

Postmortem diagnosis of coronary subacute stent thrombosis

Diagnóstico postmortem de la trombosis subaguda de un stent coronario

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A 63-year-old man with a history of diabetes and tobacco consumption was admitted to the Cardiology department with an inferior ST-elevation myocardial infarction. Primary percutaneous coronary intervention (PCI) and thrombus aspiration were performed and a 3.5 mm × 48 mm sirolimus-eluting stent was implanted in the right coronary artery. Under expansion of the proximal stent segment was not post-dilated due to the abundant presence of thrombus, tirofiban perfusion was started. Two days later, new PCI and optical coherence tomography (OCT) was performed (Fig. 1A), showing persistent intraluminal thrombus in the proximal stent segment (Fig. 1A1), mild focal under expansion secondary to fibrotic plaque (Fig. 1A2), and plaque prolapse in the distal stent segment (Fig. 1A3) which was confirmed by three dimensional reconstruction (white arrows in Fig. 1B). OCT-guided stent post-dilatation was accomplished with adequate results. Left ventricular ejection

fraction was preserved and the patient was discharged under aspirin and ticagrelor. Nine days later, the patient suffered a sudden cardiac arrest. Autopsy revealed a highly distorted scaffolding structure, an in-stent occlusive clot (white triangles in Fig. 1C), a whitish scar from subacute infarction (asterisk in Fig. 1D) in the inferior aspect of the left ventricle, and a reddish triangular region of acute reinfarction of myocardium (asterisk in Fig. 1E). Stent thrombosis is a rare (0.5-1%), but potentially fatal PCI complication, early/subacute cases may be associated with stent under expansion, incomplete stent apposition, which produce the interaction between blood and pro-thrombotic subendothelial elements with activation of the coagulation cascade. Other factors are a suboptimal procedural, no-reflow phenomenon, residual thrombus, and coronary artery dissection. An inadequate antiplatelet therapy, hypercoagulability states, and patient comorbidities can contribute¹⁻³.

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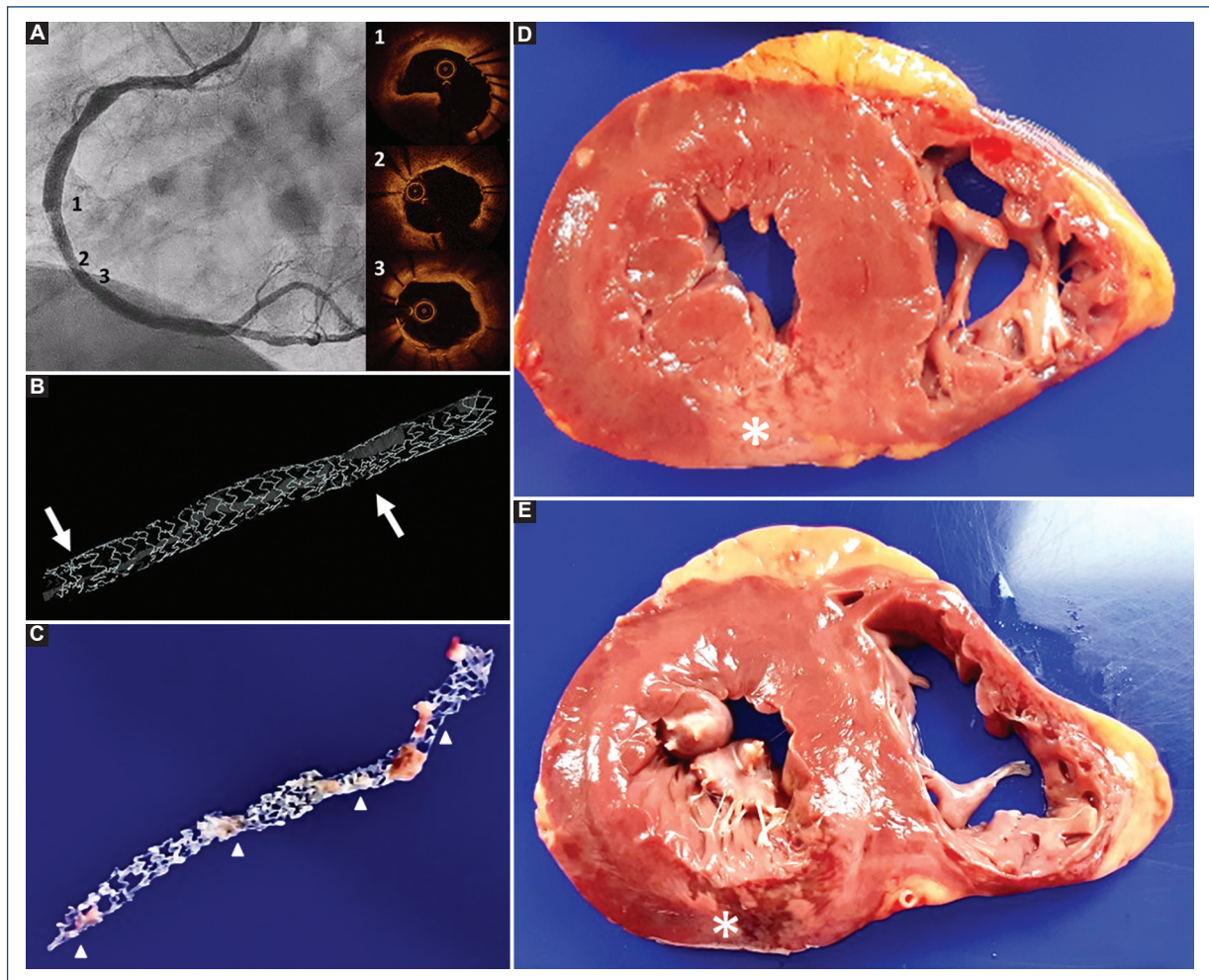


Figure 1. Angiographic, intracoronary imaging by optical coherence tomography and macroscopic pathological findings of the patient.

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Conflicts of interest

None.

Ethical disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

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