Case Report

Right Coronary Artery Aneurysm

Cardiac Surgery

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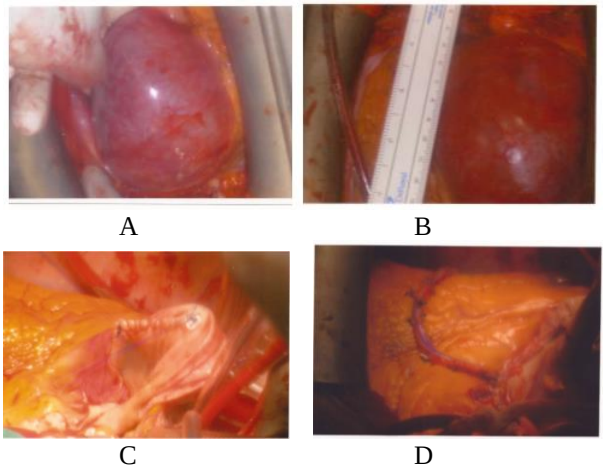
INTRODUCTION

Coronary artery aneurysm is dilatation greater than 1.5 times an adjacent normal coronary artery. We report a case of an unusually large right coronary artery aneurysm (RCA) presenting with chest pain.

MATERIALS AND METHODS

A 59 years old female known hypertension had nonspecific chest pain for few weeks. Her blood pressure was 140/90 mm Hg otherwise physical examination was unremarkable. A 12-lead ECG revealed normal sinus rhythm. On chest x-ray, a large right sided radio-opaque mass was noted by general practitioner an referred to our hospital tertiary care centre. A chest CT suggested right coronary aneurysm. Coronary angiography revealed normal left coronary artery. The right coronary artery could not be engaged, but non-selective injection of the right coronary artery suggested a large aneurysm and confirmed on echo as well. An aneurysm of the right coronary artery measuring 6 x 10cm (figure 1) was resected with left radial artery graft of the distal right coronary artery because we could not use saphenous vein due to severe bilateral varicosities. Pathologic changes of the resected right coronary artery were most consistent with atherosclerosis. She was discharged home on day 5 after surgery. At 6 months follow-up, she has resumed most of her normal activities.



A B C D

Figure No.1: A Shows the aneurysm of right coronary artery, B shows its measurement, C and D show the operative procedure and application of graft

DISCUSSION

We reported the case of 10 cm x 6 cm coronary artery aneurysm. There is male predominance and a predilection for the right coronary artery, with left anterior descending artery involvement less common but my patient was a female which is rare. The most common pathology reported is atherosclerosis accounting for 50% followed by congenital and Kawasaki's disease.[1]Other causes include arteritis, mycotic infections, autoimmune disorders, trauma and metastatic tumour. Coronary aneurysms have also been associated with percutaneous coronary angioplasty especially after dissection, and with angioplasty using an oversized balloon or directional atherectomy.

Most patients are asymptomatic. Myocardial infarction, thrombo-emboli, and sudden cardiac death with acute rupture have been reported in association of coronary artery aneurysm. Nawwar et al. reported a 6 cm aneurysm of the LAD (left anterior descending) presenting with stroke[2], Banerjee P et al. reported a 5.3 cm aneurysm of the RCA(right coronary artery) presenting with acute myocardial infarction, [3] and Pinheiro BB et al described a giant aneurysm of left main artery 5.6 cm in diameter.[4] Giant coronary artery aneurysm is a rare entity that is commonly caused by congenital malformation and combined with other cardiac anomalies. An optimal surgical operation should be based on the specific cardiac anomaly of the individual patient.[5] Operative treatment is exclusion and revascularization.

CONCLUSION

Coronary artery aneurysm should be considered in the differential diagnosis of chest pain. Proper use of imaging modality to diagnose this rare anomaly is important. Surgical management should be planned cautiously and requires appropriate technique for a better outcome..

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