

Spontaneous thrombosis in an ectatic right coronary artery

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DESCRIPTION

A 73-year-old man presented to our cardiology service with intense central chest pain as an ST-segment elevation myocardial infarction (STEMI) call. His ECG showed inferior ST-segment elevation with reciprocal anterior ST-segment depression. We proceeded directly to coronary angiography which showed an ectatic aneurysmal right coronary artery (RCA) with heavy thrombotic burden (figure 1) but thrombolysis in myocardial infarction 3 flow.

At this point during the procedure, the patient was pain free, and his ST-segment elevation had resolved. As such, we elected to manage him acutely with intravenous unfractionated heparin. Abciximab was considered but given the patient's age, abnormal renal function, normalised ST segments and absence of pain, we elected not to use this therapy acutely. Atrial fibrillation was searched for in the patient's medical history but was not identified.

This case details spontaneous thrombosis in an ectatic RCA presenting as an acute STEMI. Coronary artery ectasia (CAE) is a relatively rare disorder defined as dilatation of a segment of coronary artery with a diameter 1.5 times or greater than that of the adjacent normal coronary artery.¹ Overall incidence of CAE has been reported to be as low as 1.2%.¹ CAE is three times as common in males.¹ Smoking has been reported to be more common in patients with CAE than in patients with coronary artery disease.¹ The most common aetiology of CAE is atherosclerosis, but it can also be caused by Kawasaki disease,

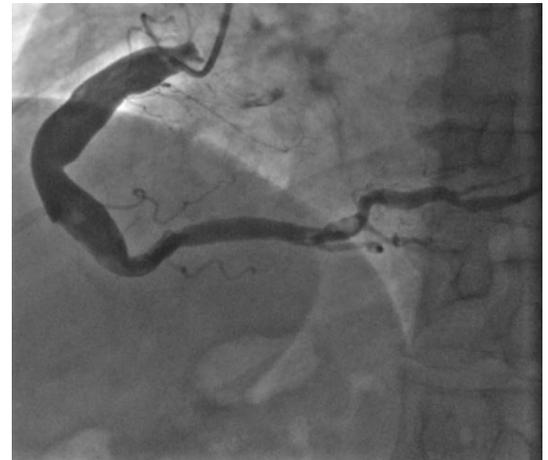


Figure 2 Repeat coronary angiography performed 3 days later showing resolving thrombus in the right coronary artery.

connective tissue disorders, Marfan's syndrome and arteritis.¹ CAE commonly presents with stable angina. However, STEMI can be caused by distal embolisation or a thrombus occluding an ectatic segment of coronary artery, as in this case.¹ Local thrombus formation due to stagnant local blood flow has been suggested as a cause of coronary thrombosis in severe CAE presenting with acute myocardial infarction.² Multiple cases of spontaneous thrombosis in an ectatic segment have been treated with anticoagulation.^{2,3}

The optimal management of CAE has not been firmly established.¹ Proposed therapies include aspirin and chronic anticoagulation.¹ Nitrates can increase epicardial dilation, thereby exacerbating myocardial ischaemia and causing angina pectoris in patients with CAE.¹ As such, nitrates should be avoided in patients with isolated CAE.¹

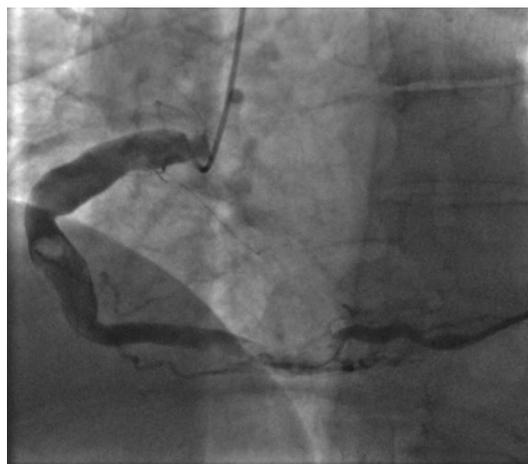


Figure 1 Coronary angiogram of the right coronary artery showing an ectatic vessel with a heavy thrombotic burden.

Learning points

- ▶ Coronary artery ectasia is defined as dilatation of a segment of coronary artery with a diameter 1.5 times or greater than that of the adjacent normal coronary artery.
- ▶ Coronary artery ectasia can be complicated by spontaneous thrombosis and present with acute myocardial ischaemia.
- ▶ The optimal management of coronary artery ectasia is not well defined, however proposed therapies include aspirin and anticoagulation.

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In our case, repeat coronary angiography performed 3 days later demonstrated decreased thrombus burden (figure 2). The patient was started on warfarin and aspirin and discharged home well for outpatient follow-up.

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