



Images in Cardiology

Complete Occlusion of a Severely Ectatic Coronary Artery With a Ball Thrombus

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Case

An 80-year-old woman presented to the emergency department of a community hospital with a 4-day history of intermittent retrosternal chest discomfort. She had no history of cardiovascular disease. Her cardiac risk factors included age, dyslipidemia, and a remote smoking history. A 12-lead electrocardiogram showed inferoposterior ST elevation. She was administered acetylsalicylic acid, clopidogrel bisulfate (Plavix, Bristol-Myers Squibb, New York, NY), enoxaparin, and metoprolol, and transferred to a university centre for urgent coronary angiography.

Angiography (Fig. 1) showed severe, extensive ectasia with complete occlusion of the right coronary artery with a large clot, approximately 17 mm in diameter, and diffuse disease in the left coronary artery.

Given the significant ectasia and the late presentation, a conservative approach was taken. She was managed medically without complication and discharged 5 days later. The decision to not perform angioplasty on the right coronary artery was based on the Occluded Artery Trial (OAT) study,¹ which showed no benefit of angioplasty of a total occlusion in asymptomatic patients whose myocardial infarction was more than 72 hours old. The left anterior descending stenosis was not opened up, because we are waiting on the results of the COMPLETE study for guidance in this matter.

Coronary artery ectasia (CAE) is commonly defined as dilatation of a coronary artery to 1.5 times greater than that of an adjacent normal segment.² It is present in 1% to 3% of patients with obstructive coronary artery disease at autopsy or

angiography.³ Remodeling due to atherosclerosis is the most common cause of CAE, but other causes include congenital anomalies and inflammatory conditions such as Kawasaki disease.

An important diagnosis to consider in the differential of a dilated coronary artery is coronary artery aneurysm, which rarely occurs in arteries that are not severely stenotic. Aneurysms are usually associated with extensive coronary artery disease and are most commonly found in the left anterior descending artery, whereas CAE is most common in the right coronary artery.²

Liang et al.⁴ found that CAE is associated with an increased risk of thrombosis. The cause of this association is thought to be due to disruption of laminar flow, spasm, and intimal damage. Additionally, the fact that patients with CAE tend to have a higher mean platelet volume⁵ has led researchers to postulate that antiplatelet medications could be useful in the management of isolated CAE. However, to date no randomized trials have been conducted.⁴

Disclosures

The authors have no conflicts of interest to disclose.

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See page 158 for disclosure information.

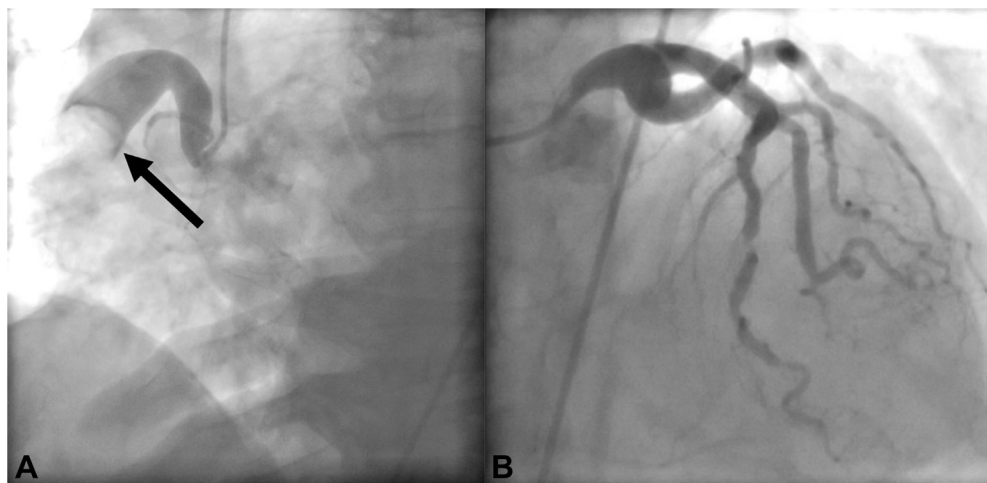


Figure 1. (A) Angiogram showed a large luminal filling defect in the proximal right coronary artery, which was completely occluding the vessel (Thrombolysis in Myocardial Infarction 0 flow). The artery proximal to the lesion was severely ectatic. The distal right coronary artery was filling from collaterals via the left anterior descending artery. (B) Angiogram of the left coronary artery showed diffuse ectasia and a 70% mid-distal left artery descending stenosis.