IS DOUBLE STENTING THE OPTIMAL TREATMENT FOR COMPLEX CORONARY BIFURCATION LESIONS?

i2 Oral Contributions
McCormick Place South, S103c
Sunday, March 25, 2012, 8:45 a.m.-8:55 a.m.

Session Title: PCI in Complex Lesions
Abstract Category: 8. PCI - Bifurcations
Presentation Number: 2504-11

Authors: Ricardo A. Costa, Fausto Feres, Rodolfo Staico, J. Ribamar Costa, Jr, Dimytri Siqueira, Alexandre Abizaid, Luiz F. Tanajura, Amanda Sousa, J. Eduardo Sousa, Antonio Colombo, Instituto Dante Pazzanese de Cardiologia, Sao Paulo, Brazil, EMO GVM Centro Cuore Columbus, Milan, Italy

Background: Even though provisional stenting has been considered the preferable percutaneous coronary intervention (PCI) technique for most bifurcation lesions, the optimal approach for complex lesion subtypes, especially those with significant involvement of both branches including side branch (SB) lesion extending from its ostium, remains controversial.

Methods: From May/09 to Aug/10, 54 pts were enrolled in a prospective, randomized (1:1 ratio) trial comparing single stenting (provisional approach) (n=27) vs. double stenting (n=27) at one single institution. Lesion criteria were true bifurcation lesions in non-left main locations with lesion length in the SB >5 mm. Procedures were performed with intravascular ultrasound guidance; all lesions were solely treated with Xience V everolimus-eluting stents; and all patients were assigned to angiographic follow-up at 9 months.

Results: Baseline characteristics were comparable in both groups including median baseline lesion length and reference diameter in the parent vessel (PV) (21.19 vs. 20.98 mm, p=0.84; and 2.97 vs. 2.91 mm, p=0.84) and SB (8.02 vs. 8.13, p=0.96; and 2.68 vs. 2.55, p=0.73), respectively. Among those assigned for single stenting, 5 out of 27 (19%) crossover to double stenting due to SB compromise during procedure (significant residual stenosis, dissection and/or TIMI flow <3 after kissing-balloon inflation); in addition, one case (4%) presented SB occlusion with impossibility for additional treatment. At 9-month angiographic follow-up (89%), binary restenosis was similar in the PV, and 21.7% in the SB in group single stenting vs. 4% in the SB in group double stenting (p=0.06). Considering the treatment received, SB restenosis was significantly higher in patients treated with single stenting vs. double stenting (27.8 vs. 3.3%, p=0.01), even though there was no significant impact on target lesion revascularization rates (5 vs. 9%, p=0.49).

Conclusions: Complex bifurcation lesions appear to benefit from double stenting PCI compared to single stenting as demonstrated by significant reductions in SB restenosis at late angiographic follow-up. Larger studies are required to assess the clinical impact of such findings.