Simultaneous Plaque Rupture in Two Coronary Arteries Presenting as Acute Coronary Syndrome

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Abstract
A 45 yrs male presented with angina. ECG showed transient CHB, T wave inversion in V3 to V6 and inferior leads. It was difficult to predict the culprit vessel based on ECG. Coronary angiography showed thrombotic lesions in LAD, LCX and OM which can potentially impact identification of culprit vessel and hence affect the management with primary PCI.

Introduction
Coronary atherosclerosis is by far the most frequent cause of ischemic heart disease, and plaque disruption with superimposed thrombosis is the main cause of the acute coronary syndromes of unstable angina, myocardial infarction, and sudden death. Usually culprit vessel is a single vessel and simultaneous plaque rupture in multiple coronary vessels is uncommon.

Case Report
47 years male, diabetic, (detected first time during this hospitalization), non hypertensive, non smoker was admitted with angina of 1 hour duration. On admission HR was 50/min, BP was 130/80 mm Hg, 2DEcho was normal. ECG showed T wave inversion in V3 to V6 (Figure 1), Cardiac enzymes were elevated. ECG by previous physician showed complete heart block. He was loaded with antiplatelets (aspirin and clopidogrel), and further treated with a statin, GpIIbIIa Inhibitor (Tirofiban), antianginal and supportive care. Subsequent ECG showed development of T wave inversion in inferior leads also. Coronary angiography showed thrombotic long lesion in mid LAD, thrombotic lesion in OM, thrombotic occlusion of distal LCX (Figure 2). We decided to treat with one week therapy of LMWH and medical management.

Discussion
Multiple thromboses in coronary arteries are extremely rare in current clinical practice. Pathological studies have demonstrated their presence in 10% of the patients who died from AML. Patients with multiple thromboses tend to have more severe clinical manifestations in up to 50% of the cases described in the literature. In angiographic studies, the percentage of patients with acute myocardial infarction (AMI) who had thrombi in non-culprit lesions was 32.8% and this occurrence is associated with a higher number of adverse clinical outcomes. In necropsies of patients who died from AMI, Burke and Virmani observed that 25% to 50% of these patients had multiple coronary thromboses.

The treatment strategy in such scenario is not well defined. However, patient my need to undergo revascularization depending on clinical circumstances.

We decided to manage our patient with antiplatelet and anticoagulant as patient was asymptomatic.

References