

Imminent Rupture of Large Common Iliac Artery, Open Repair

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ARTICLE HISTORY

Received: September 8, 2021

Accepted: February 25, 2022

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We present the case of a 58-year-old man, a heavy smoker, with a body mass index of 38.1, suffering from hypertension and diabetes mellitus, admitted to the Vascular Unit of the Emergency County Hospital of Târgu Mureș with abdominal pain and visible infraumbilical pulsations, without claudication or signs of leg ischemia. The patient was referred to vascular surgery from the General Surgery Unit.

Clinical examination revealed palpable bilateral femoral pulses, palpable bilateral pedal pulses, and an abdominal pulsating tumoral mass of approximately 8 × 6 cm. Doppler ultrasonography showed an aneurysmal enlargement of the left common iliac artery. Computed tomography (CT) angiography showed a kinking of the distal aorta, displacing it 5.3 cm laterally from the central axis (Figure 1), towards the right, and a large aneurysm of the left common iliac artery, measuring 6.3 × 6 × 8.61 cm (antero-posterior [AP] × latero-lateral [LL] × caudocranial [CC]) (Figure 2, 3), which we considered having an imminent rupture risk.^{1,2}

Arterial aneurysms with intra-abdominal localization present a high risk of rupture and may lead to the development of an aortoenteric fistula with a very high mortality rate.³ Other outcomes include spontaneous thrombosis and arterial occlusion, without the presence of hemorrhagic shock.⁴

The anatomical particularity of the case was represented by the arterial kinking at the origin of the iliac artery, which made the endovascular treatment not suitable, and thus open surgical repair was decided.⁵

A left pararectal incision was performed in order to gain access into the retroperitoneum and prepare the aneurysm (Figure 4). Through the small field of exposure offered by this approach, the aneurysm was opened and endoluminal clamping was performed in the proximal and distal segments, using different caliber Fogarty catheters. Endo-aneurysmorrhaphy was carried out using an 8-mm Dacron graft, anastomosed in a T-T manner (Figure 5).

Postoperative evolution was satisfactory, without any complications, and the bowel movements resumed early. The patient was discharged on the 5th postoperative day. The one-month, six-month, and one-year follow-up showed the patient in a stable, satisfactory health state, symptom-free and with palpable pedal pulses.



FIGURE 1. CT angiography, axial section: kinking of the distal aorta, displacing it 5.3 cm laterally from the central axis

