An Interesting Case of Vanishing Myocardial Infarction

Dr. Sunayana Vadlakonda[1]; Dr. K. Nagarajan[2] ; Dr. Lanord Stanley Jawahar[3]
[1.]Post graduate MD General medicine, Shri Sathya Sai Medical College and Research Institute.
[2.]HOD and Professor MD general medicine, Shri Sathya Sai Medical College and Research Institute.
[3.]Professor, MD general medicine, Shri Sathya Sai Medical College and Research Institute.

Abstract:- A 45 year old male came with complaints of chest pain since one day following alcohol intake. Patient evaluated initially at a hospital where electrocardiograph was taken which revealed ST elevation in leads V2 - V4 and loading dose was given subsequently and was subsequently refereed to our hospital. Electrocardiograph was repeated in our hospital which surprisingly showed no ST elevation. Patient was taken up for angiogram which shows proximal LAD occlusion.

Achieving initial thrombolysis in myocardial infarction grade 2-3 flow in the infarct-related artery prior to primary percutaneous coronary intervention (PPCI) is commonly referred to as transient STEMI, or spontaneous reperfusion. This condition affects about 20% of patients with STEMI and is usually accompanied by a resolution or improvement of symptoms. It can delay the emergency need of angioplasty.

Although there is no specific reason for spontaneous resolution of ST elevation in myocardial infarction, but there are few biomarkers, prognostic tools and potential therapeutic targets which help in spontaneous re-perfusion in a developing myocardial infarction.

Keywords:- *Chest Pain, Electrocardiograph, ST Elevation, Proximal LAD Occlusion, Spontaneous Reperfusion.*

I. INTRODUCTION

About 20% of patients with STEMI experience transient STEMI, also known as spontaneous re-perfusion. This condition is generally characterized by spontaneous improvement of the ST segment on an ECG or by achieving initial thrombolysis in myocardial infarction in the artery related to the infarct before percutaneous coronary intervention and symptom improvement. There is little evidence to suggest that oral anticoagulants could alter endogenous fibrinolysis. Compared to individuals without spontaneous re-perfusion, those with spontaneous re-perfusion experience fewer myocardial infarcts and better clinical outcomes. It follows that it is crucial to comprehend the mechanisms behind spontaneous re-perfusion. as a result of which patients with STEMI may benefit from new treatment targets that are identified.

II. CASE PRESENTATION

A 45 year old male came with complaints of chest-pain since one day which is sudden in onset, crushing type, continuous in nature and non radiating following ingestion of alcohol. It is not associated with nausea and vomiting. Initially patient went to a local hospital with similar complaints and electrocardiogram was done which revealed ST elevation in V2 - V4. Patient was given loading dose which contains Aspirin 300mg, clopidogrel 300mg and atorvastatin 80mg. He was advised to go to a higher centre for further management. Electrocardiograph which was taken in our hospital shows no ST elevation and the symptoms are improved. He has no comorbidities and significant past history. He is a chronic smoker and alcoholic since 10 years.

III. GENERAL EXAMINATION

➢ *Conscious, Oriented and Afebrile.*
- BP-130/90 mm hg measured in right arm in supine position.
- Pulse - 82/min regular rhythm, normal volume, no radio-radial and no radio-femoral delay, all peripheral pulses are felt.
- Respiratory rate - 20/min.
- Spo2 - 99% @room air.
- Capillary blood glucose -110mg/dl.
- No pallor/ icterus/ cyanosis/ clubbing/ edema/ lymphadenopathy.

