A 50-year-old man presented with exertional angina and a positive treadmill test. Coronary angiography demonstrated a significant lesion in the mid-right coronary artery, and he proceeded to percutaneous coronary intervention. Because implantation of a bioresorbable vascular scaffold (BVS) (Abbott Vascular, Santa Clara, California) was considered, intracoronary imaging was performed using both intravascular ultrasound (IVUS) (Eagle-Eye Platinum, Volcano Corporation, San Diego, California) and optical coherence tomography (OCT) (Dragonfly C7, St. Jude Medical, St. Paul, Minnesota) to accurately assess the proximal and distal reference diameter. The lesion was adequately pre-dilated with a 3.0 × 15-mm Emerge balloon (Boston Scientific, Natick, Massachusetts) with subsequent implantation of a 3.0 × 18-mm BVS at 16 atm (Fig. 1, left panel).

From the Department of Interventional Cardiology, Papworth Hospital, Cambridge, United Kingdom. Dr. West is a consultant for Abbott Vascular and St. Jude Medical. All other authors have reported that they have no relationships relevant to the contents of this paper to disclose.

Manuscript received February 3, 2013; accepted March 1, 2013.
To ensure adequate expansion and apposition within the scaffolded segment, additional runs of both IVUS and OCT were performed. Post-deployment imaging at 2 coregistered points (site 1, right upper panel; site 2, right lower panel) revealed that the strut architecture and apposition were difficult to visualize on both grey-scale (1A and 2A) and virtual histology (VH) IVUS (1B and 2B). Furthermore, the spectral analysis of the backscatter on VH-IVUS artifactually portrayed the struts as dense calcium. By contrast, coregistered OCT images (1C and 2C) clearly show a fully expanded and apposed scaffold. This case confirms previous reports of IVUS imaging performing poorly in scaffolded segments (1) and highlights that OCT should be the imaging modality of choice during BVS implantation.

Reprint requests and correspondence: Dr. Nick West, Department of Interventional Cardiology, Papworth Hospital, Papworth Everard, Cambridge CB23 3RE, United Kingdom. E-mail: nick.west@papworth.nhs.uk.

REFERENCE

Key Words: bioresorbable vascular scaffold ■ intravascular ultrasound optical coherence tomography ■ virtual histology.