

IMAGES IN INTERVENTION

Cocaine-Induced Coronary Artery Dissection

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A 54-year-old woman presented to our hospital with angina pectoris, negative precordial T waves, and normal cardiac enzymes. After medical stabilization, coronary angiography showed a focal nonsignificant (fractional flow reserve 0.95) narrowing in the proximal left anterior descending artery (Fig. 1A, arrow). Subsequent optical coherence tomography (OCT) showed a 1.13-mm long intimal flap (Fig. 1B, arrow). As she had developed symptoms shortly after cocaine abuse, we suspect a subintimal tear resulting in a spontaneous dissection due to increased endothelial shear stress as

caused by the inotropic, chronotropic, and vasoconstrictive effects of cocaine. The patient was treated with aspirin, statin, and angiotensin-converting enzyme inhibition. The further course was uneventful.

Diagnosis of coronary artery dissection is generally based on coronary angiography or intravascular ultrasound. OCT is a novel diagnostic tool using short pulse lasers allowing high-quality micrometer resolution images of the coronary artery wall. Thus, OCT could be instrumental in diagnosing cocaine-induced coronary artery dissection.

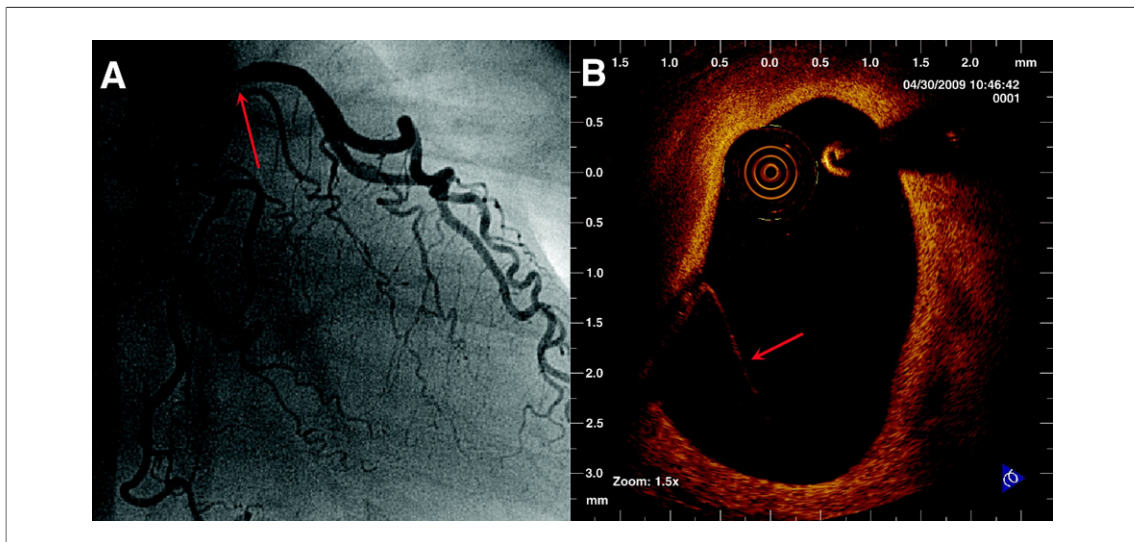


Figure 1. OCT Reveals Coronary Artery Dissection

(A, arrow) Shows an angiographic image of a focal nonsignificant (fractional flow reserve 0.95) narrowing in the proximal left anterior descending artery. (B, arrow) Shows a subsequent optical coherence tomography (OCT) image of the same narrowing in the proximal left anterior descending artery and reveals a 1.13-mm long intimal flap. OCT is a novel diagnostic tool using ultra short pulse lasers allowing high-quality micrometer resolution images of the coronary artery.