NEOINTIMAL COVERAGE ON THE DRUG-ELUTING STENT STRUTS CROSSING THE SIDE-BRANCH VESSELS: AN OPTICAL COHERENCE TOMOGRAPHY STUDY

i2 Poster Contributions
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Background: The status of neointimal coverage on the drug-eluting stents (DES) struts which are placed across the side-branch vessels remains unclear.

Methods: The degree of neointimal coverage of stent struts crossing the side-branch vessel was evaluated according to different types of DESs. Follow-up OCT images at 9.3 months after index procedure were identified in 51 patients who underwent DES (sirolimus-eluting stent [SES] in 22, paclitaxel-eluting stent [PES] in 15, and zotarolimus-eluting stent [ZES] in 14) implantation cross over the side-branch vessels (size> 2.0 mm). Enrolled patients were either classified as covered group if every unapposed struts showed neointimal coverage, or uncovered group if any struts lacked neointimal coverage.

Results: Number of the patients in the covered group was 15 (29%). There were significant differences of proportion of the covered group among the 3 DESs (6/22 [27%] in SES, 1/15 [7%] in PES and 8/14 [57%] in ZES, p=0.011). Percentage of neointimal coverage in the overall stent struts was also significantly different among the 3 DESs (65% of 356 struts, 20% of 165 struts and 83% of 143 struts, respectively; p<0.001). The neointimal hyperplasia thickness in the PES group was significantly smaller than those of the ZES and SES groups (0.02±0.02mm vs. 0.08±0.06mm and 0.04±0.03mm, respectively, p=0.002).

Conclusion: The different pattern of neointimal coverage of the stent struts crossing the side-branch vessels was observed according to different DES types.

Figure 1. The comparison of neointimal thickness on unapposed struts crossing the side branch according to stent types.