

The Importance of Intravascular Image for Left Main Coronary Artery Disease and Bioresorbable Vascular Scaffold Implantation

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Dear Editor:

The role of intravascular image such as intravascular ultrasound (IVUS) and optical coherence tomography (OCT) is important for optimization and guidance of coronary artery stent implantation.¹ Park et al. reported the reduced mortality rate of IVUS-guided percutaneous coronary intervention (PCI) for unprotected left main coronary artery disease.² The use of IVUS is helpful in the determination of plaque extent, estimation of ischemic burden, and characteristics within the left main coronary artery, as well as in determining ostial involvement of branches.

Bioresorbable vascular scaffold (BVS) introduces the concept of freedom of a permanent metallic ‘cage’ and a natural healing process following an initial PCI. However, longer-term results of BVS are disappointing due to increased rates of device thrombosis and target-lesion revascularization compared with metallic everolimus-eluting stents.³ In our previous study, non-standard dual anti-platelet therapy was strongly related to target-lesion failure and increased the possibility of scaffold thrombosis.⁴ Therefore, the strategy of imaging-guided pre-dilatation, stenting, post-dilatation is recommended

for BVS implantation to minimize device failure.⁵

In this case, IVUS was used before and after the procedure to ensure both metallic everolimus-eluting stents (Figure 1A, 1B) and BVS (Figure 1C, 1D) were well apposed and well expanded.

In conclusion, the application of intravascular image is recommended for optimization of stent implantation and minimization of stent abnormalities, especially in left main coronary artery disease and BVS implantation.

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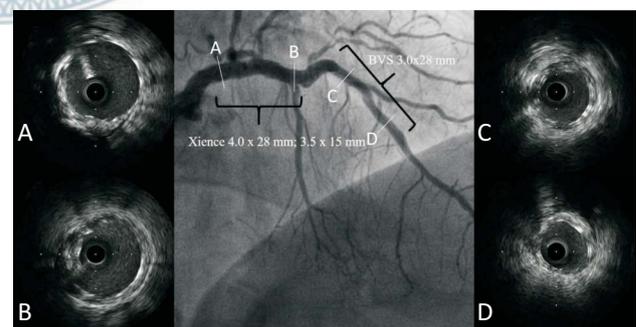


Figure 1. (A, B) Intravascular ultrasound of left main coronary artery and proximal left anterior descending artery: good apposition and full expansion of two metallic everolimus-eluting stents. (C, D) Intravascular ultrasound of mid left anterior descending artery: good apposition and full expansion of bioresorbable vascular scaffold (double layer structure) was noted at the proximal and distal portion of scaffold.

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DECLARATION OF CONFLICT OF INTEREST

All the authors declare no conflict of interest.

HUMAN RIGHTS STATEMENTS AND INFORMED CONSENT

All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1964 and later revisions.

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