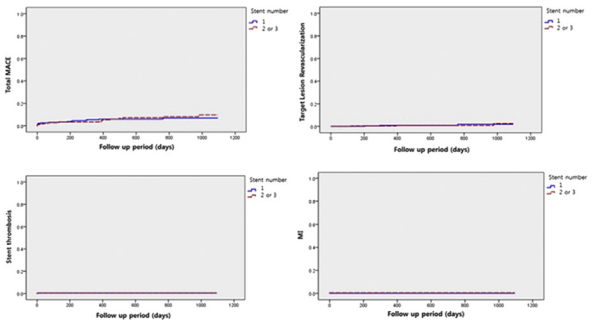
could be concerned that atherosclerotic lesion length itself and number of stents according to lesion length are matter indeed. There are not enough large studies reveals whether multiple overlapping drug-eluting stenting (DES) is similarly safety and effective compared with single stenting in infarct-related artery (IRA) in STEMI patients (pts) undergoing primary percutaneous coronary intervention (PCI).

METHODS Among 12,431 pts enrolled in a nationwide, multicenter registry (Korea AMI Registry, KAMIR) from July 2012, eligible 2798 STEMI pts who had single IRA and underwent primary PCI with DESs were classified into Single stent (n=2473) and Multi stents (2 or 3 stents, n=325) groups. Propensity score (PS)-matched analysis was performed in 598 patients. Individual and composite clinical outcomes up to 3 years were compared between the two groups.

RESULTS Baseline clinical and angiographic characteristics were similar between the two groups after PSM analysis. In multivariate regression, the no of stents in IRA was not an independent predictor of major adverse cardiac events (MACE). Kaplan-Meier estimates showed that MACE-free survival was not significantly different between the two groups (93.6 vs. 93.5%, p = 0.982) and PS-matched (94.3% vs.93.6%, p = 0.758) cohorts (Figure). Target lesion revascularization (TLR), MI, and stent thrombosis-free survival was similar between the two groups.

CONCLUSION This study showed that the multi-stenting in IRA in STEMI pts with single vessel disease undergoing primary PCI with DESs was similarly effective and safe as compared with those of single stenting up to 3 years.

Figure. MACE, TLR, Stent thrombosis, and MI-free survival in STEMI patients between single stenting vs. multi-stenting in infarct-related artery in propensity score matched cohorts.



CRT-200.36

Long-term Clinical Outcomes in Patients With Acute Myocardial Infarction With Co-morbidity: 3-year Follow-up Results After Propensity Score Matched Analysis

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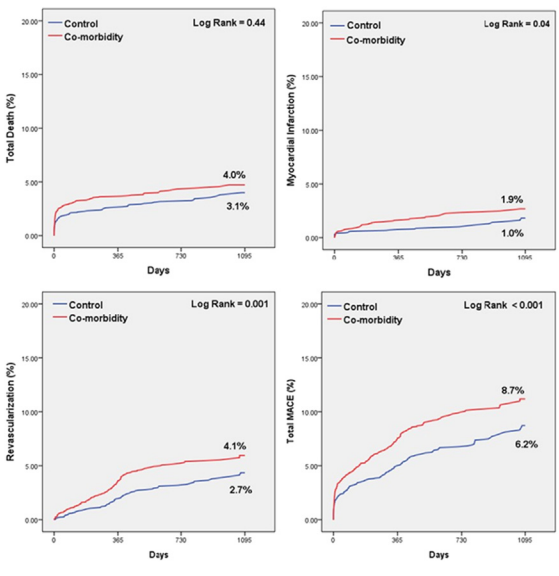
BACKGROUND Patients (pts) with acute myocardial infarction (AMI) are associated with a higher mortality rate and usually have higher incidence of co-morbid condition. However, long-term clinical outcomes of AMI pts with comorbidity are unclear.

METHODS Among 12,431 pts enrolled in a nationwide in Korea AMI Registry (KAMIR), 9,109 AMI pts who underwent successful percutaneous coronary intervention (PCI) with drug-eluting stents (DESs) were classified into two groups; 1) Pts with co-morbidity (including hypertension, diabetes, dyslipidemia, heart failure and cerebrovascular accidents, N=5,715) and 1) Pts without co-morbidity disease (control, N=3,394) groups. After propensity score matched (PSM) analysis from 6,152 pts, clinical outcomes up to 3 years were compared between the two groups.

