Long-term outcome of a spontaneous coronary artery dissection treated with a bioresorbable scaffold

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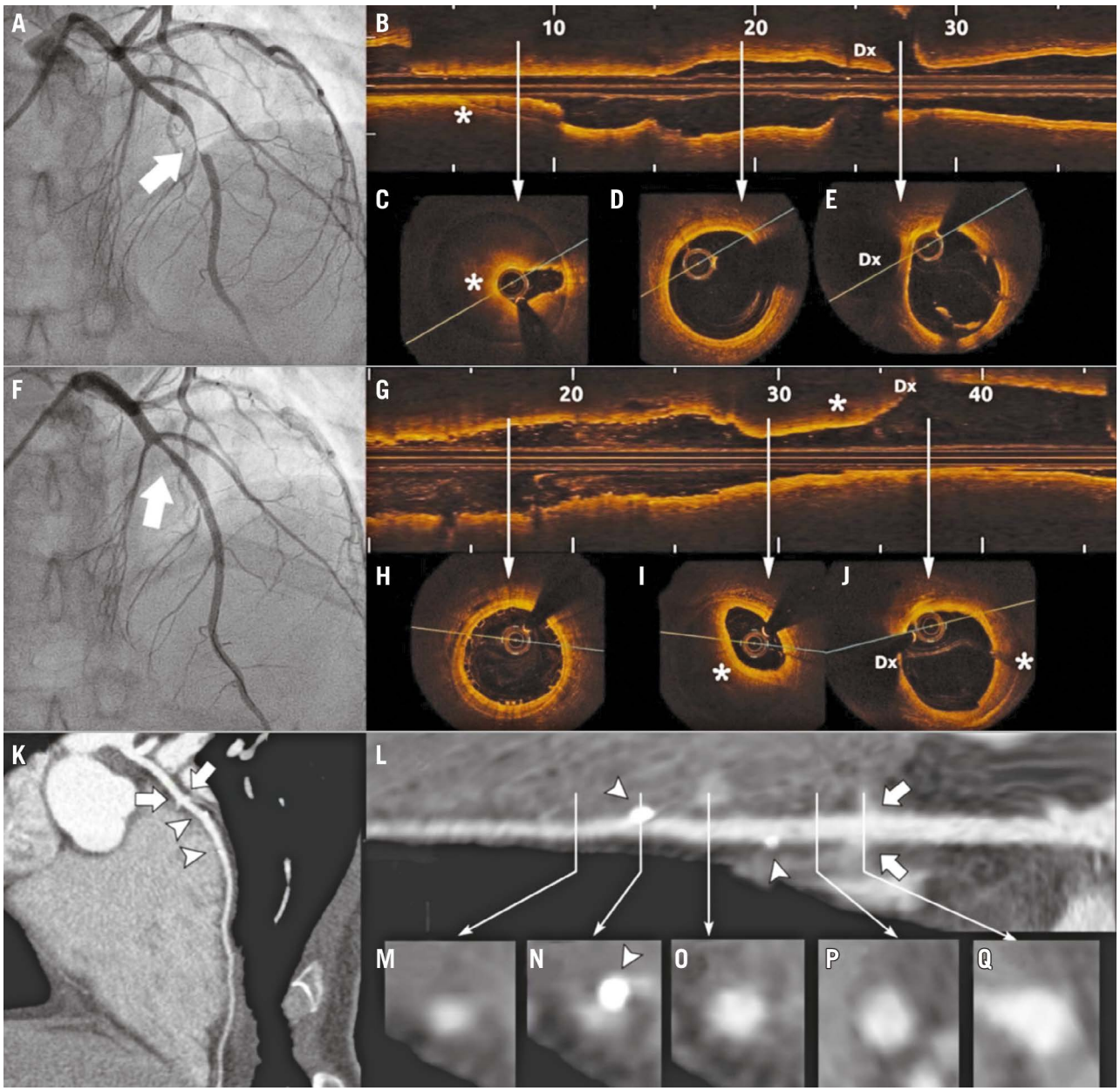

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A 34-year-old lady with no cardiovascular risk factors presented with an anterior non-ST-elevation myocardial infarction. Angiography showed a severe stenosis in the mid-LAD with TIMI 1 flow and no images of double lumen **(Panel A, Moving image 1)**. To clarify the underlying pathology, optical coherence tomography **(Panel B, Moving image 2)** was performed demonstrating the presence of an intramural haematoma compressing the intima with critical luminal narrowing (**Panel C**, asterisk), and more proximally an apparently normal artery (**Panel D**, **Panel E**, Dx: diagonal branch). No "entry door" was visible by OCT. Given the compromised flow, the LAD was treated with a bioresorbable scaffold (BRS) (Absorb™; Abbott Vascular, Santa Clara, CA, USA) (3×18 mm). Coronary flow was restored with a good result in the scaffolded segment **(Panel F-Panel H)**. A new moderate stenosis was generated (arrow in **Panel F**) by proximal displacement of the haematoma (* in **Panel G**, **Panel I**, **Panel J**, **Moving image 3**, **Moving image 4**). The flow in the LAD was TIMI 3 and the patient was asymptomatic so no additional interventions were performed in order to avoid further propagation of the dissection.

At follow-up, the patient remained symptom-free taking dual antiplatelet therapy for one year. Forty months post procedure she complained of atypical chest pain. A coronary CT scan was performed showing a normal LAD with no trace of the BRS except for the two radiopaque markers (**Panel K-Panel O**, arrowheads showing proximal and distal markers of the scaffold) and complete resolution of the proximal intramural haematoma that was initially left untreated (**Panel K**, **Panel L**, **Panel P**, **Panel Q**, arrows indicating diagonal and septal).

Spontaneous coronary artery dissection is usually managed conservatively given its natural history of spontaneous healing[1]. In cases where coronary flow is compromised, BRS are an interesting option to restore flow acutely without the disadvantages of a permanent metallic prosthesis[2]. However, no evidence about the long-term result of BRS in this setting has been reported until now . The present case illustrates a good anatomical result demonstrated with CT scan more than three years after BRS implantation in a young woman with spontaneous coronary artery dissection.

Conflict of interest statement

The authors have no conflicts of interest to declare.

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Supplementary data

Moving image 1. Baseline angiogram showing a severe stenosis in the mid-LAD with TIMI 1 flow.

Moving image 2. Baseline OCT showing intramural haematoma compressing the intima with critical luminal narrowing.

Moving image 3. Angiogram after scaffold implantation: good result in the scaffolded segment with a new moderate stenosis proximally.

Moving image 4. OCT after scaffold implantation: good result in the scaffolded segment and a new moderate stenosis by proximal propagation of the haematoma until the diagonal branch.

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