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Case Report Open Access

Surgery for an Isolated Huge Coronary Artery Aneurysm in a Patient with Behcet's Disease: Case Report and Review of the Literature

Ben Jmaa Hela[1*], Dhouib Faten[1], Dammak Aiman[1], Bouassida Abir[1], Ghorbel Nesrine[1], Souissi Iheb[2], Kallel Rahma[3], Masmoudi Sayda[1], Elleuch Nizar[1] and Frikha Imed[1]

[1]*Department of Cardiovascular and Thoracic Surgery, Habib Bourguiba Hospital Sfax, Tunisia*

[2]*Department of Anesthesiology, Habib Bourguiba Hospital Sfax, Tunisia*

[3]Department of Cardiology, Hedi Chaker Hospital Sfax, Tunisia

[*]**Corresponding author:** Ben Jmaa Hela, Department of Cardiovascular and Thoracic Surgery, Habib Bourguiba Hospital Sfax, Tunisia, Tel: 0021696704740; E-mail: helabenjemaa2015@gmail.com

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Abstract

Coronary artery aneurysms in patients with Behcet's disease are rare. Giant aneurysms defined as greater than 2 cm are exceptional. We are reporting a rare case of a 33-year-old man with Behcet's disease, admitted for chest pain, whose coronary angiogram revealed a huge aneurysm involving the proximal segment of proximal left anterior descending artery followed by a severe stenosis. The aneurysm was successfully resected and an arterial coronary bypass was performed. The patient was asymptomatic in the postoperative period.

Keywords: Aneurysm; Coronary artery; Behcet's disease; Bypass

Introduction

Behcet's disease is a systemic vasculitic syndrome with a variety of clinical manifestations [1].

Coronary artery aneurysms are defined as a localized dilation exceeding the diameter of an adjacent normal segment by 50% [2]. They are rarely associated with this disease, and can be associated with fatal complications [3].

We report an exceptional case of isolated coronary artery aneurysm with severe stenosis in a patient with Behcet's disease, treated surgically.

Case Presentation

This case describes a 33-year-old man with Behcet's disease, and no cardiovascular risk factors, who was admitted to the department of cardiology for chest pain since 2 days.

Chest auscultation detected no murmur, and no signs of heart failure.

Electrocardiogram showed an antero-septo-apical ST-segment elevation. Laboratory analyses showed elevated cardiac troponin I, with biological inflammatory syndrome.

Chest radiography showed an abnormally prominent left heart border.

Trans-thoracic echocardiography was suggestive of a large spherical mass adjacent to the lateral wall of the left ventricle, with normal left ventricular systolic function.

Thoracic computed tomography scan confirmed that the mass was a non- ruptured aneurysm of the proximal left anterior descending artery measuring 40 × 60 mm and compressing the pulmonary artery, without dilatation of the aorta.

Coronary angiography showed an aneurysmal dilation of the proximal segment of the left anterior descending artery followed by a severe stenosis. The aneurysm measured 3 cm of diameter.

No other aneurysm or stenosis was detected.

The patient underwent surgery through a median sternotomy under cardiopulmonary bypass established through cannulation of the ascending aorta and the right atrium. Macroscopic examination confirmed a huge aneurysm compressing the pulmonary artery.

Surgery included resection and ligation of the giant aneurysm (Figures 1-3). Then, a bypass grafting of the left anterior descending artery using the left internal mammary artery was performed (Figure 4).

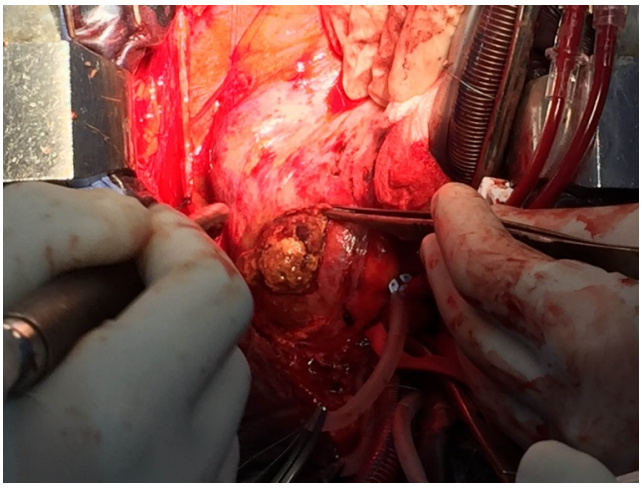

Figure 1: Intraoperative views showing the opened aneurysm (arrows).

