

## SHORT REPORT

# A Giant Pseudoaneurysm of the Gluteal Artery

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*Aneurysms of the gluteal artery, true or false, are rare and usually follow pelvic fractures or penetrating trauma. We report on a case of a 77-year-old woman who developed a 16 cm large right gluteal aneurysm. Doppler ultrasound, CT scan and angiography confirmed the clinical diagnosis. The patient was successfully treated with endoaneurysmorrhaphy, after temporary clamping of the hypogastric artery using an extraperitoneal approach. In cases of very large gluteal aneurysms we believe that open surgical treatment is still preferable to endovascular procedures.*

*Key Words: Aneurysm diagnosis; Gluteal aneurysm; Surgery; Pelvic trauma; Complications.*

### Introduction

Aneurysms and pseudoaneurysms of the gluteal artery are very rare; very few are recorded in the literature. Our case report describes an unusually large gluteal aneurysm.

### Case Report

A 77-year-old woman, who had been receiving NSAID therapy for rheumatoid arthritis, was hospitalised because of a rapidly expanding swelling in the right buttock, which had been present for several months.

Physical examination confirmed a pulsatile swelling in the right gluteus maximus muscle. The patient had suffered a pelvic fracture in a fall 6 months previously. Duplex ultrasound confirmed the presence of an aneurysm. The patient underwent a CT scan of the pelvis (Figs 1a, 1b), which showed an old comminuted and unstable fracture of the right iliac wing, involving the sacroiliac joint, with a pseudoarthrosis. There was a round 16 cm diameter mass in the right gluteal region,

on the same side as the fracture. The mass had clean and uniform margins, with a pseudocapsular appearance. After contrast injection irregular haemorrhagic lacunae appeared inside the mass. These lacunae were fed by the superior gluteal artery, which appeared dilated, probably aneurysmal, at the level of the old fracture. The findings of the CT scan supported the diagnosis of gluteal pseudoaneurysm.

Arteriography revealed the accumulation of contrast in a posterior branch of the right hypogastric artery. This branch, probably the gluteal artery, was dilated to form a pseudoaneurysm.

The patient underwent surgery in the left lateral decubitus position under spinal anaesthetic. The internal iliac axis and all its branches were exposed using an extraperitoneal approach and encircled with double loop elastic tapes. An incision along the gluteal sulcus towards the greater trochanter was performed, creating a musculocutaneous flap. Through that incision the aneurysmal sac was dissected up to the ischial foramen (Fig. 2). The resection of the sac and the evacuation of a voluminous thrombus allowed the afferent vessels, which were ligated with transfixion sutures, to be seen.

Drains were removed 4 days after the operation. On the seventh postoperative day she was discharged. The long-term result is good, without neurological or other sequelae.

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**Fig. 1.** CT scan with contrast showing the outcomes of the old pelvic fracture and a mass of 16 cm diameter (a) with irregular haemorrhagic lacunes (b).

