

IMAGE IN CARDIOLOGY

Recurrent dissection of left coronary artery with extension to the left main and cardiogenic shock

Disseção recorrente da artéria coronária esquerda com extensão para o tronco comum e choque cardiogénico

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Received 18 October 2024; accepted 24 February 2025

Available online 6 May 2025

Case

A 42-year-old female arrived at our hospital with epigastric pain: electrocardiogram (ECG) was negative and echocardiography normal, but troponin levels were elevated. Coronary angiography revealed a spontaneous dissection of the distal left anterior descending artery (LAD) – Type 2b according to the Yip-Saw classification.^{1,2} No angioplasty was performed, and she was discharged on aspirin. Two days later, she was readmitted for a large anterior ST elevation myocardial infarction; the first point of high-sensitivity troponin I (hs-TnI) was 5000 ng/L, prompting an urgent coronary angiography. This showed occlusion of the ostial LAD and wall hematoma, extending proximally to the left main artery (Figure 1 and Supplementary video 1). We pre-dilated the LAD, resulting in occlusion of the vessel and the diagonal branch, thus precipitating cardiogenic shock, requiring

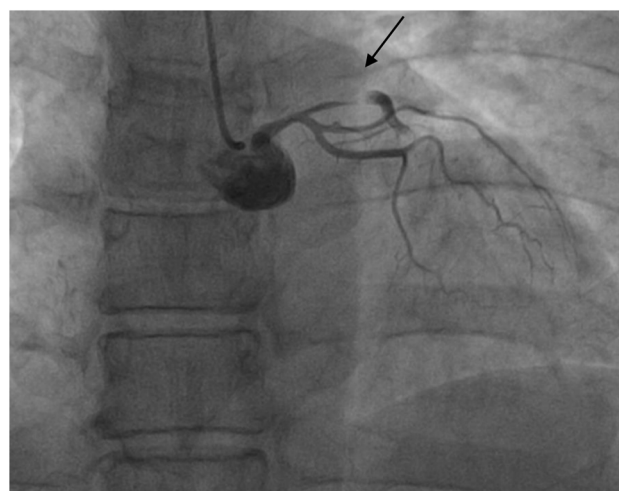


Figure 1 Coronary angiography showed occlusion of the ostial left anterior descending artery due to wall hematoma, extending proximally and affecting the mid-distal left main artery (black arrow).

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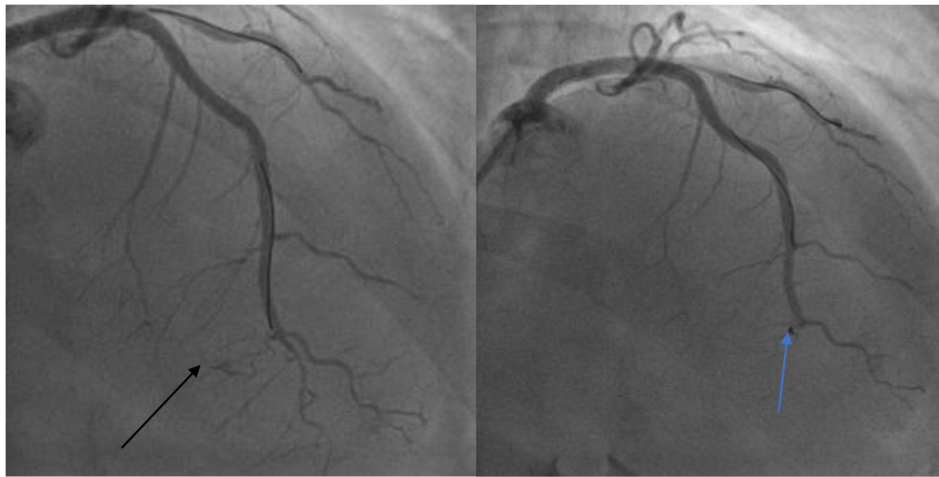


Figure 2 Coronary angiography showing circumflex coronary thrombosis and upstream of the stent in the left main (orange arrow) and rupture of a septal branch (black arrow), effectively treated with a microcoil (blue arrow).

