

A CASE REPORT OF DYSPEPSIA AS THE INITIAL PRESENTATION OF ACUTE ST-ELEVATION MYOCARDIAL INFARCTION IN A FEDERAL MEDICAL CENTRE, OWO, ONDO STATE, NIGERIA

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ABSTRACT

Background: Acute ST-elevation myocardial infarction (STEMI) is a medical emergency requiring prompt diagnosis and reperfusion therapy. Classically, retrosternal chest pain is expected; however, myocardial infarction may present atypically with epigastric pain, leading to diagnostic delay and inappropriate initial treatment.

KEYWORDS: Classically, However, Myocardial Infarction May Present Atypically.

OBJECTIVE

We report a case of extensive STEMI presenting predominantly with epigastric pain and vomiting, managed successfully following a high index of suspicion with guideline-directed therapy.

CASE REPORT

A 52-year-old man, employed as a hospital transport services driver at the Federal Medical Centre, Owo, Ondo State, Nigeria, presented with 4 hours of severe epigastric pain and vomiting. The patient was apparently well until four hours prior to presentation when he awoke at approximately 3:00 am with sudden-onset epigastric pain. The pain was initially mild but progressively increased in intensity, becoming severe, crushing, and continuous. It radiated to the neck and left upper limb and was associated with shortness of breath, palpitations, pleuritic chest pain, and a feeling of impending doom, with no identifiable relieving factors. Although the patient gave history of a recurrent epigastric pain in the last 4 years but it is mild, relieved by antacids but no associated palpitation, radiation to any other part of the body or shortness of breath.

He is married and live with his wife and three children. There was no family history of similar illness. He had no history of hypertension, diabetes mellitus, dyslipidaemia,

or asthma. He neither smoked nor consumed alcohol or any recreational drugs.

Initial assessment of peptic ulcer disease was made, and intravenous omeprazole, antacids, and analgesics were administered without relief. The patient was subsequently referred for urgent electrocardiography, on the suspicious of acute myocardial infarction.

Examination revealed a conscious, well oriented, middle-aged man in painful distress. Temperature was 36.5°C, not pale, anicteric, acyanosed, not dehydrated and no peripheral oedema. Cardiovascular examination revealed a, pulse rate of 102 beats per minute regular and normal volume. There is was no thickened arterial wall and no locomotor brachialis. Blood pressure was 132/82 mmHg supine and jugular venous pressure was not elevated. The apex beat was located at the left fifth intercostal space along the mid-clavicular line. First and second heart sounds were heard with no murmur. Respiratory rate was 32 cycles per minute, SPO₂ was 97% on room air. The trachea was centrally placed and vocal fremitus was normal bilaterally. Percussion note was resonant, and breath sounds were vesicular with no added sounds. Abdomen was soft and moved with respiration. There was epigastric tenderness with no palpable

organomegaly but bowel sounds were normal and no neurological deficit.

RESULTS

Electrocardiography revealed ST-segment elevation in leads I, II, aVL, and V4–V6 (Figure 1). Figure 2 showed

some degree of repolarization following thrombolysis with streptokinase, while Figure 3 showed a near-normal ECG at discharge.

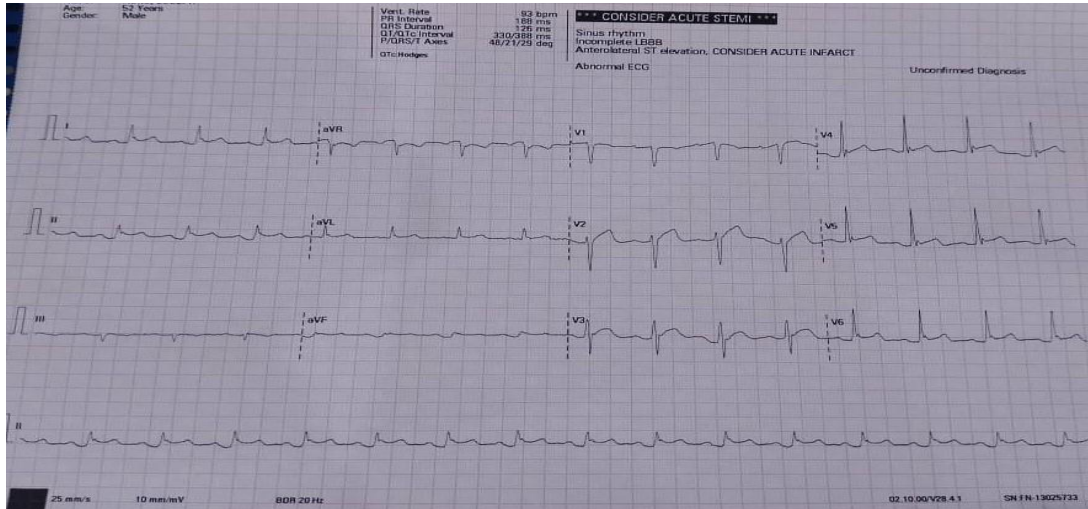


Fig. 1: ECG on day 1 at Emergency.

