False Aneurysm of the Profunda Femoris Artery Following Blunt Trauma

L.J. Morris* and R.N. Baird

Bristol Royal Infirmary, Marlborough Street, Bristol, UK

False aneurysms of the profunda femoris artery are usually associated with femoral fractures. We present a rare case of a patient who sustained blunt trauma to the thigh and developed a large haematoma with an underlying communication to the profunda femoris artery.

Keywords: False aneurysm; Profunda femoris; Blunt trauma.

Introduction

The femoral vessels account for one third of traumatic arterial injuries. In the thigh, the superficial femoral artery receives a greater share of injuries than either the common or profunda femoris vessels. Femoral vascular injuries secondary to blunt trauma are usually reported in association with bony injury, and include initially occult injuries that subsequently develop into a late thrombosis, false aneurysm or AV fistula if left undetected.

False aneurysms of the profunda femoris artery have frequently been reported following femoral fractures. However, there are only isolated reports of false aneurysms due to blunt trauma without an associated fracture. We present a patient who sustained blunt trauma to the thigh and developed a large haematoma with an underlying communication to the profunda femoris artery.

Case Report

The patient, a 70-year old male farmer, was hit in the right thigh by a cow during milking, in a mechanism similar to when a bullfighter is gored in the bullring. There was no open wound so the farmer did not seek medical attention. He was on warfarin for a prosthetic aortic valve. Six weeks later, he presented with a painful swollen right thigh, which had been enlarging since onset a week earlier. There was a hard, tender, non-pulsatile 12×15 cm² swelling on the anteromedial aspect of his right thigh. All the leg pulses were palpable. His INR was 4.6 and haemoglobin was 9.8 g/dl. Duplex ultrasonography revealed a large communicating haematoma with arterial bleeding pulsing into it from the profunda femoris artery.
His anticoagulation was reversed, after which he underwent operation. On opening the thigh, a large organized haematoma, containing about 700 ml blood, was evacuated to reveal active arterial bleeding beneath it. The bleeding point, in the distal profunda femoris artery (Fig. 2), was identified and ligated with a single prolene transfixion suture. A vacuum tube drain was inserted and the wound closed in layers. The patient required three units blood transfusion. Post-operatively he was re-anticoagulated and discharged five days later.

**Discussion**

Prevention of injury, e.g. using protective covers on cow horns, should be considered. In addition, surgeons should be aware of the injury and how to treat it. As this complication of blunt trauma is very rare, it is often not suspected. Mikulin et al. reported three patients in whom the diagnosis of false aneurysm was initially missed because the haematoma masked the underlying pulsation. Treatment by incision and drainage in A&E led to the disastrous consequence of massive arterial bleeding.

In our patient, early clinical awareness and confirmation by duplex ultrasound led to the correct diagnosis being made without delay. Unlike false aneurysms of the common femoral artery, which lie close to the skin, it would not have been possible to obliterate the aneurysm by ultrasound-guided compression. Endovascular treatment by coil occlusion was considered and might have been feasible, although a large residual haematoma would have taken a long time to resorb.

In conclusion, in any patient with an enlarging haematoma following blunt trauma, a false aneurysm should be suspected and appropriate imaging undertaken. Intervention to obliterate the communication to the artery and to evacuate the haematoma can then be performed.

**References**


Accepted 17 February 2005