intervention (PCI) for ST-segment elevation myocardial infarction (STEMI). Incomplete stent apposition (ISA) and the absence of strut endothelialization might be linked to stent thrombosis. STEMI might have a higher risk of thrombosis.

Methods: An early OCT evaluation of stents that were deployed in culprit lesions for STEMI was performed at 9-18 days. The primary end-point was the percentage of incomplete stent apposition and that of struts covered with a thrombus. Secondary end-points were the percentage of neointima covered struts.

Results: 20 lesions in 20 patients (4,614 struts) were analyzed. Median follow-up time was 12 (range 9 to 18) days. The frequency of incomplete stent apposition was 14%. The frequency of stent covered with thrombus was 11%. The percentage of incomplete stent apposition covered with thrombus and that of well apposition covered with thrombus were 73% and 27% (p < 0.05).

Conclusions: Stents implanted for STEMI had a high frequency of incompletely apposed struts at early phase using OCT. These struts of incomplete stent apposition were obviously coated with a thrombus compared with apposition struts at the early stage.

TCT-393
Relation between the SYNTAX score and culprit vessel vulnerability in non-ST-segment elevation acute coronary syndrome-An optical coherence tomography study
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Background: High SYNTAX score (SS) has been associated with increased incidences of major adverse cardiac events, even after successful percutaneous coronary intervention (PCI) for culprit lesions. optical coherence tomography (OCT) imaging is a feasible technique for the identification of thin-cap fibroatheroma (TCFA) in vivo and may provide a better understanding of vulnerable plaques. The aim of this study was to examine the relation between SS and culprit and non-culprit lesion morphology as evaluated by OCT in patients with non-ST-segment elevation acute coronary syndrome (NSTEACS).

Methods: Culprit plaques in 144 patients with NSTEACS were interrogated by OCT before PCI. Non-culprit struts were defined as independent plaques and had to be situated at least 5 mm from the stent edge in treated or non-treated vessels. A total of 81 non-culprit struts in 81 patients were analyzed by OCT.

Results: Patients were classified into 3 groups according to the tertile of SS: 48 patients with an SS of < 9; an intermediate SS group, 47 patients with an SS of ≥9 < 16; and a high SS group, 49 patients with an SS of ≥16. The high SS group had a significantly lesser minimum FCT in the culprit lesion as compared with the respective values in the intermediate SS group and low SS group (high vs. intermediate vs. low SS group: 60 vs. 70 vs. 77 μm, p < 0.01). Moreover, the minimum FCT in the non-culprit lesion was significantly less in the high SS group than in the intermediate group and low SS group (high vs. intermediate vs. low SS group: 60 vs. 70 vs. 77 μm, p < 0.01). The frequencies of lipid-rich plaque (90% vs. 85% vs. 68%, p < 0.02), TCFA (73% vs. 40% vs. 40%, p < 0.001), plaque rupture (63% vs. 47% vs. 31%, p < 0.01), and multiple plaque ruptures in the culprit vessel (24% vs. 9% vs. 2%, p < 0.01) were significantly higher in the high SS group.

Conclusions: In patients with NSTEACS, patients with high SS may have heightened plaque vulnerability in culprit as well as non-culprit lesions. Our results are considered to highlight the importance of complete revascularization in patients with high SS.

TCT-394
Optical Coherence Tomography versus Angiography-guided Percutaneous Coronary Intervention with Biolimus-eluting Stent Implantation in Patients with Myocardial Infarction: Dynamic Malapposition Patterns and Strut Coverage at 6 Months. The OCTACS Trial
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Background: Incomplete strut coverage after drug-eluting stent (DES) implantation has been identified as an important predictor of late stent thrombosis. Percutaneous coronary intervention (PCI) using DES in the setting of myocardial infarction causes a higher incidence of acute incomplete stent apposition (ISA), which may contribute to delayed healing. Guidance with optical coherence tomography (OCT) may lower the incidence of acute ISA and thereby provide better strut coverage. We assess the proportion of uncovered struts 6 months after OCT- versus angiography-guided implantation of the Biolimus-eluting Nobori stent (BES) (Terumo) with biodegradable polymer in patients with Non-ST segment elevation Myocardial Infarction.

Methods: The OCTACS trial enrolled 100 patients. After obtainment of an optimal angiographic result, patients were randomized 1:1 to either (1) OCT- or (2) angiography-guided PCI. OCT was performed in both groups, and the operator was blinded to the OCT imaging in group 2. OCT-criteria indicating further intervention in group 1 were: Stent under expansion, acute ISA, significant edge dissection and/or significant residual stenosis. If criteria were met, additional balloon dilatation(s) and/or stenting was performed followed by a final OCT. Primary endpoint is difference in proportion of uncovered struts at 6 months.

Results: Baseline characteristics were balanced between the OCT- vs. the angiography-guided group, including mean age (61.8±9.4 years vs. 62.6±11.0 years, p=0.68, respectively). Further intervention was done in 46% of the OCT-guided patients, and maximal balloon pressures were significantly higher (16.8±3.9 atm. vs. 15.0±2.6 atm., p < 0.05), and procedure- and fluoro times were substantially longer (46.0 (16.0-125.0) min. vs. 34.0 (17.0-99.0) min., p < 0.05 and 11.8±7.2 min. vs. 8.4±3.9 min., p < 0.05, respectively). Six months difference in proportion of uncovered struts and dynamic ISA patterns will be presented at TCT 2014.

Conclusions: OCT guided BES implantation might contribute to better strut coverage by reducing the incidence of acute ISA.