

VASCULAR IMAGES

True aneurysm of a metatarsal artery

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A 57-year-old white woman with hypertension and diabetes presented with a pulsatile asymptomatic mass at the dorsum of the foot. There was no history of trauma, sepsis, or work-related illness. The physical examination revealed a pulsatile mass at the first intermetatarsal space. A magnetic resonance image obtained by the family physician confirmed the presence of an aneurysm (A). Results of laboratory studies, including leukocyte counts, Venereal Disease Research Laboratory screening, C-reactive protein, immunoelectrophoresis, antinuclear antibodies, and antismooth muscle antibodies were normal. Subsequent imaging did not reveal an aneurysm in other regions.

Ultrasonography showed a 1.2-cm × 1-cm saccular aneurysm containing mural thrombus (B). Poor vascular perfusion of the first toe was found after compression of the dorsal pedal artery. Arteriography confirmed an aneurysm of the first dorsal metatarsal artery, with poor collateralization from the arterial tree (C).

The aneurysm was resected (Cover) under regional anesthesia. There was enough redundancy of the adjacent artery segments that flow could be re-established using a microvascular direct end-to-end anastomosis.

Operative cultures were negative. Histopathologic examination confirmed a true aneurysm with arteriosclerotic characteristics. At the 1-month follow-up, ultrasound imaging demonstrated patency of the reconstructed artery, and no complications were observed.

DISCUSSION

Aneurysms distal to the pedal arteries are extremely rare, and only 9 true dorsalis pedal artery aneurysms have been previously reported.¹⁻² To our knowledge, this is the first report of an aneurysm of an intermetatarsal artery. Dorsal pedal aneurysms are not more predominant according to sex. The median age is 56 years, and the more prevalent predisposing factors are hypertension (60%) and diabetes mellitus (40%). Most subjects present with an asymptomatic pulsatile mass, although it can occasionally present with pain, neurologic deficits owing to compression, or acute ischemia secondary to distal embolism. The diagnosis is easily established by appearance and confirmatory imaging.

It is generally recommended that these aneurysms should be repaired once they are diagnosed, although precise criteria are not established. Some authors point out the importance of arterial reconstruction in the presence of risk factors that might be associated with future progressive deterioration of the distal arterial segments (eg, diabetes),³ in patients for whom an adequate vascular system is required for growth, and finally, in case of an end artery because thrombosis could lead to tissue loss. We judged this to be a risk in our patient, which resulted in our decision to excise the aneurysm and directly reconstruct the artery.

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