

Coronary artery bypass with saphenous vein graft in a middle-aged patient with polyarteritis nodosa

Poliarteritis nodosa olan orta yaşta bir hastada safen ven grefti ile koroner arter baypas

Dear Editor,

We report a case of poliarteritis nodosa (PAN) with coronary artery disease (CAD) who underwent coronary bypass surgery with saphenous vein graft. Poliarteritis nodosa is a multisystemic disease with necrotizing vasculitis of the middle and large sized arteries. In the usual clinical course, renal and visceral vascular involvement is typical (1,2). Most of patients with PAN have positive angiographic evidence, predominantly in the visceral arteries but also in the extremity arteries and in the small aortic branches. The most well-known angiographic feature is the presence of microaneurysms in medium or small arteries. Arterial occlusive lesions are also a feature, but their frequency is not reported (2,3). Especially in young patients without any cardiovascular risk factors, premature CAD may be associated with an underlying vasculitis syndrome (1,4).

This 36-years-old male patient had been followed with the diagnosis of PAN for seven years with no prior cardiac symptoms.

He admitted to hospital with new onset chest pain. Electrocardiography (ECG) revealed acute myocardial ischemic changes. The patient was also in the chronic renal insufficiency phase. Echocardiography revealed normal ventricular wall motion and mild mitral regurgitation, ejection fraction was 66%. Coronary angiography showed 90% stenosis in proximal left anterior descending (LAD) and total occlusion of right coronary artery (RCA) (Fig. 1, 2). The patient underwent coronary artery bypass grafting.

Due to arterial involvement of PAN we decided to use venous graft for revascularization. The left vena saphena magna was explored and harvested, the diameter was large enough and no segmental involvement and/or evidence related to vasculitis were observed. Cardiopulmonary bypass (CPB) was commenced at 2.4 L/min/m² with normothermia. Blood cardioplegia was administered for every 15 minutes. An end-to-side LAD and RCA revascularization was performed with vena saphena magna graft. The postoperative period was uneventful and the patient was discharged on the seventh day.



Figure 1. Angiography view of critical stenosis in left anterior descending coronary artery

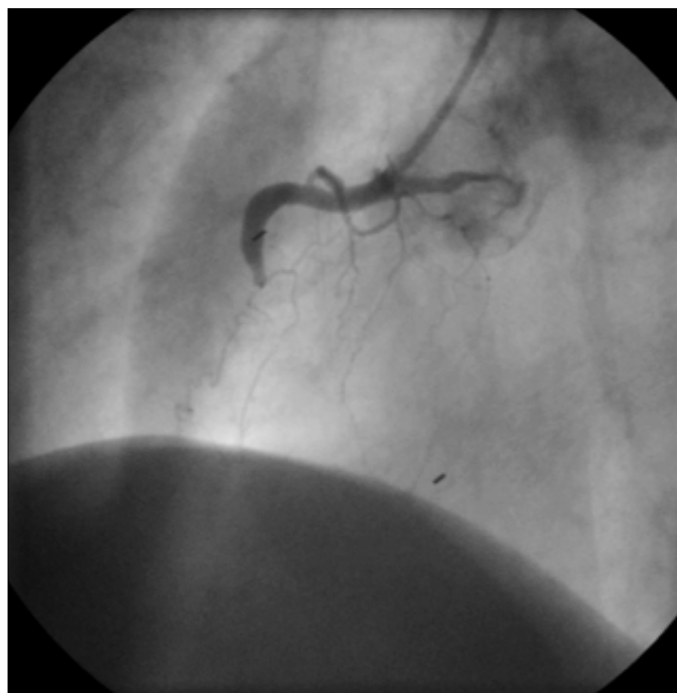


Figure 2. Angiography view of an occluded right coronary artery

Premature CAD is an important predictor of overall morbidity and mortality in patients with vasculitis syndromes. Differential diagnosis has to be made with other vasculitis, such as systemic lupus erythematosus, Kawasaki's disease, Behçet's disease and Takayasu arteritis (3-6). Coronary artery involvement (76%) ranks second in frequency behind the renal arteries (85%). Polyarteritis nodosa affects the coronary arteries in 50% of the patients and microscopically, all layers of the arterial wall are involved. Thrombosis, aneurysms, and arteritis of the coronary vessels are known complications of the disease (3). But, it is unlikely to be the underlying disease in the present patient due to absence of inflammatory lesions in the aorta or its major branches. These lesions did not seem to be congenital or atherosclerotic, and it was postulated that these lesions might have been the sequelae of PAN. Signs and symptoms of coronary arteritis included hypertension (most common), tachycardia, congestive heart failure, murmurs, cardiomegaly, pericardial friction rubs, and arrhythmias.

In English language literature, experience about the appropriate graft selection and the long-term results of patency are reported for vasculitis syndromes such as Kawasaki disease, Behçet's disease and Takayasu arteritis but there were no data for PAN (1, 3, 5, 6). In this young patient, venous graft was preferred for coronary artery revascularization due to susceptibility to inflammatory reaction to arterial graft.

Appropriate antihypertensive, antilipidemic and antiaggregant medications must be added to the medical treatment of primary disease and known risk factors for premature coronary artery

disease must be eliminated or controlled. These precautions will protect the native coronary arteries and will also increase the patency rates of the grafts used for revascularization.

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