

Intravascular ultrasound assessment of a spontaneous coronary artery dissection causing acute myocardial infarction

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Spontaneous coronary artery dissection is an unusual cause of acute coronary syndromes. The incidence, etiology, pathogenesis, medium-term evolution, and optimal treatment have not yet been firmly established¹⁻³. This entity may manifest in patients with or without atherosclerotic coronary disease. Patients presenting with a spontaneous dissection are usually mid-

dle-aged women, with no coronary atherosclerosis and apparently no risk factors. In women, the left main coronary artery system is more commonly involved, whereas in males, it is the right coronary artery.

An obese 46-year-old woman was admitted to the emergency room of our Institution for an evolving myocardial infar-

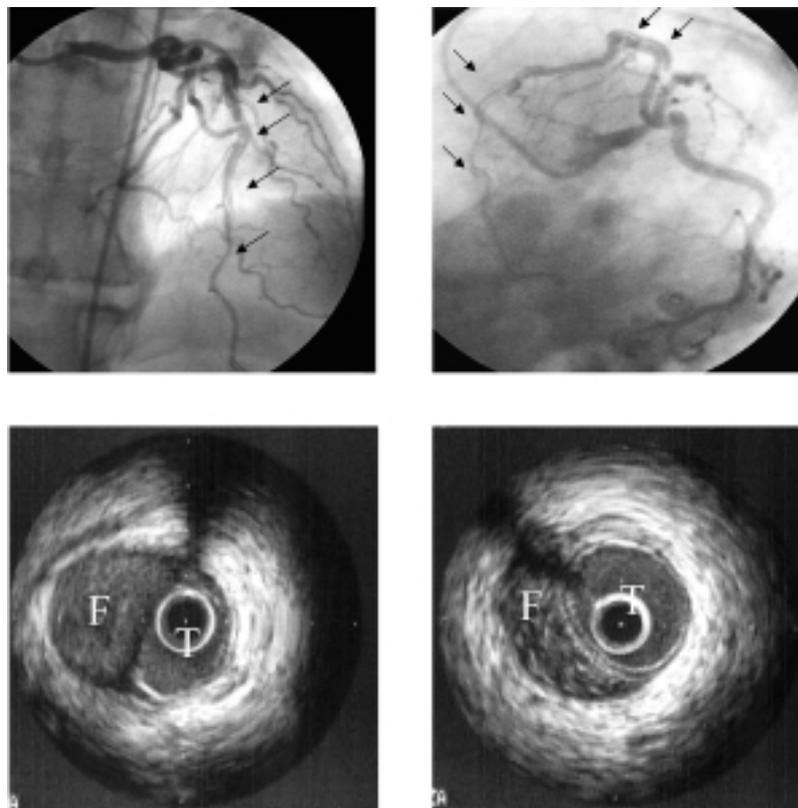


Figure 1. Upper left panel: antero-posterior cranial projection (30°) showing a long dissection of the left anterior descending coronary artery and involving a diagonal branch (arrows). Upper right panel: the spider view showed the dissection of the left anterior descending coronary artery originating from the mid segment (arrows) and causing severe distal stenosis. Lower left panel: intravascular ultrasound imaging. True (T) and false (F) lumina (intramural hematoma) at the level of the mid segment of the left anterior descending coronary artery. Lower right panel: intravascular ultrasound imaging. T and F lumina in the distal segment of the mid left anterior descending coronary artery.

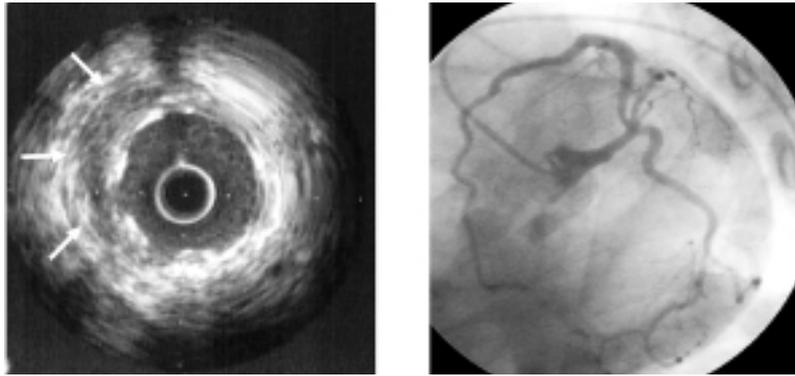


Figure 2. Left panel: following stent implantation, intravascular ultrasound showed a widely patent stent with partial compression of the intramural hematoma (arrows). Right panel: the final angiogram (spider view) showed a sealed dissection with the restoration of a pristine distal blood flow.

tion with electrocardiographic evidence of ST-segment elevation in leads V_2 - V_6 . The patient was urgently transferred to the catheterization laboratory where coronary angiography was performed. A spontaneous coronary dissection involving the mid and distal segments of the left anterior descending coronary artery and causing a severe stenosis in the distal segment of the vessel was documented (Fig. 1). Under intravascular ultrasound guidance, the proximal part of the long dissection was sealed by implanting two coronary stents with restoration of an optimal distal blood flow (Fig. 2). A $\geq 50\%$ ST-segment reduction was documented 90 min after the procedure, whereas the peak enzyme release (creatinine kinase-MB 86 U/l, normal

range 0-24 U/l) occurred after 12 hours. The patient had a regular hospital course and was discharged 7 days following admission.

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