IV. SYSTEMIC EXAMINATION

- Cardiovascular system - S1, S2 are heard, no murmurs are heard.
- Respiratory system - Air entry bilaterally present and no added sounds are heard.
- Per Abdomen - Soft,non tender, no organomegaly.
- Central nervous system - No focal neurological deficit.
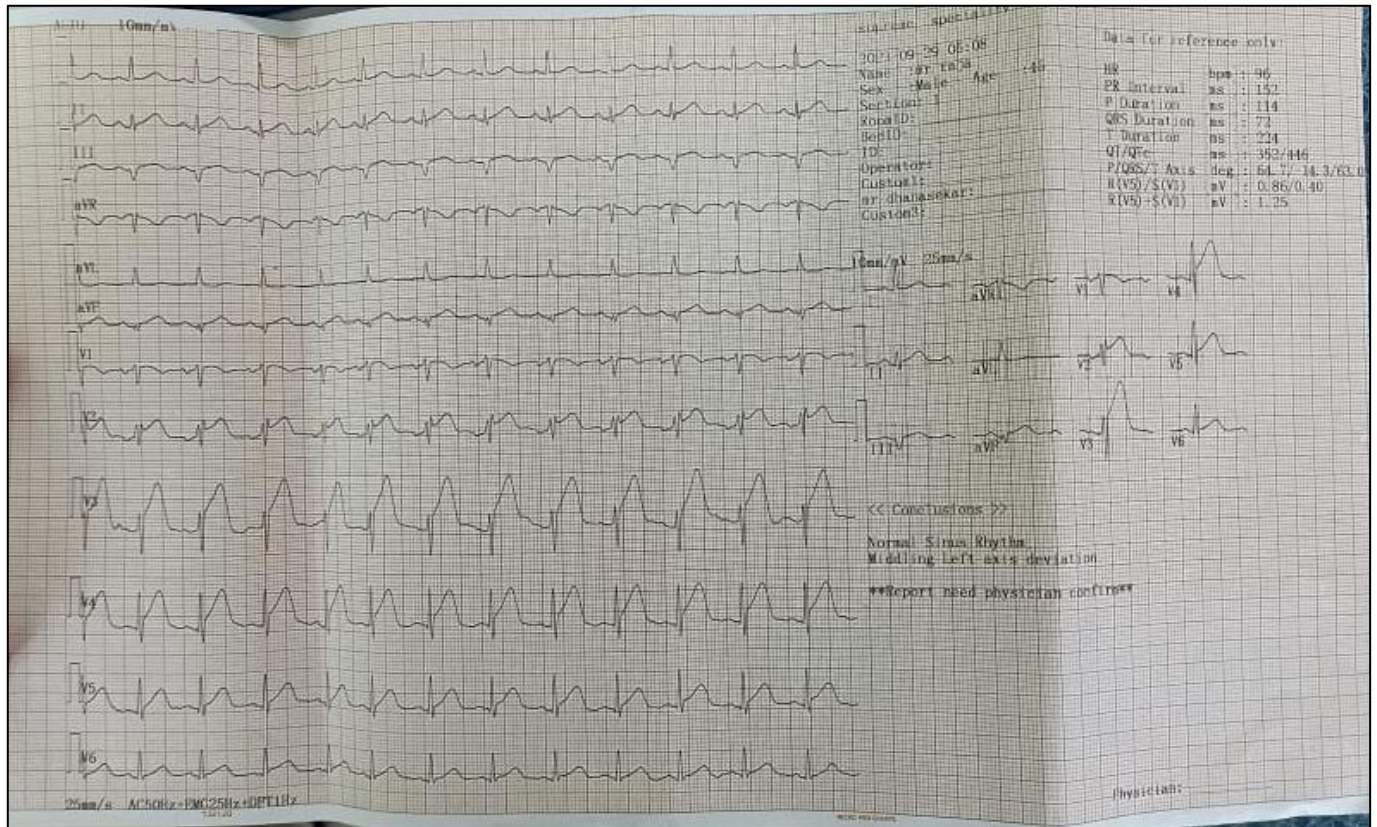
V.   EVALUATION AND MANAGEMENT

