ESC European Society of Cardiology

European Heart Journal - Case Reports (2021) **5**(6), 1–2
doi:10.1093/ehjcr/ytab232

Spontaneous dissection of a left internal mammary artery bypass graft: images in cardiology

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Received 20 February 2021; first decision 12 March 2021; accepted 18 May 2021

A 51-year-old man with type 2 diabetes, previous coronary bypass surgery in 2009, and multiple percutaneous coronary interventions afterwards was admitted to the emergency department with unstable angina for 4 days. The patient had been exercising vigorously in recent weeks to lose weight. His blood pressure at admission was repeatedly high with a mean of 185/105 mmHg. Laboratory analysis showed a high sensitive troponin of 10 ng/L on admission (reference value < 5 ng/L) and 11 ng/L after 1 h. Electrocardiogram revealed new anterior and lateral ischaemic changes (Supplementary material online, *Figures S1* and *S2*). The patient was hospitalized and fondaparinux was started awaiting invasive coronary angiography (ICA). He was already on aspirin and ticagrelor at admission.

ICA was performed via left radial access and showed a dissection in the left internal mammary artery (LIMA) bypass graft to the left

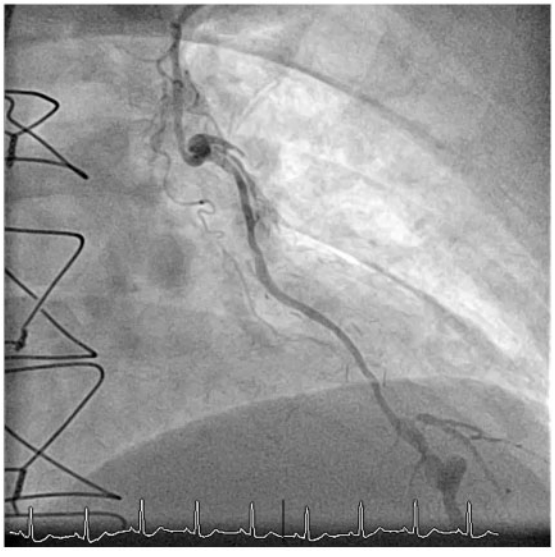
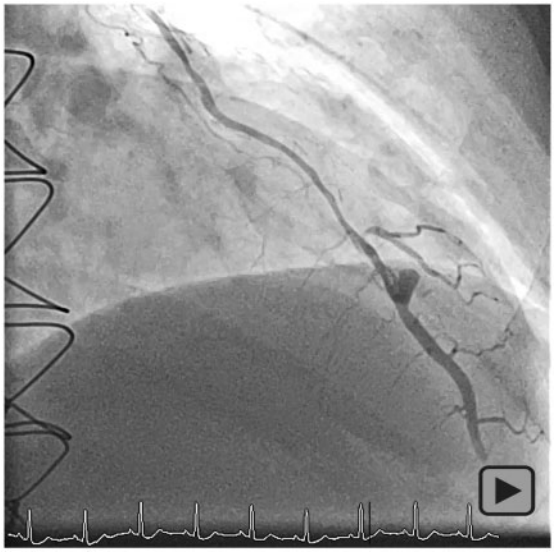


Figure 1 Spiral dissection of the left internal mammary artery bypass graft on invasive coronary angiography.



Video 1 Cranial 30° view on coronary angiogram of the spontaneous dissection of the left internal mamary artery.

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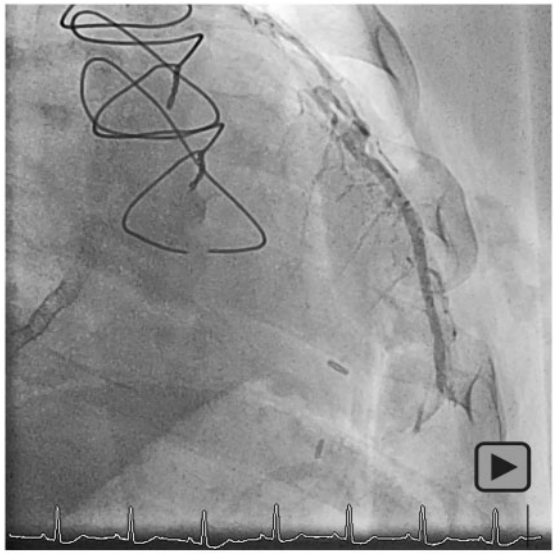
Handling Editor: Antonio Karanasos
Peer-reviewers: Felice Gragnano; Devika Kir and Adam Hartley



Video 2 Right anterior oblique 35° view on coronary angiogram of the spontaneous dissection of the left internal mamary artery.

Video 3 Caudal 40° view on coronary angiogram of the spontaneous dissection of the left internal mamary artery.

anterior descending artery (*Figure 1*, Videos 1–3, and Supplementary material online, *Video S1*). The dissection covered a segment of ∼10 cm in the mid-part of the LIMA with diffuse stenosis and maximum coronary luminal narrowing of 70%, classified as a 2B dissection according to the classification of spontaneous coronary artery dissections (SCAD), compatible with an intramural haematoma.[1,2] For safety reasons, no intravascular imaging was performed of the dissection, which is a limitation. There were no other significant obstructions in the coronary arteries.

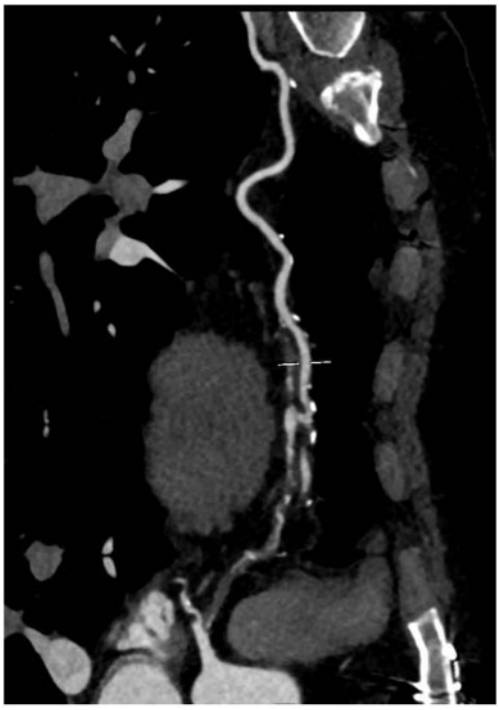


Figure 2 Curved multiplanar reconstruction on cardiac computed tomography with contrast 3 months after invasive coronary angiography showing resolution of the spontaneous dissection of the left internal mammary artery bypass graft.

Since the patient was free of angina during hospitalization and coronary blood flow was not reduced, the dissection was treated conservatively with optimal medical therapy, i.e. beta-blocker and dual antiplatelet therapy (DAPT), as suggested by the ESC guidelines (even though the benefit of DAPT in SCAD is unclear).[3] Blood pressure was adequately controlled during hospitalization with a mean of 105/70 mmHg. The patient was discharged after 4 days and was given the advice to refrain from heavy labour or strenuous exercise until the outpatient clinic visit.

Follow-up cardiac computed tomography angiography was performed after 3 months, showing resolution of the dissection (*Figure 2*). The patient reported no recurrence of angina since discharge. The dissection was presumably caused by hypertension, physical exertion, or a combination of both factors.

Supplementary material

Supplementary material is available at *European Heart Journal - Case Reports* online.

Consent: The authors confirm that written consent for submission and publication of this image in cardiology including images and associated text has been obtained from the patient in line with COPE guidance.

Conflict of interest: None declared.

Funding: None declared.

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