Conclusions: In complex BL, Tryton implantation in conjunction with Xience Prime was associated with high success rates. Clinical and angiographic follow-up showed low restenosis rate for non-left-main BL and no stent thromboses.

TCT-679
Coronary bifurcation angle from 3-D predicts clinical outcomes after stenting bifurcation lesions
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Background: The predictive value of bifurcation angle (BA) for worse events after stenting bifurcation lesions remains to be unknown. The present study was to investigate the dynamic change of BA and clinical relevance for patients with coronary bifurcation lesions treated by drug-eluting stent (DES).

Methods: The study included 3-D quantitative coronary analysis from 347 patients in DKCRUSH-II study. Primary endpoint was the occurrence of composite major adverse cardiac events (MACE) at 12-month, including cardiac death, myocardial infarction (MI) and target vessel revascularization (TVR). Secondary end points were the rate of binary restenosis and stent thrombosis at 12-month.

Results: Stenting was associated with the reduction of distal BA. The cut-off value of distal BA for predicting MACE was 60°. Distal BA in >60° group had less reduction after stenting (1.96° ± 13.58° vs. 12.12° ± 23.58°, P < 0.001), compared to ≤60° group (P = 0.003); the target lesion revascularization (TLR), TVR and MACE rate was higher in one-stent group (16.5%, 19.0% and 21.5%), compared to two-stent group (3.8%, 7.5% and 9.8%, P = 0.024, respectively). Among patients in ≥60° group, there were no significant differences in distal BA, stent thrombosis (ST), MACE, death, TVR, TLR between one- and two-stent groups; after stenting procedure, there was only slight change of distal BA in left anterior descending (LAD)-left circumflex (LCX) subgroup (from 88.54° ± 21.33° at baseline to 82.44° ± 31.72° post-stenting), compared to either LAD-diagonal branch (D), or LCX-obtuse marginal branch (OM), or RCA distal (RCAd) (all P < 0.001).

Conclusions: Two-stent technique was associated with significant reduction of distal BA. DK crush stenting had reduced rate of MACE in patients in >60° group, compared to one-stent technique.

TCT-680
LONG TERM OUTCOME OF PATIENTS WITH BIFURCATED LESIONS RANDOMIZED TO SIROLIMUS OR EVEROLIMUS ELUTING STENT: THE SEA-CORP BC STUDY
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Background: Different drug-eluting stents may have different clinical efficacy in bifurcation interventions. Thus, we sought to compare the long term efficacy of sirolimus (SES) and everolimus (EES) eluting stents in patients with bifurcation lesions.

Methods: We realized a cooperative, non-sponsored, pooled analysis on (previously ever unpublished) long term outcome data from 2 prospective randomized trials with similar methodology (SEASIDE and CORPAL). In these trials, patients with all types of bifurcations were randomly assigned to treatment with either a SES (n = 220) or EES (n = 223) according to the provisional side-branch stenting technique. Primary endpoint of the study was the occurrence of major adverse cardiac events (MACE) (death of any cause, acute myocardial infarction or repeat revascularization) during 3-year follow-up.

Results: A total of 443 patients with bifurcated lesions were randomized to a SES (n = 220) or EES (n = 223). The two study group did not differ and, overall, 70.1% of patients had target bifurcation located in the distal left main or left anterior descending artery. 60.9% presented with acute coronary syndromes and 37.2% had Medina 1,1,1 lesion. Three-year follow-up was available in 439 (99.1%) of patients. At 3 years, MACE occurred in 7.7% of patients and were non-significantly lower in patients randomized to EES vs. SES: 6.8% vs. 8.7% (p = 0.16). Interestingly, total mortality rate was 4.1% in SES group vs. 1.8% of EES group (p = 0.14). At landmark analysis for late events, MACE occurring after 12-month were significantly reduced in patients randomized to EES compared to SES: 1.4% vs. 5.4% (p = 0.02).

Conclusions: Provisional side branch stenting with SES or EES in bifurcation lesions is associated with lower rates of major adverse events at 3-year follow-up. Patients randomized to EES, as compared with SES, exhibited a numerically lower incidence of adverse events during the 3-year follow-up and a significantly lower rate of adverse late (beyond 1 year) adverse events.

TCT-681
Long Term Outcome Of Simple And Complex Coronary Bifurcation Lesions (CBL) Treated With Drug Eluting Stents (DES)
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Background: There is limited data on the long term outcomes of CBL treated with DES Methods: We examined the outcomes of patients with CBL treated with 1st and 2nd generation DES from 2002 to 2011. Clinical outcomes of TLR and mortality were collected from Alberta Provincial database and medical records. Outcomes for 1st generation DES (sirolimus-SES; paclitaxel-PE) and 2nd generation DES (everolimus-EES) were compared over 2 yrs while the 1st generation DES were compared over 8 yrs. Multivariate analysis was used to identify independent predictors of TLR.

Results: 829 patients (79% males; mean 62 yrs) underwent coronary stenting for 940 CBL of which 66% had side branch (SB) disease. Stent use was 43% SES, 29% PES, 25% EES. 32.2% of CBL with SB disease required SB stenting. At 2 yrs SES had lower TLR rate compared to PES (3.8% vs 7.9%; p = 0.004) and EES (3.8% vs 5.5%; p = 0.015) but similar survival rates SES 98.9%, PES 94.5%, EES 97.4%; p = 0.298. Patients with SB disease undergoing SB stenting had higher TLR rates than those without SB stenting (9.1% vs 5.1%; p = 0.044). SB stenting was an independent predictor of TLR (HR 17.5, 6.6–46.1); p = 0.00001. Over 8 yrs survival was similar between 1st generation DES; (SESS/PES 97.0%/94.6%; p = 0.408). CABG rate was SES 2.5%, PES 2.3%, EES 0.8%, p = 0.32. Definite stent thrombosis occurred in 0.7% of lesions over 8 yrs.

Conclusions: 1st and 2nd generation DES are effective in treatment of CBL with overall low rates of TLR at 2 yrs. SES have better long term outcomes compared to PES and EES in CBL. A single stent approach gives better long term outcomes compared to additional SB stenting.