Life Threatening Acute Anterior Wall STEMI in a Young Male Following an Alcohol Binge

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Abstract

Acute MI is one of the most common presentations of coronary heart disease. Acute myocardial infarction in a very young patient is one of the most disturbing clinical scenarios for a treating cardiologist. Of all the patients with coronary artery disease, individuals younger than 45 years of age account for only 3% and very young patients with age less than 35 years account for <2%. We hereby report a case of a 22-year young male with no significant past or family history of cardiovascular disease, who presented to our ED with history of chest pain for the past two hours. With evidence of acute anterior wall MI in the ECG, patient underwent thrombolysis with streptokinase. CAG showed non obstructive thrombus in the LAD, hence deferred stenting and advised medical management. Apart from binge alcohol consumption, there was no other associated significant cardiovascular risk factors in our patient. The present case may signify the possibility of occurrence of acute myocardial infarction following binge alcohol consumption even in very young individuals.

1. Introduction

Acute MI is one of the most common presentations of coronary heart disease [1]. Acute myocardial infarction in a very young patient is one of the most disturbing clinical scenarios for a treating cardiologist. Of all the patients with coronary artery disease, individuals younger than 45 years of age account for only 3% and very young patients with age less than 35 years account for <2% [2]. The sudden onset of angina that rapidly progresses to fully evolved MI is often the case in patients less than 45 years of age [3].

All the young patients presenting with acute MI should be questioned regarding use of recreational drugs, cigarette smoking, alcohol abuse and binge drinking. Detailed personal and family history might give us clues regarding the probable cause of the acute event. MI in young most commonly occurs in males and the most common cause being smoking [4]. The relation between alcohol consumption and myocardial infarction is one of the least discussed concepts, yet there are some studies which stress on alcohol binge leading to acute thrombotic events like acute myocardial infarction. To date, there have been no reports on a very young man with no previous clinical history of angina nor significant family history suffering from acute myocardial infarction following an alcohol binge, therefore we report the first such case, together with a brief review of literature.

2. Case Presentation

A 22-year-old Indian male with no significant past personal and family history of cardiovascular disease and risk factors, presented to our ED with complaints of sudden onset chest pain for the past 2 hrs. Patient had history of an alcohol binge prior to the onset of chest pain. Patient gave the history of having alcohol continuously for the past two days but denied any drug abuse or cigarette smoking.

ECG at presentation was doubtful of acute MI but repeat ECG after 10 min showed significant ST elevations in the anterior chest leads confirming acute anterolateral wall myocardial infarction. As the patient presented in window period, thrombolysis was done with streptokinase following loading doses of aspirin (300 mg), clopidogrel (300 mg) and atorvastatin (80 mg).

Post STK, pain was relieved, and ECG showed significant ST resolution. 2D-ECHO was normal (EF-60%) with no regional wall motion abnormality. Shifted to cardiac care unit, stabilised for 48 hrs and planned for CAG. Routine blood investigations were within normal limits. Lipid profile, ANA and serum homocysteine levels were normal.

