LETTER TO THE EDITOR

# Transient STEMI: Not to be Considered a Lesser Evil

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**Dear Editor,**

Current treatment for perioperative ACS is divided into either immediate primary PCI for STEMI or delayed angiography with PCI for non-STEMI, patients.[1] However, a small set of patients present with transient STEMI with classic ECG features, which resolve completely before reperfusion therapy, suggesting that the culprit vessel has been spontaneously perfused. The current recommendations suggest that transient STEMI be treated as NSTEMI thus negating the need for urgent PCI. However, it is not clear in which patients with ECG features of STEMI, the changes will resolve spontaneously. If primary PCI was not offered in these patients, their care remains suboptimal. Therefore, the treatment needs to be individualized and urgent PCI should be offered as per the patient's clinical condition. A 60-year-old female having undergone an uneventful radical cholecystectomy presented to our ICU on the third postoperative day with acute posterior wall MI (Fig. 1) and cardiogenic shock, requiring high-dose vasopressors, and mechanical ventilation. Transthoracic echocardiography showed hypokinesia of the posterior wall with an ejection fraction of 15%. The ECG with posterior lead orientation (V7–V9) and repeat anterior lead orientation ECG showed a reversal of ST-T changes confirming the transient posteror wall STEMI (Fig. 2). The cardiac enzymes were markedly elevated. Cardiology opinion confirmed posterior STEMI and advised urgent PCI which was deferred due to severe hemodynamic instability. The ECG changes had reverted spontaneously within next 90 minutes. The patient was medically managed and subsequently discharged to the wards on the 12th postoperative day. The CT coronary angiography performed subsequently showed severe coronary artery disease with occlusion of the proximal circumflex artery (100%), right coronary artery (80%), and left anterior descending artery (60%). The left circumflex is the dominant vessel in nearly 15% of patients when it supplies the left posterior descending artery, which may be the case in our patient. Literature suggests that in up to 24% of STEMI patients, the STEMI may turn out to be transient, thus precluding

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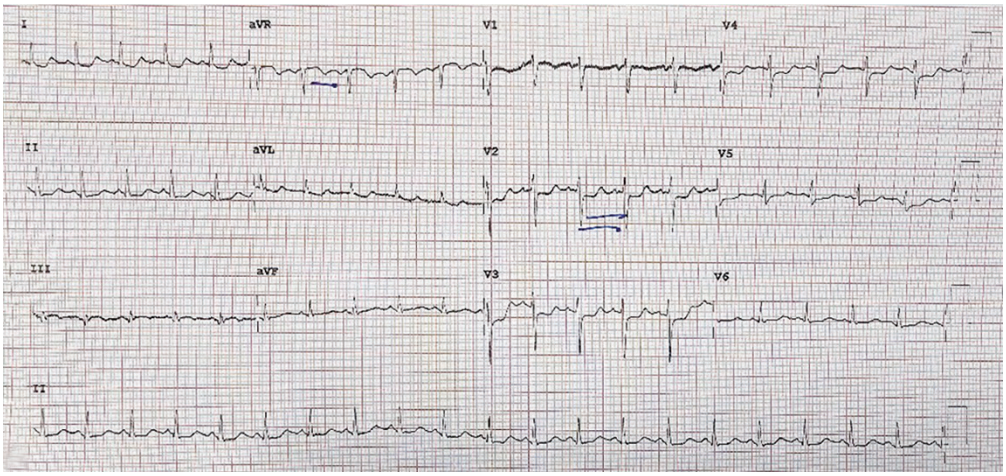


**Fig. 1:** Posterior wall STEMI

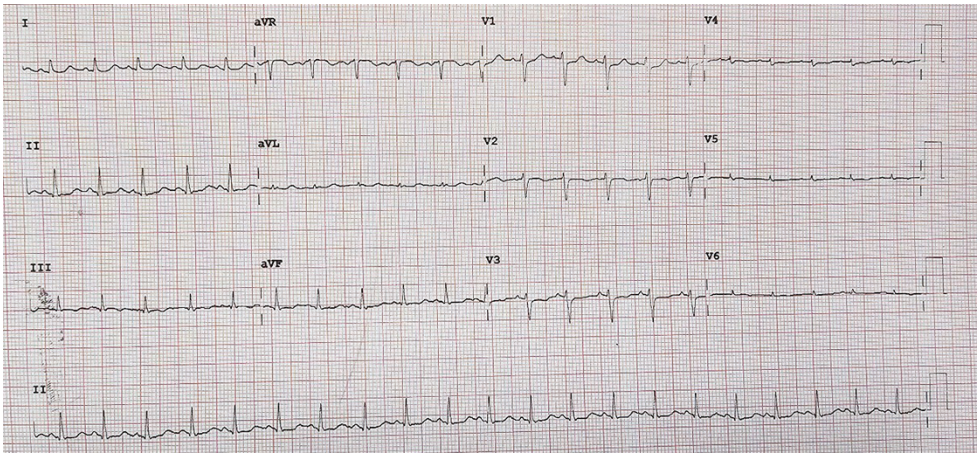


**Fig. 2:** Reversal of ST-T changes

the need for urgent PCI. Even if the symptom resolution is due to spontaneous reperfusion in the early period, this may not last very long and the patients still need immediate angiography. Moreover, the patient with transient STEMI is at risk of occlusion later, if no revascularization is carried out.

The pathophysiology of transient STEMI is unclear and spontaneous reperfusion may be patient specific which makes it difficult to predict. Guidelines recommend treating these patients as NSTEMI with delayed PCI. The TRANSIENT trial, a multicentre trial (Timing of Revascularisation in Patients with Transient ST Segment Elevation Myocardial Infarction) included 142 transient STEMI patients, who were randomized to either delayed or immediate coronary intervention.[2] The median time to PCI in the 2 groups was 18 minutes vs 22.7 hours. There was no difference in the two arms when infarct size and myocardial function (on subsequent cardiac MRI) were compared. The overall infarct size was quite small in both groups which may be the reason for not finding a difference. Although there was no difference in the MACE outcomes in the 2 groups the delayed intervention patients had higher troponin levels and underwent CABG more often than the early intervention group.[3]

These findings may have influenced the recent recommendations that suggest transient STEMI may be treated as NSTEMI thus negating or delaying the need for urgent PCI. Although there may not be enough evidence to suggest that NSTEMI treatment is inferior compared to STEMI considering the delay in reperfusion therapy, the OPERA registry showed higher number of hospital readmissions in the NSTEMI patients as compared to STEMI patients.[4] The TIMACS trial in NSTEMI patients showed that PCI within 24 hours was associated with better outcomes compared to delayed (36 hours) PCI, which led to current guidelines recommending angiography within 24 hours.[5] We feel that since the transient STEMI patients are a different group altogether, it is prudent to consider immediate angiography, particularly in high-risk patients. Further studies are required to ascertain factors which can predict progression of transient STEMI to conventional STEMI.

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