Large Ruptured Carotid Artery Pseudo-aneurysm in Behcet’s Disease: Report of a Case

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Abstract  This is a case report of a 36-year-old male with Behcet’s disease (BD) whose bilateral extracranial carotid arteries were involved. Computed tomography angiography showed a large ruptured pseudo-aneurysm of the left common carotid artery, and complete occlusion of the right one. The pseudo-aneurysm was excised and the left common carotid artery was repaired with an expanded polytetrafluoroethylene patch successfully. To our knowledge, this is the first ruptured and largest carotid pseudo-aneurysm in BD reported in the literature, combined with complete occlusion of the contralateral carotid artery in the meantime, which obviously increased surgical difficulty and risk of irreversible cerebral ischaemia during operation.

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Introduction

Behcet’s disease (BD) is an auto-immune, inflammatory and multisystemic disorder, and major vessel involvement carries the poorest prognosis. The involvement of arteries is relatively rare but usually dangerous.1

Case report

In March 2007, a 36-year-old man was admitted due to a bleeding pulsatile mass in the left neck, combined with pain, hoarseness, dysphagia and irritating cough. A diagnosis of BD was identified in 2005 because of recurrent oral ulcers, genital ulcers and a positive pathergy test.

Physical examination showed a slightly bleeding pulsatile mass at the left side of his neck and a skin defect filled with blood clots. Emergent computed tomography angiography (CTA) identified a ruptured pseudo-aneurysm about 89 mm × 95 mm × 140 mm (Fig. 1(A)) of the left common carotid artery (CCA) and occlusion of the right CCA. Routine laboratory tests were normal except for the following data: white blood cells (WBCs) 17 × 109 l−1, Neutrophil (N) 87.6%, haemoglobin (Hb) 64 g l−1, erythrocyte sedimentation rate (ESR) 87s and C-reactive protein (CRP) 23.9 mg l−1. Urgent surgery was deemed necessary to prevent fatal bleeding.

During surgery, the mass was found near the bifurcation of the left CCA. After heparin was administrated, a carotid
shunt tube was used to maintain the blood supply of left interior carotid artery, and the clamping time of the left carotid artery is about 1 min. After a defect of the left CCA of about 15 mm × 8 mm was found, a polytetrafluoroethylene (PTFE) graft patch was used to repair it. Finally, a pedicle musculocutaneous flap from the left chest wall was adopted to reconstruct the skin defect of the lesion (Fig. 1(B)).

The patient had an uneventful postoperative course. A CTA (Fig. 1(C)) at the 1-month follow-up and a type-B ultrasound examination 18 months later show that the left carotid artery is fine. Then, he stopped medication privately and only came back to hospital 32 months postoperatively, when CTA showed complete occlusion of bilateral CCAs and good patency of bilateral vertebral arteries. When last seen in June 2010, the patient was in good condition except for occasional dizziness.

**Discussion**

Vessels involved in BD often appear as thrombophlebitis and venous thrombosis. Arteries are seldom involved and extracranial carotid pseudo-aneurysms are rarer than that of the aorta, pulmonary and femoral artery. To date, there have been several carotid pseudo-aneurysms with BD reported in the literature; however, this is the largest and the first ruptured case ever reported, combined with complete occlusion of the contralateral carotid artery in the meantime, which obviously increased surgical difficulty and risk of irreversible cerebral ischaemia during operation. Preoperatively, we could not find any information from the literature regarding how long we can block the left CCA, which is really a challenge for us to treat the patient in an emergency situation. Finally, we clamped the left CCA safely for about 1 min, which has never been reported and may guide the management of a similar case in future.

Because the rupture of an aneurysm or a pseudo-aneurysm can be fatal, operation is recommended. The methods adopted by surgeons include open surgery, such as restoring blood flow with a bypass or repairing with a patch and endovascular therapy, such as administering stents, vein-covered stent or coils. Grafts occlusion is a problem. For our case, a PTFE patch was administrated, and the left CCA kept patent for at least 18 months, however for less than 32 months.

Moreover, to prevent postoperative anastomotic problems and other complications, perioperative medication is essential. Especially for those with high ESR and CRP levels, corticosteroid and immunosuppressant should be administrated for long. Among the documented cases of pseudo-aneurysms of the carotid artery, follow-up showed graft occlusion or new aneurysms formation when the postoperative medication was irregular or stopped though with good results when the patient had good compliance for medication. In this case, occlusion of the left CCA may associate with his cessation of medications.
Ethical approval

The Ethic’s Committee of Second Xiasngya Hospital approved the protocol, and the patient gave his informed consent for the inclusion in the study.

Conflict of Interest/Funding

None.

References


