tolerated LDLC lowering therapy, and characterized them by FDA indications and commercial insurance eligibility for PCSK9 inhibitor use.

RESULTS Of 734 patients with LDLC ≥ 70 mg/dl after ≥2 months maximally tolerated LDLC lowering therapy, 220 (30%) had HeFH and/or CVD events with LDLC >100 mg/dl, meeting both FDA and commercial insurance criteria for PCSK9 inhibitor therapy. Sixty-six patients (9%) were statin intolerant only without HeFH or CVD events.

CONCLUSION Of 734 patients referred for diagnosis and treatment of high LDLC, with LDLC ≥ 70 mg/dl after ≥2 months on maximally tolerated cholesterol lowering therapy, 220 (30%) had HeFH and/or CVD with LDLC >100 mg/dl, meeting both FDA and commercial insurance criteria for PCSK9 inhibitor therapy. If high LDLC treatment cohorts include up to 30% of eligible HeFH-CVD patients, then specialty pharmaceutical pricing models ($14,000-14,600/year for PCSK9 inhibitors) previously reserved for drugs which benefitted limited patient populations, will collide with prospective treatment cohorts in the tens of millions of patients. Whether the health care savings arising from the anticipated reduction of CVD events by PCSK9 inhibitors justify the extraordinary costs of broad population use of these agents remains to be determined.

CRT-800.03

Lectin-like Oxidised Low Density Lipoprotein Receptor-1 Expression in Atheroma of Patients With Coronary Artery Disease Is Higher in Patients With Acute Coronary Syndrome but Decreased in Patients on Statins

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BACKGROUND The lectin-like oxidised low density lipoprotein receptor-1, LOX-1, is expressed in endothelial cells and macrophages among others. Its expression can be induced by a variety of stimuli such as oxidised LDL, endothelin-1, angiotensin II and shear stress. LOX-1 seems to be important for the induction of endothelial dysfunction and is implicated in atherosclerotic plaque vulnerability.

METHODS Atherectomy specimens were obtained from 37 patients (mean age 62.5±9.7 years, body mass index 28.6±5.3 kg/m2; n=30 with chest pain/angina pectoris), who underwent medially indicated directional coronary atherectomy in the Department of Internal Medicine B, University Medicine Greifswald, between July 2001 and April 2005, and were immediately frozen in liquid nitrogen. Human coronary atherectomy specimens were cut into 5 μm-slices using a kryotom and stained with haematoxylin and eosin (H&E), Oil Red O (lipids) and Elastica-van Gieson (collagen). LOX-1 was detected by immunofluorescence using a FITC-labelled rabbit polyclonal antibody against amino acids 143 to 271 of human LOX-1. Digital images were analysed with Corel PHOTO-PAINT 12, SCION Image, and SigmaPlot 11. Correlations between signal intensities for LOX-1 expression and patients' parameters were analysed by Spearman Rank Order testing. Patients gave informed consent. The study protocol complied with the Declaration of Helsinki and was approved by the local ethics committee.

RESULTS LOX-1 expression correlated significantly with lipid content of the coronary atherectomy specimens. LOX-1 expression tended to be higher in specimens from patients with acute coronary syndrome (n=11) and to be lower in patients receiving statins (n=16). However, no correlations were found between LOX-1 expression and grade of stenosis, plaque localisation, age, sex, body mass index, smoking (n=15), hypertension (n=31), diabetes mellitus type II (n=9), and dyslipoproteinaemia (n=32).

CONCLUSION LOX-1 expression in plaques was positively correlated with lipid contents of plaque material and tended to be higher in patients with acute coronary syndrome and to be lower if patients had received statins. High LOX-1 expression in the atherosclerotic plaque may contribute to plaque instability.

