

Neointimal healing pattern of a drug-eluting stent in a coronary hematoma. Case resolution



Patrón de cicatrización neointimal de un stent farmacoactivo en el hematoma coronario. Resolución

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CASE RESOLUTION

Six weeks later a coronary angiography was performed to assess any possible stent malapposition after the reabsorption of the hematoma. From the angiographical point of view, the patency of the stents was evident with Thrombolysis in Myocardial Infarction flow 3 in the posterior-posterolateral descending bifurcation. The optical coherence tomography (OCT) revealed the stent malapposition with respect to the vessel wall but with tissue proliferation from the wall towards the struts (figure 1), indicative that strut coverage happened earlier compared to the reabsorption of the hematoma.

The pattern of tissue proliferation with battlement-like morphology in the most proximal stent and tissue bridges from the strut vascular wall in the most distal stents may be indicative of late acquired stent malapposition during the reabsorption of the wall vessel

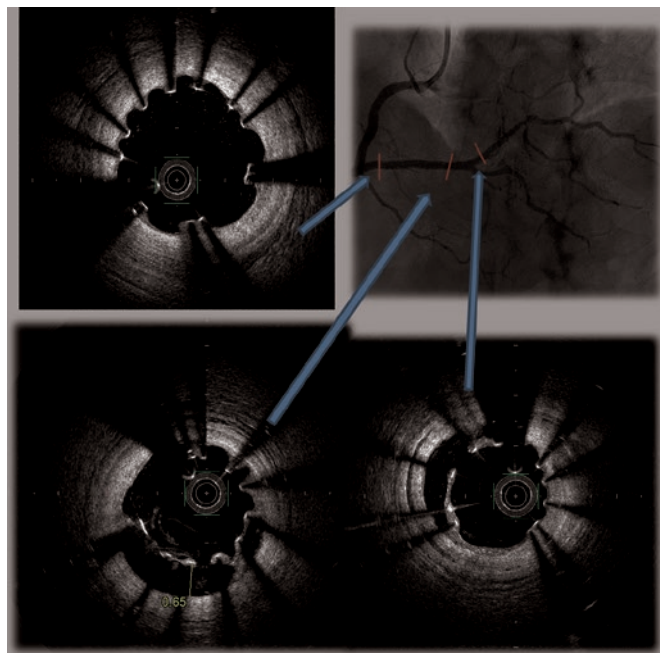


Figure 1. Angiography and optical coherence tomography at 6 weeks.

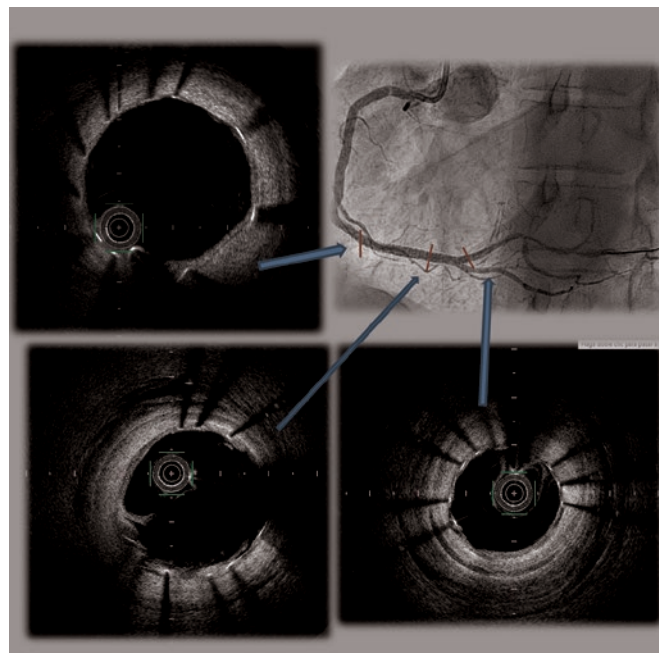


Figure 2. Angiography and optical coherence tomography after post-dilation at 6 weeks.

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hematoma. Initially, the struts were apposed to the endothelium and as the hematoma was being reabsorbed, the lumen recovered its caliber extending from the stent cover towards the arterial wall.

Considering the ample double-lumen segments (that from the covered stent and that from the arterial wall) with distances from the stent to the wall of up to 650 μ it was decided to post-dilate the stent achieving the optimal result seen both in the angiography and the OCT (figure 2).

Intramural hematomas are blood accumulations located in the middle layer that move the internal elastic membrane towards the vessel lumen, and the external elastic layer towards the outside with or without identifiable entry or exit sites.¹

Intravascular ultrasound identifies the presence of intramural hematomas in up to 3.2% of all cases after the implantation of drug-eluting stents.²

Although the management of hematomas is still controversial, some of the approaches currently used are deploying stents, with the progression of the hematoma as a possible setback; or dilating using cutting balloons in order to fenestrate the endothelium or reducing intramural pressure and, therefore, the compression of the vessel. In this case, we implanted stents and the OCT performed at 6 weeks to identify strut malapposition following the resolution of the hematoma and, in the presence of malappositioning, we proceeded to post-dilate the stents.

The OCT showed that, even though the struts were covered, this coverage prolapsed from the vessel wall (after the hematoma had been resolved) thus creating double-lumen (one in-stent and the other between the stent and the vessel wall), which is the reason why we decided to post-dilate the stents in order to reduce the risk of late thrombosis.

In cases of hematomas following the implantation of a drug-eluting stent, if new stents are deployed, a control angiography procedure may be indicated after 4-8 weeks to identify strut malapposition and, if any, proceed to post-dilate the stents.

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