Case Report

A True Aneurysm of the Posterior Tibial Artery: A Case Report

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True aneurysm of the posterior tibial artery is very rare. A 69-year-old woman presented with a pulsatile painful mass of the right lower leg. (Ann Thorac Cardiovasc Surg 2004; 10: 317–8)

Key words: infrapopliteal, tibial, true aneurysm

Introduction

Peripheral true aneurysms distal to the popliteal artery are uncommon. We experienced an extremely rare case of an atherosclerotic true aneurysm of the posterior tibial artery and surgically repaired it successfully.

Case Report

A 69-year-old woman presented to our hospital with a pulsatile painful mass on the calf of her right lower leg. She had noticed a swelling sensation on that portion 15 years ago. She denied any preceding trauma on her right leg. She had a medical history of hypertension for 12 years and hormonal substitution therapy for chronic thyroiditis for 10 years. Physical examination revealed a tender pulsatile 5-cm-diameter mass in the middle of the posterior aspect of the right leg. Hematochemical study, including thyroid hormone, appeared normal. Arteriogram delineated a saccular aneurysm in the right posterior tibial artery (Fig. 1). The inflow and outflow arterial tracts of the aneurysm were identified by three-dimensional computed tomographic scan (CT) images (Fig. 2).

Through the medial approach the aneurysm was opened and the posterior tibial artery was reconstructed with an autograft of the great saphenous vein. Histologic examination indicated atherosclerotic degeneration as the cause of the aneurysm.

The postoperative course was uneventful. The patient had no ischemic signs in the lower leg.

Discussion

Infrapopliteal aneurysms are uncommon: most are pseudoaneurysms engendered by trauma.[1-5] Review of previous reports revealed only six reported cases of atherosclerotic infrapopliteal aneurysms before 2001.[6-11]

Commonly, therapeutic management of infrapopliteal aneurysm depends on the presence or absence of symptoms. Small and asymptomatic aneurysms may be observed safely.[12] On the contrary, symptomatic aneurysms require surgical intervention. If the residual infrapopliteal arteries are normal, a simple ligation is permissible.[6,7,10]

On the other hand, some controversies prevail.[13] Aneurysms of any origin must be treated promptly even if they are asymptomatic. Some cases of the infrapopliteal aneurysm have been reported to rupture abruptly with no precursive symptoms,[9,14] or to show leg ischemia as a result of arterial obstruction which requires limb amputation.[15]

In our case, ipsilateral limb arteriography revealed arteriosclerotic degeneration; moreover, the arterial pulse was not palpable on the contralateral dorsal pedis. Even though arteriosclerotic changes may not always show consistent progression, the remaining arterial branches could also be affected.

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Fig. 1. Arteriogram revealed a saccular aneurysm in the right posterior tibial artery.

Fig. 2. Three-dimensional CT image showing inflow and outflow arterial tracts of the aneurysm.

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