

IMAGES IN INTERVENTION

Have I Lost My Goggles in the Optical Coherence Tomography Pullback!?



A Very Unusual Finding in Coronary Optical Coherence Tomography

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A 76-year-old man presented to the hospital following a non-ST-segment-elevation myocardial infarction. Coronary angiography demonstrated a long segment of severe calcific disease in the proximal and mid portions of the left anterior descending artery. Following rotablation-assisted percutaneous coronary intervention, optical coherence tomography (OCT) was performed to evaluate the result. However, advancement of the catheter (DragonFly OPTIS, Abbott Vascular, Chicago, Illinois) beyond the stented segment proved impossible due to vessel tortuosity and calcification. The pullback was thus confined to the proximal two-thirds of the stented segment.

On image review, an unusual finding was observed. It consisted of a relatively uniform double-circle appearance that extended for several frames (Figure 1). The appearance was adjacent to a large calcific nodule (section mark in Figure 1).

Initially this unusual appearance was ascribed to incomplete blood clearance, although intracoronary thrombus and coronary dissection were also considered (1).

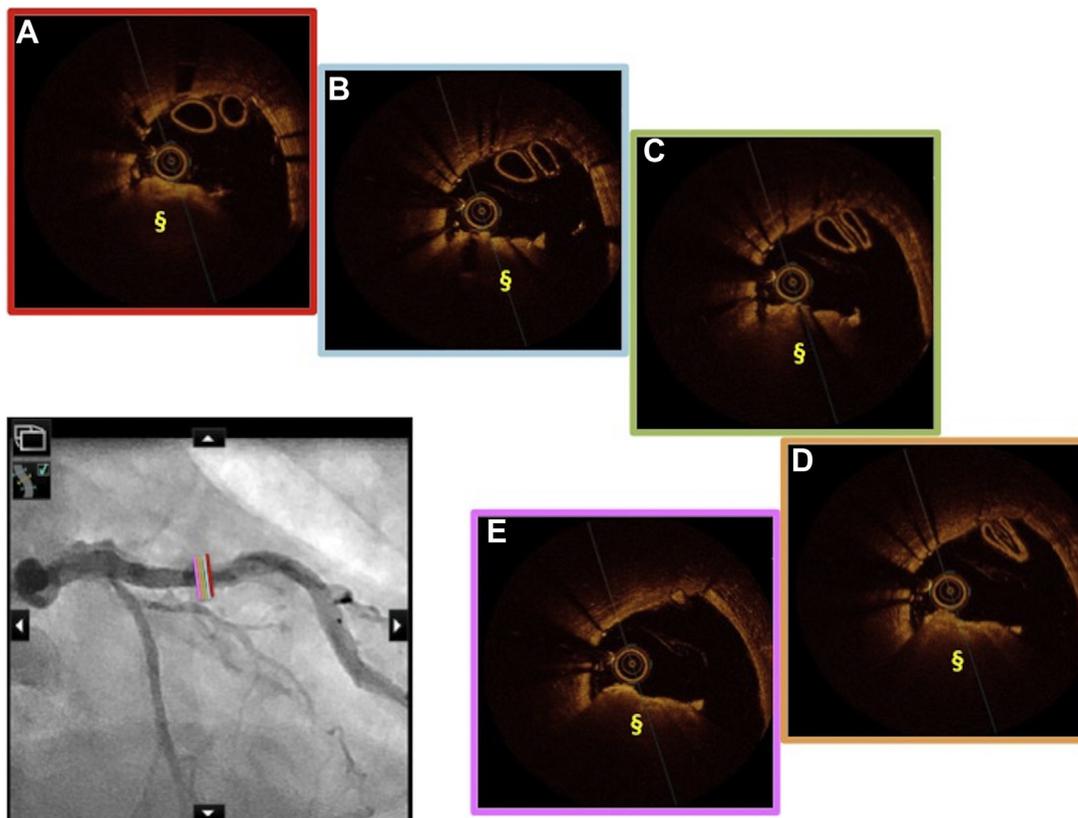
The cause of the unusual appearance was evident, however, once the OCT catheter was retrieved and

visually inspected. Two kinks (asterisk and number sign Figure 2) were noted on the distal, soft, translucent segment of the catheter. Due to these 2 kinks, the distal segment of the catheter had folded on itself (Figure 2A) and indeed was easily re-created when a small force was applied to the tip of the catheter (Figures 2B and 2C). This helped to clarify that the double-circle image corresponded to the cross-section of the distal segment of the OCT catheter folded on itself (Figure 2A). This was likely caused by the multiple failed attempts to advance the OCT catheter through the tortuous proximal segment of the artery with the distal tip fixed against a calcific nodule.

