multivariate analysis. Killip classification and non-performed early pPCI were independent predictor for 30 days in hospital mortality (HR 2.7, 95%CI 1.6-4.5, p<0.01, and HR 4.5, 95%CI 2.16.8, p=0.03, respectively).

![Kaplan Meier Survival Curves of 30 days in-hospital mortality](image)

CONCLUSION The oldest old patients showed various chief complaints, which might lead to the delayed pPCI. However, we have to provide the early pPCI for better prognosis, especially for the oldest old AMI patients.

**TCTAP A-018**
The Successful Experience of Establishment of Ambulance Pre-Hospital Electrocardiogram System in Kaohsiung City, TAIWAN

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**BACKGROUND** Early reperfusion in the setting of an ST-elevation myocardial infarction is utmost importance. However, to provide optimal care to patients with ST-segment elevated myocardial infarction (STEMI) is challenging. If a patient suffers from chest pain and calls the emergency number, initiation of a cascade of actions leads to a diagnosis, start of treatment and reperfusion of the infarcted myocardium. Previous studies have shown that reporting or transmitting prehospital ECG to the emergency department is an important part of treatment for patients with STEMI. The main benefit of prehospital ECG is its potential to reduce the overall treatment time to administration of reperfusion therapy. Furthermore, prehospital ECG enhances early arrival and triage to the emergency department, which is associated with increased use of reperfusion interventions and shortened time to treatment. However, it remained a challenging issue to set up prehospital ECG in Taiwan because of involvement of complicated multidisciplinary team work. Therefore, we reported first successful experience of establishment of pre-hospital ECG in Kaohsiung city.

**METHODS** A multidisciplinary team among Kaohsiung Veterans General Hospital, fire bureau and department of health, Kaohsiung city government was organized since Sep, 2011. The key interventions include to establish prehospital automatic interpretation ECG system with immediate ECG transmission over mobile networks, to design a ECG exam accessory device, to set up a incentive and auditing system, with immediate ECG transmission over mobile networks, to design a incentive and auditing system, to set up a standard operative ECG exam accessory device, to set up an EMT educational program, and develop an ECG exam accessory device were also critical to set up the pre-hospital ECG system.

**RESULTS** The oldest AMI patients showed various chief complaints, which might lead to the delayed pPCI. However, we have to provide the early pPCI for better prognosis, especially for the oldest old AMI patients.

**CONCLUSION** The key factor to establish pre-hospital ECG system in Kaohsiung city is cooperation of hospital, fire bureau and department of health of government. Furthermore, comprehensive EMT education program and development of an ECG exam accessory device were also critical to establish the effectiveness of ELCA.

**TCTAP A-019**
Clinical Features and Intermediate-Term Outcomes of Excimer Laser Coronary Angioplasty

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**BACKGROUND** Excimer laser coronary angioplasty (ELCA) has been recently reimbursed from 2012 in Japan for percutaneous coronary intervention (PCI). We evaluated the intermediate clinical results of consecutive cases who underwent ELCA in our hospital.

**METHODS** Between May 2012 and September 2014, consecutive 144 patients presented with acute coronary syndrome (ACS) and stable coronary disease. ELCA was indicated by the operator after consideration of the angiographic and intravascular ultrasound (IVUS) or optical coherence tomography (OCT) findings.

**RESULTS** Of 144 patients studied, Average age was 68.3 years old and 82.3% was male. Lesion characteristics contained 63 ST-elevated myocardial infarction (STEMI) (44%), 14 non-STEMI (9%), 19 unstable angina pectoris (UAP) (13%), 14 unstable angina pectoris (UAP) (9%) and 48 stable angina pectoris (SAP) (34%). Procedural success (device pass the lesion) was 97.8%, Treatable coronary perforation occurred in 3 cases (2 cases were patients with STEMI), 30 days mortality of STEMI patients was 5%.

**CONCLUSION** ELCA is feasible and safe device for the treatment of patients with both patients with SAP and acute coronary syndrome. Further investigations will be required with larger number of patients to establish the effectiveness of ELCA.

**TCTAP A-020**
Effect of High Loading Dose of Atorvastatin in ST Elevation Myocardial Infarction Patients Undergoing Primary Percutaneous Coronary Intervention on Microvascular Perfusion Measured by Index of Microvascular Resistance

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**BACKGROUND** Statin (3-hydroxy-3-methylglutaryl coenzyme A reductase inhibitors), given before percutaneous coronary intervention (PCI) was proven to reduce Major Cardiovascular Events (MACE) in patient with stable angina as well as acute coronary syndromes through its pleiotropic effect. Nevertheless, the debate regarding statin administration before primary PCI (PPCI) in STEMI patients is still on the rise. The aim of this study is to establish therapeutic effect of high dose atorvastatin (80 mg) and placebo before primary PCI on microvascular perfusion in STEMI patient using index of microcirculatory resistance (IMR). IMR are specific and quantitative assessment of coronary microvascular dysfunction, reliable on-site predictors of short-term myocardial viability and left ventricle functional recovery of patients undergoing primary PCI for STEMI.

