

Ten-year follow-up of direct interposition graft repair of persistent sciatic artery aneurysm

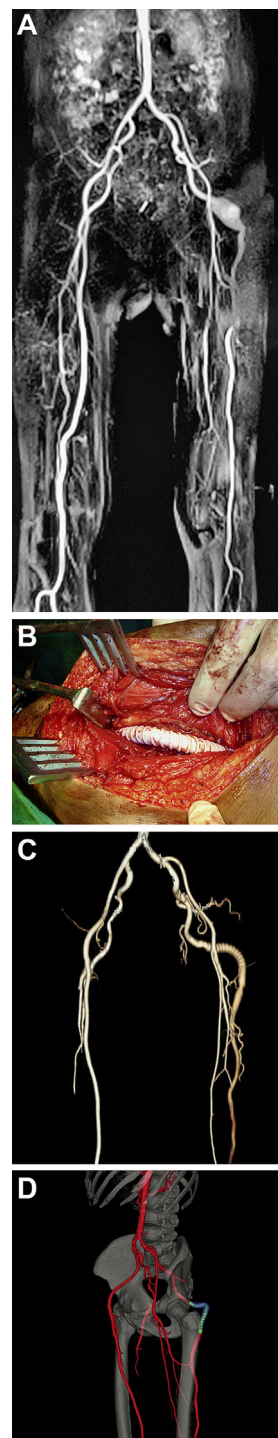
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A 58-year-old woman had presented with a pulsatile swelling in the left gluteal region and pain in the limb on the same side in 2010. Magnetic resonance angiography was performed, which revealed a type 2 persistent sciatic artery (PSA) with an aneurysm in the gluteal region (A). She underwent direct endoaneurysmorrhaphy with an interposition polytetrafluoroethylene (PTFE) graft through a posterior gluteal approach. The patient was placed in the lateral decubitus position, and the aneurysm sac was approached after dividing the overlying gluteal muscles.^{1,2} Proximal and distal imaging studies were obtained, taking care to safeguard the sciatic nerve. The aneurysm sac was opened, and a 7-mm ringed PTFE graft was sutured within the sac (B). The patient was instructed to start taking 75 mg of aspirin postoperatively and was followed up annually. She remained symptom free at 10 years. Computed tomography angiography was performed at 5 years (C) and 10 years (D/Cover) of follow-up. The patient provided written informed consent for the report of her case.

DISCUSSION

The ideal treatment for PSA aneurysms (PSAAs) has not yet been well-defined. An aneurysm associated with type 2 PSA requires treatment of the aneurysm with simultaneous revascularization of the extremity.³ The repair of the PSAA with an interposition graft and ligation of the aneurysm with a femoropopliteal bypass have been advocated in such situations.^{3,4} The long-term outcomes for the former procedure have not been reported beyond 24 months.⁴ Although not proved, the skepticism associated with direct repair has been related to the difficult access and the possibility of graft thrombosis and aneurysm formation attributed to repeated trauma from sitting on the prosthetic graft.¹⁻³ The prosthetic conduit of choice should preferably be the ringed PTFE graft because it can withstand the compression and repeated trauma from sitting compared with a plain PTFE graft. An externally supported Dacron graft could be another option; however, the available data on its use are limited, and the incidence of graft complications has seemed to be greater with Dacron grafts. A few case series have reported endovascular techniques such as coiling and the use of stent-grafts for PSAA, with mixed outcomes.⁵ Concerns about the failure of stents implanted in the gluteal region due to external compression and the fewer numbers of such reported procedures with short follow-up are the shortcomings of endovascular procedures.⁵ We have reported the longest follow-up after the direct repair of PSAA as highlighted by the 10-year follow-up CTA of our patient showing an intact aneurysm repair. Direct repair through a gluteal approach avoids multiple incisions and long bypasses and is technically easier.^{1,2}



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Endoaneurysmorrhaphy with an interposition graft appears to be a durable procedure for aneurysms associated with type 2 PSA and spares the patient an additional limb bypass surgery at the first procedure, allowing it as an option reserved as a bailout procedure for a probable graft thrombosis later.

REFERENCES

1. Wolf YC, Gibbs BF, Guzzetta VJ, Bernstein EF. Surgical treatment of aneurysm of the persistent sciatic artery. *J Vasc Surg* 1993;17:218-21.
2. Brantley SK, Rigdon EE, Raju S. Persistent sciatic artery: embryology, pathology, and treatment. *J Vasc Surg* 1993;18:242-8.
3. Belmir H, Hartung O, Azghari A, Alimi YS, Lekehel B. The persistent sciatic artery: report of ten cases. *J Med Vasc* 2020;45:241-7.
4. Yamamoto H, Yamamoto F, Ishibashi K, Yamaura G, Shiroto K, Motokawa M, et al. Intermediate and long-term outcomes after treating symptomatic persistent sciatic artery using different techniques. *Ann Vasc Surg* 2011;25:837.e9-15.
5. Wang Y, Xin H, Tan H, Wang H. Endovascular stent graft repair of complete persistent sciatic artery aneurysm with lower limb ischemia: a case report and review of the literature. *SAGE Open Med Case Rep* 2019;7. 2050313X19841462.

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