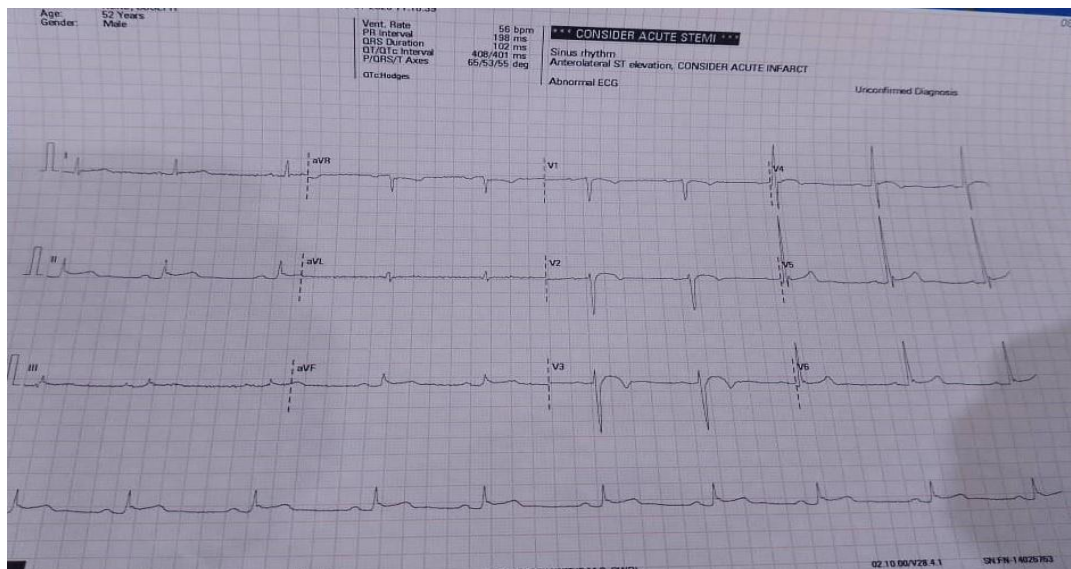


Fig. 2: ECG after thrombolysis (2nd day).

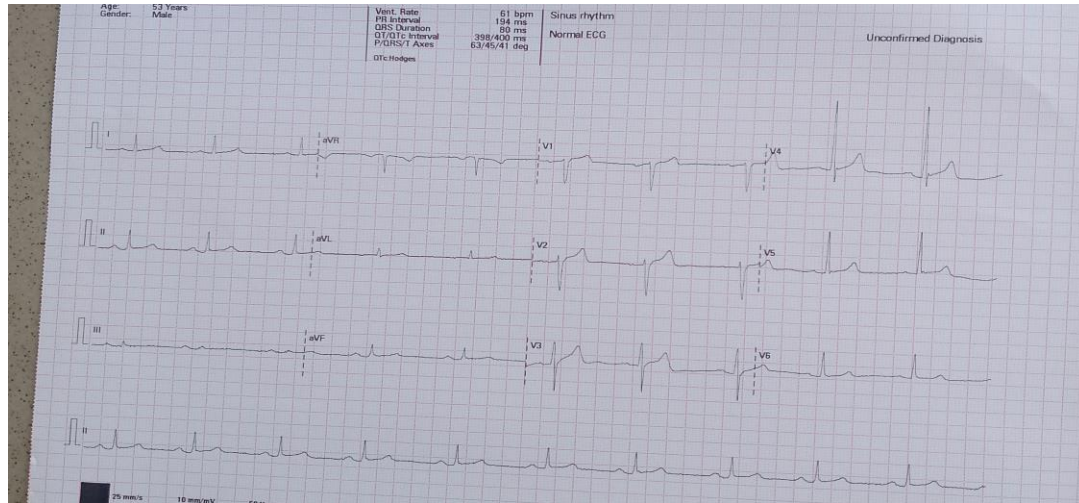


Fig. 3: ECG at discharge (7th day).