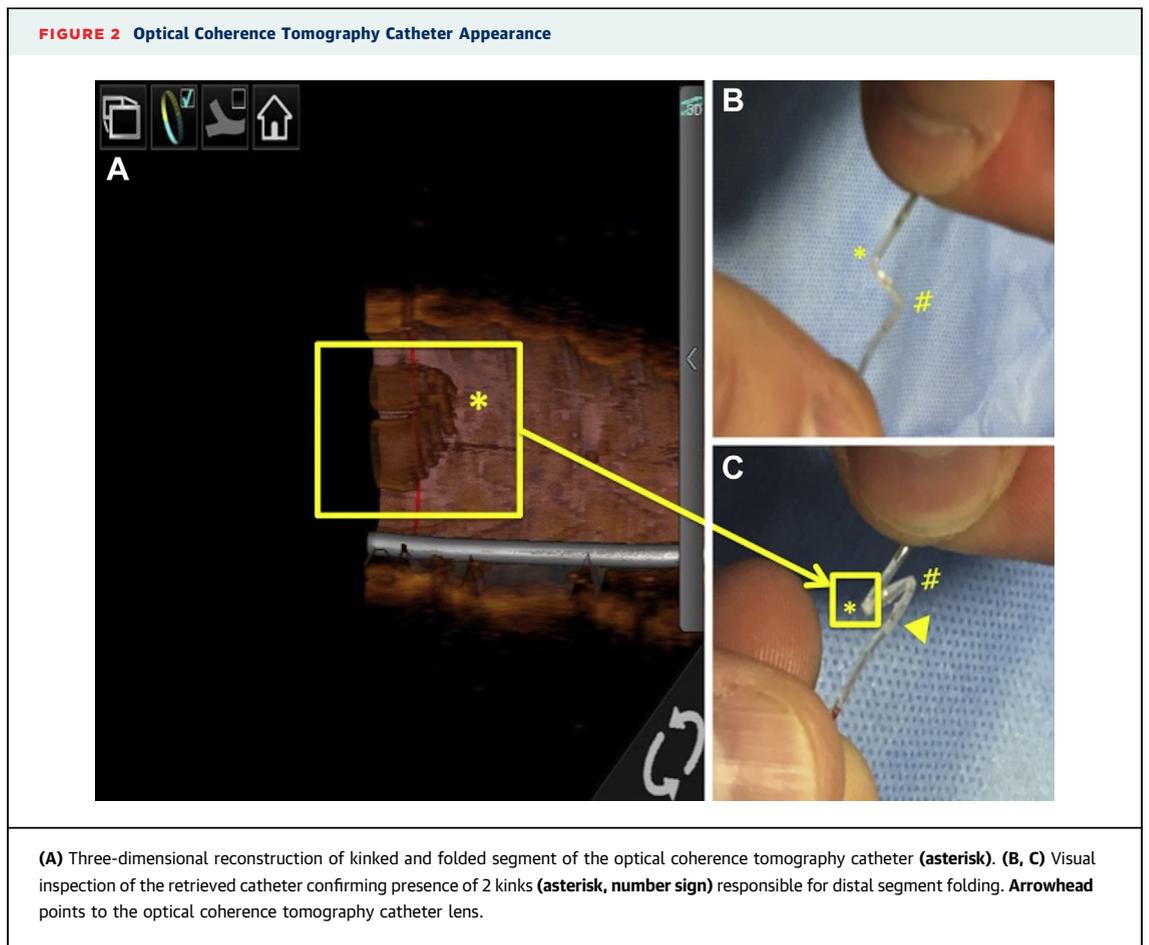
Operators should be mindful of this unusual appearance especially when passage of the OCT catheter has been challenging, such as in tortuous or heavily calcified arteries.

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FIGURE 1 Optical Coherence Tomography Findings



(A to E) Goggles-like images during optical coherence tomography pullback. Section mark indicates the calcific nodule.



REFERENCE

1. Tearney GJ, Regar E, Akasaka T, *et al.* Consensus standards for acquisition, measurement, and reporting of intravascular optical coherence tomography studies: a report from the International Working Group for Intravascular Optical Coherence Tomography Standardization and Validation. *J Am Coll Cardiol* 2012;59:1058-72.

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