

IMAGES IN INTERVENTION

Internal Mammary Artery Atherosclerosis

Use of Optical Coherence Tomography to Characterize Lesions and Guide Intervention

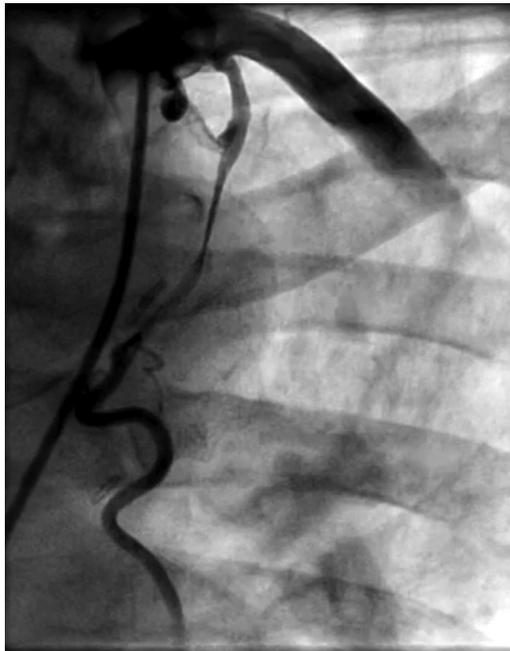


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A 59-year-old man with prior coronary artery bypass surgery underwent cardiac catheterization for worsening angina. Angiogram showed severe native coronary artery disease with 2 patent vein grafts. However, a left internal mammary artery graft to the left anterior descending artery was found to have a long lesion (Figure 1). Spasm was excluded by intra-arterial nitroglycerin

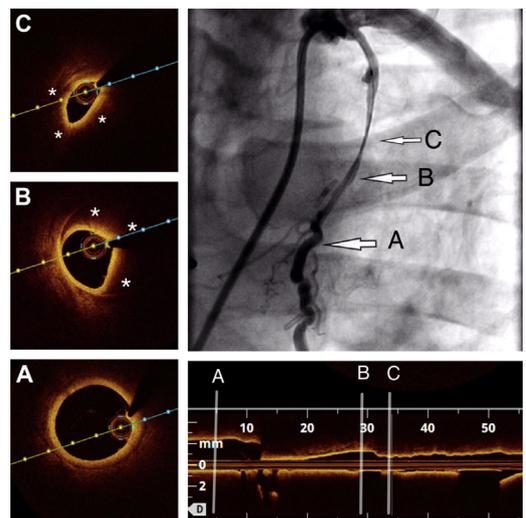
administration. After discussing the options, optical coherence tomography (OCT)-guided percutaneous intervention was pursued.

FIGURE 1 Baseline Angiogram



A long proximal lesion is noted.

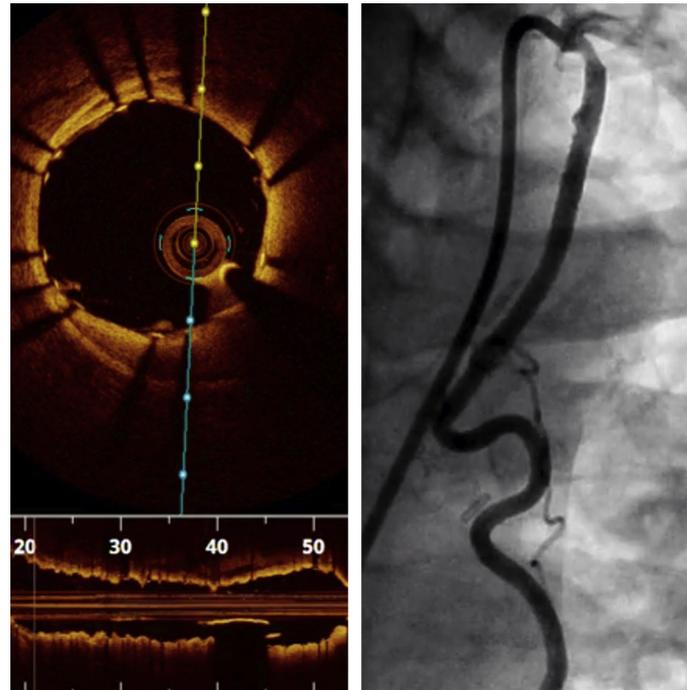
FIGURE 2 Angiography-OCT Correlation



(Right) Location of selected segments labeled A, B, and C (arrows) on angiogram (top) and corresponding optical coherence tomography (OCT) pullback (bottom). (Left) OCT images were labeled in corresponding to segments A, B, and C on angiogram. (A, Bottom) Normal reference. (B, Middle) Homogenous, poorly delineated, signal-poor regions characteristic of lipid pools (*) spanning the arc between 9 to 6 o'clock, suggestive of an eccentric plaque. (C, Top) A more concentric distribution of lipid pools with marked luminal narrowing. Although OCT is not optimal for assessing plaque burden, one may speculate that segment B represents a state of "positive remodeling" with more luminal preservation compared to segment C.

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FIGURE 3 Post-Stenting

An excellent result (**right**) with good stent apposition (**left**).

OCT findings excluded dissection and were most consistent with atherosclerosis, mimicking those of native coronary arteries (**Figure 2**). The stenting result was excellent (**Figure 3**).

Severe atherosclerosis of internal mammary artery is a rare encounter (**1**); however, despite the lack of pathological validation, we believe this to be the first case in the published data where it was delineated by

OCT, which also depicted its similarity to native coronary artery atherosclerosis.

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REFERENCE

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