A 48-year-old man with crescendo angina exhibited a severe diffuse lesion in the left anterior descending artery (Figure 1, Online Video). The option of mammary grafting was ruled out due to poor distal target. Percutaneous coronary intervention with drug-eluting stents (DES) would result in full-metal jacket (>50 mm of overlapping stents), which poses the long-term risk of stent thrombosis, and, in addition, restenosis is often difficult to treat, with high rates of recurrence. Bioresorbable vascular scaffolds (BVSs) may offer several advantages in such lesions because permanent caging of the vessel is avoided and scaffolds are completely resorbed, preserving the vasomotion; caging may also provide a future option for surgical revascularization by remodeling the vessel with no residual metal work. However, there was a large first diagonal (D1) branch (Figure 2) in the proximal segment, in which there was mild ostial disease. Due to thicker BVS struts (156 μm), there was a risk

FIGURE 1  Coronary Angiogram

Severe diffuse lesion in the left anterior descending artery involving a large first-diagonal branch (arrows) (Online Video).

FIGURE 2  Left Anterior Descending Artery/D1 Bifurcation

Severe diffuse lesion in the left anterior descending artery involving a large first-diagonal branch (arrow).
FIGURE 3  Percutaneous Coronary Intervention With Bioresorbable Vascular Scaffolds

Positioning of 3 overlapping bioresorbable vascular scaffolds (arrows).

FIGURE 4  Percutaneous Coronary Intervention With Drug-Eluting Stents

(A) Positioning of the drug-eluting stent at the bifurcation. (B) Significant ostial pinching of the first diagonal branch. (C) Final kissing balloon dilation. In A, the arrow indicates the positioning of the drug-eluting stent at the bifurcation; in B, the arrow indicates the pinching of the diagonal ostium; and in C, the arrow indicates kissing balloon dilation.
**FIGURE 5** Pre- and Post-Percutaneous Coronary Intervention Angiogram

Angiogram: before (A) and after (B) angioplasty. PCI = percutaneous coronary intervention.

**FIGURE 6** Post-Procedure Optical Coherence Tomography

Optical coherence tomography exhibiting well-apposed scaffolds and struts. BVS = bioresorbable vascular scaffold; DES = drug-eluting stent.
of side-branch compromise, but the benefits of using BVSs were too enticing not to consider it. Therefore, after good lesion preparation, we deployed 3 overlapping BVSs extending from the distal to proximal segments, ending just after the bifurcation (Figure 3). Subsequently, a second-generation DES was used at the bifurcation, overlapping the BVSs (Figure 4A). Due to significant ostial pinching of the D1 branch, the final-kissing balloon dilation was performed (Figures 4B and 4C). An excellent angiographic result was achieved (Figures 5A and 5B), which was also confirmed on optical coherence tomography, revealing well-apposed scaffolds along with good overlap of the DES and BVSs in the hybrid zone (Figure 6). A repeat angiogram at 6 months revealed patent BVSs (Figure 7), and the patient has remained event free 9 months post-procedure.

Deploying BVSs at the bifurcation would have most likely compromised the D1 branch. Although there are cases reported in which BVSs were used in bifurcations, breaking the scaffold poses the risk of stent thrombosis. Generally, the use of BVSs should be avoided in large bifurcations, especially with ostial disease in the side branch. With this novel hybrid strategy, we can reap the benefits of BVSs while possibly avoiding their risks.

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APPENDIX For the supplemental video, please see the online version of this article.