SIGNIFICANCE OF INTRAPLQUE NEOVASCULARIZATION FOR VULNERABILITY: OPTICAL COHERENCE TOMOGRAPHY STUDY

ACC Moderated Poster Contributions
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Background: The in vivo significance of intraplaque angiogenesis is not fully understood. The present study was designed to investigate the significance of intraplaque neovascularization (NV) in culprit lesions and non-culprit lesions of unstable angina pectoris (UAP) and in lesions of stable angina pectoris (SAP) using optical coherence tomography (OCT).

Methods: We studied a total of 356 plaques from 162 patients who underwent OCT imaging. They were divided into 3 groups: culprit lesions in UAP, non-culprit lesions in UAP, and SAP. In each group plaques with and without NV were compared.

Results: NV was found in 32 (34.8%) culprit lesions and 70 (34.5%) non-culprit lesions in UAP, and in 17 (27.9%) lesions in SAP (P=0.599). In UAP patients, the culprit lesions with NV, compared to the lesions without NV, had a higher prevalence of thin cap fibroatheroma (81.3% vs. 46.7%, P=0.001), thinner fibrous cap thickness (56.2±20.0 vs. 75.1±30.4 μm, P=0.002), and greater lipid core arc (254±66 vs. 222±65°, P=0.027) (Figure). These differences were not observed in non-culprit lesions of UAP and in lesions of SAP.

Conclusions: Culprit lesions with NV in UAP had higher prevalence of the features of plaque vulnerability.