Background: To assess the influence of rosuvastatin or atorvastatin on platelet aggregation in patients treated with clopidogrel.

Methods: Sixty hospitalized patients with coronary heart disease (CHD) received anticoagulation and antiplatelet treatment including aspirin 100 mg/d, clopidogrel 75mg/d, and low-molecular-weight heparin 5000 U/12 h. Five days after receiving these medications, patients were randomized to the atorvastatin 20 mg/d–treated group (group A, n = 30) and the rosuvastatin 10 mg/d–treated group (group R, n = 30). Platelet aggregation was measured with the whole blood impedance method induced by adenosine diphosphate (ADP) at 5, 10, and 20 μmol/L the day before clopidogrel therapy (baseline), the day before statin therapy, and 3 days after statin therapy.

Results: ADP-induced platelet aggregation was significantly decreased by clopidogrel therapy ($p < 0.05$), but no difference was observed under additional treatment with atorvastatin or rosuvastatin (all $p > 0.05$).

Conclusion: Neither atorvastatin nor rosuvastatin attenuates the antiplatelet effects of clopidogrel during short-term co-medication.

AS-55

Statin Is Associated with Lower Incidence of Deep Vein Thrombosis Confirmed by Computed Tomographic Angiography in Patients Undergoing Total Knee Replacement Arthroplasty.
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Background: A recent publication suggested that statin may reduce the occurrence of venous thromboembolism in apparently healthy persons. We investigated whether statin was associated with low incidence of deep vein thrombosis (DVT) in high-risk patients undergoing total knee replacement arthroplasty (TKRA).

Methods: We retrospectively enrolled consecutive 143 patients who received TKRA from July 2007 to July 2009. All the patients received computed tomographic angiography (CT-angio) of both low extremities at 7 days after index surgery, and some patients received pulmonary artery CT-angio. DVT and/or pulmonary thromboembolism were confirmed by this test. They were analyzed according to state of their chronic use of statin of any kind.

Results: The mean age was 69.1 years, and female patients were predominant at 90.2%. Thirty-two patients were statin users, and 111 were non–statin users. The occurrence of DVT was significantly higher in statin-naïve patients compared with statin users, 31.5% vs 12.5% (hazard ratio [HR] 0.31, confidence interval [CI] 0.101–0.952, p = 0.033). By multiple regression analysis, statin use was not an independent risk factor for the occurrence of DVT (HR 2.89, CI 0.784–10.632, p = 0.11), and age was the only independent predictor for DVT (HR = 0.082, CI 1.011–1.157, p = 0.022) Pulmonary thromboembolism did not occur in the statin group but occurred in 7 patients (6.3%) in the non-statin group with no statistic difference. No mortality was found during hospitalization in either group.

Conclusion: Despite being underpowered, this study shows that statin may be associated with lower occurrence of DVT in high-risk patients undergoing TKRA surgery. The results warrant further study to evaluate statin as a prophylactic measure against DVT in this patient subset.

AS-56

Is Ascorbic Acid Effective in Preventing Contrast-Induced Acute Kidney Injury?
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Background: Contrast agents can cause renal function impairment that may be due to the generation of reactive oxygen species. Moreover, contrast-induced acute kidney injury (CIAKI) is associated with increased in-hospital and long-term morbidity and mortality and extended hospitalization. Recent studies have shown that administration of antioxidant agents such as N-acetylcysteine and sodium bicarbonate prevented renal impairment. The action of other antioxidant agents has not been investigated.

Methods: We prospectively enrolled 80 patients who were scheduled for coronary angiography or intervention and had a baseline estimated glomerular filtration rate < 60 mL/min/1.73 m^2. The patients were assigned to control group (n = 40) or ascorbic acid group (n = 40). Hydration with 1500–2000 mL normal saline was started in all patients before the procedure. In the ascorbic acid group, 3 g was administered intravenously before the procedure, 2 g after the procedure, and 2 g after 12 hours. CIAKI was defined by an absolute increase of serum creatinine 0.5 mg/dL or a relative increase of $\geq$25% after 48 hours.

Results: There was no significant difference among groups regarding baseline demographic properties. CIAKI occurred in 1 of the 40 patients (2.5%) in the ascorbic acid group and 10 of 40 patients (25%) in the control group ($p < 0.001$).

Conclusion: Administered of ascorbic acid may protect against CIAKI in patients with renal insufficiency undergoing coronary angiography or intervention.

AS-57

Comparison of High-Dose (600 mg) versus Moderate-Dose (300 mg) Clopidogrel Loading in Patients Receiving Drug-Eluting Stents: A Subanalysis of a Randomized Trial.
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Background: Whether high-dose clopidogrel may improve early clinical outcome has been debated. We compared the efficacy and safety of high-dose (600 mg) vs moderate-dose (300 mg) clopidogrel loading in patients with non-ST-elevation acute coronary syndrome (ACS) or stable angina who received drug-eluting stents and clarified treatment effects in several clinical and anatomic subgroups.

Methods: Among 2645 patients enrolled in the ZEST trial, we evaluated 1421 patients with eligible data regarding clopidogrel loading dose and who were not on chronic clopidogrel therapy: 300 mg (n = 1226) or 600 mg (n = 195) loading. Primary outcome was a incidence of major adverse cardiac event (MACE; death, myocardial infarction [MI], urgent revascularization) at 30 days. We evaluated treatment effect in several subgroups according to age, sex, and the presence or absence of diabetes, ACS, acute MI, multivessel disease, long lesion, or small vessel.

Results: At 30 days, MACE occurred in 7.0% of the 300-mg group and 4.6% in 600-mg group (p = 0.22). After multivariable-adjustment, there was no difference in risk of MACE between the groups (odds ratio 0.86, 95% confidence interval 0.41–1.80, p = 0.69). This trend was consistent in several subgroups. Additionally, the incidence of major or minor bleeding was similar in the 300-mg and 600-mg groups (major: 0.3% vs 0%, p = 1.0 and minor: 0.8% vs 0%, p = 0.38).

Conclusion: In patients with non-ST-elevation ACS and stable angina, high-dose (600-mg) clopidogrel loading did not significantly reduce early major cardiovascular events compared with moderate-dose (300-mg) loading. Our findings should be confirmed in a large randomized trial.