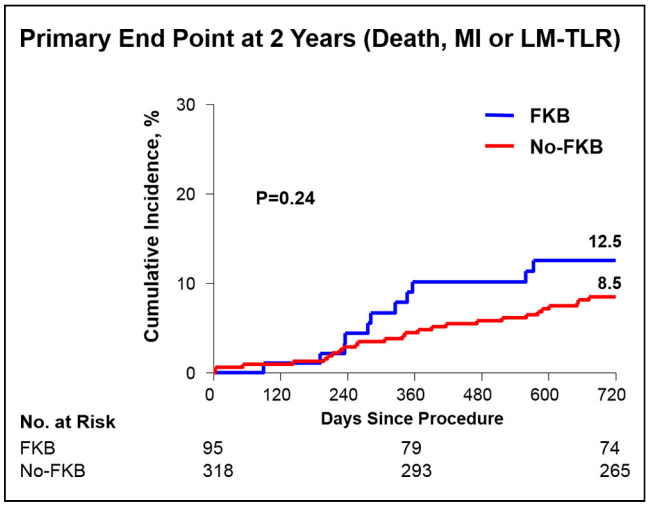

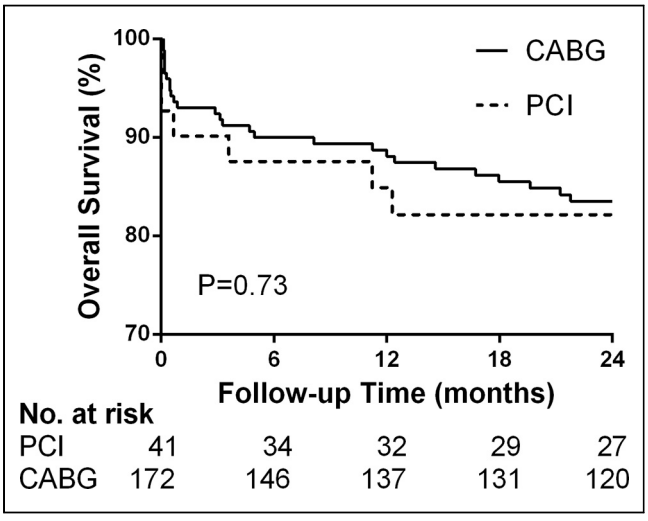

CONCLUSION Inpatients treated with the simple cross over stenting for distal LMCA bifurcation stenosis, FKB after main vessel stenting was not associated with better clinical outcome compared with no FKB.

TCTAP A-035

Left Main Revascularization for Patients with Reduced Left Ventricular Ejection Fraction; Comparison of Outcome After PCI Versus CABG from ASAN-MAIN Registry

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BACKGROUND Unprotected left main coronary artery (ULMCA) stenting has been investigated as an alternative to coronary artery bypass grafting (CABG). However, long-term benefits of PCI or CABG in patients with ULMCA disease and reduced left ventricular ejection fraction (LVEF) have not been established. The purpose of this study was to compare the results of patients with ULMCA disease and reduced LVEF undergoing PCI versus CABG.

METHODS We evaluated 42 patients with ULMCA disease (more than 50% stenosis by visual estimation) and systolic LV dysfunction (LVEF less than 40%) who underwent PCI and 171 patients who underwent CABG in Asan Medical Center from March 1992 to February 2011. Event rates at 2 years were compared between the two groups.

RESULTS Preprocedural LVEF was not different between PCI and CABG (34.29 ± 5.9 vs. 32.4 ± 6.2%, P=0.10). The CABG group included more patients with triple-vessel disease (P<0.001) and the PCI group included more patients with myocardial infarction(MI) (P=0.002). The rates of target-vessel revascularization were significantly higher in the group that received PCI than in the group that underwent CABG (P=0.003). The composite rate of death, MI, stroke, or target vessel revascularization at 2 years occurred in 19.5% of the PCI group and 17.4% of the CABG group (adjusted hazard ratio, 1.06; 95% CI, 0.46 to 2.46; P =0.89).

CONCLUSION In patients with ULMCA disease and reduced LVEF, we found no significant difference in rates of the composite end point between patients receiving PCI and those undergoing CABG at 2 year follow-up.

TCTAP A-036

Two-Stent Strategies for Coronary Bifurcation Lesions: Main Vessel First Versus Side Branch First

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BACKGROUND Although main vessel (MV) stenting with provisional side branch (SB) treatment is regarded as a standard strategy for coronary bifurcation lesions, two-stent strategies are needed substantially in real-world practice and cross-overs from one-stent to two-stent strategies were observed frequently in randomized controlled trials. However, there are limited data comparing different methods of two-stent strategies. We sought to compare two-stent strategies for coronary bifurcation revascularization using a MADS classification: main across side first or SB first techniques.