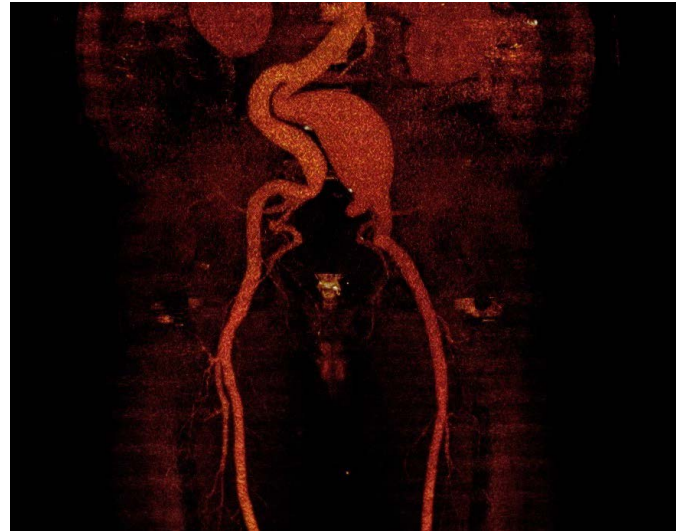


FIGURE 3. CT angiography: 3D reconstruction

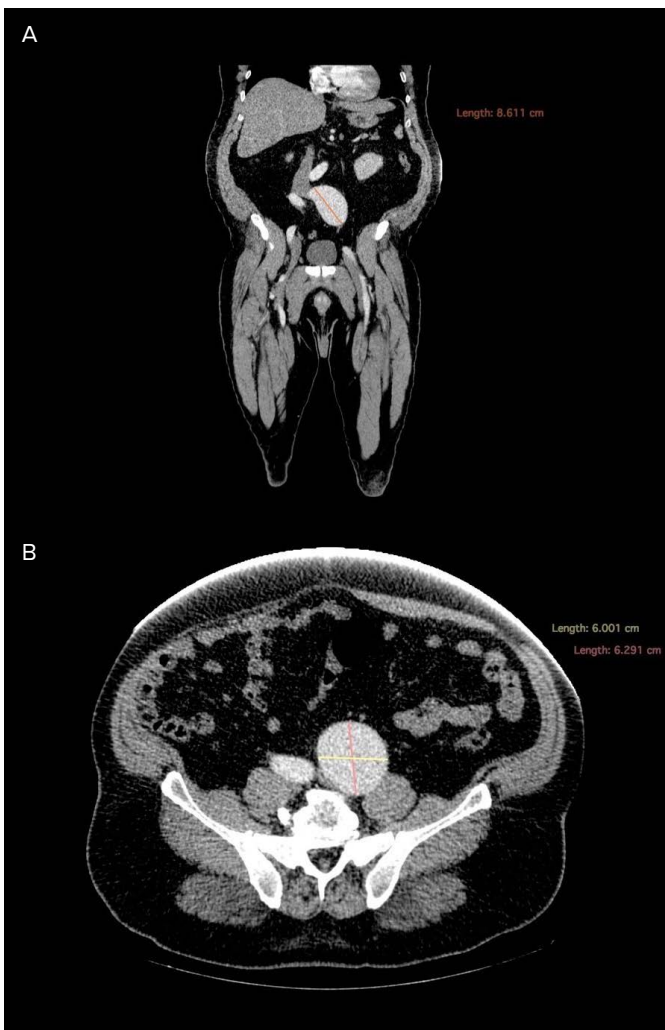


FIGURE 2. CT angiography, coronal section: common iliac artery aneurysm CC diameter (A); axial section: common iliac artery aneurysm AP and LL diameter (B)

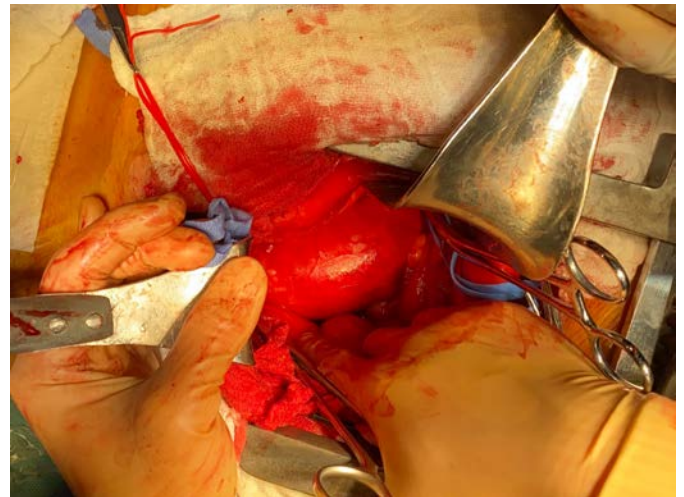


FIGURE 4. Intraoperative image of the aneurysm

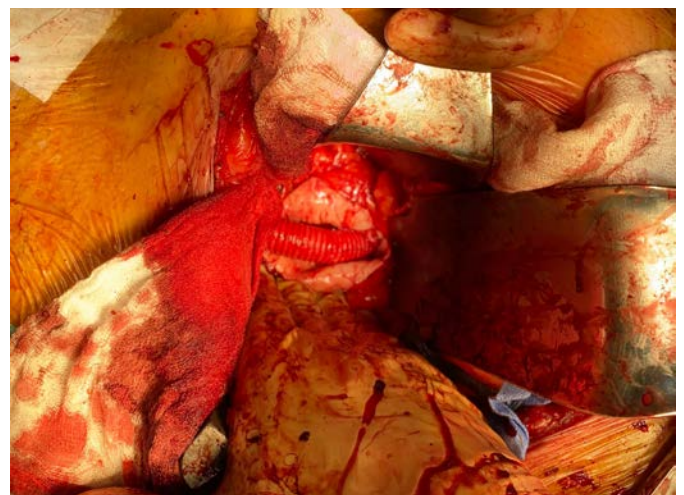


FIGURE 5. Final intraoperative aspect of the endo-aneurysmorrhaphy with an 8-mm Dacron graft

The patient agreed to the publication of his imaging data and this case report, and ethical approval from the Vascular Surgery Clinic was obtained for the publication of this case.

CONFLICT OF INTEREST

Nothing to declare.

ACKNOWLEDGEMENT

We would like to express our gratitude to our patient for agreeing to the publication of this case report and for contributing to the medical knowledge on this subject.

REFERENCES

1. Parker LP, Powell JT, Kelsey LJ, et al. Morphology and Hemodynamics in Isolated Common Iliac Artery Aneurysms Impacts Proximal Aortic Remodeling. *Arteriosclerosis, Thrombosis, and Vascular Biology*. 2019;39:1125-1136.
2. Huang Y, Gloviczki P, Duncan AA, et al. Common iliac artery aneurysm: expansion rate and results of open surgical and endovascular repair. *J Vasc Surg*. 2008;47:1203-1210.
3. Kaller R, Mureşan AV, Popa DG, Arbănaşi EM, Russu E. Fatal Aortoduodenal Fistula Caused by a Ruptured Abdominal Aortic Aneurysm – a Case Report. *Journal of Cardiovascular Emergencies*. 2021;4:129-132.
4. Arbănaşi EM, Russu E, Mureşan AV, Arbănaşi EM. Late Rupture of a Thrombosed Aortic Abdominal Aneurysm – a Case Report. *Journal Of Cardiovascular Emergencies*. 2021;7:84-87.
5. Williams S, Campbell W, Earnshaw J. Survey of management of common iliac artery aneurysms by members of the Vascular Society of Great Britain and Ireland. *Ann R Coll Surg Engl*. 2014;96:116-120.