

**LONG-TERM VASCULAR RESPONSE TO PERMANENT POLYMER EVEROLIMUS-ELUTING STENT COMPARED WITH BIODEGRADABLE POLYMER BIOLIMUS-ELUTING STENT: FIVE-YEAR FOLLOW-UP OPTICAL COHERENCE TOMOGRAPHY STUDY**

Poster Contributions
Poster Hall, Hall C
Friday, March 17, 2017, 10:00 a.m.-10:45 a.m.

Session Title: Interventional Cardiology: Intravascular Physiology and Endothelial Function
Abstract Category: 23. Interventional Cardiology: IVUS and Intravascular Physiology
Presentation Number: 1115-169

Authors: *Shoichi Kuramitsu, Shinjo Sonoda, Hiroyuki Jinnouchi, Yoshitaka Muraoka, Takenori Domei, Makoto Hyodo, Shinichi Shirai, Kenji Ando, Kokura Memorial Hospital, Kitakyushu, Japan*

Background: The newer-generation drug-eluting stents (DES) are equipped with biocompatible permanent or biodegradable polymer to improve the long-term outcomes compared with first-generation DES. However, it remains unclear which polymer DES shows better long-term vascular response. We sought to assess the long-term vascular response to permanent polymer everolimus-eluting stent (PP-EES) compared with biodegradable polymer biolimus-eluting stent (BP-BES) using optical coherence tomography (OCT).

Methods: A total of 55 patients with 65 lesions treated only with PP-EES (45 patients, 53 lesions) or BP-BES (10 patients, 12 lesions) and without any treated-vessel related events during the 5 years after the procedure were prospectively enrolled and underwent OCT. Quantitative parameters and qualitative characteristics of the neointima were evaluated using multilevel logistic or linear regression models with random effects at three levels: lesion, cross-section (CS), and strut.

Results: A total of 11614 struts (PP-EES, n=9558; BP-BES, n=2056) and 1270 cross-sections (PP-EES, n=1048; BP-BES, n=222) were analyzed. In the strut level analysis, uncovered and malapposed struts were similarly observed in the PP-EES and BP-BES groups (0.64% vs. 0.58%, odds ratio [OR] 0.93, 95% confidence intervals [CI]: 0.27-3.20, P=0.91; 0.41% vs. 0.19%, OR 1.05, 95% CI: 0.28-4.01, P=0.94, respectively). In the CS level analysis, the incidence of neoatherosclerosis, defined as lipid-laden neointima or calcification within the neointima, was comparable between the PP-EES and BP-BES groups (3.7% vs. 6.3%, OR 0.56, 95% CI: 0.06-5.42, P=0.62).

Conclusions: PP-EES shows an excellent vascular healing and a low incidence of neoatherosclerosis at 5-year follow-up, which is comparable to BP-BES.