

## IMAGES IN INTERVENTION

# Spontaneous Coronary Artery Dissection

## Failure of the Conservative Strategy Due to Predominance of the False Lumen

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A 50-year-old woman with an inferior ST-segment elevation myocardial infarction was transferred to our institution. Urgent coronary angiography demonstrated several intraluminal filling defects in the proximal segment of the right coronary artery (RCA) (**Figure 1A**, **Online Video 1**), eventually interpreted as thrombi. However, after aspiration, multiple radiolucent lumens together with arterial wall contrast staining were observed. Optical coherence tomography imaging confirmed a type 1 spontaneous coronary artery dissection (SCAD), with the true arterial lumen (TL) compressed by the false lumen (FL) at several points (**Figures 1B and 1C**). Interestingly, intimal-medial layers were severely fragmented and exposed to the blood flow. Being the patient asymptomatic, with normalized ST-segment elevation and normal RCA flow, a conservative management with dual antiplatelet therapy was decided according to general consensus (1).

Four days later a routine angiography confirmed normal epicardial flow (**Figure 1D**, **Online Video 2**). An intraluminal flap was evident, and optical coherence tomography revealed that the FL had completely obstructed the TL (**Figure 1E**). Again, conservative

treatment was decided for the same aforementioned reasons.

Twenty-four hours later the patient suddenly developed chest pain and inferior ST-segment elevation. An acute occlusion of the RCA was demonstrated on emergent angiography (**Figure 1F**, **Online Video 3**), and 3 drug-eluting stents were implanted, eventually crushing the TL (**Figures 1G and 1H**, **Online Video 4**). Clinical course afterward and 1 year later has been uneventful.

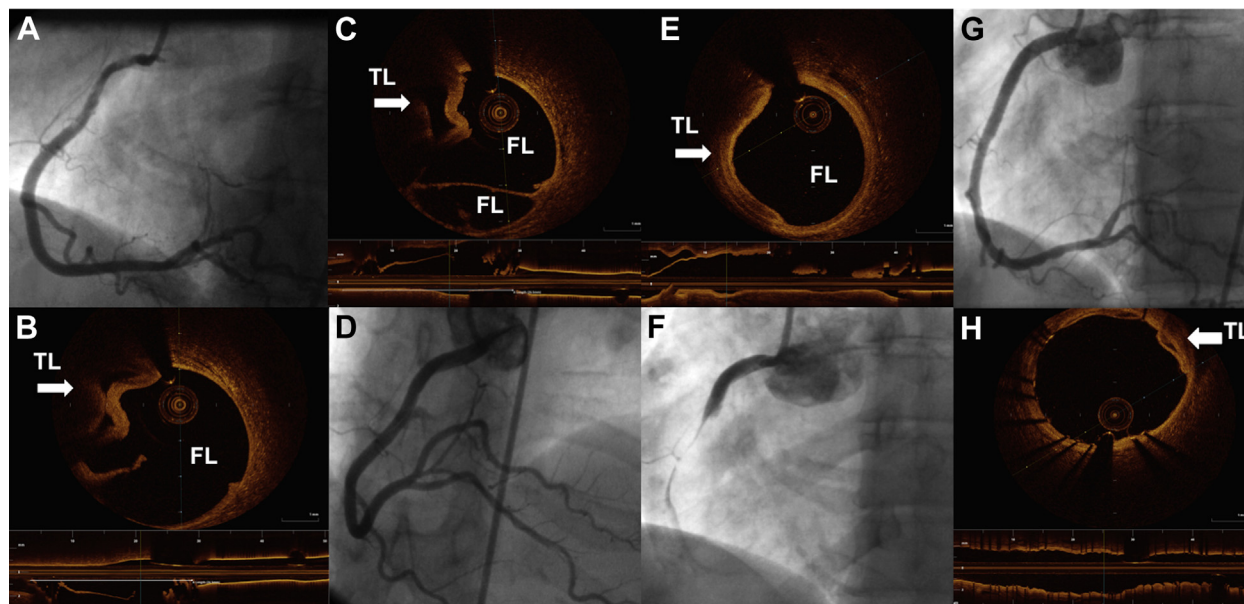
Percutaneous coronary intervention is recommended in SCAD patients when high-risk features are present (1). Significant media exposure and massive intima dissection are not traditionally recognized as indications for stenting despite their prothrombotic potential. Because definitive indications of a conservative strategy in SCAD patients remain unsettled, we hereby hypothesize that predominance of the FL may warrant a more aggressive strategy with stent implantation, if technically feasible.

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**FIGURE 1** Evolution of the Dissection During the First Five Days by Invasive Imaging



Angiographic and optical coherence tomography findings in the right coronary artery at the 3 time points: **(A to C)** admission ([Online Video 1](#)), **(D, E)** day 4 ([Online Video 2](#)), and **(F to H)** day 5 ([Online Videos 3 and 4](#)) findings. **White arrows** show true lumen (TL). FL = false lumen.

# REFERENCE

1. Saw J, Mancini GB, Humphries KH. Contemporary review on spontaneous coronary artery dissection. *J Am Coll Cardiol* 2016; 68:297–312.

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**APPENDIX** For supplemental videos and their legends, please see the online version of this article.