

**Figure 2.** A: Biopsy of thickened area of the dura mater showing numerous noncaseating epithelioid and giant cell granulomas and predominantly lymphocytic inflammatory infiltrate intermingled with dense collagenous fibrosis. B: Masson's trichrome stain: granulomas (pink) against dense collagenous connective tissue (blue).

toms of diabetes insipidus such as polydipsia and polyuria may also occur due to the involvement of the hypothalamus and hypophysis. In cases of spinal cord involvement, weakness of lower limbs and other nonspecific signs of myelopathy are observed<sup>(3)</sup>.

Although sarcoidosis may manifest in all the regions of the central nervous system, it is most commonly seen in the skull base, hypothalamus, pituitary and optic chiasm<sup>(4)</sup>. At magnetic resonance imaging, a common finding is intraparenchymal lesions with hypersignal on T2-weighted and FLAIR sequences, generally multifocal, periventricular, subcortical or in the deep white matter. Such findings can hardly be differentiated from vasculitis or demyelinating diseases. Intraparenchymal lesions are generally located near the areas with leptomeningeal involvement (with enhancement by paramagnetic contrast medium), and may be either single or multiple, possibly also involving cranial nerves<sup>(4)</sup>.

Like in the present case, diffuse pachymeningeal thickening may be observed, with hyposignal on T2-weighted, isosignal on T1-weighted sequences and contrast enhancement. Thus, differential diagnoses such as neurotuberculosis, dural lymphoma, meningioma en plaque, IgG4 deposition disease, pseudotumor, adenocarcinoma metastasis, Wegener's granulomatosis, idiopathic hypertrophic pachymeningitis might be considered, requiring biopsy to define the etiology. Simultaneous dural and leptomeningeal involvement is rarely observed<sup>(4)</sup>. In the present case, the anatomopathological findings corresponded to typical noncaseating granulomas in the pachymeninges (Figure 2). Intracranial hypotension is another differential diagnosis to be considered, gen-

erally presenting with diffuse pachymeningeal thickening, but with hypersignal on T2-weighted sequences (in the present case, hyposignal was observed on T2-weighted sequences).

A consensus is still to be reached on the treatment for sarcoidosis. In cases where the patient is symptomatic the treatment is initiated with high doses of corticosteroids, gradually reduced along the treatment up to complete withdrawal<sup>(3)</sup>.

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#### Femoral artery injury during aneurysm coiling

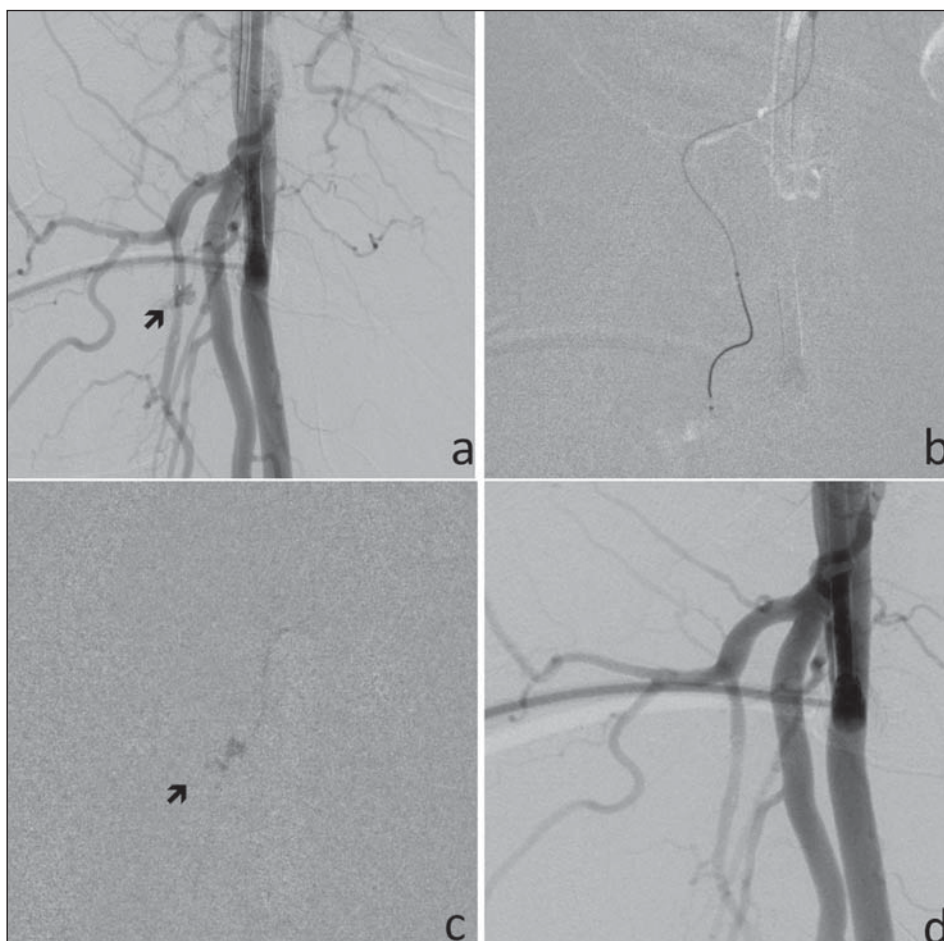
*Lesão da artéria femoral durante embolização de um aneurisma*

