beneficial effect could be detected on major adverse cardiac and cerebrovascular event rates after MSC infusion 6 months later.

Conclusions: Intracoronary infusion of MSCs does not improve clinical outcome and cardiac function on MRI-derived parameters.

GW25-e1423 Correlation analysis between gene single nucleotide polymorphisms of P2Y12 and coronary heart disease
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Objectives: To investigate correlation between P2Y12 gene polymorphisms (rs2046934, rs6787801, rs67878347 and rs6787801) and coronary heart disease.

Methods: 455 patients with coronary artery disease who were diagnosed by coronary angiography or coronary artery CT angiography and 90 health control individuals were enrolled in this study. The single nucleotide polymorphisms rs2046934, rs6787801, rs67878347 and rs6787801 of P2Y12 gene were detected by MassARRAY Time of Flight Mass Spectrometry. The genotypes and allele frequencies in the two groups were compared.

Results: Genotypes and frequencies of P2Y12 gene polymorphisms rs2046934 in coronary heart disease group and control group were as below: CC genotype 2.4% vs. 4.4%, TT genotype 71.0% vs. 74.4%, CT genotype 26.6% vs. 21.2%; and C allele frequencies were 2.4% vs. 4.4%, T allele frequencies were 84.3% vs. 85.0%. There was no significant difference between the two groups (P > 0.05). Genotypes and frequencies of polymorphisms rs6787801 in coronary heart disease group and control group were as below: AA genotype 9.1% vs. 6.7%, GA genotype 41.6% vs. 52.2%, AG genotype 49.3% vs. 41.1%; and A allele frequencies 29.9% vs. 27.2%, G allele frequencies 70.1% vs. 72.8%. There was no significant difference between these two groups (P > 0.05). Genotypes and frequencies of polymorphisms rs67878347 in coronary heart disease group and control group were as below: CC genotype 13.4% vs. 10.0%, CT genotype 42.6% vs. 50.0%, CT genotype 44.0% vs. 40.0%; and C allele frequencies 35.4% vs. 30.0%, T allele frequencies 64.6% vs. 70.0%. There was no significant difference between the compared groups (P > 0.05).

Conclusions: Single Nucleotide Polymorphisms of P2Y12 gene polymorphisms in rs2046934, rs6787801, rs67878347 and rs6787801 are not associated with coronary heart disease.

GW25-e1492 Association of Human Epicardial Adipose Tissue Volume and Inflammatory Cytokines with Coronary Atherosclerosis Plaque Vulnerability
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Objectives: Vascular endothelial injury caused by hypertension, hyperlipidemia, hyperglycemia, and other risk factors often lead to vascular endothelial dysfunction, intimal hyperplasia, chemosis of inflammatory cytokine secreting cells, and accumulation of lipid deposits. As a result, coronary atheroscleroticplaque may occur. Recent studies have suggested that similar to the myocardium and coronary artery, epicardial adipose tissue (EAT), which is composed of adipocytes, macrophages, and monocytes, may produce numerous inflammatory cytokines. More specifically, inflammatory cytokines secreted by EAT contribute to plaque instabili

ity. In this study we investigate how CHD and coronary atheroscleroticplaque vulnerability are associated with epicardial adipose tissue volume (EATV) and the inflammatory cytokines, matrix metalloproteinase-9 (MMP9) and leptin, derived from EAT.

Methods: 260 patients were assessed for severity of coronary artery stenosis and EATV by 64-slice dual-source cardiac computed tomography (CT) scans. These patients were also screened to determine levels of adipokines in pericardial blood and insulin resistance indices. Out of the 260 patients, 180 patients were confirmed to have CHD utilizing digital subtraction angiography (DSA), and the other 80 patients (40 of whom were assessed prior to valve replacement surgery) were classified as non-CHD. The vascular remodeling indices and plaque vulnerability parameters, including lipid plaque volume, fibrous plaque volume, and calcified plaque volume were measured in order to determine any significant correlations with EATV. Samples of EAT and thoracic adipose tissue (TAT) were collected during the coronary artery bypass graft (CABG) surgery that 40 of the CHD patients received. Samples were probed for mRNA level and protein expression level of leptin and MMP9.