**METHODS** This study is a double blind randomized controlled trial. A high loading dose of atorvastatin (80 mg) or placebo was administered before PPCI. Samples were taken from the population of STEMI patients which underwent PPCI and met inclusion and exclusion criteria. The primary end point of this study is IMR. After successful primary percutaneous coronary intervention, IMR was measured using a pressure-temperature sensor-tipped coronary guidewire.
RESULTS
Total of 66 patients was divided into 2 groups, atorvastatin group (32 patients) and placebo group (34 patients). Baseline clinical, angiographic and periprocedural characteristics were not significantly different between the atorvastatin and control group except for age and length of stent used, but they didn’t influence the IMR value. There were no significant differences in regard of fractional flow reserve (FFR) (0.94 vs. 0.96, p = 0.39), coronary flow reserve (CFR) (1.1 vs. 1.2, p = 0.09) and also IMR (41.54[12.8-198.2] vs. 41.60 [10.4 - 200.3], p = 0.61) between both groups.

CONCLUSION
Administration of high loading dose of atorvastatin (80 mg) before primary PCI in STEMI patients didn’t improve microvascular perfusion as measured by index of microvascular resistance compare to placebo.

ADJUNCTIVE PROCEDURES: THROMBECTOMY, PLAQUE MODIFICATION, OTHERS (TCTAP A-021)

TCTAP A-021
The Efficacy and Clinical Outcome of Rotational Atherectomy with Second Generation Drug-Eluting Stents
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BACKGROUND
Treatment of calcified lesions with balloon angioplasty has been associated with a low success rate and high procedural complications. Rotational atherectomy (RA) improved acute results, but a high restenosis rate remained a problem. Therefore, the purpose of this study was to evaluate the clinical and angiographic outcome of patients with complex and calcified lesions treated with a combination of RA and second-generation drug-eluting stent (DES) implantation.

METHODS
Consecutive 55 patients received combination therapy of RA and second-generation DES implantation at de novo lesion of native coronary artery with severe calcification between June 2009 and December 2012. Zotarolimus-eluting stents (ZES), biolimus-eluting stent (BES), and everolimus-eluting stents (EES) were used in 14, 7, and 34 patients, respectively. 39 patients (ZES, BES, and EES were used in 12, 6, 21 patients) received one-year follow-up angiography. The clinical and angiographic outcome was compared among those 3 groups of different DES.

RESULTS
Only one patient was dead (a cause was unknown). Target lesion revascularization (TLR) rate was 0% among 3 groups. The late loss was larger in ZES than in BES or EES (ZES vs. BES vs. EES: 0.37±0.20mm vs. 0.20±0.10mm vs. 0.16±0.15mm, p<0.05).

CONCLUSION
The clinical outcome of second-generation DES used in combination with RA was very good, although the culprit lesions were complex with severe calcification. Combination therapy of RA and second-generation DES appeared acceptable.

ANTIPLATELET AGENTS AND ANTICOAGULANTS (TCTAP A-022 to TCTAP A-025, TCTAP A-136)

TCTAP A-022
Comparison of Short-Term Clinical Outcomes Between New P2Y12 Receptor Inhibitors and Clopidogrel in Patients with Acute Myocardial Infarction
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BACKGROUND
Introduction—The response to Clopidogrel, a pro-drug requiring CYP450 biotransformation is not uniform. Data suggest its pharmacologic effect varies based on CYP2C19 genotype, but there is uncertainty regarding the clinical impact of platelet function test and genotype.

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

METHODS
A Database search of Chungbuk Regional cardiovascular center was conducted (January 2010-August 2014). Platelet function test and genetic studies were included where clopidogrel was initiated in conventional PCI in the ischemic heart disease.

RESULTS
A total of 567 patients with coronary artery disease treated by PCI were enrolled. The level of P2Y12 reaction unit (PRU) of the patients with CYP*2 or 3 heterozygote or CYP*2/2 or *2/*3 or *3/*3 was significantly higher than with CYP*1/*1 or 1/1(209:88.6 (extensive metabolizers, EMs) vs. 228±87.1 (intermediate metabolizers, IMs), p = 0.002). At-1-year follow-up, the major cardiac adverse event occurred more frequently inpatients with high on-treatment clopidogrel platelet reactivity compared with patients without high on-treatment clopidogrel platelet reactivity, when platelet function was evaluated with the Verify Now P2Y12 assay (23 (9.3%) vs. 27 (7.5%), p = 0.27) without statistical significance. Kaplan-Meier test for MACE-free survival did not showed significant difference in survival analysis between High on-treatment clopidogrel platelet reactivity and Non-High on-treatment clopidogrel platelet reactivity group.