

Outcomes After Bifurcation Lesion Treatment with Resolute Zotarolimus-Eluting Stent: Insights from RESOLUTE China Randomized Controlled Trial and RESOLUTE China Registry

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Introduction. Percutaneous coronary intervention (PCI) of bifurcation lesions has been associated with higher rates of repeat revascularization and stent thrombosis (ST). Limited data is available on outcomes with Resolute™ zotarolimus eluting stent (R-ZES) in bifurcation lesions in an Asian population.

Methods. This analysis pooled R-ZES patients from RESOLUTE China Randomized Controlled trial, which included 198 patients treated with R-ZES at 16 sites in China, and RESOLUTE China Registry, which treated 1800 patients with R-ZES with minimal exclusion criteria at 30 sites in China. Target lesion failure (TLF) was the composite of Target Lesion Revascularization (TLR), Cardiac death (CD), and Target Vessel Myocardial Infarction (TV-MI). Given differences in baseline characteristics, propensity-matched p-values were calculated.

Results. A total of 346 patients underwent PCI for bifurcation lesions and 1651 patients for non-bifurcation lesions. Bifurcation lesions were located in the left anterior descending artery (76.9%), left circumflex (29.2%), right coronary artery (20.8%), and/or left main (6.1%). One-year follow-up was available for 332 bifurcation and 1614 non-bifurcation patients. Compared to non-bifurcation patients, the incidence of TLF in bifurcation patients was 5.7% vs. 3.3% (adjusted P=0.228), CD or TV-MI 4.5% vs. 2.9% (adjusted p=0.558), clinically-driven TLR 2.1% vs. 0.7% (adjusted p=0.075), and ARC definite/probable ST 0.3% vs. 0.5% (adjusted p=0.515), respectively.

Conclusions. In a large pooled analysis of Chinese patients, the use of current generation R-ZES for the treatment of coronary bifurcation lesions was associated with excellent safety and efficacy at 1 year. Two-year clinical outcomes will be available for presentation at CCT.