Fig 1 Electrocardiograph at the Local Hospital Which ST Elevation in V2 - V4.
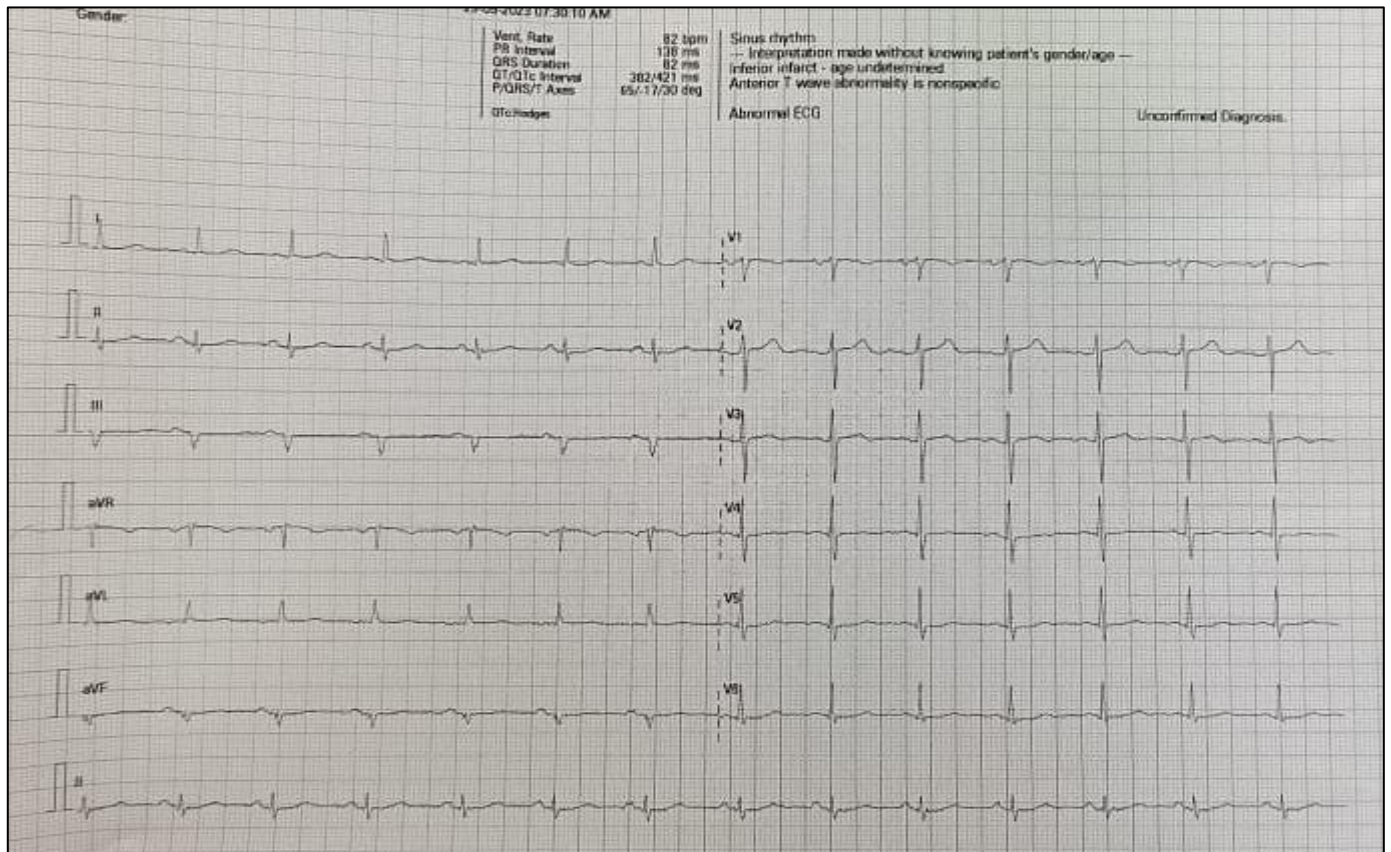

Fig 2 ECG Taken after 4 Hrs Which Shows Normal Sinus Rhythm with no ST-T Changes.

➢ *2D - ECHO-*

- No Regional wall motion abnormality.

- Normal Left ventricular systolic function EF 60%.

- Normal Cardiac chambers.

- Sclerosed Aortic valve.

- Mild Mitral regurgitation.

- Trivial Tricuspid regurgitation.

- No clot / Pulmonary embolism.

- CK-MB - 81 and TROP I - Positive.

Patient was kept under observation for 36 hours and was referred later for angiogram which showed proximal LAD occlusion and angioplasty was done. While discharging, patient was kept on dual antiplatelets and statins.

VI. DISCUSSION

Since we are in the era of percutaneous coronary intervention, spontaneous re-perfusion may be able to postpone the necessary emergency angioplasty.

Due to the fact that the length of ischemia determines the size of the infarct, prior research on patients diagnosed with acute myocardial infarction and having elevated cardiac biomarkers has demonstrated that patients presenting with signs of spontaneous re-perfusion far better than those without.

Different re-perfusion therapy modalities have been developed for developing myocardial infarction, with varying degrees of success, complexity, and cost. In any case, it's still uncertain when to intervene in patients who have spontaneous re-perfusion.

There are determinants of spontaneous re-perfusion like pro-thrombotic profile, endogenous fibrinolytic status, lipoprotein (a), inflammatory markers and neutrophil extracellular traps.

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