Comparison of Neoatherosclerosis Pattern Between Patients With and Without Diabetes: An Optical Coherence Tomography Study

Poster Contributions
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Background: The characteristics of neoatherosclerosis (NA) in patients with and without diabetes mellitus (DM) have not been investigated.

Methods: From a total of 397 patients who underwent follow-up optical coherence tomography (OCT) imaging after drug-eluting stents (DESs) implantation, we identified 123 DESs with NA lesions in 115 patients: 45 DM and 70 non-DMs.

Results: The follow-up time was similar (30.4±29.0 months in DM versus 29.4±26.1 months in non-DM, P=0.856). There was no significant difference in the incidence of NA (29.6% versus 28.6%, P=0.825). Compared to non-DM group, neovascularization was more frequently observed in the DM group (32.4% versus 55.1%, P = 0.012) (Figure 1). The multivariate logistic model demonstrated that DM (odds ratio, 3.00; 95% confidence interval, 1.31-6.81, P=0.009) and follow-up duration (odds ratio, 1.03; 95% confidence interval, 1.02-1.05, P<0.001) were the independent predictors for neovascularization in NA lesions. DM patients with glycated hemoglobin ≥7% had higher prevalence of OCT-defined thin-cap fibroatheroma (TCFA) compared with those with glycate hemoglobin <7% (40.0% versus 8.3%, P=0.01).

Conclusion: There was no significant difference in the incidence of NA between DM and non-DM patients after 2.5 years. Neovascularization formation in NA lesions is more frequent in DM than in non-DM. Poorly controlled DM patients have high incidence of TCFA, compared to those with well controlled DM.