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ACUTE CORONARY SYNDROME WITH NORMAL ECG AND NEGATIVE BIOMARKERS. CASE REPORTS.

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ARTICLE INFO	ABSTRACT	CASE REPORT
<p>Article History Received: February 2020 Accepted: March 2020</p> <p>Corresponding author* Dr. C. K. Das, Central hospital, S. E. C. Railway, Bilaspur, India</p>	<p>Acute Coronary Syndrome (ACS) is diagnosed in an Emergency Department (ED) with the help of Ischemic symptoms, an abnormal Electro Cardio Gram (ECG) and a positive biomarker like Troponin or CK MB enzyme. Non-ST Elevation Myocardial Infarction (NSTEMI) presents with acute ischemic symptoms and ST depression or T inversion or even a normal ECG but with positive biomarkers. We present two unique cases here of Acute Coronary Syndrome with normal serial ECGs and negative biomarkers even after 6 hours of the index event.</p>	

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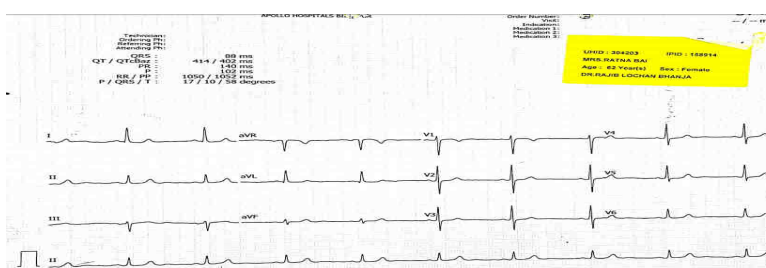
AIM

To analyze the differential diagnosis of normal ECG in acute coronary syndrome with ongoing angina and negative biomarkers.

CASE NO.1

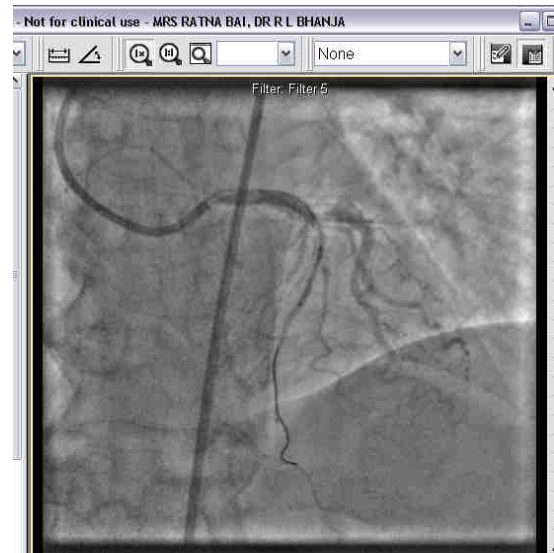
A 62-year female known case of Diabetes Mellitus type 2, Systemic hypertension and a right-sided contracted kidney was brought to ED with complaints of recurrent angina with radiation to jaws for more than 24 hours. The pain was associated with sweating. On examination she was

afebrile, pulse 76/minute, regular, normal character, Blood Pressure 160/88 mmHg, JVP- Not raised, Heart – S1, S2 normal, a grade III/VI ejection systolic murmur heard. Other systemic examinations revealed no abnormalities. ECG serially taken over one hour were consistently normal (see below). Trop-T and CK-MB were negative on arrival and after one hour. Bedside Echocardiography revealed EF 55% no Regional Wall Motion Abnormality (RWMA).



The patient was given an oral loading dose of Aspirin 300mg, Clopidogrel 300mg and Atorvastatin 80 mg and intravenous Nitroglycerine, but angina did not respond. The patient was taken for Coronary

Angiogram (CAG), which shows proximal Left Anterior Descending (LAD) artery obstruction (see below). Primary angioplasty was done with DES implantation.

