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# Acquired coronary artery aneurysm following treatment with bioresorbable vascular scaffolds

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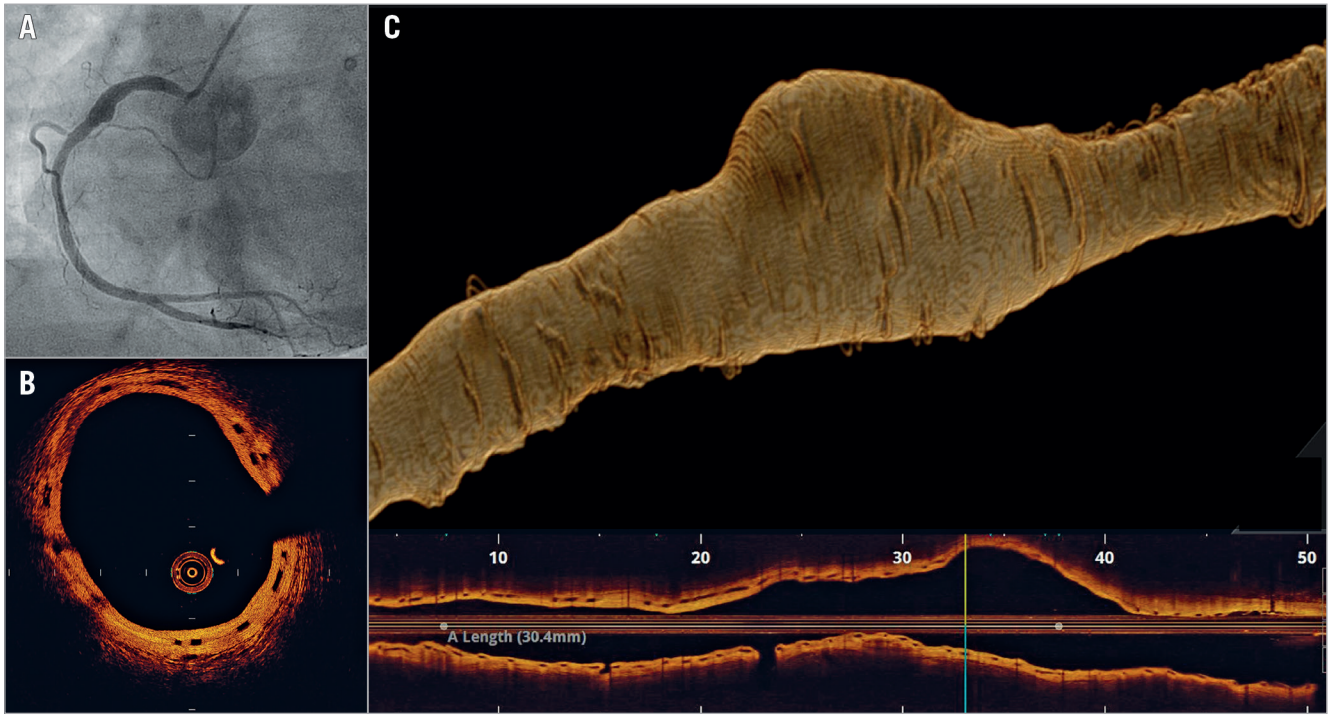


A 41-year-old female underwent deployment of two bioresorbable vascular scaffolds (BVS) (3.5×28 mm, 3.5×18 mm) (Abbott Vascular, Santa Clara, CA, USA) to a long segment of disease in the right coronary artery (RCA) as a staged intervention to bystander disease following a myocardial infarction. Due to a significant waist post deployment, post-dilation with 3.5×20 mm Pantera (Biotronik, Berlin, Germany) and 3.5×12 mm Quantum Apex™ (Boston Scientific, Marlborough, MA, USA) non-compliant balloons to 18 atm was required.

She re-presented with angina 21 months later. Angiography revealed a significant ostial RCA stenosis, with a localised coronary artery aneurysm within the scaffolded segment **(Panel A)**. Pressure wire assessment yielded an FFR of 0.76 with a step at the ostium. Optical coherence tomography confirmed a large, acquired aneurysm at the point of minimal scaffold overlap **(Panel B, Panel C)**. No malapposition was observed, and the scaffold appeared to have expanded with the vessel far beyond normal scaffold dimensions. A short drug-eluting stent (DES) was deployed to the ostium. The aneurysmal segment was managed conservatively with dual antiplatelet therapy (aspirin and clopidogrel).

This extreme form of positive remodelling in a BVS has not, to our knowledge, been described previously. The mechanism of acquired aneurysm following DES/BVS deployment remains unclear; however, hypersensitivity to the drug and/or polymer is possible. In this case, it is possible that "double-dose" everolimus at the point of BVS overlap may have been a factor in aneurysm formation.

## Conflict of interest statement

J. Hill has received consulting fees from Abbott and St. Jude Medical. The other authors have no conflicts of interest to declare.

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