Results: (1) The EATVs were significantly higher in the CHD group compared to those of the NCHD group. (2) Subgroup analysis of the CHD patients demonstrated that EAT in patients with positive remodeling was significantly higher (127.63 ± ±42.00 cm^3 vs. 95.49 ± ±25.36 cm^3) than that of the non-remodeling group. Lipid plaque volume was positively correlated with EATV (r = 0.04, r² = 0.07); however, fiber plaque volume was negatively correlated with EATV (P = 0.0077, r² = -0.06).

(3) Logistic regression analysis indicated that EATV is an independent risk factor for positive vascular remodeling. (4) Compared to 40 NCHD patients, the 40 CHD patients who received CABG surgery, presented higher levels of mRNA and protein expression of leptin and MMP9 in TAT (P < 0.01). However, there was no significant difference (P > 0.05) in mRNA and protein expression of leptin and MMP9 within the TAT of CHD and NCHD patients. (5) In the CHD group, leptin and MMP9 levels in EAT and EATV were positively correlated with lipid plaque volume and fibrous plaque volume (P < 0.05).

Conclusions: Epicardial adipose tissue volume (EATV) and EAT-derived inflammatory cytokines are significantly correlated with plaque vulnerability in coronary heart disease (CHD). It has been determined that EATV is an independent risk factor for higher lipid and plaque vulnerability. Levels of inflammatory cytokines secreted by EAT and TAT of CHD patients were found to be significantly greater than those of NCHD patients. Levels of inflammatory cytokines produced by EAT correlate with EATVs; therefore, controlling levels EATV and inflammation may reduce plaque vulnerability and decrease the risk of coronary heart disease.

GW25-e4527 Dynamic variation of plasma superoxide dismutase (SOD) and malondialdehyde (MDA) after ischemic postconditioning in patients with acute ST-segment elevated myocardial infarction
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Objectives: The dynamic variation of plasma superoxide dismutase (SOD) and malondialdehyde (MDA) in acute myocardial infarction after ischemic postconditioning has not been reported. The present study was to explore the effect of ischemic postconditioning on plasma superoxide dismutase (SOD) and malondialdehyde (MDA) in acute ST-segment elevated myocardial infarction and clinical outcome.

Methods: One hundred twenty patients [aged (60 ± 16) years; 86% male] of acute myocardial infarction treated with emergency percutaneous coronary intervention (PCI) were randomly assigned to a postconditioning or standard protocol. The plasma SOD concentration at four time points were 16, 20, 24, and 48 hours after PCI was compared respectively, and left ventricular end-diastolic volume index (LVEDVI), left ventricular end-systolic volume index (LVESVI), region wall movement index (RWMI) after the operation for 2 weeks, and occurrence rate of cardiac events after the operation for a year were compared between two groups.

Results: With similar time-to-reperfusion [(168 ± 66) min] in the postconditioning group vs. [156 ± 60 min] in the standard group, P = 0.56, the plasma SOD values in the postconditioning group were higher [(115.3 ± 33.7) ng/ml vs. (90.4 ± 34.6) ng/ml, P = 0.011] at 4 h, [(127.3 ± 38.5) ng/ml vs. (95.5 ± 32.1) ng/ml, P = 0.023] at 8 h, [(129.2 ± 43.5) ng/ml vs. (98.6 ± 34.8) ng/ml, P = 0.021] at 12 h, [(118.3 ± 37.7) ng/ml vs. (95.3 ± 32.6) ng/ml, P = 0.020] at 24 h, [(109.7 ± 37.5) ng/ml vs. (83.5 ± 32.8) ng/ml, P = 0.023] at 48 h respectively than those in the standard group. Genotypes and frequencies of polymorphisms rs6801273 in coronary heart disease group and control group were as below: CC genotype 13.4% vs. 10.0%, TT genotype 42.6% vs. 50.0%, CT genotype 44.0% vs. 40.0%; and C allele frequencies 35.4% vs. 30.0%, T allele frequencies 64.6% vs. 70.0%. There was no significant difference between the compared groups (P > 0.05).

Conclusions: Single Nucleotide Polymorphisms of P2Y12 gene polymorphisms in rs2046934, rs6787801, rs67878347 and rs6787801 are not associated with coronary heart disease.

