Successful endovascular treatment of iatrogenic pseudoaneurysm with a relatively long neck

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DESCRIPTION
A 63-year-old man was admitted to our emergency medical centre due to suspected myocardial infarction; coronary angiography was performed via the left common femoral artery. Following cardiac intervention, colour doppler ultrasonography demonstrated left common femoral artery pseudoaneurysm. (CT) revealed a pseudoaneurysm sac (maximum size, 54 mm) with a relatively long neck (length, 27 mm; figure 1).

After failed ultrasound-guided compression, left external iliac arteriogram confirmed that the pseudoaneurysm sac communicates via a neck with the left common femoral artery (figure 2A). A 2 Fr-microcatheter was superselectively catheterised into the pseudoaneurysm neck (figure 2B), followed by embolisation by injecting a 1:1 mixture of n-butyl cyanoacrylate (NBCA) and lipiodol to enable fluoroscopic visualisation. Left external iliac arteriogram confirmed complete absence of the pseudoaneurysm immediately after embolisation (figure 2C). Follow-up CT imaging 12 days later revealed no traces of the pseudoaneurysm. Moreover, there were no complications associated with transcatheter embolisation.

Femoral artery pseudoaneurysms occur in 0.2–7.7% of patients undergoing angiographic procedures.1 In general, coil embolisation is an effective treatment at sites both distal and proximal to the pseudoaneurysm.2 However, in the present case, the technique may have caused lower limb ischaemia. Treatment options for pseudoaneurysm include ultrasound-guided compression and direct percutaneous thrombin injection.3 NBCA is a liquid embolic material, and the adhesion time can be flexibly adjusted according to the rate of mixed lipiodol. A distinct advantage of NBCA in lipiodol is its dense radiopacity; as the exact site of occlusion can be observed during the embolisation procedure. NBCA undergoes rapid polymerisation and solidification and provides permanent embolisation; hence, migration of the embolic material can be prevented. The present technique demonstrated that superselective embolisation of the pseudoaneurysm neck was possible without the need for direct percutaneous embolisation.

Learning points

▸ Iatrogenic pseudoaneurysm is an undesirable complication of angiography.
▸ Endovascular treatment for pseudoaneurysm should be effective, particularly with a relatively long neck.

Competing interests None.
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Figure 1 Contrast-enhanced CT in the arterial phase revealed a well-enhanced area (arrowhead) in the left inguinal region (A). Three-dimensional CT revealed a common femoral artery pseudoaneurysm (arrowhead) with a relatively long neck (arrow) (B).
REFERENCES

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Figure 2 Left external angiogram revealed a pseudoaneurysm sac (arrowhead) and neck (arrow) (A). A microcatheter was superselectively catheterised into the pseudoaneurysm neck (thin arrow), followed by embolisation injecting a mixture of n-butyl cyanoacrylate and lipiodol (B). Left external iliac arteriogram immediately after embolisation confirmed complete absence of the pseudoaneurysm (C).