

# A Sting to the Heart: Myocarditis Imitating ST-segment Elevation Myocardial Infarction (STEMI) in Dengue Infection

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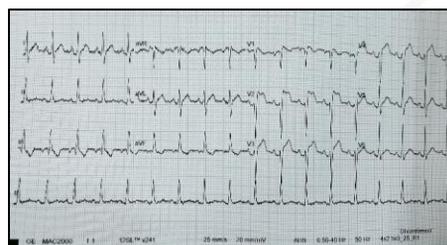
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## INTRODUCTION

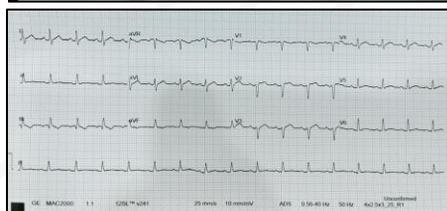
ST-segment elevation myocardial infarction (STEMI) is typically caused by acute coronary occlusion. However, in infectious diseases like dengue, myocarditis can mimic STEMI on electrocardiogram (ECG), posing diagnostic and therapeutic dilemmas, especially in endemic regions. Dengue myocarditis is rare but increasingly reported, with presentations ranging from subclinical dysfunction to fulminant cardiac failure. We describe a case of dengue fever complicated by myocarditis mimicking STEMI and the challenges faced in its clinical management.

## CASE DESCRIPTION

A 39-year-old healthy male presented on day 5 of dengue illness with fever, myalgia, and vomiting. Despite being hemodynamically stable, ECG showed dynamic ST-elevation in V2-V3 with reciprocal inferior depressions suggesting anterior STEMI. Echo revealed preserved function without pericardial effusion. Labs confirmed NS1-positive dengue, transaminitis, elevated cardiac biomarkers, normal lactate, and no hemoconcentration. Conservative management with phase-based fluid titration was employed. ECG changes resolved, and the patient recovered fully with normalized cardiac biomarkers.



Pre Bolus



Post Bolus

## DISCUSSION

This case highlights the challenge of managing ST-segment elevation in the absence of classic ischemic symptoms and echocardiographic wall motion abnormalities. Endothelial dysfunction, changes in vascular permeability, and localized cardiac damage, have been proposed as potential pathophysiological mechanisms underlying the cardiac manifestations of dengue. The inappropriate use of antiplatelets or thrombolytics in such cases, particularly during the thrombocytopenic phase, can be harmful. Serial ECGs and bedside echocardiography were pivotal in avoiding unnecessary interventions. Myocardial involvement in dengue is likely underdiagnosed due to nonspecific presentations and limited access to advanced imaging. Prompt recognition and supportive management remain the cornerstone of care.

## CONCLUSION

In dengue-endemic regions, clinicians should maintain a high index of suspicion for dengue myocarditis in patients presenting with STEMI-like ECG changes. Further research is necessary to establish effective management strategies for myocarditis associated with dengue fever.

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