Laboratory investigations showed a random blood glucose level of 5.4 mmol/L, serum urea 3.2mmol/l, serum creatinine 85umol/l, ESR 25mm/hr. PCV 42%, WBC 9,970, neutrophils 87%, lymphocytes 5%, platelets 151,000. Urinalysis revealed a pH of 6.5, positive nitrites, and trace leukocytes. Fasting blood glucose, two hours post prandial glucose and fasting lipid profile were normal. Cardiac biomarkers (troponin I and T) tests were not available. Transthoracic echocardiography done on the 4th day of admission demonstrated a reduced left ventricular ejection fraction of 47%, Biventricular diastolic dysfunction, left ventricular concentric hypertrophy, hypokinetic left posterior wall, and dilated left atrium.

The patient had aspirin 300 mg stat, clopidogrel 75 mg daily, high-intensity statin therapy rosuvastatin 20 mg daily, low-molecular-weight heparin, subcutaneous enoxaparin 80mg daily and a beta-blocker metoprolol 25 mg daily, intranasal oxygen therapy, and syrup morphine 20 mg 6 hourly. Intravenous omeprazole 40 mg 12hourly, intravenous rocephin 1g 12hrly, tablet cartinex 500mg twice daily and intravenous fluid 0.9% normal saline to alternate with 5% dextrose water 4hourly at emergency and subsequent admitted at intensive care unit. Percutaneous coronary intervention is not available in our facility but at prohibitive cost in a distant facility in our country. Alteplase prescribed for immediate thrombolysis was not available and we have to make use of streptokinase. The patient demonstrated progressive clinical improvement, with marked reduction in epigastric pain by the second day of admission. Vital signs gradually stabilized, and oxygen therapy was discontinued on the 5th day. By the 9th day of admission, he was asymptomatic and haemodynamically stable and was discharged on clopidogrel, cartinex, statin, beta-blocker, empiget. He was counselled on activity modification and scheduled for outpatient cardiology follow-up. Patient has been regular on follow with good clinical condition and currently on clopidogrel, empiget and cartinex.

DISCUSSION

This case illustrates an atypical presentation of acute STEMI with predominant epigastric pain and vomiting. Atypical symptoms are well recognised in acute myocardial infarction and have been reported in up to 1/3 of patients, often leading to diagnostic uncertainty, especially in low- and middle-income countries (LMICs).^[1,2] Atypical acute myocardial infarction occurs in up to 30% of cases, often in women, elderly, and diabetics, presenting without classical chest pain. Our patient has atypical epigastric pain without the comorbidities such advancing age, diabetes, dyslipidemia, immunosuppression, hypertension, tobacco, alcohol intake or use of psychoactive substances. Similar observations have been reported in African cohorts, where myocardial infarction may occur in relatively younger patients and those without classical risk profiles.^[8,9] This underscores the importance of maintaining a high index of suspicion for acute coronary syndromes in patients presenting with epigastric or atypical chest pain. The atypical pain equally radiates to the jaw and left upper arm however no classic exertion related history and relieve by rest. The pain is thought to arise from shared visceral afferent innervation between the myocardium and upper gastrointestinal tract, resulting in symptoms mimicking dyspeptic disorders.^[3]

Electrocardiography remains the cornerstone of acute myocardial infarction diagnosis and it is particularly crucial in every emergency services. Electrocardiography is noninvasive tests that is readily available in our resource-limited settings where access to cardiac biomarkers and advanced imaging and interventions may be constrained.^[4,5] Prompt diagnosis in this patient limit the degree of progression and quick intervention resulting into his favorable outcome. The absence of cardiac biomarker testing in this case reflects real-world challenges commonly encountered in LMICs ,like ours. Despite this limitation, ECG findings combined with high index of suspicion help in no small way to establish the diagnosis and initiate reperfusion therapy in line with international best practices and guidelines.^[1]

Pharmacologic reperfusion remains a vital treatment strategy in environments where timely access to percutaneous coronary intervention (PCI) is unavailable. Studies from Nigeria and other sub-Saharan African countries have demonstrated improved outcomes when thrombolysis is administered early and combined with guideline-directed medical therapy.^[6,7] In particular, Nigerian studies have highlighted the continued reliance on thrombolytic therapy and the need for heightened clinical suspicion for atypical STEMI presentations.^[8]

Recommendation and Conclusion: There is no doubt that there is rising incidence of myocardial infarction in LMICs countries like ours with paucity of advanced diagnostic and intervention facilities. High index of suspicion is needed for prompt and accurate diagnosis, particularly the atypical STEMI. We recommend that all hospital especially at the emergency unit must have functioning electrocardiography service and all healthcare workers should have adequate training and knowledge of electrocardiography.

Patient Consent: Informed consent was obtained from the patient and his identity kept confidential.

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