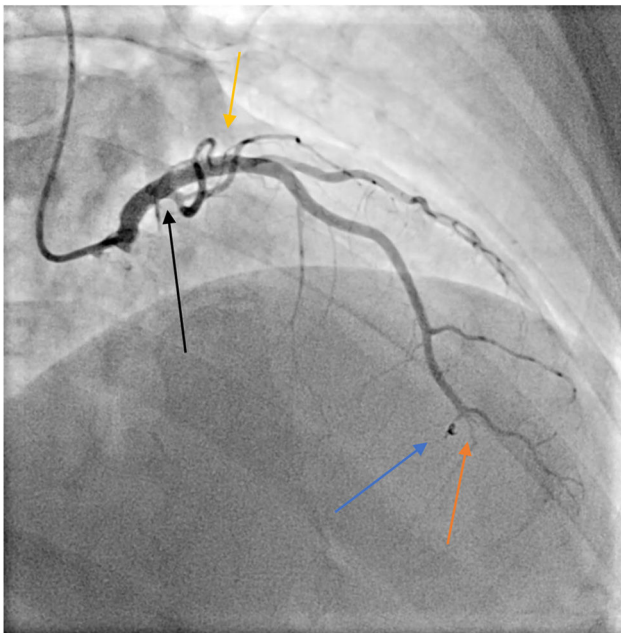


Figure 3 Pre-discharge coronary angiography showing a completely occluded distal left anterior descending artery (LAD) (orange arrow), good angiographic result of the previous ostial LAD stent (yellow arrow), excellent coil retention (blue arrow) in the septal artery, and complete resolution of the thrombosis in the circumflex artery (black arrow).

noradrenaline. Stenting of LAD and left main artery was then performed; the diagonal branch remained occluded, with evidence of circumflex coronary (CX) thrombosis and upstream of the stent in the left main (LM) (Figure 2). Due to persistent cardiogenic shock, an intra-aortic balloon pump (IABP) was inserted. Intravascular ultrasound revealed stent malapposition, necessitating post-dilation in the diagonal branch (Supplementary video 2). A small iatrogenic perforation in a distal septal branch required a microcoil insertion (Figure 2 and Supplementary video 3). The post-percutaneous coronary intervention echo revealed akinesia

of the apex and anterior wall with reduced left ventricular ejection fraction (35%). The patient was transferred to cardiovascular intensive care with weaning from vasopressors and IABP in one day. A cerebral magnetic resonance to exclude fibromuscular dysplasia was negative. A pre-discharge coronary angiography showed residual occlusion of the distal LAD and complete recanalization of Cx (Figure 3 and Supplementary video 4); in a few days ventricular function was fully recovered. The patient was successfully discharged after ten days in good clinical condition with the following home therapy: Cardio aspirin, clopidogrel, bisoprolol, pantoprazole, atorvastatin/ezetimibe.²

Funding

None declared.

Conflict of interests

The authors state that they have no conflict of interests.

Appendix A. Supplementary data

Supplementary material associated with this article can be found in the online version at <https://doi.org/10.1016/j.repc.2025.02.006>.

References

1. Adam D, Alfonso F, Maas A, et al. European Society of Cardiology, acute cardiovascular care association, SCAD study group: a position paper on spontaneous coronary artery dissection. *Eur Heart J.* 2018;39:3353–68 [PMID: 29481627; PMCID: PMC6148526].
2. Brízido C, Madeira S, Silva C, et al. Spontaneous coronary artery dissection: a review for clinical and interventional cardiologists. *Rev Port Cardiol.* 2023;42:269–76 [in English, Portuguese; Epub 9 January 2023; PMID: 36634760].