A 69-year-old man presented with 2 weeks of exertional chest pressure typical of angina pectoris. An exercise stress test reproduced his symptoms and caused 1.5 mm of ST depression. Because a relative had a fatal event associated with invasive coronary angiography, he wished to have only noninvasive testing. Coronary computed tomographic (CT) angiography using 16-slice technology (Siemens Sensation 16) demonstrated a severe proximal left anterior descending artery lesion (Figure 1). A ruptured plaque was found with 14 Hounsfield units (HU) in one region and 60 HU in the remainder of this atheroma (Figure 2). The patient subsequently agreed to coronary angiography (Figure 3) and a stent was placed. This was complicated by transient slow flow and creatine kinase-MB elevation (110 IU). CT imaging demonstrating low HU suggests either thrombus or a lipid-laden lesion consistent with a ruptured vulnerable plaque. Its association with ruptured plaque thus identified the left anterior descending artery as the culprit artery. Multislice CT coronary angiography appears to be a method for noninvasively visualizing ruptured coronary plaques.
Figure 3. Invasive coronary angiography shows the left anterior descending artery lesion and intimal contrast consistent with a complex lesion and plaque rupture (arrow).
Ruptured Plaque Visualization by Noninvasive Coronary Computed Tomography Angiography
John R. Lesser, Thomas Knickelbine, Ivan Chavez, Jana Lindberg and Robert S. Schwartz

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