GW25-e4527 Polymorphisms in the FADS1/FADS2 gene cluster are associated with the risk of coronary artery disease and ischemic stroke
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Objectives: Polymorphisms in the FADS1/FADS2 gene cluster are associated with the risk of coronary artery disease and ischemic stroke.
Objective: The single nucleotide polymorphisms (SNPs) in the FADS1/FADS2 gene cluster have been associated with serum lipid levels and the incidence of coronary artery disease (CAD), but the results are inconsistent. It is unknown whether these SNPs in this gene cluster are associated with ischemic stroke (IS). Therefore, the present study was undertaken to evaluate the associations between two SNPs (rs174546 and rs174601) and serum lipid levels, as well as the risk of IS or CAD.

Methods: A total of 534 patients with CAD, 553 patients with IS and 582 healthy controls were recruited in this study. The patients with is received strict neurological examination and brain magnetic resonance imaging scan. It was diagnosed according to the International Classification of Diseases (9th Revision). Coronary angiography was performed in patients with CAD. CAD was defined as significant coronary stenosis (> 50%) in at least two of the main coronary arteries or their major branches (bifurcation > 2 mm). Subjects with a history of hematomatosis, neoplastic, renal, liver, thyroid, autoimmune diseases and type I diabetes mellitus were excluded. Genotypes of the rs174546 and rs174601 SNPs were determined by Snapshot technolo- 
gy platform.

Results: The genotype distribution was concordant with the Hardy-Weinberg proportions in both patients and controls. There were significant differences in allelic frequency and genotype distribution between controls and IS or CAD patients (P < 0.05). The TT genotypic frequency of the two SNPs was higher in IS or CAD patients than in controls (P < 0.05). The rs174546 and rs174601 C allele carrier conferred a reduced risk for IS and CAD (OR ¼ 0.62, 95% CI ¼ 0.48-0.80 for IS and OR ¼ 0.57, 95% CI ¼ 0.44-0.75 for CAD; rs174601: OR ¼ 0.61, 95% CI ¼ 0.48-0.79 for IS and OR ¼ 0.54, 95% CI ¼ 0.41-0.70 for CAD; respectively). The rs174546 SNP was in strong LD with rs174601 (D' ¼ 0.95; r2 ¼ 0.86). Two combined miRNAs (35%) derived from the two SNPs accounted for above 90% haplotype variations. Among these two common haplotypes, the haplotype of C-C (rs174546-rs174601) was also associated with a reduced risk for IS and CAD (OR ¼ 0.76, 95% CI ¼ 0.63-0.91 for IS and OR ¼ 0.72, 95% CI ¼ 0.60-0.87 for CAD; respectively), whereas the haplotype of T-T (rs174546-rs174601) was associated with an increased risk for IS and CAD (OR ¼ 1.32, 95% CI ¼ 1.10-1.59 for IS and OR ¼ 1.18, 95% CI ¼ 0.98-1.41 for CAD; respectively). There was no significant associ- 

GW25-e0588

MicroRNA34a, microRNA21 and microRNA23a as candidate biomarkers in patients with coronary artery disease

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Objectives: To investigate circulating microRNA (miRNA) expression in apolipo- 

protein E (apoE) knockout mice (apoE-/-), and to validate these miRNAs in human 

human coronary artery disease (CAD).

Methods: Pooled plasma from 10 apoE-/- mice and from 10 healthy C57BL/6 (B6) mice was used to perform the microarray analysis.

Results: MiR-34a, -21, -23a, -30a, and -106b were differentially expressed in apoE-/- mice, which expression changes of the miRNAs were confirmed by real-time quan- 
titative reverse transcription PCR (qRT-PCR) in apoE-/- mice. Then, miR-34a, -21, -23a, -30a, and -106b were validated in plasma of 32 patients with CAD and of 20 healthy controls. Only miR-34a, -21 and -23a were significantly differentially expressed in the plasma of CAD patients (P < 0.01).

Conclusions: MiRNA34a, miRNA21 and miRNA23a were elevated in CAD patients. These miRNAs might serve as biomarkers of CAD development and progression.

GW25-e1451

Evaluate the isometric mitral regurgitation using dobutamine stress real-time three-dimensional echocardiography

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Objectives: This study was performed to examine the effect of dobutamine stress real-time three-dimensional echocardiography (DS-RT3DE) on isometric mitral regurgita- 
tion in patients with coronary artery disease and to test the hypothesis that DS-RT3DE and left ventricular (LV) pump function change differently in different stress state in patients with coronary artery disease.

