

TCT-701

Two Year Outcomes Following Unprotected Left Main Stenting with First- vs. New-Generation Drug-Eluting Stents: The FINE Registry

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Background: Minimal data exists regarding the use of new-generation drug-eluting stent (DES) in the treatment of the unprotected left main (ULMCA) coronary artery. Our aim was to assess 2-year clinical outcomes following first-vs. new-generation DES implantation in patients undergoing intervention to the ULMCA.

Methods: All eligible patients from our 2-center prospective registry treated for ULMCA with DES implantation from October 2006 to November 2010 were analyzed. The study endpoint was major adverse cardiac events (MACE), defined as all-cause mortality, target vessel revascularization (TVR) and myocardial infarction (MI) at 2-years clinical follow-up.

Results: A total of 186 patients were included: 93 (50.0%) with first- vs. 93 (50.0%) with new-generation DES. There was a higher EuroSCORE in the new-generation group (3.6 ± 2.5 vs. 4.6 ± 2.7 ; $p=0.007$) however there was no difference in the SYNTAX scores (25.2 ± 11.3 vs. 26.5 ± 9.2 ; $p=0.401$). Distal disease was present in 81.7% in first- vs. 74.2% in new-generation ($p=0.216$). No significant difference was observed in the stenting technique; 2-stents were used respectively in 53.8% vs. 44.1% ($p=0.187$). Notably, intravascular ultrasound guidance was used more frequently with new-generation (46.2% vs. 61.3%; $p=0.040$). At 730.0 (interquartile range 365.5-1224.5) days clinical follow-up, there was a statistical trend toward a benefit in MACE with new-generation (31.2% vs. 19.6%; $p=0.070$). With new-generation DES, there was a significant reduction in TVR (23.7% vs. 12.0%; $p=0.038$) and MI (4.3% vs. 0%; $p=0.044$) and a trend for less cardiac mortality (7.5% vs. 2.2%; $p=0.091$) and TLR (12.9% vs. 5.4%; $p=0.079$). Furthermore, there were 4 cases of definite stent thrombosis (ST) with first- vs. 0 in the new-generation group ($p=0.044$).

Conclusions: In our study, new-generation DES had a trend for less MACE and improved results with regards to MI, TVR and definite ST at 2-years clinical follow-up.

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The impact of pre and post dilatation on stent deformity after single stenting and kissing balloon technique in a large left main bifurcation model; insights from in vitro bench testing

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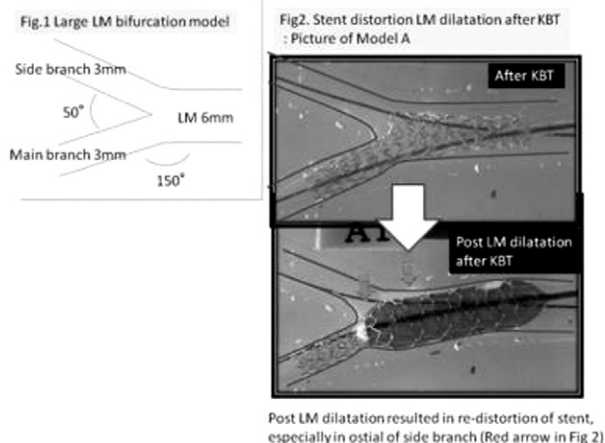
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Background: Treating left main (LM) bifurcation with stents is complex as LM trunks have larger vessel references than others. Kissing balloon technique (KBT) and/or post stent dilatation to LM trunks are needed in order to obtain adequate stent apposition in LM trunks. The objective of this study was to investigate the impact of pre and post left main dilatation on stent deformity during KBT of single stents with large LM bench testing model.

Methods: In this test, a soft silicon model reenacted as a LM bifurcation vessel with 6.0mm proximal vessel reference. Styrene resin was used to surround this model (Shown in Fig.1). After crossover stenting (3.5mm Nobori stent, Terumo Corporation, Tokyo) to the main branch, two strategies of LM dilatation with a 6.0mm balloon was tested. Strategy in model A was LM dilatation after KBT and not before, while strategy in model B was LM dilatation before and not after KBT.

Results: In model A, post LM dilatation after KBT led to decrease the effect of KBT; stent malapposition in the ostial of the side branch (Fig.2). On the other hand, in model B, adequate stent apposition in the ostial of the side branch was obtained by KBT without any unfavorable major distortion in the main or LM trunk.

Conclusions: LM dilatation before performing KBT is better especially when KBT is performed in large LM bifurcation lesions. If LM dilatation after KBT is needed, checking of stent distortion should be done afterward.



Post LM dilatation resulted in re-distortion of stent, especially in ostial of side branch (Red arrow in Fig 2)

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Comparison of 5 Years Clinical Outcome of Drug-Eluting Stent Implantation in High-Angled ($\geq 70^\circ$) Bifurcation and Lower-Angled ($\leq 70^\circ$) Bifurcation Lesion of Unprotected Left Main Coronary Arteries

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Background: The aim of study is to compare the 5 years clinical outcome of drug-eluting stent implantation in high-angled ($\geq 70^\circ$) bifurcation (HAB) and lower-angled ($\leq 70^\circ$) bifurcation (LAB) lesion of unprotected left main coronary arteries.

Methods: A prospective analysis of 488 patients with LMT stenosis (374 HAB and 114 LAB) in five high volume Asian centers after successful stenting in LMT was performed. LMT was treated with 5 strategies (single 195, mini-crush 116, culotte 89, T 47 cases, crush 32 cases, kissing 9).

Results: At 5 years overall cardiac events of LAB (20.2%) were significantly lower than HAB (29.1%) ($p=0.014$).

Conclusions: Drug-eluting stent implantation in low-angled LMT bifurcation lesion showed lesser incidence of cardiac events (death, myocardial infarction, CABG and re-PCI) compared with high-angled LMT bifurcation lesion of unprotected left main coronary arteries at 5 years clinical follow-up.

5 years cumulative freedom from all-cause death and MACE: major adverse cardiac event (death, myocardial infarction, CABG and re-PCI) in LAB and HAB groups