

Case	(719) Arteriovenous fistula secondary to closed trauma.
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## CASE PRESENTATION

A 76-year-old man, hypertensive, type II diabetic and dyslipidemic who repeatedly visited the emergency department due to progressive increase of the lower left limb diameter during the last two years. On examination, it was observed a foveal edema from the foot to the thigh root, with pain on palpation and mobilization. Because of the patient's clinic, they request an ECO Doppler that discarded deep venous thrombosis and then a CT without contrast and CT angiography (CTA) of the lower limbs to identify the cause.

CTA shows an arteriovenous fistula (AVF) that leads to an early repletion of the left common iliac vein and the entire venous system of the left lower limb. We also observed a diffuse thickening of all the muscles and a soft tissue edema of the whole left lower extremity comparing with the contralateral one. In addition, he had a L5 compression fracture, which was not observed in previous studies.

After these findings, we diagnosed the patient with AVF probably secondary to previous trauma and the interventionist Radiology service proceeded to the embolization of multiple arterial branches with contribution to the AVF. Despite the closure of multiple branches, the AVF continues to function, so the vascular surgeon performed a surgical venous bypass and subsequent embolization of the residual arterial branches causing the fistula.

## DISCUSSION

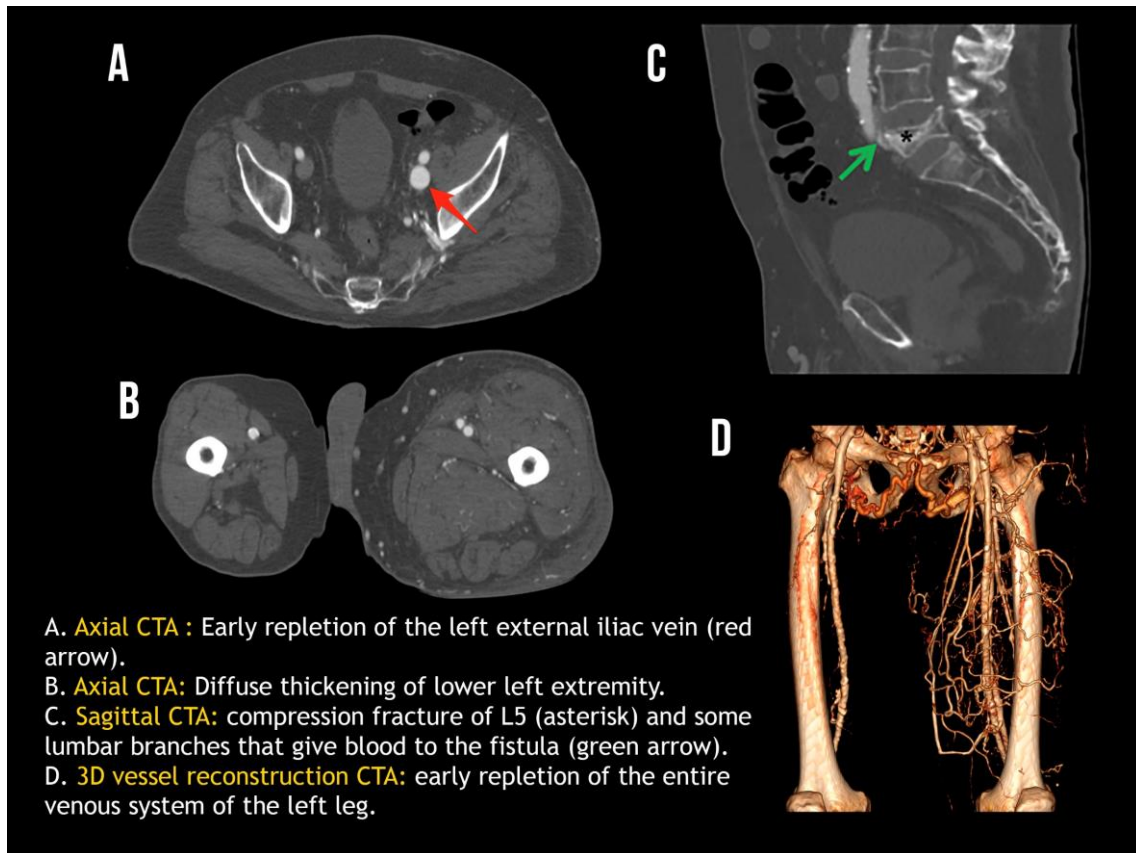
AVFs are abnormal connections between the arterial and venous systems. They can be congenital or acquired, alone or multiple and can affect any part of the body. Acquired AVF of the lower extremity is the most common AVF, secondary to the use of the groin as a site for percutaneous arterial and venous access. Traumatic AVFs are usually due to penetrating trauma, it is extremely rare that they are secondary to closed traumas, as in our case.

In a CTA an early repletion of any vein should make you think of AVF. In addition other signs that support the diagnosis are the congestion of the affected member with edema of the subcutaneous cellular tissue and the presence of collateral circulation. The intervention can be surgical or endovascular and the indications for treatment include symptoms like significant edema, cardiac failure due to high-flow fistula or ischemia secondary to steal syndrome.

## CONCLUSION

Lower limb AVFs secondary to closed traumas are extremely rare. Clinical suspicion is essential to make an appropriate study and not delay the diagnosis. The lower limbs CTA

shows an early vein repletion, subcutaneous cellular tissue edema and collateral circulation.



## BIBLIOGRAPHY

- Patrick Stone, MD. Acquired arteriovenous fistula of the lower extremity. UpToDate Inc. <https://www.uptodate.com> (Accessed on January 2019).