TARGET LESION THIN-CAP FIBROATHEROMA DETECTED BY VIRTUAL HISTOLOGY INTRAVASCULAR ULTRASOUND AND LONG-TERM PROGNOSIS IN PATIENTS WITH ANGINA PECTORIS

i2 Poster Contributions
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Background: Radiofrequency signal derived tissue characterization of intravascular ultrasound (IVUS) has become clinically available. Several reports suggested that virtual histology (VH)-IVUS lesion assessments could predict distal microembolization and microvascular injury during percutaneous coronary intervention (PCI). The aim of this study was to investigate whether pre-PCI lesion assessment (presence or absence of thin-cap fibroatheroma, TCFA) by VH-IVUS predicts long-term clinical outcome in patients with angina pectoris.

Methods: A total of 87 lesions from 87 angina pectoris patients (mean 69 years) were enrolled and studied. VH-IVUS imaging was performed before PCI. By VH-IVUS, TCFA was defined as a presence of confluent necrotic core (> 10%) without detectable overlying fibrous cap segment. After successful PCI, patients were prospectively followed up. Major adverse cardiac event was defined as a composite of death, acute coronary syndrome, and target lesion revascularization.

Results: TCFA was detected in 21 of 87 lesions (24%). During follow-up (mean 22 months), MACE was documented in 8 patients (38%) with TCFA and in 11 pts (17%) without TCFA (p=0.04). MACE free-survival was significantly lower in patients with TCFA than in patients without TCFA (Log-rank p=0.03, Figure).

Conclusions: Target lesion TCFA may be related to long-term clinical outcome after successful PCI in patients with angina pectoris.