RESULTS After PSM analysis, baseline clinical characteristics were similar between the two groups. At 3 years, the incidence of myocardial infarction (MI, 1.9% vs. 1.0%, p = 0.04), revascularization (4.1% vs. 2.7%, p = 0.001) and total major adverse cardiac events (MACE, 8.7% vs. 6.2%, p < 0.001) were higher in the pts with co-morbidity group. However, the incidence of total death was not significantly different between the two groups (4.0% vs. 3.1%, p = 0.44, Figure).

CONCLUSION In this study, AMI pts undergoing PCI with DES and have co-morbidity was associated with higher incidence of recurrent AMI, repeat revascularization and MACE as compared with those of AMI pts without co-morbidity, suggesting more meticulous control of co-morbidity would be required.

Figure. Clinical outcomes up to 3-years after propensity score matched analysis in AMI between patients with co-morbidity disease vs. control group.



CRT-200.37

Impact of Insulin Treatment on Coronary Artery Spasm in Diabetes Patients as Assessed by Intracoronary Acetylcholine Provocation Test

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BACKGROUND Diabetes mellitus (DM) is known to be a risk factor of significant coronary artery disease (CAD) and endothelial dysfunction. However, currently there is limited data regarding the impact of insulin treatment on significant coronary artery spasm (CAS) in real world clinical practice particularly in Asian population.

METHODS A total 703 consecutive patients (pts) underwent intracoronary acetylcholine (Ach) provocation test were enrolled. Provocation test was performed by incremental dosages (20, 50, 100ug) of Ach until get significant response (>70% narrowing). The study population were divided into insulin treatment group [Insulin group;

n=72, CAS (+) n=44] and oral hypoglycemic agents [OHA group, n=631, CAS (+) n=382). Angiographic and clinical parameters during Ach provocation test were compared between the two groups. We investigated the clinical outcomes of significant CAS pts in both groups throughout 5 years.

RESULTS Baseline characteristics were similar between the two groups. During Ach provocation test, angiographic parameters and clinical parameters are not different between the two groups. Among the (+) CAS pts, 5 years individual and composite clinical outcomes were not different between the two group except that insulin treatment group showed higher incidence of repeat follow up coronary angiography (CAG) due to recurrent angina (Table).

CONCLUSION According to current study, insulin treatment was not associated with significant CAS but significant CAS pts with insulin treatment were associated with higher incidence of adverse outcomes. Special care should be exercised for CAS pts with insulin treatment.

Table. Five-year cumulative clinical outcomes

Variables, n (%)	OHA (n=382)	Insulin (n=44)	P-value
Total death	2 (0.5)	0 (0)	0.631
Cardiac death	0 (0)	0 (0)	-
Myocardial Infarction	0 (0)	0 (0)	-
PTCA	0 (0)	0 (0)	-
Cerebrovascular accidents	3 (0.8)	1 (2.3)	0.330
Repeat CAG	16 (4.2)	6 (13.6)	0.007
MACE ; Mortality, PTCA, MI	2 (0.5)	0 (0)	0.631
MACCE1 ; Mortality, PTCA, MI, CVA	4 (1)	1 (2.3)	0.472
MACCE2 ; Mortality, PTCA, MI, Repeat CAG	20 (5.2)	7 (15.9)	0.006

* MACCE indicates major adverse cardio and cerebrovascular events, PTCA; percutaneous transluminal coronary angioplasty, CAG; coronary angiography, CVA; cerebrovascular accidents

CRT-200.38

Different Long-Term Prognosis According to Response to High Versus Low Acetylcholine Does in Patients With Significant Coronary Artery Spasm

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BACKGROUND Acetylcholine (Ach) provocation test is a useful method to diagnose coronary artery spasm (CAS). However there have been limited studies investigated whether there are differences in clinical characteristics and long-term prognosis according to the response to Ach dose.

