

CONCLUSION

Early thrombolysis with streptokinase resulted in a favorable clinical outcome in a patient with inferior STEMI with posterior extension. This case reinforces the importance of early presentation, rapid diagnosis, and timely thrombolytic therapy, especially in settings where primary PCI is not immediately available.

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