TCT-268
Incidence and predictors of tissue prolapse after percutaneous coronary intervention for saphenous vein graft disease: Intradivascular ultrasound study
Young Joong Hong1, Myung Ho Jeong1, Yun Ha Choi1, Soo Young Park1, Hae Chang Jeong1, Jae Yeong Cho1, Sang Cheol Cho1, Jong Hyeon Yoo2, Sa Young Jung1, Ji Eun Song1, Doo Sun Shin2, Keun Ho Park1, Ju Han Kim1, Youngkeun Ahn1, Jeong Gwan Cho1, Jong Chun Park1, Jung Chae Kang1
1Heart Research Center, Chonnam National University Hospital, Gwangju, Korea, Republic of

Background: The aim of this study was to investigate the relationship between intradivascular ultrasound (IVUS) findings and the no-reflow phenomenon and long-term outcome after percutaneous coronary intervention (PCI) of saphenous vein graft (SVG) lesions.

Methods: No-reflow was defined as post-PCI TIMI grade 0, 1, or 2 flow.

Results: Of 311 patients who underwent pre- and post-stenting IVUS, no-reflow was observed in 39 patients (13%). Degenerated SVG (62% vs. 36%, p = 0.002) was observed more frequently in the no-reflow group. IVUS-detected intraluminal mass (82% vs. 43%, p < 0.001), culprit lesion multiple plaque ruptures (23% vs. 6%, p < 0.001), and tissue prolapse (51% vs. 35%, p = 0.043) were significantly more common in patients with no-reflow. In the multivariable logistic regression analysis, an intraluminal mass (Odds ratio [OR] = 4.84; 95% CI 1.98-10.49, p = 0.001), culprit lesion multiple plaque ruptures (OR = 3.46; 95% CI 1.46-8.41, p = 0.014), and degenerated SVGs (OR = 3.17; 95% CI 1.17-6.56, p = 0.024) were the independent predictors of post-PCI no-reflow. At 5-year clinical follow-up, the rates of death (14 [36%] vs. 55 [20%], p = 0.036) and myocardial infarction (13 [33%] vs. 52 [19%], p = 0.039) were significantly higher in the no-reflow group. However, the rate of target vessel revascularization was not different significantly between two groups [15 [38%] vs. 90 [33%], p = 0.3].

Conclusions: IVUS-detected intraluminal mass, multiple plaque ruptures, and degenerated SVGs are associated with post-PCI no-reflow in SVG lesions. No-reflow was associated with poor long-term clinical outcomes after PCI for SVG lesions.

TCT-269
Abstract Withdrawn

TCT-270
Abstract Withdrawn

TCT-271
Stent Thrombosis After Intradivascular Ultrasound-guided Stent Implantation
Yoshihide Fujimoto1, Masashi Yamamoto2, Yoshio Kobayashi1
1Fukuyama Cardiovascular Hospital, Fukuyama, Hiroshima
2Heart Research Center, Chonnam National University Hospital, Gwangju, Korea, Republic of

Background: Intradivascular ultrasound (IVUS) is used frequently for percutaneous coronary intervention (PCI) in Japan. However, there is little information about the incidences of definite stent thrombosis (ST) after IVUS-guided stent implantation. Therefore, the purpose of this study was to identify the clinical and procedural determinants of definite ST after IVUS-guided stent implantation.

Methods: Between January 2005 and December 2011, 2,992 lesions in 2,685 patients underwent IVUS-guided bare metal stent (BMS) (n = 981) and drug-eluting stent (DES) implantation (n = 2,011). The Academic Research Consortium definition of stent thrombosis was used.

