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Case Report

Stenting for huge coronary artery aneurysm and stenosis in a patient with Behçet's disease presenting with non-ST segment elevation myocardial infarction

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ABSTRACT

Coronary artery aneurysms in patients with Behçet's disease are rare and associated with fatal complications. Covered stents have been used in the management of coronary aneurysms but not in patients with Behçet's disease. We are reporting a rare case of Behçet's disease, admitted with non-ST segment elevation myocardial infarction, whose coronary angiogram revealed huge aneurysm involving proximal left anterior descending artery followed by severe stenosis. The stenosis was treated by drug-eluting stent and the aneurysm was successfully sealed with a covered stent. He remained asymptomatic at 3-month follow-up and repeat angiogram showed patent stents.

<Learning objective: There is no consensus upon the management of coronary artery aneurysm in a patient with Behçet's disease presenting with acute myocardial infarction. Sealing of aneurysm with covered stent and managing stenosis with drug-eluting stent can also be used for management in these patients with adequate use of immunosuppressant and anticoagulant.>

Introduction

Behçet's disease is a systemic vasculitic syndrome with a wide variety of clinical manifestations. Arterial aneurysms and pseudoaneurysms are reported with Behçet's disease but coronary artery aneurysms are rare and associated with fatal complications [1]. Covered stents have been used in the management of coronary aneurysms, but not in patients with Behçet's disease. We are reporting a rare case of a middle-aged man diagnosed with Behçet's disease, admitted with non-ST segment elevation myocardial infarction (NSTEMI). His coronary angiogram revealed huge aneurysm involving proximal left anterior descending (LAD) artery followed by severe stenosis and was successfully managed with covered and drug-eluting stents. He maintained an asymptomatic course and angiogram after 3 months revealed patent stents. We will discuss the clinical presentation and treatment options in our report.

Case report

A 39-year-old man with hypertension, dyslipidemia, and hyperuricemia developed recurrent oral, genital ulcers and polyarthritis. He complained of headache, blurring of vision and was found to have bilateral papilledema in August 2011. His brain imaging showed superior sagittal and transverse sinus thrombosis without any evidence of vascular aneurysm. His thrombophilic workup was negative for hypercoagulable state. He was diagnosed with Behçet's disease and started on hydrochloroquine and warfarin with follow-up in the rheumatology clinic. He presented in May 2012 with recurrent episodes of chest pain and positive cardiac troponin I. His electrocardiogram showed normal sinus rhythm with nonspecific T wave inversion in avL and echocardiogram revealed normal left ventricular systolic function. His coronary angiogram showed huge mid LAD aneurysm followed by severe stenosis (Fig. 1 a and b). No other aneurysm or stenosis was detected. Percutaneous coronary intervention (PCI) was carried out by using Extra Back-Up (EBU, Medtronic, Minneapolis, MN, USA) guiding catheter for engaging left main coronary artery. High torque Balance Middleweight Universal (BMW, Abbott, IL, USA) guide wire was used for crossing the lesion and aneurysm. Proximal severe stenosis was dilated with 2 mm × 20 mm Trek balloon up to 20 atm followed by stenting with 3 mm × 24 mm Promus Element (Boston Scientific, Natick, MA, USA) at 12 atm. His huge proximal aneurysm was sealed by 3.5 mm × 16 mm Graft Master covered stent (Abbott Vascular Devices, Santa Clara, CA, USA) and dilated with 3.5 mm × 20 mm NC Trek balloon up to 22 atm. A 3.5 mm × 12 mm Graft Master covered stent was deployed proximal to the previous covered stent with minimal overlap and dilated with 3.5 mm × 12 mm NC Trek balloon up to 12 atm (Fig. 1c–e). His post PCI hospital course remained unremarkable. He was continued on aspirin, clopidogrel, and

