

IMAGES IN INTERVENTION

Instant Stent-Accentuated 3-Dimensional Optical Coherence Tomography of a Bifurcation Lesion Treated With Reverse Minimum Overlapping Culotte Stenting



Fumiaki Nakao, MD, PhD

The instant stent-accentuated (iSA) 3-dimensional optical coherence tomography (3D-OCT) can display the stent-accentuated (and the guidewire [GW]-accentuated) 3D image from the original OCT images by the freeware ImageJ version 1.47v (National Institutes of Health, Bethesda, Maryland) with macro programs of my own making, in about 30 s in the catheter laboratory (1).

A platinum-chromium everolimus-eluting stent (PtCrEES) was deployed in the main branch (MB).

The stenosis of the side branch (SB) progressed (Figure 1A); therefore, additional stenting of the SB was needed. The GW was recrossed to the SB (Figure 1B, Online Video 1), and an additional PtCrEES was deployed from the MB to the SB with only 1 strut overlapping, followed by the GW recrossing to the MB and final kissing balloon post-dilation. So-called reverse minimum overlapping culotte stenting (R-MOCS) was performed (Figures 1C and 1D, Online Video 2).

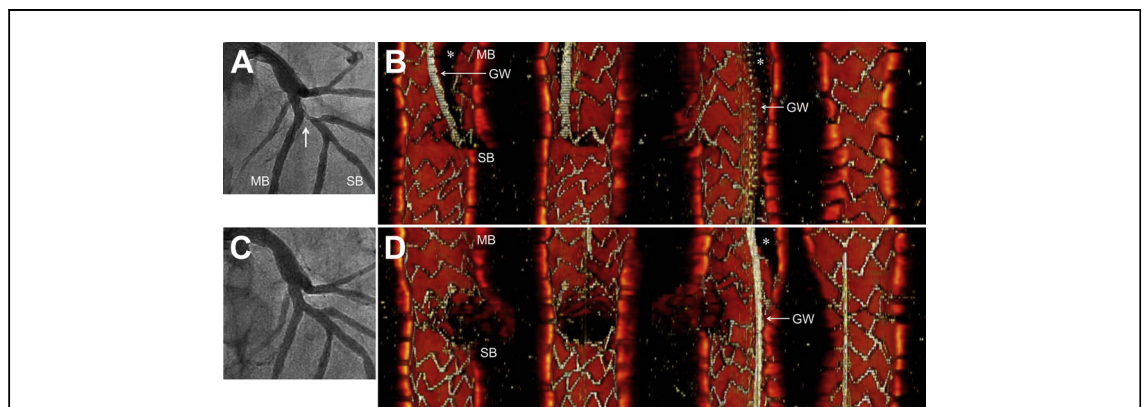


FIGURE 1 Coronary Angiography and iSA 3D-OCT

(A) Coronary angiography. The stenosis of the side branch (SB) progressed (arrow) after stenting of the main branch (MB). (B) Instant stent-accentuated (iSA) 3-dimensional optical coherence tomography (3D-OCT) (the rotational longitudinal sections of the MB) (Online Video 1). The guidewire (GW) was recrossed to the SB. (C) Final angiographic result. (D) Final iSA 3D-OCT (same sections as B) (Online Video 2). Reverse minimum overlapping culotte stenting was performed. The asterisk indicates GW shadow artifact.

From the Department of Cardiology, Yamaguchi Grand Medical Center, Yamaguchi, Japan. Dr. Nakao has reported that he has no relationships relevant to the contents of this paper to disclose.

Manuscript received December 23, 2013; revised manuscript received January 13, 2014, accepted January 16, 2014.

R-MOCS may be an effective strategy for provisional SB stenting at the point of the lesser influence to the MB. iSA 3D-OCT is a useful tool for confirming a bifurcation stenting.

REPRINT REQUESTS AND CORRESPONDENCE: Dr. Fumiaki Nakao, Department of Cardiology, Yamaguchi Grand Medical Center, 77 Ohsaki, Hofu, Yamaguchi 747-8511, Japan. E-mail: nakao-ymghp@umin.ac.jp.

REFERENCE

1. Nakao F, Ueda T, Nishimura S, et al. Novel and quick coronary image analysis by instant stent-accentuated three-dimensional optical coherence tomography system in catheterization laboratory. *Cardiovasc Interv Ther* 2013;28:235-41.

KEY WORDS bifurcation PCI, provisional stenting, 3D-optical coherence tomography

APPENDIX For accompanying videos, and their legends, please see the online version of this article.