METHODS Consecutive patients who underwent drug-eluting stents implantation for bifurcation lesions with SB ≥2.3 mm were enrolled. We selected 673 patients treated with two-stent strategies including main across side first or SB first techniques. The primary outcome was major adverse cardiac events (MACE: cardiac death, myocardial infarction, or target lesion revascularization).

RESULTS SB first techniques were performed in 423 (62.9%) patients. SB occlusion (3.8% versus 12.0%, p<0.001) and SB dissection (0.5% versus 8.4%, p<0.001) occurred less frequently in patients treated with SB first techniques, and peri-procedural myocardial infarction was observed similarly in two groups (16.7% versus 15.0%, p=0.66). During median 3-year follow-up, the rate of MACE was similar in two groups (15.1% vs. 15.6%; adjusted hazard ratio, 1.02; 95% CI, 0.62-1.67; p=0.95). In multivariable analysis, independent predictors of SB first techniques were greater pre-procedural percent diameter stenosis of the SB than the MV (odds ratio [OR], 2.21; 95% confidence interval [CI], 1.54-3.20; p<0.001) and SB lesion length >7.3mm (OR, 1.76; 95% CI, 1.24-2.50; p=0.002).

CONCLUSION The clinical outcomes were similar for patients with coronary bifurcation lesions treated with main across side first or SB first two-stent techniques. SB first two-stent techniques could be considered in patients with more severe stenosis of the SB than MV and SB lesion more extending from the ostium.

TCTAP A-037

Rotational Atherectomy with Cutting Balloon for Treatment of High Risk Calcified Left Main Coronary Lesions

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BACKGROUND Heavily calcified left main coronary disease is one of the most challenging in percutaneous coronary intervention. Coronary artery bypass surgery is considered the gold standard treatment in this setting. However, more and more patients decline or high risk

for surgical treatment. Owing to advances in intervention technology, in particular, the rotational atherectomy and cutting balloon, this group of patients can be treated with percutaneous intervention. This study was to review the safety and efficacy of rotablator and cutting balloon in our practice.

METHODS From January 2012 to December 2013, all consecutive patients who received rotational atherectomy for heavily calcified left main coronary disease in our cath lab were enrolled. All clinical and angiographic characteristics as well as information regarding rotational atherectomy and cutting balloon were retrieved and analyzed.

RESULTS A total number of 8 patients were recruited with a mean age 77.6 +/- 9. There were 75% presented with stable angina, 12.5% with acute coronary syndrome and 12.5% with cardiogenic shock. Chronic renal disease was seen in 25%, diabetes mellitus in 50% and hypertension in 100%. The angiographic and procedural success rate was 100%. The number of burrs used per patient was 1.3+/-0.4 and burr size was 1.75+/-0.25. The cutting balloon size was 2.34+/-0.7. Most stents were drug-eluting stent 87%. The techniques used for bifurcation stenting were culotte (62.5%), mini-crush (25%) and provisional (12.5%). Intra-aortic balloon pump was used in 25%. There was no complication among our cases.

CONCLUSION Heavily calcified left main coronary disease treated with rotational atherectomy, cutting balloon and stent is feasible and safe with high angiographic and procedural success rate.

TCTAP A-038

Acute Myocardial Infarction with Left Main Disease Combined with Chronic Renal Insufficiency and Cardiogenic Shock: A Double-Edge Sword

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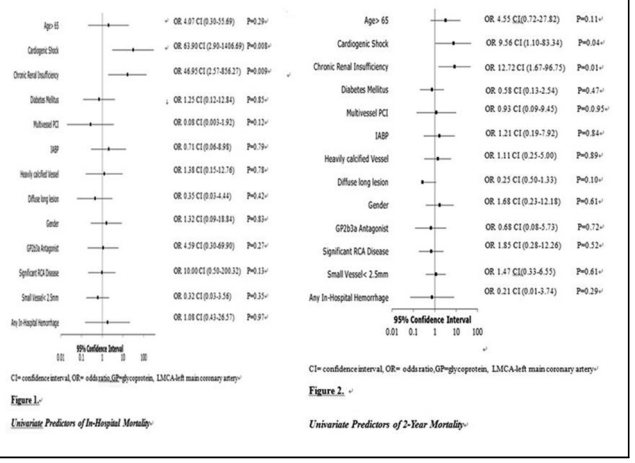
BACKGROUND The mortality of patients (pts) admitted with acute myocardial infarction (AMI) remains high despite improvement in all aspects of cardiac care. This mortality is even higher in pts who require index left main (LM) revascularization at the time of admission. We sought to investigate the predictors of in-hospital and 2-year mortality in such pts.

