Right coronary Artery Aneurysm: A case report and management review

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Topic(s):
Cardiovascular Surgery - Other

Citation:
Background/Introduction
Coronary artery surgery study (CASS) registry defined coronary artery aneurysm as dilation with a diameter of more than 1.5 times the adjacent normal coronary artery. Although rare they are not uncommon. They are known to occur secondary to congenital or acquired reasons.

Purpose
Management of unconstructive and asymptomatic coronary artery aneurysms are often a cause for dilemma because of their varied presentation and progression. Here we would like to discuss our case along with its surgical management.

Methods
A 69 year old Caucasian lady asymptomatic with a known diagnosis of ectatic dilation of right coronary artery of more than 12 years history on a yearly CT surveillance on warfarin for possible thrombus was referred for surgical intervention following multidisciplinary meeting. Her initial presentation was investigation for atypical angina. She was a non-smoker, on treatment for hypercholestremia and her brother suffers from coronary artery disease. In the past she was treated surgically for renal stones, gall stones and had undergone breast lumpectomy for carcinoma 8 years ago followed by chemo radiation treatment.

Coronary angiogram showed a progression of aneurysmal dilatation of proximal midsection of more than 2.5 cm with partial thrombus formation associated with a sharp angulated kink in the distal segment of the right coronary artery (RCA). The posterior descending and posterolateral segment of the RCA was of normal appearance. The Left coronary artery was with no lesions.

Results
On standard cardiopulmonary bypass(CPB) the proximal aneurysmal segment of the right coronary artery was found to be >2.5cms in diameter at its maximal dilated segment. The proximal and the distal end of the aneurysm was ligated using 4/0 prolene sutures and a saphenous vein graft anastomosed to the distal RCA. On initial weaning off cardiopulmonary bypass the right ventricular function deteriorated as confirmed on intraoperative transoesophageal echocardiography (TOE). So CPB was reinstated and a second saphenous vein bypass graft was anastomosed to the acute marginal branch of the right coronary artery and following this CPB weaning was uneventful. Post-operative period was uneventful and was discharge on the 10th day on statin and Aspirin. The patient has remained well one year after presentation.

Conclusion(s):
Review of literature suggests that the time duration with progression of aneurysmal lesions causing complications can vary along with conservative management involving warfarin and antiplatelet therapy even though there are no proven evidence to support this for lack of larger studies especially in non-obstructive and asymptomatic patient groups. Therefore management in this sub group should be individualised depending on their location and the clinical presentation as needed through multidisciplinary discussions.
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