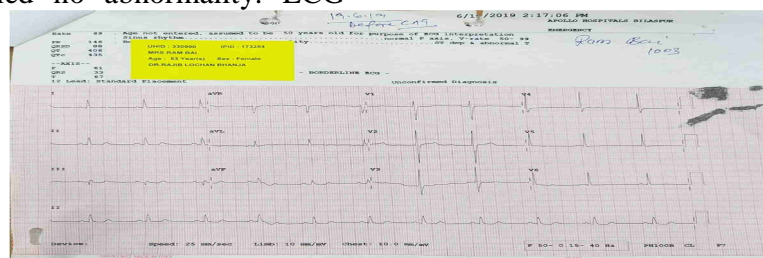


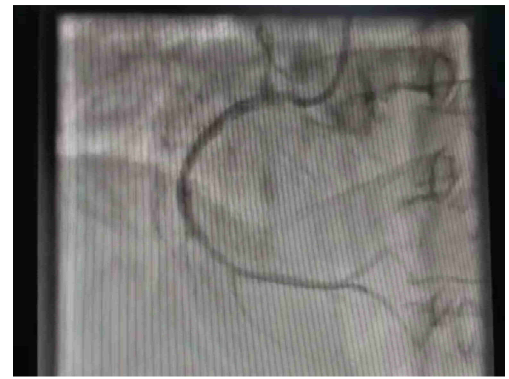
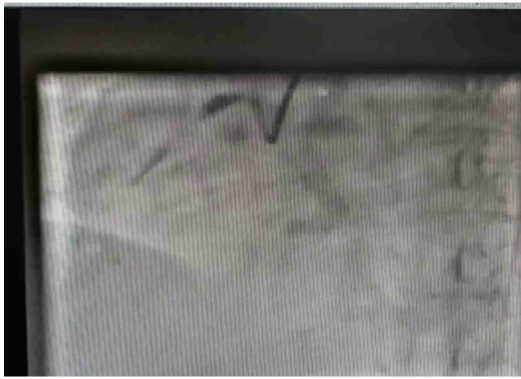
The post-procedure patient becomes asymptomatic and was discharged in stable condition with advice to continue antiplatelets along with statin and other medications. She is doing well.

CASE NO.2

A 53 year female without a history of Diabetes or Hypertension came to ED with complaints of central chest pain with vomiting twice since 7 am (4 hours duration). It was not associated with fever, dyspnoea, cough, dizziness, palpitation or syncope. On examination she was afebrile, pulse 72/minute, regular, normal character, JVP-Not raised, Blood Pressure 120/80 mmHg. Heart S1, S2 normal no added sound. Other systemic examination revealed no abnormality. ECG

was within the normal limit (see below) despite ongoing angina. Trop T and CK MB were negative. Bedside echocardiography was not contributory. She was given an oral loading dose of Aspirin 300mg, Clopidogrel 300mg and Atorvastatin 80 mg and intravenous Nitroglycerine, but angina did not respond. Her ECG and Cardiac enzymes were repeated after one hour. Results were not contributory. She was taken up for Coronary Angiogram (CAG). CAG showed Thrombus packed obstruction of proximal Right Coronary Artery(RCA). Primary angioplasty was done with DES implantation to RCA. The patient was discharged after 5 days and doing well at present.





DISCUSSION

The sensitivity of ECG for CAD diagnosis ranged between 25.8% and 37.3% and its specificity ranged from 79.0% to 79.9%. In the case of ST-elevation MI, the most important finding in a clinical setting is the ST elevation in standard 12 lead surface ECG, apart from the typical rise and fall of the myocardial enzyme in the peripheral blood. The corresponding coronary angiography usually reveals obstructive coronary artery disease. In the case of Non-ST elevation, MI one may find a normal ECG despite ongoing angina. But the myocardial enzyme is positive. In Unstable Angina the surface ECG usually presents with T inversion or ST depression but myocardial enzymes are conspicuous by its absence. In these two cases both had acute obstructive coronary artery disease with typical acute ischemic symptoms but normal ECG and negative myocardial enzyme. The window periods were also too long to get a delayed rise of the myocardial enzyme. The peculiarity is the absence of triad of diagnostic guidelines for acute coronary syndrome i.e., Ischemic symptoms (angina), ST deviation in ECG and typical rise and fall of serum cardiac enzymes. Here the only single factor was ongoing angina in both cases. Sometimes these symptoms are found to be subjective. Hence it is very important to do the close observation of patients' symptoms being at the bedside. Thrombolysis for such clinical presentation is highly objectionable though it might benefit the patient. In such doubtful cases, one can

take benefit of the doubt to go for coronary angiogram after well explaining the necessity to patients' attendants wherever the facility is available.

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