CAG showed non occlusive thrombus in the proximal LAD, hence deferred PTCA and considered for medical management. The patient was discharged in a stable condition on antiplatelets and short run of oral anticoagulants.
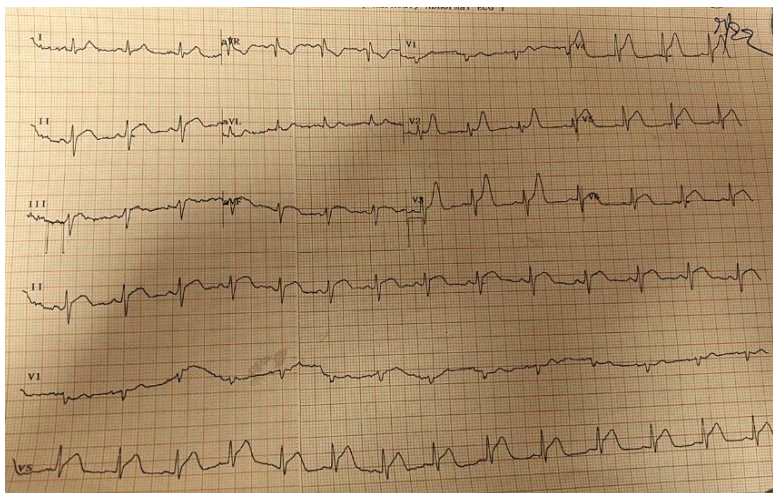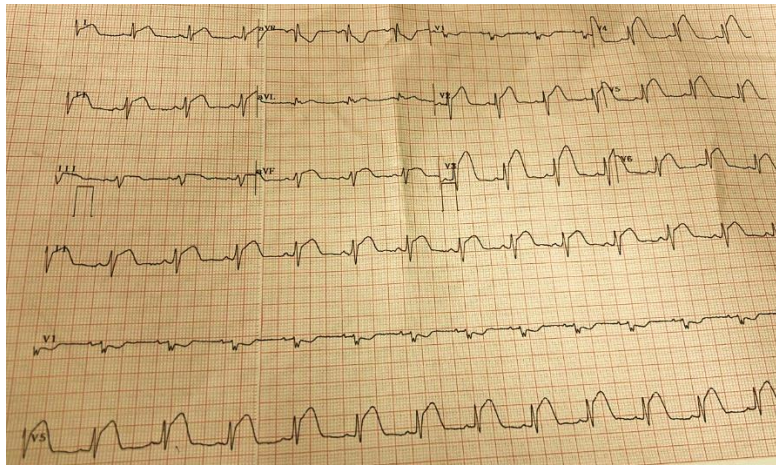

FIG. 1. **ECG at presentation.**

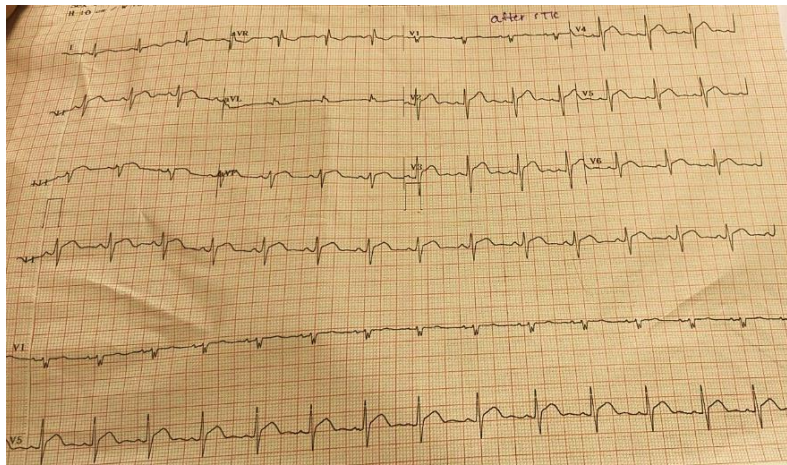FIG. 2. **ECG after 10 min - Before Thrombolysis.**

