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Comparison of neointimal coverage between ultrathin biodegradable polymer-coated sirolimus-eluting stents and durable polymer-coated everolimus-eluting stents: six-month OCT follow-up from the TAXCO study

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THEME: Coronary Interventions

TOPIC(S): Stents and scaffolds

AIMS

Assessment of uncovered struts, malapposed struts and neointimal thickness by optical coherence tomography (OCT) at follow-up is considered to be an important surrogate to help stratify the patient's future risk for thrombotic events. The TAXCO study was designed to compare the degree of neointimal coverage and the prevalence of malapposition at 6 months subsequent to implantation of ultrathin biodegradable polymer-coated sirolimus-eluting stents (SES) and durable polymer-coated everolimus-eluting stents (EES) using OCT.

METHODS AND RESULTS

The TAXCO study included total 37 patients who consented and underwent OCT examination between August 2017 and September 2017. Among them, 21 patients had been treated with Tetriflex SES (Sahajanand Medical Technologies Pvt. Ltd., Surat, India) and 16 with Xience V EES (Abbott Vascular, USA), 6 (\pm 1) months earlier at our institution. The OCT was performed using a C7 Dragonfly[®] imaging catheter (St. Jude Medical Inc., USA). All OCT images were analysed at an independent core laboratory (Cardiovascular Research Center, São Paulo, Brazil) by analysts who were blinded to patient and procedural information. A total of 763 cross-sections (6908 struts) were analyzed in Xience V EES group, and 1134 cross-sections (9992 struts) in Tetriflex SES group. At 6 months, on per-lesion basis, no significant differences were observed between Xience V EES group and Tetriflex SES group in mean percentage of uncovered struts (1.87 ± 3.86 vs. 2.42 ± 3.45 , $p=0.137$) and malapposed struts (0.05 ± 0.20 vs. 0.21 ± 0.69 , $p=0.302$). Strut-level neointimal thickness also did not differ between Xience V EES group and Tetriflex SES group (0.18 ± 0.12 vs. 0.14 ± 0.07 , $p=0.370$).

CONCLUSIONS

This OCT study found no significant difference in strut coverage and neointimal thickness at 6 months after implantation of biodegradable polymer-coated Tetriflex SES, when compared with durable polymer-coated Xience V EES.