Methods: DS-RT3DE was performed in 90 consecutive patients with suspected or known coronary artery disease. Three-dimensional echocardiography was used to determine the change in left ventricular volume and mitral regurgitation at baseline and every dobutamine infusion dose (5, 10, 20, 30, 40, 50 µg/kg/min for 3 minutes at each dose). The LV volume and ejection fraction, LV systolic desynchronization, and mitral regurgitation color flow Doppler contracta area were quantified. Patients were assigned to three groups according to IMR contracta area variation during the stress procedure, group I included patients who IMR decreased in all stress states, group II included patients who IMR increased in some states and decreased in other states, group III included patients who IMR increased in all states.

Results: All patients achieved 20ug/kg min dose, 82 patients achieved 30ug/kg min dose, 64 patients achieved 40ug/kg min dose, only 39 patients achieved 50ug/kg min dose. Atropine was administered in 14 patients (16%). There was no severe adverse event during the stress procedure in this study. In group I (42 patients), LV end-diastolic and end-systolic volume decreased and ejection fraction increased with dobutamine dose increased, and achieved peak value at 50ug/kg/min dose (P < 0.05). In group II (31 patients), LV end-diastolic and end-systolic volume and ejection fraction changed as same as group I (P > 0.05), but the extent less than group I. In group III (17 patients), LV end-diastolic and end-systolic volume increased and ejection fraction decreased in low dose (P < 0.05), whereas no significant change in high dose (P > 0.05). LV synchronism improved in all groups, and group I had better perfor- 

Conclusion: Dobutamine stress testing, in combination with three-dimensional echocardiography, is an effective method to obtaining accurate information in the assessment of the behavior of IMR and LV function. Our study indicates IMR decreased with LV pump function and synchronisms improving in most patients with ischemic heart disease. We hypotheses only the patients with worsen IMR in DS-RT3DE need to take mitral valve repair or replacement together with coro- 

nary artery bypass grafting operation, and we will try to approve it in future studies.

GW25-e2306

A comparison of transradial and transfemoral approaches for angiography and intervention in patients with coronary artery bypass surgery: in-hospital outcomes and 1 year clinical follow-up

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Objectives: Percutaneous coronary intervention (PCI) through transradial approach (TRA) has shown great effectiveness among unselected patients. However, very few studies have compared the short and median outcomes between TRA and transfemoral approach (TFA) for diagnostic angiography or intervention in post-coronary artery bypass graft (CABG) patients.

Methods: A total of 404 post-CABG patients who referred for graft angiography or intervention were retrospectively included from June 1, 2006 to April 30, 2011. The primary endpoint was defined as in-hospital net adverse clinical events (NACE), which included all-cause death, myocardial infarction, stroke, repeat revascularization and major bleeding. The secondary endpoint was defined as 1 year major adverse cardiovascular events (MACE), which included all-cause death, MI or repeat revascularization.

Results: The incidence rates of the primary endpoint (2.7% vs. 2.7%, P = 1.00) and the secondary endpoint (11.5% vs. 12%, P = 0.88) were similar between TRA and TFA. Before have proved that associated with higher MI happened more frequently (29.3% vs. 10.4%, P = 0.06). The reduced rates of in-hospital NACE and 1 year MACE were similar between TRA and TFA, and TRA was an independent predictor of BARC ≥ 2 bleeding.

Conclusions: Compared with TFA, TRA showed the same effectiveness in regard to the in-hospital and 1 year outcomes in post-CABG patients undergoing PCI. TRA was also associated with reduced rate of extra bleeding and length of hospital stay. For patients undergoing the grafts intervention, the contrast volume was significantly reduced by TRA.

GW25-e4245

The Relationship between Erythrocyte Sedimentation Rate and Myocardial Infarction in Rheumatoid Arthritis

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Objectives: Inflammatory response has been observed in myocardial infarction (MI). Rheumatoid arthritis (RA) is a kind of systemic inflammatory disease and studies have showed MI happened more frequently in general population. This research had been done to explore the risk factors related to MI in RA patients.