FIG. 3. **Post Thrombolysis**
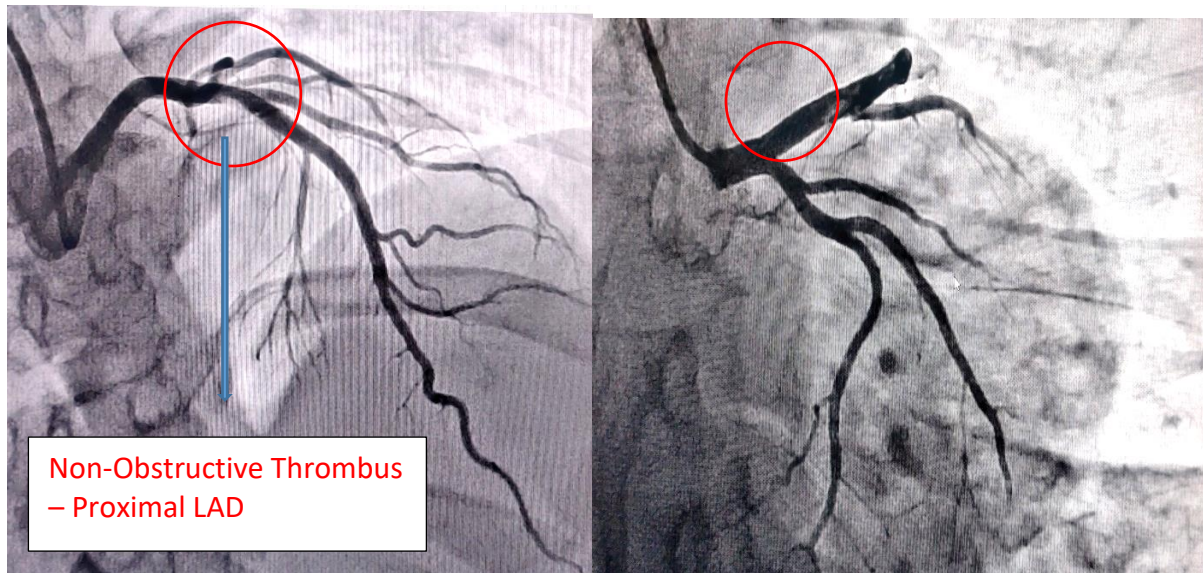

Non-Obstructive Thrombus – Proximal LAD

FIG. 4. **Coronary Angiogram.**

3. Discussion

We are presenting a case of a 22-year-old young male who suffered an acute anterior STEMI within one hour following binge drinking of alcohol and having no significant cardiovascular risk factors (DM, HTN, Smoking, Dyslipidaemia) and family history of premature CAD. Our case is the first of its kind. Routine blood investigations, Lipid profile, ANA and serum homocysteine levels were within normal limits. Patient denied any history of cigarette smoking and recreational drug abuse. The million-dollar question here is, whether our patient suffered an acute heart attack because of his binge alcohol intake??

Till date there is no clear-cut evidence that chronic alcohol consumption can lead to coronary heart disease, whereas previous studies say moderate alcohol consumption is cardio-protective [5]. Some studies have reported that alcohol is an acute trigger of sudden cardiac death [6] and associated with higher cardiovascular risk. One study highlighted the complex association between alcohol consumption and acute MI onset, including higher MI risk in the hour after intake and lower risk in the following 24 hours [7]. The INTERHEART study showed that episodes of binge drinking can lead to the onset of myocardial infarction and that especially in older people [8].

Usually binge drinking in combination with other risk factors can lead to onset of acute myocardial infarction in middle aged and elderly population, but also can occur in young individuals too, though rare. Here we want to discuss a few possibilities of adverse cardiovascular events following alcohol consumption.

Following Binge drinking - there can be acute shoot up of blood pressure, irregular heart rhythms which can lead to acute myocardial infarction.Chronic alcohol consumption can lead to cardiomyopathy (weak heart muscle) which can further increase the risk of acute MI and associated cardiovascular complications.

Binge drinking (excess intake of alcohol within a short period) can also increase the risk of thrombosis occluding the coronary arteries, which lead to acute myocardial infarction. Although there is no confirmatory evidence, our patient might belong to this clinical scenario.

4. Conclusion

Our case report is the first of its kind. Binge drinking can be a risk factor for acute myocardial infarction even in the young population. It is difficult to make simple recommendations about alcohol consumption as the risks and benefits of mild to moderate alcohol consumption depend on the amount of alcohol consumed, alcohol type and the consuming pattern. Most of the acute coronary events particularly in young can be prevented by healthy life style modifications like no smoking, no recreational drug use and no binge alcohol consumptions.

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