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IMAGE FOCUS

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Bioabsorbable scaffold optimization in provisional stenting: insight from optical coherence tomography

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Since the emergence of bioabsorbable vascular scaffolds (BVS), treatment of bifurcation lesions with these devices has remained a source of question. Although SB dilatation has been previously performed with BVS, it is not yet clear how dilatation across BVS strut may impact scaffold structure.

A 74-year-old lady with hypercholesterolaemia and type 2 diabetes was admitted to our centre due to non-ST elevation myocardial infarction. Patient underwent percutaneous coronary intervention and an everolimus 3.0 × 28 mm BVS (Absorb BVS, Abbott Vascular, Santa Clara, CA, USA) was implanted in the left anterior descending artery at the level of the well developed second diagonal branch with a moderate lesion involving the first diagonal branch. The scaffold was post-dilated to 3.5 mm proximally and dilated through the origin of the side branch with a 2.0-mm semi-compliant balloon, slowly inflated at 12 ATM.

Final angiogram showed satisfactory results with TIMI 3 flow in the both branches. Frequency domain optical coherence tomography (FD-OCT) pullback was performed on the implanted scaffold (C7 System, St Jude Medical, St Paul, USA). Longitudinal view and cross-sections (Panel A, 1–4) demonstrate the good side branch access after dilatation of side-branch ostium through the scaffold strut. Three-dimensional OCT reconstruction of the main vessel reveals mild distortions of the scaffold observed distally at the level of the carina (arrow) (Panels B and C).

Despite the distortions of the scaffold strut observed distally on the three-dimensional reconstructions (arrow), all struts remained well apposed to the vessel (Panel A, 2).