METHODS A total of 1,190 consecutive patients (pts) without significant CAD who underwent Ach provocation test between Nov. 2004 and Oct. 2010 were enrolled. Ach provocation was performed by incremental intracoronary injection of 20 (A1), 50 (A2) and 100 (A3) μg into left coronary artery. Pts were divided into two groups according to the positive response to 1) Low dose group (A1&A2, n=525), 2). High dose group (A3, n=665) and evaluated the incidence of recurrent angina requiring follow up CAG and clinical outcomes up to 5 years.

RESULTS The low dose group had a higher incidence of recurrent angina requiring repeat CAG and major adverse cardiac & cerebrovascular events (MACCE-2) at 5 years (Table). The low Ach dose was not an independent predictor of MACCE (OR; 1.20, 95% C.I; 0.63-2.30, P= 0.58). Only the presence of FCL was associated with repeat CAG (OR; 3.20, 95% C.I; 2.28-4.49, P< 0.001) and MACCE (OR; 6.27, 95% C.I; 3.17-12.41, P<0.001).

CONCLUSION Pts with significant CAS responded to low Ach dose was associated with higher incidence of repeat CAG suggestive of more vulnerable response to Ach but was not associated with composite of hard adverse cardiovascular events up to 5 years,. Only presence of FCL was associated with long term adverse clinical outcomes.

Table. Cumulative clinical outcomes at 5 years

Variables, N (%)	Low dose (n=525)	High dose (n=665)	p Value
Mortality	9 (1.7)	6 (0.9)	0.212
Cardiac death	2 (0.4)	3 (0.5)	1.000
De Novo PCI	10 (1.9)	13 (2.0)	0.950
Myocardial infarction; MI	5 (1.0)	5 (0.8)	0.757
Cerebrovascular accidents; CVA	4 (0.8)	4 (0.6)	0.737
Repeat CAG	97 (18.5)	93 (14.0)	0.036
MACE; Mortality, PTCA, MI	18 (3.4)	18 (2.7)	0.470
MACCE1; Mortality, PTCA, MI, CVA	19 (3.6)	22 (3.3)	0.770
MACCE2; Mortality, PTCA, MI, CVA, Repeat CAG	103 (19.6)	99 (14.9)	0.031

CRT-200.39

Comparisons of Two Different Platelet Glycoprotein IIb/IIIa Receptor Blockers Clotinab™ and ReoPro® in Patients With Acute Myocardial Infarction

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BACKGROUND Reopro® (abciximab) is the Fab fragment of the chimeric human monoclonal antibody 7E3. Clotinab™ (abciximab) was produced by inserting anti-platelet glycoprotein (GP) IIb/IIIa DNA into a Chinese hamster's ovary cell and is expected to have same efficacy with Reopro®. Although the increasing use of intravenous GP IIb/IIIa receptor blocker in the treatment of acute myocardial infarction (AMI) to reduce the risk of ischemic complications, there is a paucity of data on the differences in clinical outcomes between Clotinab™ and ReoPro® in AMI patients (pts) undergoing percutaneous coronary intervention (PCI).

METHODS Among 12,431 pts enrolled in the Korea AMI Registry (KAMIR) from July 2012, eligible 1,314 pts used GP IIb/IIIa receptor blockers were classified into two groups; 1) Clotinab™ group (n = 1,016) and 2) ReoPro® group (n = 298). Primary endpoint was major adverse cardiovascular events (MACE) defined as the composite of total death (TD), myocardial infarction (MI), and target vessel revascularization (TVR).

RESULTS Clotinab™ group showed higher prevalence of dyslipidemia and lower prevalence of previous MI and multi-vessel disease than ReoPro® group. At 1 year, the incidence of MACE did not differ between Clotinab™ and ReoPro® group (9.4% vs. 9.7%, p = 0.822) in crude population. Also, in 3:1 propensity-score matched analysis, there was no significant difference in the incidence of MACE between the two groups (8.8% vs. 9.9%, p = 0.522). Individual major clinical outcomes including TD, MI, and TVR, no differences were observed between the two groups in both crude and matched population.

CONCLUSION Clotinab™ was associated with similarly favorable 1-year clinical outcomes that were comparable to ReoPro® for AMI pts undergoing PCI in a series of large Asian AMI population.