

2019 Successful balloon dilation of superficial femoral artery stenoses in a patient with diagnosed Takayasu's aortitis

【Introduction】

Takayasu's arteritis is a chronic vasculitis due to unknown etiology, which initially affects the aorta and its primary branches. When diagnosed early, it can be managed with immunosuppressive therapy and biologic agents, which can help prevent progression to steno-occlusive vascular disease. It is said that the lower extremity artery is rarely affected by Takayasu's arteritis. Our patient responded to balloon angioplasty and medical therapy. Angiographic and intravascular ultrasound (IVUS, TERUMO Altaview) and optical coherence tomography (OCT, Abbot ILUMIEN OCT imaging system) images add to our current understanding of occlusive arteriopathy. We report a case of successful percutaneous transluminal angioplasty (PTA) for symptomatic superficial femoral artery (SFA) stenosis using IVUS and OCT. Our experience provides valuable insight for the treatment of Lower extremity artery disease in patients with Takayasu's arteritis.

【Case Report】

A 29-year-old woman is outpatiently treated at the general medical department in our hospital with a diagnosis of Takayasu's arteritis. She was given a dose of 10 mg of Prednisolone and the activity of aortitis was under control.

She visited the outpatient clinic for pain in the lower extremities gradually increasing two months ago, and intermittent claudication began to be recognized. We performed Contrast-enhanced computed tomography (CT) and it revealed a severe stenosis of the left SFA and lesion length was about 7 cm. Positron emission tomography (PET) showed no accumulation at the same site, and it was thought that the inflammatory activity of the SFA was suppressed. After that, Arteriography was performed via transradial approach with a 4F catheter and revealed a high-grade stenosis of the proximal part of the superficial femoral artery which was thought to be a cause of intermittent claudication. After PTA, the Ankle-Brachial-Index (ABI) was improved from 0.74 to 0.89 and her intermittent claudication was improved.

【Clinical Outcomes】

First, we insert the 6 Fr destination guiding sheath into the left brachial artery. Insert VASSALO wire into Lt. SFA peripheral. First of all, we observed the lesion was by IVUS and OCT, which revealed a high-brightness intima and a narrow lesion centered on thickening of the media. Also, multiple layered high intensity echoes were observed by IVUS. And the intima, media and adventitia were thickened, and their boundaries were less clear observed by OCT, which is inferred to reflect inflammation. Therefore, we plan to expand sequentially from the small diameter balloon, and first percutaneous old balloon angioplasty (POBA) with NSE PTA 2.0x20mm. After that, a long inflation of 3 min was performed at Rapid Cross 3.0 x 100 mm. Confirmed that there is no major dissection observed with IVUS and OCT, we finally apply the drug with IN.PACT Admiral 4.0 x 120 mm expecting the effect of suppressing inflammation and complete the treatment.

【Discussion】

The most common site of Takayasu's arteritis is Aortic, subclavian and carotid arteries belonging to elastic arteries are known, and femoral arteries belonging to muscular arteries are said to be rare. However, considering that there are cases in which there is no symptom related to the lower extremities and the lower extremity blood vessels have not been scrutinized, the complication frequency of the femoral artery lesions may actually be

higher, and it is considered that clinical attention is required. Because of the symptoms of intermittent claudication, we examined the lower extremity artery and performed PTA on the SFA stenosis. There have been few reports of lower extremity angioplasty for Takayasu's arteritis, and it is controversial point of PTA strategy, whether to use a stent, treat with only a balloon, or add a drug-eluting balloon. In this case, being a young woman and having hope of raising her baby in the future, we aimed to complete the treatment with a balloon only from the viewpoint of antiplatelet therapy. IVUS and OCT were very useful to complete the PTA with a balloon only. In addition, since there are few reports of imaging findings of the vessel lumen of Takayasu's arteritis, how to interpret these imaging findings is considered to be necessary to decide on the treatment plan in the future.