

Superior Gluteal Artery Pseudoaneurysm

Nooshin Najmi, MD; Sharif Essam Ta Darwish, MD; Navid Zaer, MD

CASE SUMMARY

An otherwise healthy 25-year-old presented with complaints of severe left gluteal pain. Approximately 2 months previously, the patient sustained a stab wound to the left buttock. At that time, a contrast-enhanced CT (CECT) performed at another facility demonstrated a 1.5 cm focal pooling of contrast in the deep left gluteal musculature with no intramuscular hematoma or active extravasation. The wound was packed, and the patient discharged. On presenting at our hospital, the patient complained of severe and unremitting left gluteal pain, along with paresthesia in the left distal calf/ankle region.

IMAGING FINDINGS

Initial CECT of the pelvis in the arterial phase demonstrated a 1.5 cm focal pooling of contrast adjacent to the superior gluteal artery (SGA) with no evidence of active extravasation or hematoma (Figure 1). A subsequent CECT of the pelvis in the portovenous phase demonstrated a large, lobulated, and partially thrombosed pseudoaneurysm, measuring approximately 11 cm in diameter and arising from the

left SGA (Figure 2). Selective catheterization of the proximal left SGA and angiography confirmed the presence of an arterial pseudoaneurysm (Figure 3).

DIAGNOSIS

Superior gluteal artery pseudoaneurysm

DISCUSSION

Pseudoaneurysms of the gluteal artery are rare, constituting less than 1% of all pseudoaneurysms. They are more common in the SGA than in the inferior gluteal artery (IGA). Although the exact incidence of SGA pseudoaneurysms is unknown, fewer than 150 cases have been reported.^{1,2} Blunt and penetrating pelvic trauma are the most common causes of pseudoaneurysm, followed by pelvic surgeries and interventional procedures like bone marrow biopsy, mycotic infections, connective tissue disorders, vasculitis, and atherosclerosis.^{1,3}

Pseudoaneurysms caused by trauma may present a weeks to years after the initial incident. Symptoms are nonspecific; they include buttock and sciatic pain, pressure in the buttock, and swelling. Occasionally a pulsation or

bruit is observed over the mass, which may help to differentiate it from other diagnoses.⁴

As these lesions often present with gluteal swelling, the two most important differential diagnoses are abscess and soft-tissue mass. Misdiagnosing these lesions as an abscess or soft-tissue mass can result in a life-threatening complication if the patient undergoes aspiration or biopsy.¹

High flow from the SGA can lead to a rapidly enlarging pseudoaneurysm and be potentially fatal due to eventual rupture and hemorrhage.³ The preferred modality for diagnosis is CT angiography (CTA), which can exclude the other aforementioned causes of gluteal swelling. The pseudoaneurysm appears as a contrast-filled structure communicating with an artery.² Color Doppler ultrasound (US) will show characteristics of turbulent flow within a pseudoaneurysm (yin-yang sign).⁵

As in our case, endovascular embolization is the first-line treatment for non-complicated pseudoaneurysms; the procedure effectively achieves complete thrombosis with fast recovery and decreased risk of iatrogenic

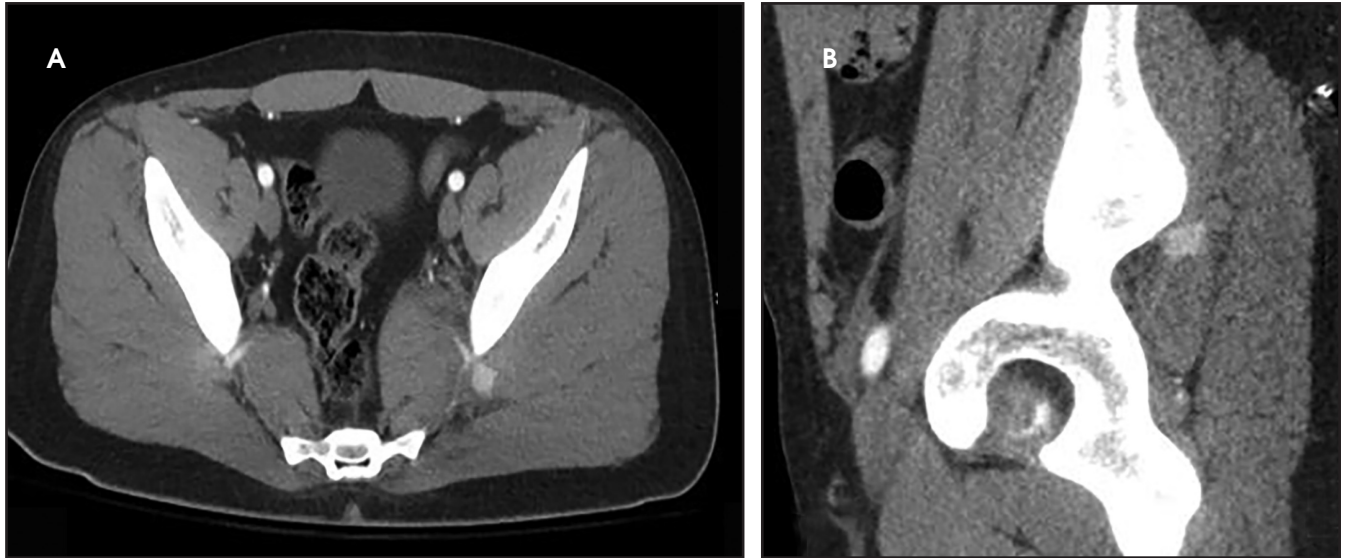


FIGURE 1. Axial (A) and sagittal (B) contrast-enhanced CT (CECT) of the pelvis in the arterial phase demonstrates a small focus of pooled contrast adjacent to the left superior gluteal artery. The tissue laceration from the stab wound is noted in the sagittal image.



