

Case	(593) What am i seeing, is an aortic thrombosis?
Authors	N. Pérez Peláez, S. Borruel Nacenta, M. Fernández Taranilla, C. Casado Pérez, J. Alonso Sánchez, V. Gerónimo Aguilar.
Centre	Hospital Universitario De 12 Octubre.

CASE PRESENTATION

61-year-old hypertensive, diabetic and dyslipidemic woman with a history of left ventricular hypertrophy with normal LVEF. She was admitted to a cardiac ICU transferred from another hospital in a situation of cardiogenic shock with secondary multiorgan failure, in relation to stress cardiomyopathy.

During the stay in the ICU, the patient required circulatory support with extracorporeal membrane oxygenation (ECMO).

We are asked for an urgent CT because of suspicion of bleeding without a known focus due to anemia of the patient. The ECMO system had been revised without finding thrombi or other alterations.

A contrast-enhanced CT scan was performed with acquisition in arterial, portal venous and late phases.

In the venous and late phases, it detects a focus of active bleeding associated with the arterial cannulation catheter.

In the abdominal aorta, at the level of the exit of the renal arteries, a stop to the passage of iodinated contrast is observed, forming a level. Above this point, the aorta and its branches show adequate opacification while below the previously mentioned level no contrast step is detected.

DISCUSSION

Given the image findings and the clinical situation of the patient, a strict hemodynamic monitoring was decided. The patient received multiple transfusions until the alterations conditioned by the bleeding improved.

After 22 days of stay in the Intensive Care Unit, where she stayed for another 8 days in charge of Cardiology.

No coronary disease or echocardiographic alterations were detected, so the diagnosis was stress cardiomyopathy (Takotsubo).

The visualization of the interphase between blood with intravenous contrast and blood without contrast is related to the so-called watershed phenomenon; in most patients on a veno-arterial ECMO the left ventricle still has some output and thus delivers an antegrade blood flow towards the descending aorta. This 'native' flow meets the

retrograde blood flow from the arterial ECMO cannula at a point called the 'watershed'. Usually it is located somewhere between the ascending aorta and the renal arteries. The

particular location of the watershed is determined by the competition between left ventricular output and ECMO flow and thus varies during therapy.

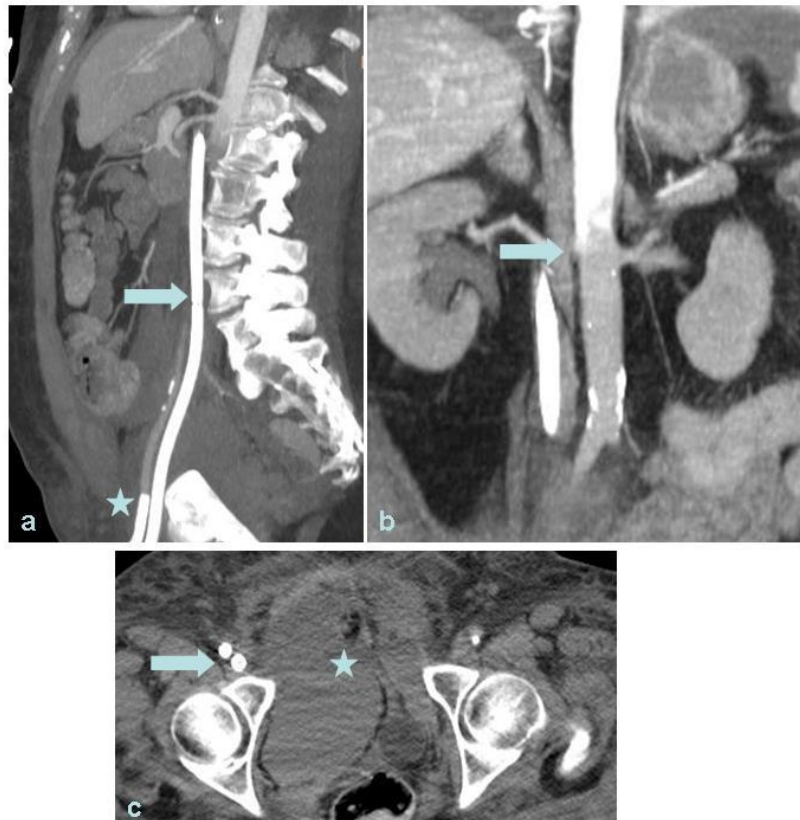
CONCLUSION

We are not accustomed to perform CT studies in patients with extracorporeal respiratory support, but we should be aware of possible typical findings of this situation such as the watershed phenomenon, so as not to confuse it with other serious pathologies, such as aortic thrombosis in this case.

a. Sagittal CT image in which the ECMO, arterial (star) and venous (arrow) cannulae are visualized.

b. Coronal reconstruction where the interface between the blood coming from the heart and the blood that flows from the ECMO is visualized. It is located at the level of the renal arteries.

c. Axial plane image in which an extensive pelvic hematoma (star) is identified that is intimately related to the ECMO cannulas (arrow).



BIBLIOGRAPHY

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