

A giant right coronary artery aneurysm caused by congenital coronary fistula

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Received 7 October 2019; first decision 10 December 2019; accepted 9 February 2020; online publish-ahead-of-print 29 February 2020

Case description

A 61-year-old man presented to the outpatient clinic with a 3-month history of increasing dyspnoea on exertion. A chest radiograph and computed tomography demonstrated a greatly enlarged cardiac silhouette (Figure 1), and echocardiography revealed the presence of a large blood-filled sac markedly compressing the right heart chambers. Computed tomographic angiography of the coronary artery confirmed the presence of a giant saccular aneurysm that involved the entire right coronary artery and had a maximum diameter of 13.7 cm. The aneurysm originated from the opening of the right coronary artery; there was no evidence of coronary plaques, wall calcification, or thrombus formation. The distal right coronary artery was connected to the inferior wall of the left ventricle near the mitral annulus through a 1.2 cm fistula. Owing to the severity of his right heart compression and the possibility of aneurysm rupture, the patient was referred for surgery (Figure 2). The distal fistula of the right coronary artery was repaired with an autologous pericardium patch under cardiopulmonary bypass. The aneurysm was then resected, and the right coronary artery was reconstructed. Oral anti-coagulation was initiated after surgery and has continued post-discharge. On histological examination, a coronary artery aneurysm was confirmed with widespread smooth muscle hyperplasia and mucoid degeneration in the media. Post-operative coronary computed tomography angiography showed a regressed aneurysmal sac, and the patient was discharged without clinical symptoms. Coronary artery aneurysms are uncommon, and giant coronary artery aneurysms (>50 mm) are extremely rare, affecting 0.02% of patients undergoing coronary angiography.¹ Management of these giant aneurysms is challenging, and the optimal method is not well-established because of the rarity of the condition and the reliance on evidence-based largely on case reports.² Surgical ligation is not generally indicated but should be considered for large aneurysms with evidence of compression or recurrent thrombosis.³

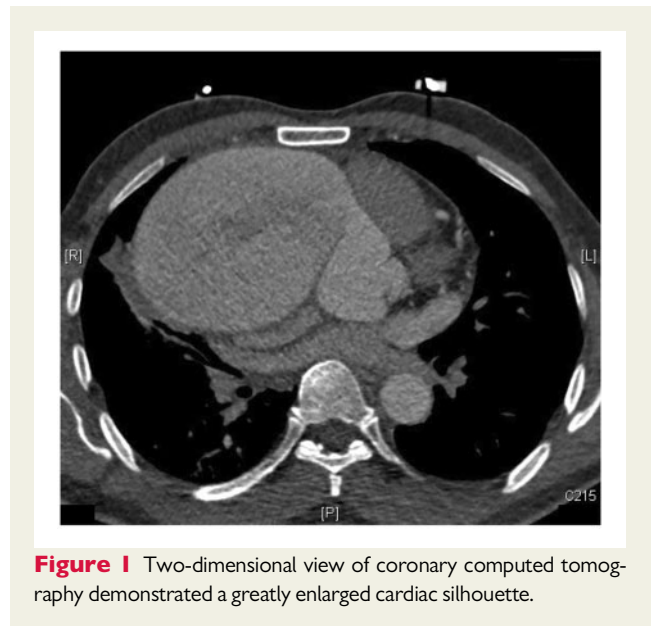


Figure 1 Two-dimensional view of coronary computed tomography demonstrated a greatly enlarged cardiac silhouette.

Supplementary material

Supplementary material is available at *European Heart Journal - Case Reports* online.

Acknowledgements

The authors appreciate the multiple contributions made by and advice from Ge Gao, Linlin Li, Zhaoji Zhong, Ying Meng, and Xinyu Wang (Fuwai Hospital, National Center for Cardiovascular Diseases, Chinese Academy of Medical Sciences, Peking Union Medical College, Beijing, People's Republic of China).

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Handling Editor: Riccardo Liga

Peer-reviewers: Alice Wood, Elad Asher and Romain Didier

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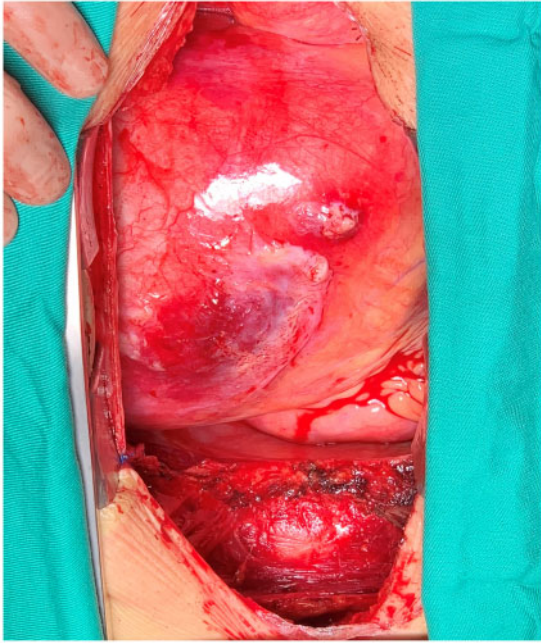


Figure 2 The giant right coronary artery aneurysm during the surgery.

Consent: The author/s confirm that written consent for submission and publication of this case report including image(s) and associated text has been obtained from the patient in line with COPE guidance.

Conflict of interest: none declared.

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