FIGURE 2. CECT of the pelvis in the portovenous phase, axial (A) and sagittal (B) planes demonstrates a large, partially thrombosed left superior gluteal artery pseudoaneurysm.

nerve and arterial injuries.⁴ Short-term follow-up with CTA should be considered to ensure complete thrombosis. In addition to embolization, stent grafting and direct thrombin injection have been suggested.⁵ Open surgery is also an option when endovascular therapy

fails to repair the aneurysm or control the compressive symptoms.^{1,5}

CONCLUSION

Superior gluteal artery pseudoaneurysms are rare but should be considered as a differential diagnosis of gluteal

swelling and pain, especially in patients with a history of trauma. Treatment should be considered even with small SGA pseudoaneurysms, as continuous high arterial flow risks progressive enlargement and rupture. Endovascular embolization can achieve complete

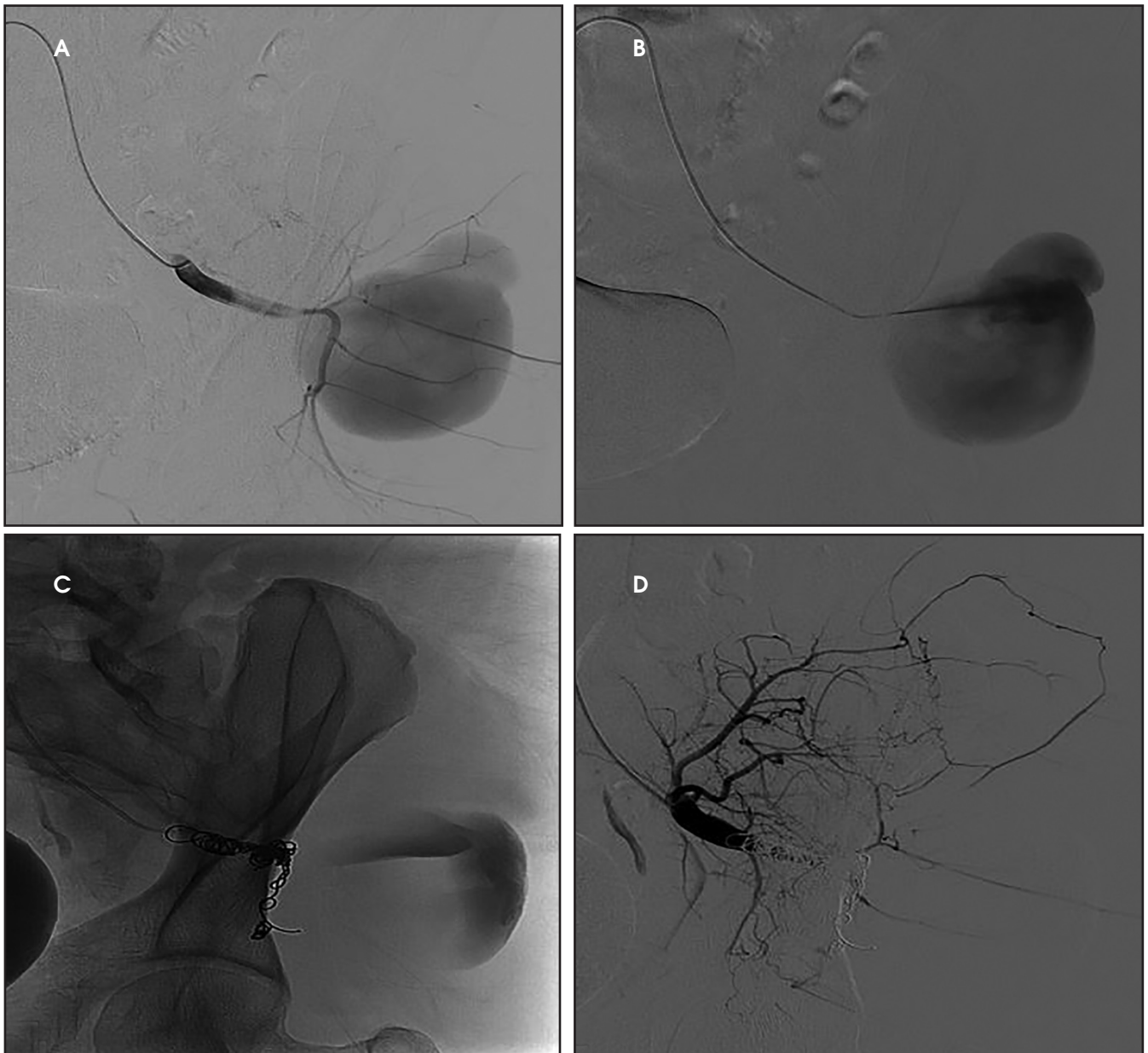


FIGURE 3. Selective digital subtraction angiography of the left SGA and successful coil embolization. (A) Selective left SGA angiogram with rapid arterial filling of a large, lobular pseudoaneurysm. (B) Catheter tip positioned at the orifice of the pseudoaneurysm demonstrates contained pseudoaneurysm. (C) Selective coil embolization across the orifice of the pseudoaneurysm with contrast stasis indicating thrombosis. (D) Completion angiography confirms non-opacification of the pseudoaneurysm.

thrombosis with selective precision and minimal to no collateral injury. Short-term follow-up with CTA should be considered to ensure complete thrombosis.

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Affiliation: St Vincent Hospital, Worcester, MA