A 67-year-old man diagnosed with effort angina pectoris underwent percutaneous coronary intervention for severe stenotic lesion in the mid circumflex artery using a 3.5×18-mm bioresorbable vascular scaffold (BVS; Abbott Vascular, Santa Clara, CA, USA) in August 2013 (enrolled for ABSORB Japan trial, NCT01844284). Optical coherence tomography (OCT) just after BVS implantation showed that the BVS was well expanded and completely apposed to the vessel wall. The clinical course was stable with no recurrent chest symptom under continuation of dual antiplatelet therapy using 100 mg aspirin and 75 mg clopidogrel after BVS implantation, and he further

Figure 1. Optical coherence tomography short axis images showing the same point of bioresorbable vascular scaffold (BVS) on the long axis image. (A) BVS was well apposed to the vessel wall immediately after implantation. (B) Some scaffold discontinuity was observed, but all struts were covered by the neointima at 24-month follow-up. (C) Overhang of material (maybe part of the struts) into the vascular lumen was observed at the proximal end of the BVS at 36-month follow-up (arrow).
by the neointima at 24-month follow-up, some material (maybe part of the struts) was overhanging and was observed on both OCT and angioscopy of the asymptomatic subject at 36-month follow-up. “Late scaffold discontinuity” occurs frequently, and is a programmed phenomenon in the biodegradation process of BVS.\textsuperscript{1,2} Disrupted strut overhang, however, is rare, and is observed on OCT of post-thrombus aspiration only in cases of late or very late scaffold thrombosis.\textsuperscript{3,4} It is therefore important to recognize that disrupted strut overhang is a potentially important factor for very late scaffold thrombosis. In the present case, the imaging was obtained at protocol-driven follow-up of the asymptomatic and stable subject. To our knowledge, there are no previous reports on very late strut overhang with discontinuity on OCT and coronary angioscopy in clinically stable patients. This case may provide an important clue as to the possible mechanism of very late scaffold thrombosis following BVS implantation.

Disclosures

The authors received no financial support from the manufacturer.

References


Supplementary Files

Supplementary File 1

Movie S1. Coronary angioscopy shows heterogeneous patterned neointima at the proximal end of the BVS, and some material, it was visible as a projecting filament with motion consistent with fluid flow currents. Figure 2.

In this case, even though all the struts were well covered

underwent protocol-driven follow-up OCT in August 2015 (24 months later) and in November 2016 (36 months later).

At 24-month follow-up, coronary angiography (CAG) showed no restenosis. Protocol-driven OCT showed some scaffold discontinuities, but all struts were covered by the neointima. At the 36-month follow-up, CAG showed no restenosis, while OCT showed some material overhanging into the vascular lumen at the proximal part of the BVS (Figure 1). Subsequent coronary angioscopy showed that almost all of the remnant scaffold footprint was covered with whitish neointima, but the proximal parts were covered with heterogeneous patterned neointima. Furthermore, some material overhung into the lumen and was visible as a projecting filament with motion consistent with fluid flow currents (Figure 2; Movie S1).

Figure 2. Coronary angioscopy at 36-month follow-up. (A) Almost all of the bioresorbable vascular scaffold (BVS) was covered with whitish neointima, and the distal marker of the BVS was observed clearly (arrow). (B) Heterogeneous patterned neointima was observed at the proximal end of the BVS. (C) Some material overhung into the lumen. It was visible as a projecting filament with motion consistent with fluid flow currents.