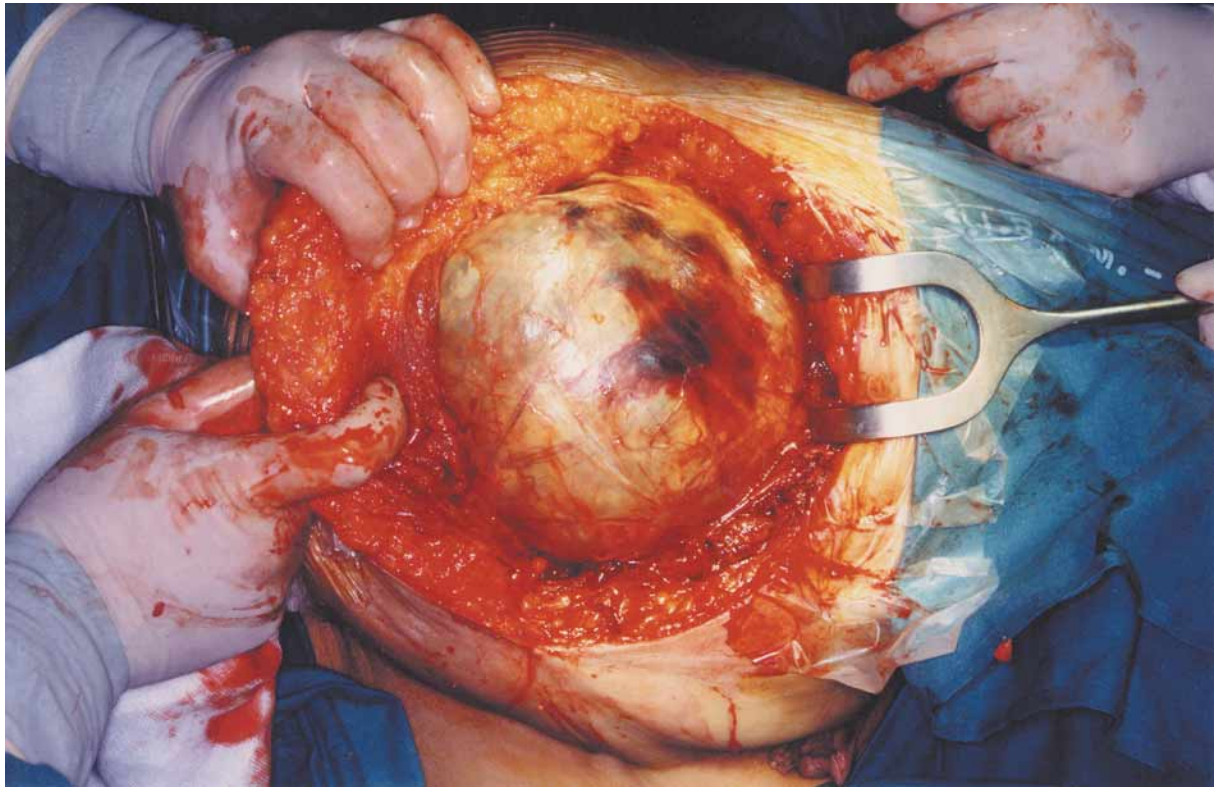


Fig. 2. The pseudoaneurysm isolated.

### Discussion

Gluteal aneurysms comprise less than 1% of all aneurysms and are due mainly to contusion or penetrating trauma.<sup>1,2</sup> Generally pelvic fractures cause an injury of the inferior gluteal artery (or of its branches), while penetrating trauma injures the superior gluteal artery. The lapse of time between trauma and diagnosis can vary from a few weeks to several years. Other causes are very rare. These include polyarteritis nodosa,<sup>3</sup> mycotic infections,<sup>4</sup> arterial dysplasia and the aneurysmal evolution of a persistent sciatic artery.<sup>5</sup>

The symptomatology can vary: gluteal throbbing and aching mass, aneurysm rupture and sciatic nerve compressive syndrome if the aneurysm is particularly large. The presence of pulsation is inconstant, and this explains diagnostic mistakes (tumours, abscess).

Duplex ultrasound confirms the arterial nature of the mass, and the CT scan gives more information about the dimensions and the relationship of the aneurysmal sac. Angiography is essential to identify the feeding vessels.

The treatment of these lesions has been for a long time exclusively surgical. The standard procedure consists of the ligation of the hypogastric artery through the extra- or transperitoneal approach, followed by a gluteal incision in order to remove the aneurysm and

to ligate the afferent vessels. As a second choice (the one we used), a temporary clamp of the hypogastric artery and its branches is performed, with subsequent removal of the aneurysmal sac and exclusion of the afferent vessels by endoaneurysmorrhaphy. It is important to point out that simple ligation of the hypogastric artery from an anterior approach has been shown to be inappropriate. A direct approach is inadvisable because the dissection of the gluteus maximus and medius muscles is difficult and can lead to sciatic nerve injury, muscular necrosis and difficulties with haemostasis.

Over the last few years several authors have reported good results from embolisation of small aneurysms. This technique requires selective catheterism of the hypogastric artery and the identification of all the afferent branches. Then embolisation is performed, using various materials, in order to achieve the complete thrombosis of the aneurysmal sac. This manoeuvre is more difficult for large aneurysms and should be considered only for reducing the haemorrhagic risk when a surgical operation is needed.<sup>6</sup>

### Conclusion

Gluteal aneurysm is a rare diagnosis which should nevertheless be considered in the differential diagnosis

of a gluteal mass. The diagnosis is confirmed by the use of Doppler ultrasound, CT scan and arteriography. We believe that open surgical treatment is still the best option for large aneurysms, whereas embolisation should be the favoured technique for the small ones.

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