Dear Editor,

Endovascular artery reconstruction with low-profile stents, flow-diverters and flow-disrupting devices represent a significant progress in the endovascular therapy of intracranial aneurysms. Despite the improvement in technical expertise and developments in device technology, endovascular treatment still has inherent risks<sup>(1)</sup>. In the literature, most reports are focused on neurological complications during procedures<sup>(2)</sup>, however, reports on access vessel complications are scarce. Some of the well known access-related complications include: arterial pseudoaneurysms, arterio-

venous fistulae, hematomas, arterial dissection leading to acute vessel occlusion<sup>(3,4)</sup>, intracavitary bleeding, and retroperitoneal hematoma following femoral artery puncture<sup>(5)</sup>. The authors report the case of a large groin hematoma caused by a hypodermic needle connected with the black cable of the detachable coil power supply (Boston Scientific; Natick, MA, USA) and its endovascular management.

Local compression is the first line treatment for femoral access complications<sup>(6)</sup>, but such strategy may fail when indicated for patients under combined antiplatelet and anticoagulation regimens. Open surgery is effective in the treatment of groin complications<sup>(7)</sup>. However, the endovascular approach is a safe and effective minimally invasive alternative to surgery in the management



**Figure 1.** **a:** Angiography of right femoral artery (RFA) shows the 7F sheath inserted into the common femoral artery and an active contrast extravasation (arrow) in a small branch of the deep RFA, consistent with active bleeding. **b:** Microcatheter placed into a small muscular branch of the deep RFA. **c:** Microcatheter for glue injection into the small muscular branch of the deep RFA and contrast extravasation (arrow). **d:** Post-treatment RFA angiography shows absence of bleeding.

of access vessel complications<sup>(8–10)</sup>. A bleeding originated from an arterial access can be treated by endovascular approach using either liquid or coil embolization<sup>(8,9)</sup>, or by stent-graft implantation<sup>(10)</sup>. In the present case, selective embolization was performed with N-butyl-2-cyanoacrylate because the bleeding site was located in a thin distal branch of the right deep femoral artery, allowing for micro-catheterization and injection of a liquid embolic agent. In the present case, the very small caliber of the bleeding vessel precluded the use of coils. Moreover, because the bleeding was located in a distal branch of the deep femoral artery, and not in the wall of the artery, there was the option for selective embolization instead of stent-graft placement. Selective arterial embolization avoids potential risks associated with a stent-graft implantation, such as thrombosis, kinking, compression, occlusion of femoral branches and long-term stent occlusion.

The present case reveals an unexpected complication during aneurysm embolization and alerts us to the possibility of uncommon bleedings secondary to simultaneous use of aspirin, clopidogrel, and unfractionated heparin.

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