

Percutaneous Coronary Intervention for Small Caliber Proximal Coronary Artery Vessels : To Stent or Not to Stent?

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Abstract : Background : The optimum interventional strategy for treating small proximal coronary arteries remains unclear. To determine whether or not stenting is beneficial in patients with small proximal coronary artery lesions, we compared the clinical outcomes of 1504 patients who either underwent stenting or received no stenting of the small proximal coronary arteries.

Methods : We identified 1504 consecutive patients with percutaneous coronary interventions for the 1722 lesions in the small proximal coronary arteries from the database of the Cardiovascular Research Foundation, and then compared in-hospital and 1-year clinical outcomes in patients with stenting to those without stenting. Any cases demonstrating acute myocardial infarction, saphenous vein graft lesions and ostial lesions were excluded.

Results : Diabetes was present in 33% of the population. In addition, no differences other than the left ventricular ejection fraction in the baseline patient characteristics were observed between the groups. The reference vessels were larger for the stent group. The success of this procedure was higher (99.3% vs. 95.7% , $p < 0.0001$) and the number of in-hospital major complications was less frequent in the stent group than in the non-stent group (1.3% vs. 2.9%, $p = 0.034$). At one-year, however, there was a significantly higher incidence of target lesion revascularization (TLR) (28.7% vs. 22.3% , $p = 0.007$) and there also tended to be a higher incidence of major adverse cardiac events (30.4% vs. 25.7%, $p = 0.055$) in the patients undergoing stenting than in the non-stent intervention cases.

Conclusion : In comparison to the patients with non-stent intervention, the stenting of a small *proximal* coronary lesions was associated with a higher TLR rate despite a higher procedural success and lower rates of major in-hospital cardiac events. As a result, the stenting of small proximal coronary arteries may be best indicated for cases showing suboptimal results for non-stent treatment.

Key words : Percutaneous coronary intervention (PCI), Small proximal coronary artery, Stent, Target lesion revascularization (TLR), Major adverse cardiac events (MACE)