CRT-800.04

Efficacy of Fibrates or Omega-3 Fatty Acids Added to Statin Therapy in Acute Myocardial Infarction Patients

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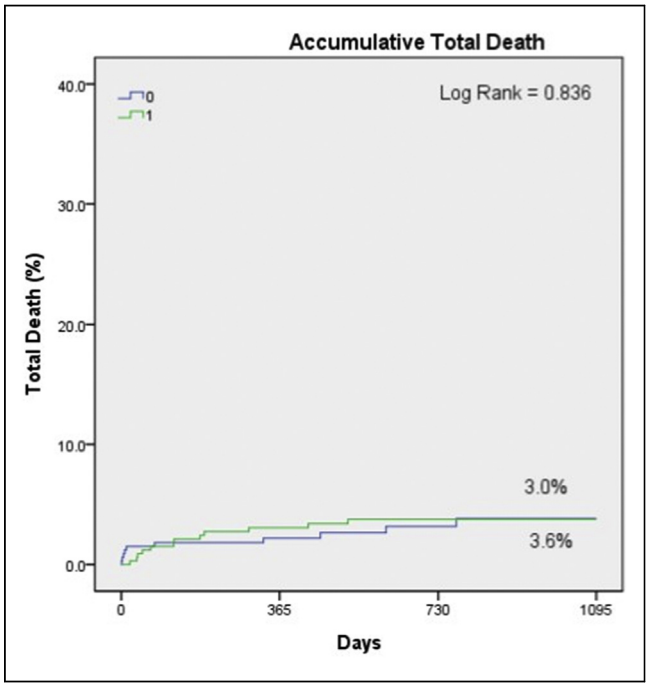
BACKGROUND Statin therapy is known to be effective in preventing cardiovascular diseases (CVD) and decreasing mortality in patients (pts) with pre-existing CVD due to its hypolipidemic and pleiotropic property. Other lipid-modifying medications such as Fibrate and Omega-3 fatty acids (OFA) are also known to have some protective effects against CVD when used as monotherapy agents. However, whether the statin therapy in combination with Fibrate or OFA in acute myocardial infarction (AMI) setting is more beneficial than the statin monotherapy remains unclear.

METHOD Using KAMIR (Korea AMI Registry) database, we analyzed data from 8,502 AMI pts with statin therapy enrolled between June 11, 2011, and June 25, 2015. Pts were divided into two groups according to whether they were on statin therapy alone, or on statin therapy with Fibrate or Omega-3 in combination. Then, propensity-score matching (PSM) analysis was performed to generate two propensity-matched groups (332 pairs, n=664, C-statistic=0.734). Major adverse cardiac events (MACE) were defined as the composite of total death, recurrent myocardial infarction (Re-MI), and target vessel revascularization (TVR). Major clinical outcomes were compared between the two groups up to 3 years.

RESULTS After PSM analysis, baseline clinical and angiographic characteristics were similar between the two groups. The two propensity-matched groups showed no significant difference in all MACEs including total death, Re-MI and TVR at 3 years (Figure).

CONCLUSION Despite of superior efficacy in reducing triglyceride in dyslipidemic AMI pts, addition of fibrate or omega-3 on the top of statin therapy does not seem to confer any advantage in reducing individual and composite major adverse clinical events to AMI patients compared with statin therapy alone.



CRT-800.05

Comparisons of Pitavastatin and Atorvastatin in Diabetic Patients With Acute Myocardial Infarction undergoing Percutaneous Coronary Intervention: A 3-year Clinical Follow-Up Data by a Propensity Score Matched Analysis

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BACKGROUND Statin is a well-known agent which has a variety of pleiotropic effect for reducing incidence of major adverse cardiovascular events (MACE) among patients (pts) with acute myocardial infarction (AMI). However, there have been an issue related to higher incidence of new onset diabetes and glucose intolerance with chronic statin therapy.

