

## Image in cardiology

# Intrastent Coronary Dissection Assessed With Optical Coherence Tomography

## Dissección coronaria intra-*stent* demostrada mediante tomografía de coherencia óptica

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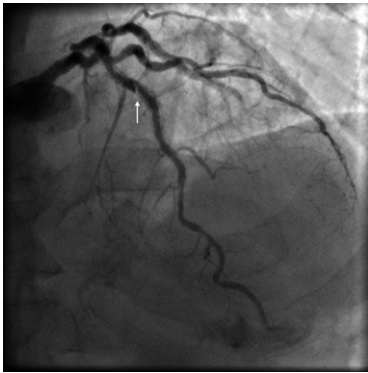


Figure 1.

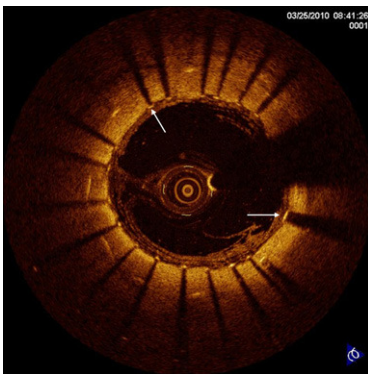


Figure 3.

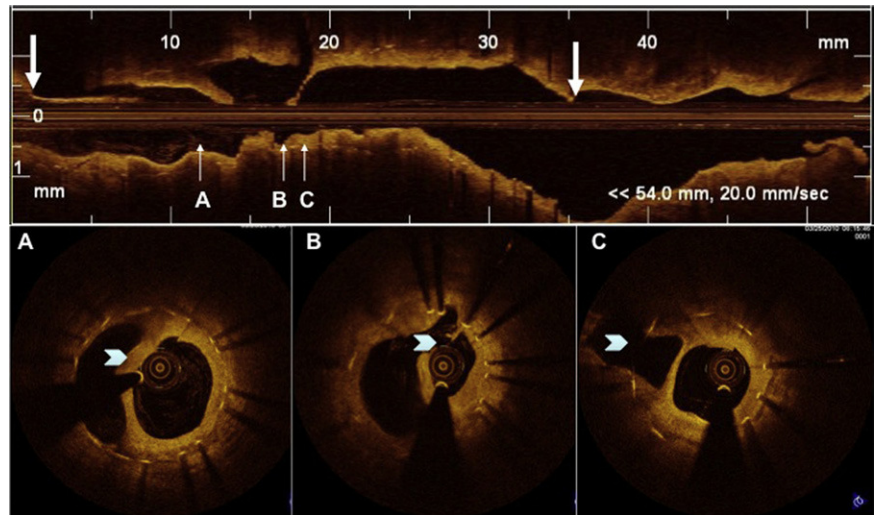


Figure 2.

An 83-year-old man with acute myocardial infarction in 1998 was treated with a percutaneous coronary procedure, in which a  $3.5 \times 25$ -mm Nir Royal stent (Boston Scientific, United States) was implanted in the proximal segment of the left anterior descending artery. He was admitted to our hospital for chest pain and acute pulmonary edema. The electrocardiogram showed an ST segment decrease in the anterolateral leads. The patient presented with elevated serum levels of enzymes indicating myocardial injury (troponin T, 0.26 ng/mL). Coronary angiography demonstrated a linear filling defect in the middle segment of the previously implanted stent (Fig. 1, arrow). On optical coherence tomography (OCT), neointimal proliferation was seen to divide the coronary lumen into two parts, similar to a coronary artery dissection within the stent (Fig. 2, lower arrows). One possible etiological mechanism for this occurrence could be the formation and endothelialization of a thrombus at the level of the stent, with later rupture of the endothelium (Fig. 2B, arrow) and reabsorption of the thrombus, giving rise to a pseudo-flap, which is actually the neointima that formed.

A decision was made to implant a  $3.5 \times 30$  mm zotarolimus-coated stent (Endeavor, Medtronic, United States) within the previous stent. Following implantation, a new OCT study confirmed correct apposition of the stent struts (Fig. 3, arrow).

The use of OCT in percutaneous coronary procedures represents a step ahead for understanding atherosclerotic disease and the response of the intima to stent placement.

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