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Mid-term Outcome of True Coronary Bifurcation Lesions -From 1st generation DES era to 2nd generation DES era-

Background: The optimal strategy for true coronary bifurcation lesions has still been controversial. In this study, we investigated the mid-term outcome of true coronary bifurcation lesions with using 2nd-generation DES(ZES/EES) comparing with 1st-generation DES(SES/PES). **Methods:**Between DEC/2005 to Apr/2009, 195 true bifurcation lesions were treated with 1st-generation DES(1st-DES-group), and between May/2009 to Dec/2012, 104 lesions were treated with 2nd-generation DES(2nd-DES-group). Our selection of bifurcation stenting strategy was depended on the vessel size and the plaque distribution of both main-vessel(MV) and side-branch(SB) estimated by angiogram and IVUS. **Results:**There were no differences in baseline patient and procedure characteristics. In single stent strategy, three kinds of strategy were performed 1)MV single stenting with KBT(30.7%vs30.3%;p=n.s.), 2)alternative dilatation to MV and SB-ostium(41.7%vs47.2%;p=n.s.), or 3)no dilatation to SB-ostium(27.6%vs22.5%;p=n.s.). In two-stent strategy, we selected 1)V-stenting(25.0%vs26.7%;p=n.s.), 2)culotte-stenting(28.1%vs6.7%;p=n.s.), or 3)T-stenting(46.9%vs66.7%;p=n.s.) with KBT. In bifurcation lesion location, there were no differences in both groups (LMT/LCx(22.6% vs 20.2%), LAD/Diagonal(45.1% vs 45.2%), LCx/OM(18.5% vs 20.2%), RCA bifurcation(13.8% vs 14.4%)). At 8-month, restenosis of MV/SB occurred in 10.2%/12.7% of 1st-DES-group vs 6.9%/8.3% of 2nd-DES-group(p=n.s.). TLR-rate of MV/SB were 5.6%/6.7% in 1st-DES-group, and 4.8%/3.8% in 2nd-DES-group(p=n.s.). In 2-year clinical follow-up, there were no significant differences in the rate of MACE(13.8% vs 9.0%;p=n.s.). Stent thrombosis(ARC definite/probable) and SB-occlusion were not observe in both groups. **Conclusions:**Lesion specific stent strategy for coronary bifurcation lesions using more conformable 2nd generation DES showed acceptably low restenosis rate, TLR, however it was not significant difference comparing with 1st generation DES, suggesting that additional breakthroughs for bifurcation stenting are need.