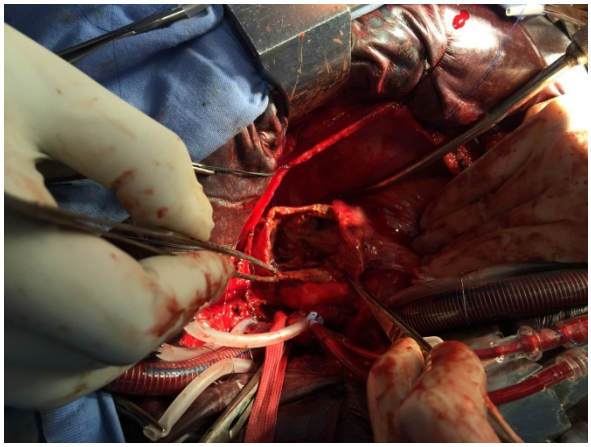

Figure 2: Intraoperative views showing the opened aneurysm (arrows).

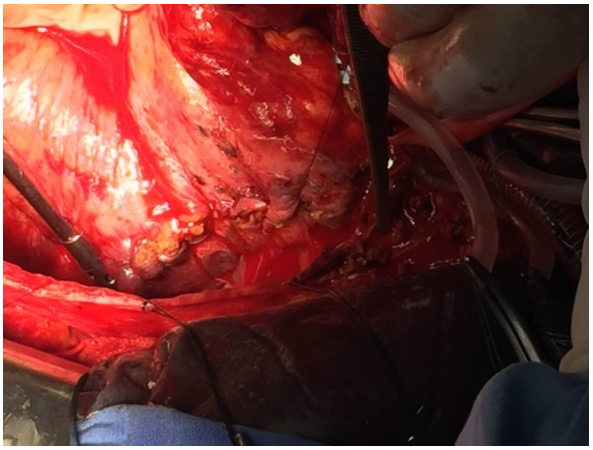

Figure 3: Intraoperative view showing the suture after removal of the aneurysm.

Weaning from cardiopulmonary bypass was easy, without catecholamine's.

Postoperative transthoracic echocardiography showed good cardiac function.

The postoperative hospital course was unremarkable. He was continued on aspirin, corticosteroids, and immunosuppressive medication.

The patient was discharged from hospital 4 days after surgery.

Histopathological assessment of the excised aneurysm revealed an inflammatory cell infiltration suggestive of vasculitis.

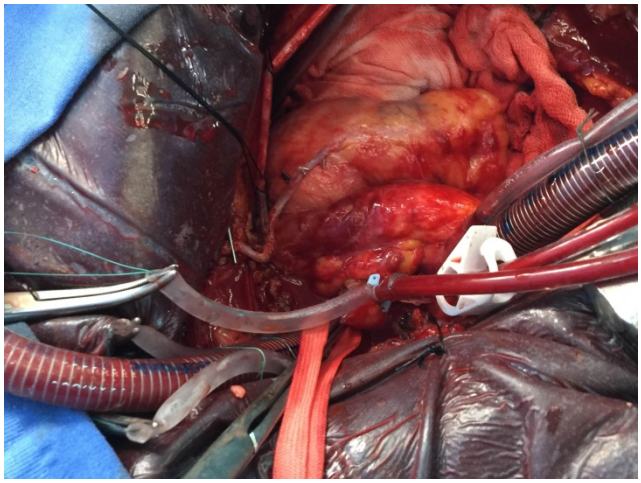

Figure 4: Intraoperative view showing the coronary bypass by the internal mammary artery (arrow).

Discussion

Coronary artery aneurysms are rare, with a reported prevalence of 0.15 to 4.9% of all patients undergoing coronary angiography [4,5].

Their main etiologies include atherosclerosis, Kawasaki disease, infection, trauma, and congenital conditions [5]. The Behcet's disease is an extremely rare cause of this kind of aneurysms [6].

The right coronary artery seems to be the most commonly involved, followed by the left anterior descending artery [7].

Giant aneurysms, whose diameter is over 20 mm, are more infrequent, and considered to be at increased risk of rupture into the pericardium, compression of surrounding organs, and thromboembolism [5].

So, patients with enlarging aneurysms should be treated even if they are symptomatic.

There is no consensus upon the management of coronary aneurysms in patients with Behçet's disease because of the rarity and unpredictable natural history of this condition [1].

The closure of the coronary aneurysm should be considered case to case in view of the related risk of thrombosis or rupture. Surgery has been recommended for high-risk giant aneurysms [8].

Percutaneous approaches with covered stents and coil embolization have been reported for the management of these patients with adequate use of immunosuppressant and anticoagulant therapy [1,9,10].

Conclusion

This case report highlighted the presence of giant coronary aneurysm, and stenosis in a patient with Behcet's disease.

Surgical intervention appears to be the treatment of choice for these aneurysms.

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