Coronary artery aneurysms involving all the three coronaries: a rare entity

Pritesh Parekh, Navin Agrawal, Mahesh Vinchurkar, Apurva Vasavada

Department of Cardiovascular Sciences Care Hospital, Surat, Gujarat, India

Correspondence to

Dr Navin Agrawal,
drnavinagrwal@gmail.com,
dr_navinagrwal@yahoo.co.in

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DESCRIPTION

Coronary artery aneurysm (CAA) is defined as dilation exceeding the reference vessel diameter by 50%, while they are termed giant if their diameter exceeds the reference vessel diameter by four times or if the diameter is more than 8 mm.¹ It is uncommon to see aneurysmal involvement of all the three coronary arteries simultaneously.

We present a case of an elderly man who presented with symptoms of class III angina for which he underwent a diagnostic angiogram, which revealed the presence of an atherosclerotic aneurysm involving all the three coronary arteries with one of them being of a giant size of 16 × 34 mm. The patient had critical triple vessel disease for which he underwent coronary artery bypass grafting along with ligation and repair of the aneurysm of the left anterior descending (figures 1–3, videos 1–3).

Atherosclerosis accounts for the vast majority of CAAs in adults. Other causes include Kawasaki disease, Takayasu's arteritis, poly arteritis nodosa, lupus erythematosus, connective tissue disorders, congenital defects, infections (such as narcotic emboli, syphilis and Lyme disease), trauma, dissection and cocaine abuse, and may be either iatrogenic or idiopathic.

There is no definite recommendation for the appropriate indication and timing of management of atherosclerotic aneurysms of coronary arteries, neither is there a definite modality of choice of treatment although surgical ligation or covered

Figure 2 Left anterior oblique caudal view showing the left anterior descending and left circumflex aneurysms.

stents² have been used in anecdotal cases with a good outcome. Giant aneurysms should be managed aggressively especially when they harbour a thrombus and also when the patient is undergoing any other cardiac surgery as in our case.

Figure 1 Right anterior oblique caudal view showing a giant aneurysm of the left anterior descending and another aneurysm of the left circumflex artery.

Figure 3 Left anterior oblique view showing another atherosclerotic aneurysm of the right coronary artery.

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Video 1 RAO caudal view showing a giant aneurysm of the LAD and another aneurysm of the LCX artery.

Video 3 LAO view showing another atherosclerotic aneurysm of the RCA.

Video 2 LAO caudal view showing the LAD and LCX aneurysms.

Learning points

- ▶ Coronary artery aneurysms are a potential cause of thrombus formation which can lead to acute coronary syndrome and systemic embolisation even in the absence of haemodynamically significant atherosclerosis.
- ▶ There are no specific recommendations for management of coronary artery aneurysms although giant aneurysm usually needs to be treated but there is no cut-off in terms of size for intervention.
- ▶ Surgical ligation or the use of covered stents have proven successful in the management of giant coronary artery aneurysms in anecdotal cases although no particular regimen is preferred over the other.

Competing interests None.

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