TCT-586
Outcomes of Everolimus-Eluting Stent Incomplete Stent Apposition: An Optical Coherence Tomography Subanalysis from the RESET Trial
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Background: Since the Randomized Evaluation of Sirolimus-eluting versus Everolimus-eluting Stent Trial (RESET) is a prospective multicenter randomized open-label trial comparing EES with SES in Japan. A total 77 (38EES, 39SES) patients who underwent OCT in the RESET Trial between post-stenting and 8-12 months follow-up were enrolled in this study. We evaluated the serial change of acute ISA after EES implantation compared with SES between post-stenting and follow-up by using OCT.

Methods: We measured maximum ISA distance, ISA cross sectional area (CSA), stent CSA at maximum ISA site, and intra-stent lumen CSA.

Results: Of 38 ISA observed in EES at post-stenting (SES: 39, 28 (77%) ISA were resolved (SES: 24/71%). Although stent CSA did not change between post-stenting and follow-up, intra-stent lumen CSA (EES: 6.81 ± 1.66 mm² vs. 6.02 ± 1.72 mm², p<0.001), SES: 6.53 ± 1.86 mm² vs. 5.74 ± 1.84 mm², p<0.001), maximum ISA distance (EES: 315 ± 94 mm vs. 110 ± 165 mm, p<0.001, SES: 306 ± 118 mm vs. 139 ± 194 mm, p<0.001), and ISA CSA reduced (EES: 0.50 ± 0.24 mm² vs. 0.17 ± 0.27 mm², p<0.001, SES: 0.94 ± 0.69 mm² vs. 0.40 ± 0.65 mm², p<0.001) significantly during 10-month follow-up in EES and SES. Receiver operating characteristic curve analysis showed that maximum ISA distance >355mm was the best cut-off value to predict persistent ISA at 10-month follow-up (SES: maximum ISA distance >285mm).

Conclusions: The stent with maximum ISA distance more than 355mm at post-stenting in EES and 285mm in SES has a high risk for persistent ISA at 10-month follow-up. OCT can predict persistent ISA and provide useful information to optimize percutaneous coronary intervention.

TCT-587
Impact of Immediate Vessel Reactions to Stent Deployment on Periprocedural Troponin Leakage and Mid-term Vascular Healing: Serial Optical Coherence Tomography Study after Everolimus-eluting Stent Implantation
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Background: Acute incomplete stent apposition (ISA) can occur at the time of stent implantation. The mechanism underlying acute ISA seems to be related to procedural technique, and additional balloon angioplasty is often performed to improve ISA. The acute ISA might either resolve or persist at follow-up (late-persistent ISA). The aim of this study was to evaluate the serial change of acute ISA after everolimus-eluting stent (EES) compared with sirolimus-eluting stent (SES) between post-stenting and 10-month follow-up by using optical coherence tomography (OCT).

Methods: Randomized Evaluation of Sirolimus-eluting versus Everolimus-eluting Stent Trial (RESET) is a prospective multicenter randomized open-label trial comparing EES with SES in Japan. A total 77 (38EES, 39SES) patients who underwent OCT in the RESET Trial between in post-stenting and 8-12 months follow-up were enrolled in this study. We evaluated the serial change of acute ISA after EES implantation compared with SES between post-stenting and follow-up by using OCT.

Results: Maximum ISA distance, ISA CSA, stent CSA at maximum ISA site, and intra-stent lumen CSA.

Conclusions: The stent with maximum ISA distance more than 355mm at post-stenting in EES and 285mm in SES has a high risk for persistent ISA at 10-month follow-up. OCT can predict persistent ISA and provide useful information to optimize percutaneous coronary intervention.

TCT-588
Optical Coherence Tomography Guided Analysis of Coronary Artery Plaque Composition, Morphology and Burden and their Effect on ABSORB Bioresorbable Vascular Scaffold Expansion and Eccentricity.
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Background: Suboptimal stent expansion is known to correlate with future adverse cardiac events. BVS has less radial strength compared with metallic stents. With increasing use of BVS it is important to understand its expansion characteristics. OCT is an intravascular imaging modality that allows high resolution assessment of plaque characteristics and SEI or SE was analysed by a repeated measures analysis.

Methods: 12 patients with angina pectoris underwent OCT-guided BVS implantation. OCT images were acquired pre-implantation, post-implantation and at 9-month. Optical coherence tomography (OCT) images were analyzed to obtain a plaque characteristic index (PCI), which is an intra-arterial imaging modality that allows high resolution assessment of plaque characteristics and SEI or SE was analysed by a repeated measures analysis.

Results: PCI values at the following time points (pre-implantation, post-implantation and 9-month) were calculated.

Conclusions: PCI values were significantly higher at post-implantation compared to pre-implantation and 9-month. Further studies are required to assess the impact of PCI values on clinical outcomes.

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