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EMBOLISATION OF A POST-TRAUMATIC SUPERIOR GLUTEAL ARTERY ANEURYSM: CASE REPORT
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EMBOLISATION OF A POST-TRAUMATIC SUPERIOR GLUTEAL ARTERY ANEURYSM: CASE REPORT

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ABSTRACT

Pseudoaneurysms of the superior gluteal artery are a rare complication of trauma. They can be diagnosed by Doppler ultrasound, computed tomography or magnetic resonance imaging. Angiography, however, is needed for definitive diagnosis. Transcatheter embolisation is now regarded as the treatment of choice. We present a case of superior gluteal artery pseudo-aneurysm following minor blunt trauma. The patient was successfully treated by transcatheter embolisation and aspiration.

INTRODUCTION

Pseudoaneurysm of the superior gluteal artery formation is a rare complication of injury. Ultrasound/ Doppler, computed tomography (CT) or magnetic resonance imaging (MRI) may aid clinical diagnosis. Definitive diagnosis, however, needs angiography and treatment is usually achieved by transcatheter embolisation or by surgery.

CASE REPORT

We present a case of a 57-year old woman who was a known type II diabetic but had no other past history of note. She fell as she was getting off a coach when on holiday. Over the next few weeks, she became aware of a swelling in her left buttock, which was mildly painful and interfered with being able to sit comfortably. This gradually increased in size over the next few weeks before presenting to an orthopaedic surgeon. On examination, there was a large pulsatile mass in the left buttock. An ultrasound examination revealed a large hypoechoic mass within the gluteal area. Colour Doppler interrogation demonstrated flow within the mass. In view of the vascular aetiology she underwent angiography.

A selective left iliac angiogram confirmed a 10x8x8cm false aneurysm supplied by a single vessel being the superior gluteal artery. The superior gluteal artery appeared to be enlarged probably as it was supplying the aneurysm for a few weeks prior to the angiogram (Figure 1). An MRI of the pelvis was done to show its relation to the surrounding structures, should surgery become necessary this showed the mass to lie deep to the gluteus maximum muscle and directly posterior to the left sciatic nerve (Figures 2,3). The mass showed the typical characteristics of a haematoma with an outer hyper- and an inner hypo-intense ring on both TIW and T2W images, with a surrounding haemosiderin ring.

Figure 1

Selective left iliac angiogram showing the aneurysm supplied by the superior gluteal artery

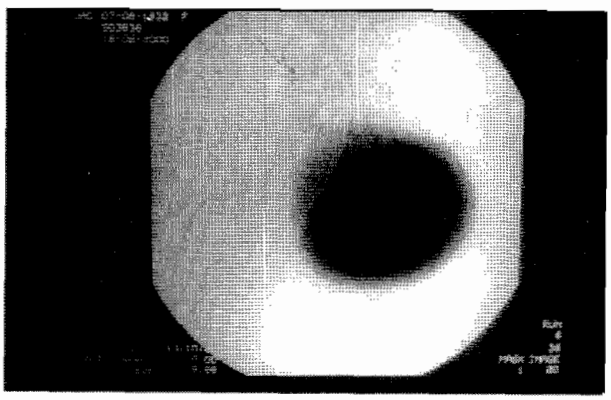


Figure 2

Axial T1W MRI of the aneurysm pre-embolisation showing its relation to the sciatic nerve (arrow) and surrounding structures

Figure 3

Axial T2W MRI of the aneurysm pre-embolisation showing its relation to the sciatic nerve (arrow) and surrounding structures

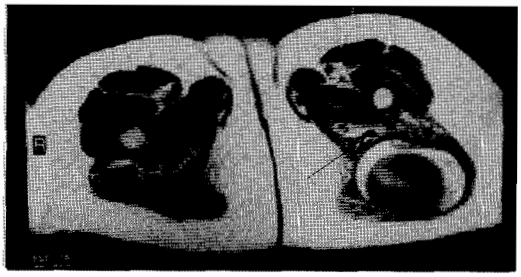


Figure 4

Neck of the aneurysm, being occluded by the balloon

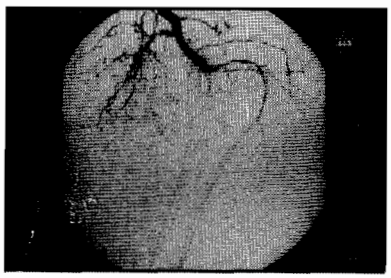


Figure 5

Axial T1W MRI showing decrease in size of the aneurysm post embolisation and aspiration

