RISK FACTOR FOR CORONARY ARTERY ANEURYSM FORMATION AS A COMPLICATION OF DRUG-ELUTING STENT IMPLANTATION: THE RESULTS OF 3 YEAR SERIAL ANGIOGRAPHIC FOLLOW-UP

i2 Poster Contributions
Georgia World Congress Center, Hall B5
Sunday, March 14, 2010, 9:30 a.m.-10:30 a.m.

Session Title: DES I and Acute Coronary Syndromes
Abstract Category: PCI - DES
Presentation Number: 2501-510

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Background: Coronary artery aneurysm (CAA) formation is rare complication after drug-eluting stent (DES) implantation. The aim of this study is to search for the risk factor for CAA formation after DES implantation by serial angiographic follow-up.

Methods: From Jan. 2004 to Mar. 2006, 251 patients with 331 lesions who had CAA that was detected during coronary angiography follow-up after percutaneous coronary intervention (PCI) with DES were enrolled. Coronary angiography (CAG) follow-up was done in all patients at 8 month and 3 years after PCI. CAA was defined as a localized dilatation that exceeds 1.5 times the diameter of the adjacent segment of artery. The lesions with CAA were detected and compared with lesions without it.

Results: Sirolimus eluting stent was used in 294 lesions and paclitaxel eluting stent in 36 lesions. CAA was detected in 35 lesions (35/331, 10.5%) and mainly at 3 year follow-up (28 lesions, mean 1046±516 days) after index procedure. On univariate analysis, CAA was associated with left anterior descending artery (LAD, p=0.001), infarct related artery (IRA, p=0.013), lesion length >33mm (p=0.02), bifurcation lesion (p=0.006), chronic total occlusion (CTO, p=0.009), overlapping site (p=0.051), hyperlipidemia (p=0.001) and stent fracture (p=0.032). On multivariate analysis, IRA (OR: 6.1, C.I. 2.0~18.2, p=0.001), LAD (OR: 4.9, C.I. 1.6~15.2, p=0.005), lesion length >33mm (OR: 3.9, C.I. 1.2~13.0, p=0.022) and CTO (OR: 3.4, C.I. 1.0~11.5, p=0.044) were independent risk factor for CAA formation after DES implantation. All aneurysm except five were detected over 1 year after index PCI.

Conclusions: Patients with DES implantation in lesion length over 33mm, LAD, CTO, IRA were closely followed up over 1 year after index procedure. Further large clinical trial and follow-up studies were needed for better understanding of this complication.