Bioresorbable scaffolds (BRS) are promising devices for the treatment of coronary artery disease by virtue of their resorption properties allowing positive vascular remodeling.\textsuperscript{1,2} This case report illustrates the vascular healing process after Absorb BRS (Abbott Vascular, Santa Clara, CA) implantation in a false lumen during the treatment of a chronic total occlusion.

A 62-year-old male with stable angina underwent coronary angiography revealing a chronic total occlusion of the left anterior descending artery. Percutaneous coronary intervention was attempted via the anterograde approach. A hydrophilic Fielder FC wire (ASAHI Intecc, Tokyo, Japan) entered the subintimal space (Figure [1]) supported by a 1.25 mm over-the-wire semi-compliant balloon. The wire reentered the true lumen distally and after predilation, 4 minimally overlapping Absorb (Abbott Vascular) BRS were implanted in the left anterior descending artery (Figure [1 and 2]). Although, there was a remaining dissection distal to the implanted BRS, further scaffold/stent implantation was not performed because of small vessel size and good distal flow. Intravascular imaging was not performed because of these concerns.

Optical frequency domain imaging (LUNAWAVE, Terumo Corporation, Tokyo, Japan) performed at 13-month follow-up demonstrated a healed false lumen smoothly covered with neointima. The compressed true lumen was also patent and supplied by collateral flow (Figure [B–E]). Furthermore, optical frequency domain imaging revealed smooth neointimal growth over the distal edge of the BRS (Figure [A]; Movie I in the Data Supplement). This case demonstrates the vascular healing process of a false lumen after a chronic total occlusion percutaneous coronary intervention with current BRS.

**Disclosures**

Dr Latib has served on the advisory board of Medtronic. The other authors report no conflicts.

**References**


**Keywords:** coronary occlusion • neointima • tomography, optical coherence
Figure. Vascular healing of false lumen after bioresorbable scaffold implantation. 1, Angiogram image of wire advancing into subintimal space. 2, After bioresorbable scaffold (BRS) implantation, the distal dissection (red arrows) was not covered by another BRS/metallic stent because of the small vessel size and good distal flow. 3, Follow-up angiogram at 13-month demonstrating the vascular healing of the distal dissection observed at the index procedure. Optical frequency domain imaging (OFDI) demonstrating concentric neointimal hyperplasia (A) extending into the false lumen distally. B–E, OFDI image of vascular healing in the false lumen covered by neointimal hyperplasia, and compressed true lumen supplied by collateral flow (orange arrows; small branch). CTO indicates chronic total occlusion.
Vascular Healing of a False Lumen After Bioresorbable Scaffold Implantation
Hiroyoshi Kawamoto, Richard J. Jabbour, Akihito Tanaka, Azeem Latib and Antonio Colombo

Circ Cardiovasc Inter. 2016;9:e003498
doi: 10.1161/CIRCINTERVENTIONS.115.003498
Circulation: Cardiovascular Interventions is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2016 American Heart Association, Inc. All rights reserved.
Print ISSN: 1941-7640. Online ISSN: 1941-7632

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://circinterventions.ahajournals.org/content/9/2/e003498

Data Supplement (unedited) at:
http://circinterventions.ahajournals.org/content/suppl/2016/02/03/CIRCINTERVENTIONS.115.003498.DC1

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in Circulation: Cardiovascular Interventions can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the Permissions and Rights Question and Answer document.

Reprints: Information about reprints can be found online at:
http://www.lww.com/reprints

Subscriptions: Information about subscribing to Circulation: Cardiovascular Interventions is online at:
http://circinterventions.ahajournals.org/subscriptions/