METHODS A total 12,431 enrolled from Nov 2011 to May 2015 in a prospective multicenter Korea Acute Myocardial Infarction Registry (KAMIR). Study populations were divided into two groups; 1) the atorvastatin groups (10~20 mg, n=944) and 2) the pitavastatin groups (2~4 mg, n=172). We performed a propensity score matched (PSM) to adjust potential confounders. We evaluated the 3-year clinical outcomes of diabetic AMI pts undergoing percutaneous coronary intervention (PCI) with drug-eluting stent (DES) according to two different statin type widely used in AMI setting.

RESULTS After PSM analysis, 2 propensity-matched groups (149 pairs, n=298, C-statistic=0.890) were generated. The baseline characteristics and lesion characteristics of the between two groups were well balanced except that more elderly in the pitavastain group. At 3 years, Kaplan-Meier estimates showed that the cumulative incidence of mortality (6.7% vs. 2.7%, log rank = 0.136), myocardial infarction, revascularization and MACE were similar between two groups (figure).

CONCLUSION In our study, Atorvastatin and Pitavastatin had similarly effectiveness in reducing individual and clinical outcomes up to 3 years in diabetic AMI pts undergoing PCI with DES.

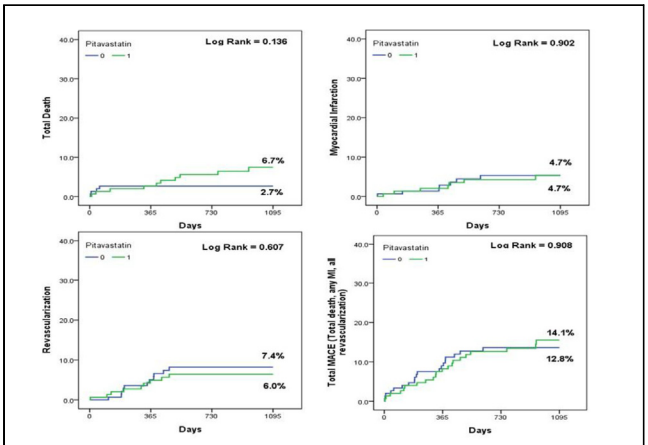

Figure. The incidence of individual and composite clinical outcomes between atorvastatin vs. pitavastatin.

CRT-800.06

Clinical Impact of Platelet Reactivity and Gene Polymorphisms in Patients With Ischemic Heart Disease After Percutaneous Coronary Intervention

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BACKGROUND Response to Clopidogrel, a pro-drug requiring CYP450 biotransformation, is not uniform. Current literature suggests that its pharmacologic effect varies based on CYP2C19 genotype, yet, there is uncertainty regarding the clinical impact of platelet function test and genotyping.

OBJECTIVE In this study, we aimed to evaluate the clinical impact of platelet reactivity, measured by platelet function test, and gene polymorphism, assessed by genotyping, in Korean patients with coronary artery disease undergoing percutaneous coronary intervention (PCI).

METHODS We searched the database of Chungbuk Regional Cardiovascular Center from January 2010 to August 2014. We extracted the results from platelet function tests and genetic studies when Clopidogrel was initiated after conventional PCI in the setting of ischemic heart disease.

RESULTS We enrolled 567 patients with coronary artery disease who underwent PCI. The level of P2Y12 reaction unit (PRU) in CYP*2 heterozygotes, CYP*3 heterozygotes, CYP*2/*2, CYP*2/*3 and CYP*3/*3 was significantly higher than CYP*1/*1 and CYP*1/*17 (209±86.8 (extensive metabolizers, EMs) vs 228±87.1 (intermediate metabolizers, IMs) vs 243±84.4 (poor metabolizers, PMs), p=0.006, one-way ANOVA). The frequency of high on-treatment Clopidogrel platelet reactivity (HPR) was also significantly higher in IMs and PMs (p=0.002). At 1-year follow-up, major adverse cardiac events (MACEs) had occurred more frequently in patients with high on-treatment Clopidogrel platelet reactivity compared to those without high on-treatment Clopidogrel platelet reactivity, yet, the difference did not