

IMAGES IN EMERGENCY MEDICINE

Cardiology

Elderly man with severe pain in the right groin

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An 82-year-old man with a history of hypertension, dyslipidemia, and smoking presented to the emergency department for 2 days of severe pain in the right groin, which was of sudden onset. On examination he had no alteration in vital signs, pulse deficit, or pallor of the extremity. An aortic computed tomography (CT) angiography was performed in the ED, which showed an aneurysmal dilatation without hemoperitoneum but with a contained rupture of an isolated aneurysm of the right iliac artery (Figure 1 and 2), with an arteriovenous fistula (Figure 3 and 4). The patient was taken to emergency surgery but died in the postoperative period at the intensive care unit (ICU).

The rupture of an isolated iliac artery aneurysm (IIAA) with arteriovenous fistula is rare and frequently coexists with an abdominal aortic aneurysm (AAA). Isolated IAA is infrequent, with an incidence less than



FIGURE 2 Computed tomography angiography (Coronal view). Blue arrow is pointing to isolated aneurysm with contained rupture of the right iliac artery



FIGURE 1 Computed tomography angiography (Axial view). Blue arrow is pointing to isolated aneurysm with contained rupture of the right iliac artery

2%.^{1,2} The primary etiology is degenerative; however, it is also caused by other conditions, such as infection, intraoperative injury, dissection, trauma, and collagen diseases. Most IAAs are asymptomatic, but they can present with rupture, distal embolization, thrombosis, and symptoms of neurological or visceral compression and usually appear with a diameter bigger than 4 cm. For this reason, the literature suggests repairing an IAA larger than 3.5 cm.

Mortality associated with the surgical management of a ruptured IAA can be up to 40%.^{3,4} When evaluating patients with risk factors and suggestive symptoms, bedside ultrasound examination along with aortic CT angiography in the ED is a vital tool.

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FIGURE 3 Computed tomography angiography (Coronal view). Isolated right iliac artery aneurysm with contained rupture. Blue arrow is pointing to fistula to the venous system



FIGURE 4 Computed tomography angiography (Coronal view). Isolated right iliac artery aneurysm with contained rupture. Blue arrow is pointing to fistula to the venous system

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