10019

# Intravascular Ultrasound Predictors of No-Reflow after Percutaneous Saphenous Vein Graft Intervention

[1]Chonnam National University Hospital [2]Cardiovascular Research Foundation [3]Chung-Ang University Hospital [4]Inje University Ilsan Paik Hospital [5]Seoul Medical Center [6]Washington Hospital Center

Young Joon Hong[1], Gary S. Mintz[2], Sang Wook Kim[3], Sung Yun Lee[4], Seok Yeon Kim[5], Youngkeun Ahn[1], Myung Ho Jeong[1], Augusto D. Pichard[6], Lowell F. Satler[6], Ron Waksman[6], Kenneth M. Kent[6], William O. Suddath[6], Neil J. Weissman[6], Jung Chaee Kang[1]

Background: Intravascular ultrasound (IVUS) predictors of no-reflow after percutaneous coronary intervention (PCI) for saphenous vein graft (SVG) were not well known. Objectives: The aim of this study was to investigate the relationship between IVUS findings and the no-reflow phenomenon after PCI of SVG lesions. Methods and Results: Of 311 patients who underwent pre- and post-stenting IVUS, no-reflow was observed in 39 patients overall and in 19 of 125 patients treated using distal protection devices. Degenerated SVGs (62% versus 36%, P=0.002) and angiographic thrombus (41% versus 21%, P=0.006) were more significantly observed in the no-reflow group. IVUS-detected intraluminal mass (82% versus 43%, P<0.001), culprit lesion multiple plaque ruptures (23% versus 6%, P<0.001), and plaque prolapse (51% versus 35%, P=0.043) were significantly more common in patients with no-reflow. In the multivariate logistic regression analysis, an intraluminal mass (Hazard ratio [HR]=4.84; 95% CI 1.98-10.49, P=0.001), culprit lesion multiple plaque ruptures (HR=3.46; 95% CI 1.46-8.41, P=0.014), and degenerated SVGs (HR=3.17; 95% CI 1.17-6.56, P=0.024) were independent predictors of post-PCI no-reflow. In the subgroup of 125 patients treated using distal protection devices, culprit lesion multiple plaque ruptures (HR=7.99; 95% CI 1.95-32.98, P=0.003), plaque prolapse (HR=4.13; 95% CI 1.48-13.45, P=0.018), and degenerated SVGs (HR=3.13; 95% CI 1.19-6.41, P=0.027) were independent predictors of post-PCI no-reflow. Conclusions: IVUS-detected intraluminal mass, multiple plaque ruptures, plaque prolapse, and degenerated SVGs are associated with post-PCI no-reflow in SVG lesions.