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Coronary Involvement Of Behçet's Disease: Saccular Coronary Artery Aneurysm

Coronary artery aneurysms (CAAs) are rarely reported in large angiographic series. The majority are atherosclerotic in origin. Other causes are connective tissue disorders, trauma, vasculitis, congenital, mycotic, and idiopathic. We herein present the case of an symptomatic patient with a giant left anterior descending artery aneurysm. The CAA was successfully treated by surgical resection and a mammary artery bypass graft.

Keywords Behçet's disease; coronary artery aneurysm; vasculitis

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Introduction

Coronary artery aneurysms (CAAs) are rare in reports of large angiographic series. The majority of CAAs are atherosclerotic in origin. Other causes are connective tissue disorders, trauma, vasculitis, congenital, mycotic, and idiopathic [1]. Here, we present the case of a symptomatic patient with a giant left anterior descending artery (LAD) aneurysm.

Case Report

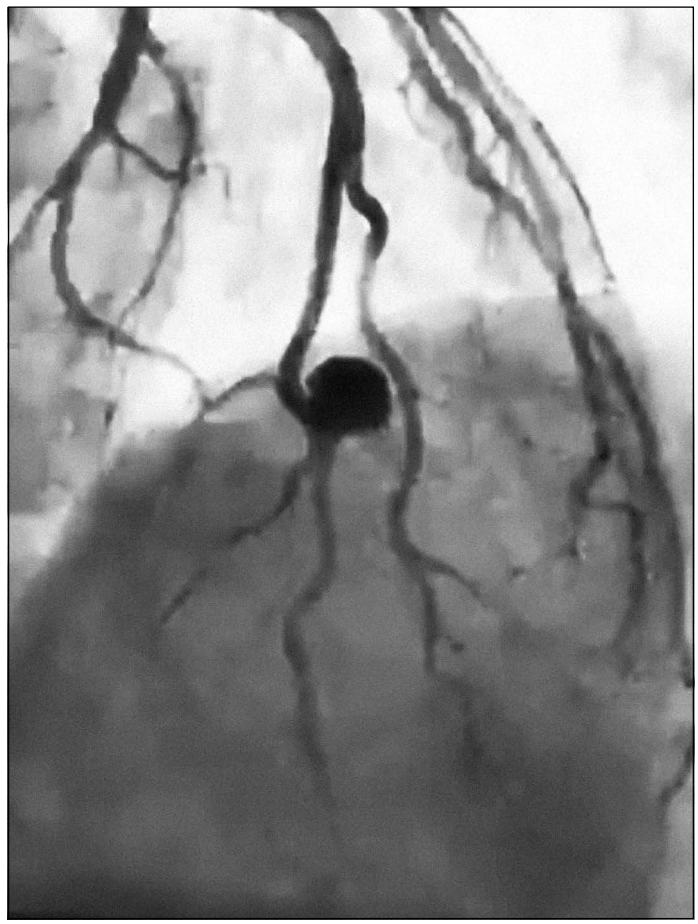
A 55-year-old female patient was admitted to our clinic due to exertional angina and dyspnea. There were no known cardiac risk factors, other than diabetes. Physical examination revealed normal vital findings with blood pressure of 110/70 mmHg. Laboratory values and electrocardiography and transthoracic echocardiography findings were also normal. Invasive coronary angiography was performed due to typical anginal complaint and the presence of diabetes. Coronary angiography did not reveal any significant stenosis, but a saccular aneurysm of approximately 3×2.5 cm in diameter was observed in the middle of the LAD [Figure 1 and Video 1 (Supplementary Video 1)].

The patient had no drug addiction, and no history of cardiac trauma. While investigating the etiology of vasculitis, it was learned in the detailed anamnesis of the patient that she had occasional recurrent complaints of genital ulcer. A rheumatology consultation was requested, and with a positive pathergy test, the patient was diagnosed with Behçet's disease. Treatment with colchicine and steroids were started. The decision for surgical treatment was made considering the long-term risk of restenosis of covered stents, involvement of the LAD, and the patient's preference. The LAD aneurysmal sac was resected, and a bypass to the LAD was performed with the left internal mammary artery. The postoperative course was uneventful, and the patient was discharged on postoperative day five. There have been no problems during the second year of cardiology and rheumatology follow-ups.

Discussion

Behçet's disease is a multisystem vasculitis characterized by recurrent ulcers, involving vessels of all sizes, and affecting many organs such as the eyes, central nervous system, and especially the skin [2, 3]. Vascular involvement includes all

Figure 1. Coronary angiography image of the aneurysm in the middle of the LAD



types and sizes of vessels. Aneurysms of varying sizes may be seen in the vascular tree. Although the main underlying pathophysiological mechanism of the disease is obscure, inflammation of unknown origin of the vascular endothelium is the cause of vascular complications. Thrombus formation due to vasculitis is seen at a rate of 20–40%, and it is an important cause of mortality and morbidity [4, 5].

Aneurysmal coronary artery disease is defined as the dilation of the normal coronary diameter to 1.5 times the size of a normal adjacent coronary artery segment [6]. Coronary aneurysms are most often atherosclerotic in origin but can also be non-atherosclerotic as in connective tissue diseases like Kawasaki disease and inflammatory conditions such as Behçet's disease [7, 8]. The majority of patients are asymptomatic, and the aneurysms are found incidentally during angiography. The primary complication is myocardial ischemia or infarction, with rupture being rare.

There are no randomized, large-scale studies on the treatment of coronary aneurysms. In general, there are three treatment methods: medical treatment, percutaneous intervention (PCI), surgical intervention. Medical management of CAAs consists of risk factor modification and antiplatelet and anticoagulant medications to prevent thromboembolic complications. However, there is currently no consensus on the efficacy of medical therapy for treatment of CAAs, particularly asymptomatic CAAs. There are few reported results regarding the efficacy and safety of PCI in CAA, especially in patients with asymptomatic CAA [9]. As no randomized trials of CABG versus PCI have been conducted in these patients, questions remain about whether and how CAAs should be treated and managed. However, in the case of acute myocardial infarction associated CAAs, some studies have shown that PCI of an aneurysmal culprit vessel is associated with higher rates of adverse events as well as higher failure rates, i.e., no-reflow and distal embolization, compared to non-aneurysmal cases [10, 11]. Clearly, the decision for surgical treatment should be individualized. In asymptomatic patients, surgery is recommended by some authors if the diameter of the aneurysm exceeds at least three to four times its original size [12]. In our case, we preferred the surgical treatment option because of the young age of the patient and the long-term risk of restenosis with polytetrafluoroethylene (PTFE) – covered stent graft.

Conclusion

This case highlights the importance of detailed anamnesis and careful diagnostic studies in the evaluation of CAAs. A large CAA was successfully treated by surgical resection and a mammary artery bypass graf.

Informed consent

Written informed consent was obtained from the patient for the publication of this case report and any accompanying images.

No conflict of interest is reported.

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