Off-pump Coronary Artery Bypass Grafting in a Patient with Behçet’s Disease

We report the case of a 58-year-old man with Behçet’s disease who developed chest pain. Coronary angiography showed severe triple-vessel disease, and the patient was transferred to our department for urgent coronary artery bypass grafting. Because of the risk of anastomotic leakage or pseudoaneurysm formation, we performed off-pump coronary artery bypass grafting with the aortic no-touch technique. Postoperative coronary angiography showed that all the grafts were patent and no anastomotic pseudoaneurysms were observed. Pathological examination of the right internal thoracic artery specimen revealed mild intimal thickening and disruption of elastic fibers in the medial layer, both of which are characteristics of Behçet’s disease. These findings indicated that the patient must be monitored carefully for postoperative pseudoaneurysm formation. (Jpn J Thorac Cardiovasc Surg 2004; 52: 527–529)

Key words:  Behçet’s disease, coronary artery bypass surgery, off-pump, postoperative care

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After surgical treatment for vascular Behçet’s disease, anastomotic pseudoaneurysm formation is one of the most serious complications.1 We report herein a patient with Behçet’s disease who underwent successful coronary artery bypass grafting (CABG). Pathological examination of the arterial graft showed abnormal findings typical of Behçet’s disease.

Case

A 58-year-old Japanese man who experienced frequent attacks of chest pain underwent coronary angiography (CAG) that showed severe triple-vessel disease. He was transferred to our department for urgent CABG in November 2002.

He had been diagnosed as having Behçet’s disease at age 33, presenting with oral aphtha, recurrent genital ulcers, and cutaneous erythematous nodules of the lower limbs. He had been treated with corticosteroids since the onset of Behçet’s disease, but had not received any medical treatment in recent years. He suffered from acute myocardial infarction for the first time at age 35. Although CAG performed at age 48 already showed three-vessel disease, the cardiologist at that time decided to continue medical therapy because the risk of operative complications such as anastomotic pseudoaneurysm was considered high. Moreover, the patient developed intermittent bilateral claudication of the lower legs and was diagnosed in 1993 as having atherosclerosis obliterans.

On arrival at our hospital, no signs of acute myocardial infarction were found on the patient’s electrocardiogram. Echocardiography showed dysfunction of the anteroseptal portion of the left ventricle. CAG revealed total obstruction of the proximal left anterior descending coronary artery (LAD) with collateral arteries supplying the LAD from the left circumflex artery (LCX), 90% stenosis in the LCX, and 90% stenosis in the proximal right coronary artery (RCA) (Fig. 1). No aneurysmal change was observed by aortography, but arteriography revealed severe stenosis in the right external iliac artery, aneurysms of the left common iliac artery, and total occlusions of the bilateral internal iliac arteries and the left superficial femoral artery. Chest radiography and computed tomography (CT) yielded no additional findings. The patient’s white blood cell count (10,600/μL)
and creatin kinese (CK) (554 IU/L) were elevated, but CK-MB (13 IU/L) and C-reactive protein (0.54 mg/dl) levels were normal.

Because of the risk of anastomotic leakage or pseudoaneurysm formation, off-pump CABG with the aortic no-touch technique was performed. The left and right internal thoracic artery (LITA and RITA, respectively) and the right radial artery (RA) were harvested. These arterial grafts showed neither aneurysmal change nor stenosis. The LITA was anastomosed to the LCX and the RITA to the LAD. The RA was grafted from the LITA to the right posterior descending branch as a composite graft. The operation was completed uneventfully.

After the operation, the patient was free from chest pain with his condition stable. Pathological examination of the RITA specimen revealed mild intimal thickening and disruption of the elastic fibers in the medial layer, both of which are characteristics of Behçet’s disease. However, perivascular infiltration by inflammatory cells was not marked (Fig. 2). CAG on postoperative day 14 revealed all grafts to be patent; there were no anastomotic pseudoaneurysms or new stenotic lesions (Fig. 3). Behçet’s disease was controlled with predonine 10 mg per day. The patient was discharged on postoperative day 18. Follow-up CAG 6 months after surgery also showed no remarkable change.

**Discussion**

Vascular involvement has been reported to occur in up to one-third of patients with Behçet’s disease. Venous thrombosis is the most common abnormality. Arterial lesions are characterized by the formation of aneurysms and occlusions. Coronary artery disease in conjunction with Behçet’s disease is less common. Histological examination of the specimens confirmed vasculitis with destruction of the elastic fibers in the media and perivascular inflammatory cell infiltration.

Surgical treatment of the fragile vessels of Behçet’s...