Overwhelming Suppression of Neointimal Coverage on High-Resolution Coronary Angioscopy After Paclitaxel-Coated Balloon Angioplasty for In-Stent Restenosis of Cobalt-Chrome Everolimus-Eluting Stent

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A 60-year-old man with stable angina pectoris was implanted with a 3.0×38-mm cobalt-chrome everolimus-eluting stent (CoCr-EES) in the proximal left anterior descending coronary artery. He also had atherosclerotic risk factors, including refractory hypertension and uncontrollable diabetes mellitus. Four antihypertensive drugs were prescribed, and hemoglobin A1c increased up to 8.0% under medication and insulin. Nine months later, angina worsened and coronary angiography (CAG) showed in-stent restenosis (Figure A). Subsequently, paclitaxel-coated balloon angioplasty was performed. Figure B shows the absence of significant stenotic lesions at 12-month follow-up. Despite this, some white neointimal coverage was embedded on stent struts (Figure C). In-stent restenosis (Figure D–F) was confirmed by coronary angioscopy with red peri-stent thrombi congregation and brilliant yellow plaque underneath the CoCr-EES. This inflammatory reaction on the vessel wall is suggestive of neointimal restenosis.
paclitaxel-coated balloon (PCB) angioplasty was satisfactory on angiography. At 12-month follow-up, there was no significant stenotic lesions on scheduled CAG (Figure B). Coronary angioscopy (CAS; Forwardlooking®, OVALIS, Osaka, Japan) showed a significant suppression of neointimal growth, several thrombi, naked stent struts, and brilliant yellow plaque underneath the CoCr-EES (Figure C–F; Movie S1). Paclitaxel suppresses the neointimal growth differently compared with the agents belonging to the limus family. Awata et al reported different distributions of dominant neointimal coverage grades following the implantation of paclitaxel-eluting stents (PES) and sirolimus-eluting stents.1 Remarkably, chronic PCB on CAS seemed to be similar to that of chronic PES. As a result, we were reluctant to stop the dual anti-platelet therapy (DAPT). Based on CAS, careful follow-up after PCB angioplasty should be considered, including decisions regarding the optimal time to discontinue DAPT.

Disclosures
The authors declare no conflict of interest.

Reference

Supplementary Files

Supplementary File 1