

IMAGES IN INTERVENTION

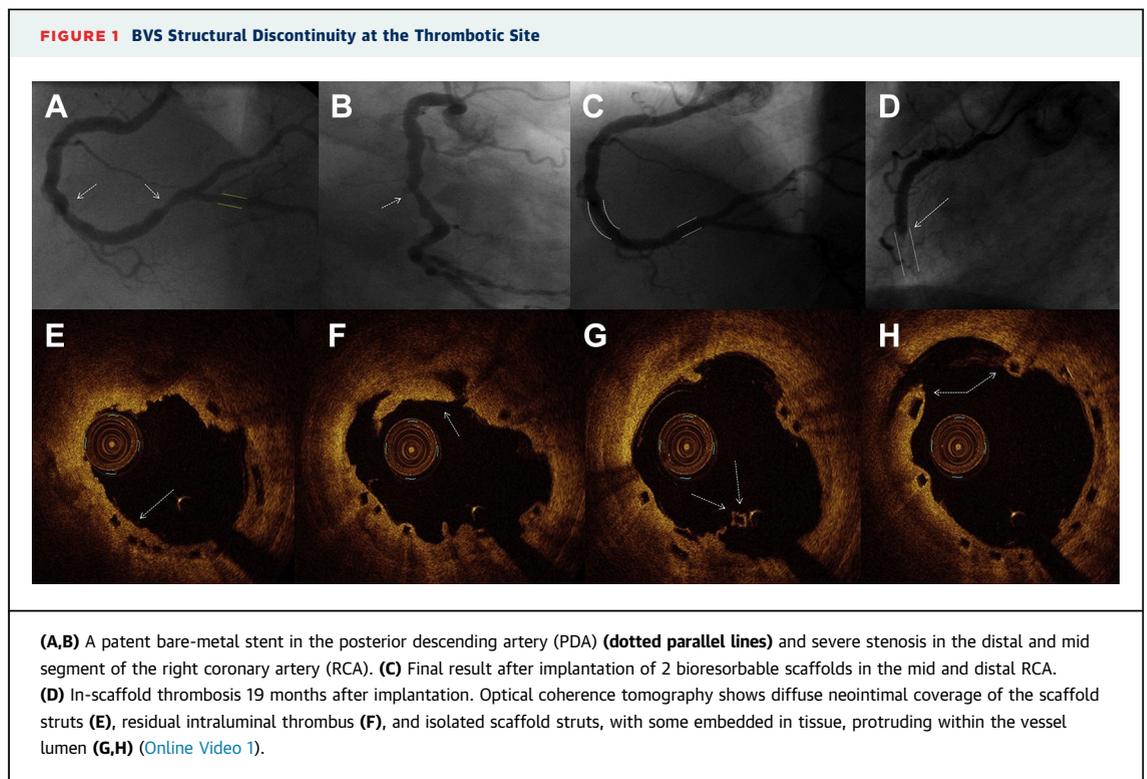
Late Structural Discontinuity as a Possible Cause of Very Late Everolimus-Eluting Bioresorbable Scaffold Thrombosis



Alfonso Ielasi, MD,* Bernardo Cortese, MD,† Giuseppe Steffenino‡

A 49-year-old man underwent emergent coronary angiography because of inferior ST-segment elevation myocardial infarction (STEMI). It showed thrombotic occlusion of the proximal posterior descending artery (PDA) of the right coronary artery (RCA). The PDA was treated with

bare metal stent implantation, whereas bioresorbable scaffolds (BVS Absorb [Abbott Vascular, Santa Clara, California] 3.5 × 12 mm and 3.5 × 28 mm) were electively implanted 6 days later in the distal and mid RCA (Figures 1A to 1C). Both BVS scaffolds were post-dilated with a 3.75-mm noncompliant balloon.



From the *Cardiology Division, Bolognini Hospital, Seriate (BG), Italy; †Catheterization Laboratory, Fatebenefratelli Hospital, Milan, Italy; and the ‡Interventional Cardiology Unit, S. Croce and Carle Hospital, Cuneo, Italy. The authors have reported that they have no relationships relevant to the contents of this paper to disclose.

Manuscript received March 13, 2015; accepted March 17, 2015.

The patient was discharged on dual-antiplatelet therapy (DAT) (acetylsalicylic acid and clopidogrel). After 19 months of being well (7 months after clopidogrel discontinuation), the patient experienced a new inferior STEMI. The angiogram revealed BVS thrombosis in the mid RCA (Figure 1D). After manual thrombectomy and abciximab administration with ST-resolution, optical coherence tomography (OCT) showed partial resorption of BVS struts, diffuse BVS neointimal coverage (Figure 1E), residual intraluminal thrombus (Figure 1F), and isolated intraluminal struts, some embedded in tissue, disconnected from the expected BVS circularity (Figures 1G and 1H, Online Video 1). A 33-mm everolimus-eluting metal stent was implanted inside the BVS.

Although both early and mid-term BVS thrombosis have been described and mostly related to technical issues, acute BVS disruption during the index procedure or premature DAT discontinuation (1), little is known on very late BVS thrombosis. Benign “late structural discontinuity” has been described by serial OCT (2). Here we show the first case of very late BVS thrombosis, possibly triggered by structural discontinuity during scaffold dismantling. This finding may raise concerns about optimal DAT duration after BVS implantation.

REPRINT REQUESTS AND CORRESPONDENCE: Dr. Alfonso Ielasi, Cardiology Division, Bolognini Hospital, Via Paderno 21, 24068 Seriate (BG), Italy. E-mail: alielasi@hotmail.com.

REFERENCES

1. Ishibashi Y, Nakatani S, Onuma Y. Definite and probable bioresorbable scaffold thrombosis in stable and ACS patients. *EuroIntervention* 2015; 11:e1-2.
2. Onuma Y, Serruys PW, Muramatsu T, et al. Incidence and imaging outcomes of acute scaffold disruption and late structural discontinuity after implantation of the absorb Everolimus-Eluting fully bioresorbable vascular scaffold: optical coherence tomography assessment in the ABSORB cohort B Trial (A Clinical Evaluation of the Bioabsorbable Everolimus Eluting Coronary Stent System in the Treatment of Patients With De Novo Native Coronary Artery Lesions). *J Am Coll Cardiol Intv* 2015;7: 1400-11.

KEY WORDS bioresorbable vascular scaffold, percutaneous coronary angioplasty, thrombosis

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