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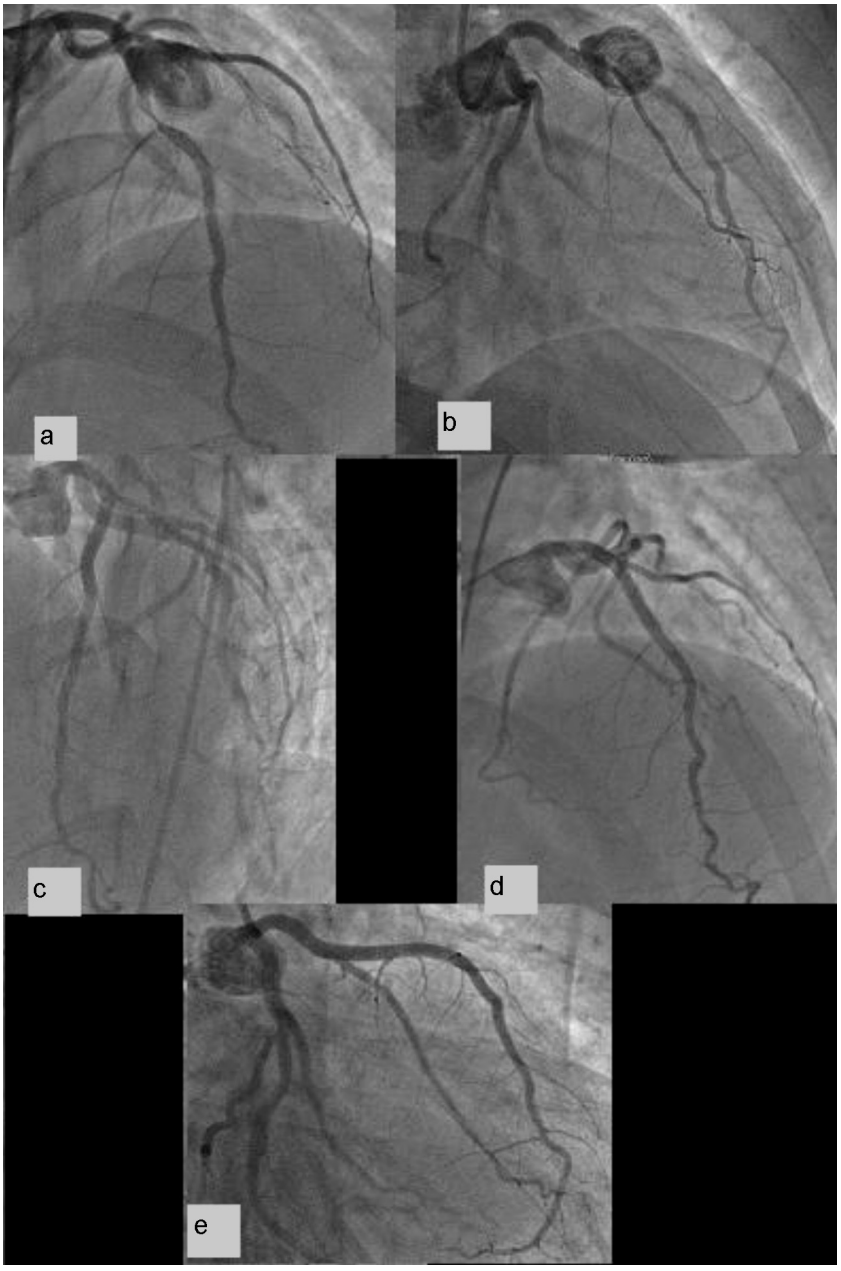

Fig. 1. (a) and (b) Coronary angiogram showing huge aneurysm of left anterior descending artery (LAD) followed by tight stenosis in different cranial angulations before angioplasty. (c)–(e) Coronary angiogram after angioplasty showing sealed aneurysm and stented mid LAD segment in different angulations.

warfarin along with other medications. He was prescribed intravenous injections of methyl prednisolone and cyclophosphamide followed by oral prednisolone at discharge in compliance with rheumatology advice. He remained asymptomatic at follow-up after 3 months and repeat angiogram showed patent stents (Fig. 2a and b).

Discussion

Behçet's disease is a chronic relapsing inflammatory process characterized by recurrent oral and genital aphtous ulcers, eye inflammation, skin eruption, vasculitis, arthritis, and neurological manifestation [1]. Our patient had recurrent oral and genital ulcers, arthritis, and subsequently complained of headache and progressive reduction in vision. He was found to have bilateral papilledema and magnetic resonance venogram showed sagittal, transverse sinus thrombosis. Venous thrombosis is more common than arterial involvement [1]. His condition improved after initiation of anticoagulation and acetazolamide. Cardiac manifestations such as pericarditis, cardiomyopathy, endocarditis, endomyocardial fibrosis, intracavitary thrombosis, and valvular disease occur in 5% of patients [2]. Coronary artery disease and coronary aneurysm are extremely rare and seldom reported with male preponderance [3–5]. Vascular occlusion and obstruction were seen more frequently than aneurysm [4–6]. The possible etiologies of myocardial infarction in patients with Behçet's disease are coronary vasculitis, atherosclerosis, and plaque rupture.

Treatment of coronary artery disease in such patients is very challenging. Anticoagulant therapy was changed for a platelet aggregant despite history of venous thrombosis upon discovery of coronary aneurysm and surgery was not done because of the