Results: Definite stent thrombosis was observed in 10 lesions (1.0%) with BMS (early or very late ST, n = 5), 9 lesions (0.5%) with DES (early or late ST, n = 4), and 1 lesion (0.05%) with drug-eluting stents (DES) (very late ST, n = 1). Compared with lesions without definite ST, lesions with definite ST showed higher incidences of MACE (89% versus 58%, p = 0.001), culprit lesion multiple plaque ruptures (43% versus 21%, p = 0.001), and longer MLD (8.8 ± 2.5 vs. 6.0 ± 1.9, p = 0.001). Longer IVUS duration (9.6 ± 6.9-58.8 months) by optical coherence tomography. PLIA on OCT was defined as a sensitivity of 100% and a specificity of 84% (area under curve = 0.960, p < 0.0001).

Conclusions: Definite ST might be associated with neoatherosclerosis and unstable features of BMS neointima.

TCT-273
Serial Evaluation Of Peri-strut Low Intensity Area On Optical Coherence Tomography After Drug-eluting Stents Implantation
Eai Im1, Byoung-Keuk Kim2, Jung-Sun Kim2, Dong-Ho Shin3, Young-Guk Ko4, Donghwan Cho5, Tae-Yong Jang2, Ji Eun Song1, Doo Sun Sim1, Keun Ho Park1, Ju Han Kim1, Hong-Il Lee2, Moon-Gyu Kim2, 1Heart Research Center, Chonnam National University Hospital, Gwangju, Korea, Republic of, 2Yonsei University, Seoul, Korea, Republic of, 3Yonsei University, Seoul, Korea, Republic of, 4Severance Cardiovascular Hospital, Seoul, Korea, Republic of, 5Yonsei University Medical Center, Seoul, Korea, Republic of

Background: Recent studies have demonstrated that peri-strut low intensity area (PLIA) seen on optical coherence tomography (OCT) represents neointimal fibronogen and/or extracellular matrix and is associated with neointimal thickening (NT) after 1st-generation drug-eluting stents (DES) implantation. However, there are no data regarding PLIA in new generation DES and its change in serial OCT evaluations.

Methods: A total of 83 patients underwent 9-month OCT after DES implantation (25 sirolimus-eluting stents [SES], 20 paclitaxel-eluting stents [PES], 30 zotarolimus-eluting stents [ZES], and 8 everolimus-eluting stents [ZES]). PLIA on OCT was defined as a sensitivity of 100% and a specificity of 84% (area under curve = 0.960, p < 0.0001).

Results: The incidence of PLIA + stents on 9-month OCT was highest in PES and lowest in SES (90% in PES vs. 28% in SES vs. 60% in ZES vs. 63% in SES, p < 0.001). Intra-stent analysis, PLIA + stents showed higher mean NT than PLIA – stents, 20.11 ± 9.69 mm vs. 10.86 ± 5.46 mm, p < 0.001). All of these findings were regardless of DES type.

Conclusions: Although PLIA was associated with increased NT regardless of DES type, it may mean weak potential for further neointimal growth in long-term follow-up.

TCT-274
Relationship Between Arterial Remodeling, Fibrous Cap Thinning and Lipid Accumulation: A Serial Integrated Backscatter Intravascular Ultrasound and Optical Coherence Tomography Study
Teryoshi Kume1, Hiroyuki Okura1, Kenzo Fukahara1, Yoshinori Miyamoto2, Shintaro NECZU3, Yoji Neishi3, Akihiro Hayashida3, Takahiro Kawamoto4, Kiyoshi Yoshida4, 1Kawasaki medical school, Kurashiki City, Japan

Background: A serial intravascular ultrasound (IVUS) and optical coherence tomography (OCT) study has shown that positive arterial remodeling was related to thinning of fibrous cap. Serial changes in tissue components associated with fibrous cap and/or arterial remodeling remain unknown. Therefore, the purpose of this study was to evaluate the relationship between changes in fibrous cap thickness and changes in plaque tissue components by using optical coherence tomography (OCT) and integrated backscatter IVUS (IB-IVUS).

Methods: A serial (baseline and 6 months follow-up) BI-IVUS and OCT examinations were performed on 81 vessels from 56 patients with ischemic heart disease who underwent percutaneous coronary intervention. 81 fibroatheromas were selected from 48 culprit lesions and 33 non-culprit lesions. Serial changes and relationships between