METHODS This study is single center, retrospective, observational and registry-based study. All pts admitted for AMI as defined in the "Third Universal Definition of Myocardial Infarction" and fulfilled the inclusion and exclusion criteria was enrolled. A total of 212 AMI pts were screened from our institutional LM stenting registry and we identified 75 pts among this cohort who successfully underwent emergency revascularization of the LM disease.

RESULTS A total of 75 AMI pts with significant LM disease were enrolled. Male was in 77.3%. There were 47 (62.7%) ST-segment elevation myocardial infarction (STEMI). Cardiogenic shock was present in 12.0% of the pts and significant number of pts required IABP insertion. Clinical and Angiographic success was achieved in 100% of the patients. Overall, the in-hospital mortality remained high at 17.3% due to overt heart failure, cardiogenic shock and multi-organs function. 13 Major cardiovascular events (MACE) were recorded during hospitalization including death, myocardial infarction, and stent thrombosis and target vessel revascularization. From the multiple regression analysis, cardiogenic shock at presentation and the renal dysfunction remained a good predictor of in-hospital and 2-year mortality for in-hospital survivors. Prognosis for pts in cardiogenic shock remained grave with 77.8% of in-hospital mortality. At 2-year follow up, in-hospital survivor has a mortality of 11.3%whereas additional 22 experienced MACE.

CONCLUSION Pts with LM disease required stenting at the time of AMI is uncommon but is associated with high in-hospital and 2-years mortality especially in those presenting with cardiogenic shock and renal dysfunction.



CI= confidence interval, OR= odds ratio, GP=glycoprotein, LMCA-left main coronary artery

Figure 2.

Univariate Predictors of 2-Year Mortality

TCTAP A-039

The New Possibility of the Glider Balloon As a Side Branch Treatment in the Coronary Bifurcation Lesion Beyond the Kissing Balloon Inflation

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BACKGROUND Final kissing balloon inflation (KBI) is generally accepted as a technique to expand the side branch (SB) and proximal main vessel (MV) simultaneously after cross-over stenting in the coronary bifurcation lesion. The prior bench testing, however, revealed that the KBI causes an asymmetric oval deformation of the proximal MV stent. The Glider balloon (GB) (Tri Reme Medical, Pleasanton, CA, U.S.A) is a dedicated SB balloon designed for optimal SB ostial expansion with minimizing the MV stent deformation. We investigated the efficacy of the GB in the present study.

METHODS We analyzed consecutive 19 patients who undertook elective bifurcation stenting with SB dilation using the GB and proximal optimization technique (POT) (mean age; 71 ± 2 year-old, man / female = 17 / 2). The lesion location was LMT / LAD / LCx / RCA = 9 / 7 / 1 / 2. The 2.5 / 4 mm and 3.0/ 4 mm GB balloons were used in 12 and 7 cases, respectively. We evaluated the eccentricity index (short / long lumen diameter) and cross sectional area (CSA) in the SB ostium, proximal and distal MV at the bifurcation and the reference sites using IVUS or OCT or OFDI.

RESULTS The eccentricity index at the bifurcation site was not statistically different from that at the reference site in each branch (distal MV; 0.90 ± 0.01 vs. 0.90 ± 0.01, SB; 0.86 ± 0.02 vs. 0.88 ± 0.02, proximal MV; 0.89 ± 0.01 vs. 0.91 ± 0.01, versus reference site). In addition, the CSA was not statistically different in each site compared with that of each reference site (distal MV; 7.77 ± 0.53 vs. 7.33 ± 0.51 mm^2, SB; 6.67 ± 0.73 vs. 5.74 ± 0.52 mm^2, proximal MV; 8.94 ± 0.47 vs. 9.79 ± 0.61 mm^2, versus reference site). The mean percentage of lumen CSA gain of the proximal MV compared to the distal MV was 38±8 %, which was similar as that induced by the KBI in the previous report.

CONCLUSION These data indicate that the SB dilatation by the GB combined with POT could provide symmetrical and sufficient expansion in each branch without any significant deformation of the MV stent.

TCTAP A-040

Immediate & Intermediate Follow-up of Percutaneous Treatment of Bifurcation Lesion Using Drug Eluting Stent for Main Branch and Drug Eluting Balloon for the Side Branch in Bifurcational Coronary Artery Disease

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BACKGROUND Percutaneous coronary interventions with standard balloon or bare metal stent for bifurcational lesion carry a significant restenosis rate of both vessels. The use of the drug eluting stent (DES)