

TCT@ACC-i2: Invasive and Interventional Cardiology

ANGIOSCOPIC NEOINTIMAL CHANGE OF EVEROLIMUS-ELUTING STENT COMPARED TO PACLITAXEL-ELUTING STENT: A SERIAL OBSERVATION OF CORONARY ANGIOSCOPY IN MULTICENTER

Poster Contributions

Poster Sessions, Expo North

Sunday, March 10, 2013, 3:45 p.m.-4:30 p.m.

Session Title: Interventional Aspects of CT and Other Novel Imaging Approaches

Abstract Category: 38. TCT@ACC-i2: Intravascular Imaging and Physiology

Presentation Number: 2112-260

Authors: *Daisuke Kitano, Tadateru Takayama, Tadahiro Saruya, Taro Kawano, Takashi Kanai, Kazuo Harasawa, Takafumi Hiro, Toshihiko Tochiara, Satoshi Saito, Atsushi Hirayama, Nihon University School of Medicine, Tokyo, Japan, Ukima Central Hospital, Tokyo, Japan*

Background: Drug-eluting stents (DES) have reduced in-stent restenosis (ISR) and target lesion revascularization (TLR). Previous coronary angioscopic studies have demonstrated that sirolimus-eluting stent (SES) enhances the yellow grade of in-stent neointima during follow up period. However, it remains unclear the differences of in-stent characteristics between drug-eluting stents. This study evaluated angioscopic characteristics of everolimus-eluting stent (EES) compared to paclitaxel-eluting stent (PES).

Methods: Serial angiographic and angioscopic observation were performed in the first 12 months (average 8.8 ± 3.2 months) in 216 stents of 176 patients who received EES (n = 110) or PES (n = 66) in our 2 hospitals. Prevalence of angioscopic coverage of neointima, yellow grade, in-stent adherent thrombus and TLR was compared between EES and PES retrospectively.

Results: The overall prevalence of TLR in our hospitals was 4.5 % and TLR in patients with EES was significantly lower than that in patients with PES (3.6 % vs. 6.3%, $P = 0.032$). The overall average of neointima grade was 1.62 and neointima grade in EES was lower than in PES (1.36 vs. 1.77, $P = 0.031$). Prevalence of thrombus on the stent strut was significantly lower in patients with EES than those with PES (7.7 % vs. 24.2 %, $P = 0.001$). However, yellow grade was significantly higher in EES than in PES (1.3 vs. 0.8, $P = 0.043$).

Conclusions: These data suggested that EES showed greater neointimal suppression angioscopically than PES and EES is more likely to reduce ISR and TLR than PES. However, neointima in patients with EES was more yellow. It is thought that focal inflammation around the plaque continues and it might induce neoatherosclerosis. It is reported that the other limus-eluting stent such as SES induces more yellow neointimal change due to the polymer or drug itself. It is needed to investigate the pathological basis and the angioscopic differences in the other limus-eluting stents.