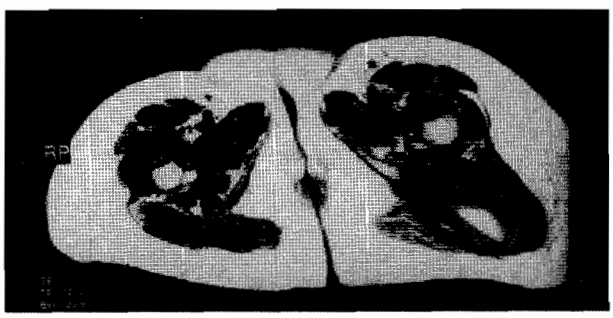
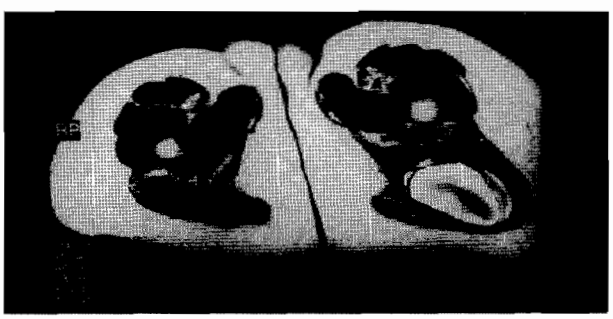


Figure 6

Axial T2W MRI showing decrease in size of the aneurysm post embolisation and aspiration



Her blood chemistry was unremarkable, apart from glycosylated haemoglobin of 7.6%. Her haemoglobin was 14 g/dl and her INR was normal. A decision was made to attempt percutaneous treatment with a view to embolisation of the feeding vessel and subsequent aspiration of the blood from the false lumen to decrease the residual mass. The aneurysm was approached via a right common femoral approach using a 7 French guide catheter. The feeding vessel was selectively catheterized and a detachable silicone balloon (1505H, 7.8mm and 14mm in length, Boston Scientific/target) was deployed. This produced immediate occlusion of the aneurysm neck (Figure 4). Having isolated the feeding vessel it was possible to immediately drain 70 ml of blood from the aneurysm sac producing immediate decrease in the size of the residual mass. No immediate complications were encountered. Eighteen hours post embolisation the mass was non-pulsatile and was noted to have decreased in size.

A follow up MRI after five weeks was performed to confirm successful treatment. This showed the mass to have the characteristics of an organizing haematoma with an outer hypo-intense and inner hyper-intense ring on the TIW and reverse signals on T2W (Figures 5,6). It now measured 9x7x6cm, representing an appreciable reduction in volume. There was no evidence of any residual flow within the haematoma. Clinically the patient was now asymptomatic and delighted with the results.

DISCUSSION

Gluteal artery aneurysms are very rare. They represent less than 1% of all aneurysms(1). They can arise from the superior or inferior branches. Rarely they can occur in a persistent sciatic artery(2). They can be true or false, the latter being usually associated with trauma. True aneurysms are usually atherosclerotic in nature. Pseudoaneurysms are commoner and have been reported with pelvic fractures(3,4) penetrating injuries such as gun shot or stab wounds(5) and intra-muscular injections(6). Some reports have also been linked with anticoagulant therapy(7). They can present clinically as pulsatile masses, pain or "groin strain"(8).

These aneurysms grow progressively and present late, secondary to either threatening haemorrhage or compressing of adjoining structures such as the sciatic nerve(9). Mortality rate following aneurysm rupture has been estimated to be between 50-75%.

Treatment historically has been surgical, although more recently interventionial techniques have been used. Embolisation using coils or detachable balloons is now thought to be the treatment of choice and a few reports have been published(4,5). In this case because there was concern about leaving behind an uncomfortable mass following embolisation, it was decided to use a detachable balloon to enable immediate aspiration of the haematoma. Even if surgery were subsequently required, prior embolisation would help minimise the risk of intra-operative bleeding(11).

This case was unusual in that it followed relatively minor trauma. The combination of balloon embolisation and haematoma aspiration facilitated complete occlusion of the feeding vessel with simultaneous reduction in the size of the mass obviating the need for further surgery with its inherent complications. Mortality rates of 10% and 50% have been reported for elective and emergency surgery of internal iliac aneurysms respectively(12). The patient was left with a residual lump, which may further diminish over time. This case highlights the rare complication of a gluteal artery aneurysm following trauma and its successful treatment with transcatheter embolisation and haematoma aspiration.

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ERRATUM

In our April 2003 issue, Volume 80, Pages 223-224, the author's name was given as Krysztof, M.K. The correct name is Kuczkowski, K.M. We sincerely apologise for this error.