

CARDIOVASCULAR FLASHLIGHT

doi:10.1093/eurheartj/ehz319

Online publish-ahead-of-print 20 August 2013

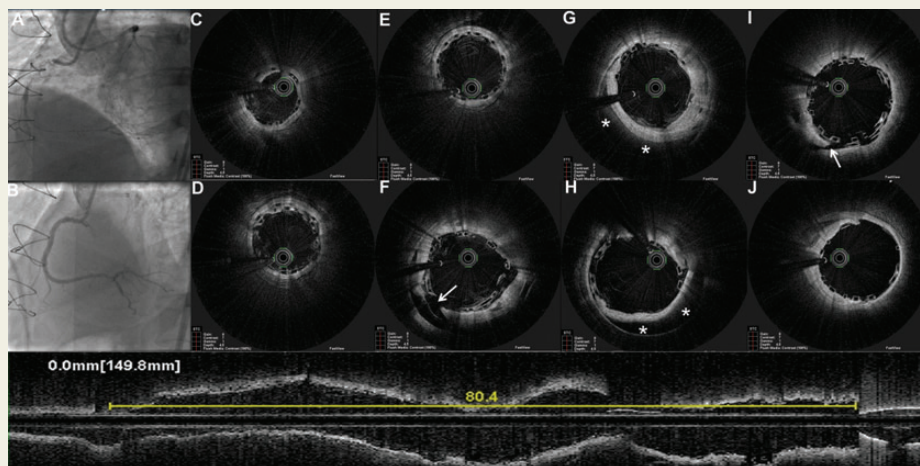
Successful retrograde recanalization of chronic total coronary occlusion with multiple bioresorbable vascular scaffolds ('full polymer jacket'): initial experience and rationale

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We report a successful retrograde recanalization of a chronic total occlusion (CTO) in the right coronary artery (Panel A) of a 58-year-old male and the implantation of four everolimus-eluting bioresorbable vascular scaffolds (BVS, Absorb, Abbot Vascular, Santa Clara, CA, USA), which we named 'full polymer jacket'. Excellent angiographic (Panel B) and optical coherence tomography (OCT, LUNAWAVE, Terumo Corp., Tokyo, Japan) results (longitudinal view, Panels C–J) were obtained. Notably, the overlapping



regions demonstrate good BVS expansion and apposition (Panels D, F, and I). In addition, submedial dissection entry (Panel F) and exit (Panel I, white arrows) points and large intramural haematoma (asterisks, Panels G and H) are depicted.

While the implantation of multiple overlapping metallic drug-eluting stents (DESs) to treat very long lesions (full metal jacket) is commonly performed, the long-term presence of a metallic cage in the coronaries could preclude future bypass surgery and importantly impair vasomotion; in addition, CTO percutaneous coronary intervention is, *per se*, associated with high rates of DES failure. In the present case, the rationale for utilizing four overlapping BVSs (>80 mm of polymer scaffolding) to treat a very long CTO rather than multiple metallic DESs was to promote complete vascular restoration therapy (i.e. anatomical and functional) in this relatively young patient, minimizing long-term thrombotic concerns due to prolonged metal exposure to coronary circulation in case of delayed healing, while keeping anti-restenotic efficacy. To date, CTO lesions and overlapping scaffolds are considered off-label indications for BVS therapy; nevertheless, based on excellent results already demonstrated in less complex lesions, we believe that the indications for BVS implantation will soon expand to more complex scenarios. Future validations of our findings in large populations and long-term follow-up are mandatory.

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