**RESULTS** Overall, the frequency of CAAs was 272/10,457 (2.60%), including 64 (0.62%) anomalous origin of coronary artery, 180 (1.72%) anomalies of intrinsic coronary arterial anatomy, 24 (0.23%) coronary artery fistula, and 4 (0.04%) number anomalies of coronary artery. Among anomalous origin of coronary artery, RCA originating from the left sinus of Valsalva (n = 27, 0.26%), high take-off of the RCA (n = 14, 0.13%) and LCA originating from the right sinus of Valsalva (n = 12, 0.11%) were the top three types of anomalies. Among anomalies of intrinsic coronary arterial anatomy, the frequencies of hypoplasia is 1.24%, aneurysms 0.41%, and coronary artery stenosis 0.01%. No gender differences were presented in the frequencies of most CAAs, except that LCA originating from the right sinus of Valsalva occurred more frequently in males than females (0.11% vs. 0.01%, p = 0.027). Furthermore, clinical relevance based classifications of CAAs were similar in the males and females.

**CONCLUSIONS** 320-slice computed tomography can serve as a non-invasive technique for clinical detection of CAAs.

**GW26-e4489**

Mesenchymal Stem Cells Engineered with Integrin-Linked Kinase Improves Cardiac Function Paralleled with Enhanced Homing Capacity Following Intracoronary Transplantation in Porcine Myocardial Infarction

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**OBJECTIVES** Mesenchymal stem cell (MSC)-based therapy is under investigation for treating acute myocardial infarction (MI) but is limited due to poor engraftment and limited regenerative potential. Integrin-linked kinase (ILK) overexpression enhances progenitor cells homing, promotes cardiomyogenesis, reverses myocardial remodeling and improves cardiac function. We sought to engineer MSCs with ILK and evaluate their therapeutic potential on acute MI in a large-animal model supposing a synergistic effect of MSC and ILK could be achieved.

**METHODS** Minipigs underwent a 90-minute balloon occlusion of the left anterior descending coronary artery followed by reperfusion. ILK-engineered MSCs were intracoronary transplanted 7±1 days after occlusion, as were vector-engineered MSCs and vehicle controls. Both cells were GFP- and iron-labeled before transplantation and were included, as were vector-engineered MSCs and vehicle controls. Both groups of animals were evaluated by cardiac magnetic resonance imaging (CMR). CMR was also used to measure global and regional left ventricular (LV) function, scar size and perfusion.

**RESULTS** No impairment occurred in biological properties of MSCs following iron labeling at 50μg/ml. Significantly enhanced homing capacity of MSCs following ILK modification was revealed by MRI in vivo and confirmed by histological staining. Intracoronary transplantation of ILK-engineered MSCs to both groups of animals was performed. Global LVEF by 2.8% compared with baseline (P = 0.03) and 11.7% when compared with vehicle (P = 0.025) 15 days post-implantation. Regional LV contractile function was also recovered (P < 0.001), accompanied by substantially reduced scar size (P < 0.001), myocardial remodeling (P < 0.05), cell apoptosis (P < 0.01) and increased regional perfusion (P < 0.001) and cardiac cell proliferation (P < 0.001) in ILK-MSC treated minipigs versus vehicle controls. Vector-engineered MSC did not produce significant improvement in global LVFE reduction or reverse regional perfusion with an improved homing capacity following intracoronary transplantation. Engineering MSCs with ILK has great potential implication for cell therapy in post-MI patients.

**GW26-e1077**

Impact of body mass index on mortality in patients with diabetes: Meta-analysis of 20 studies including 250,016 patients

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**OBJECTIVES** The influence of body weight on mortality among patients with diabetes remains controversial. Therefore, we performed a meta-analysis of pertinent studies.

**METHODS** We searched OVID/MEDLINE, EMBASE and Cochrane databases for all reported studies, published before Dec 2014, which investigated the relationship between body mass index (BMI) and mortality in patients with diabetes. Summary estimates of hazard ratios (HRs) were obtained with a random effects model. Univariate meta-regressions were performed.

**RESULTS** Twenty studies including 250,016 patients with diabetes were identified. The meta-analysis demonstrated a significantly reduced risk of all-cause mortality in overweight patients (HR 0.82, 95% CI 0.74 to 0.91, P < 0.0001, and I² = 91.6%) as compared to normal weight patients. The survival benefits of obesity was only observed in the elderly patients (HR 0.69, 95% CI 0.63 to 0.75, P < 0.0001, and I² = 50.4%), but not in the younger patients (HR 1.01, 95%CI 0.84 to 1.20, P = 0.96, I² = 80.1%). Moreover, meta-regression analysis indicated that the beneficial prognostic impacts on overweight (Coefficient = 0.05; P = 0.041) and obesity (Coefficient = 0.03; P = 0.010) were attenuated with clinical follow-up duration.

**CONCLUSIONS** Our meta-analysis indicated a significantly lower risk of mortality in overweight patients with diabetes compared to normal weight patients. However, the survival benefits of obesity were only observed among the elderly patients.

**GW26-e2187**

Association between Genetic Variation in NFKB1 and NFKBIA and Susceptibility to Coronary Artery Disease in a Chinese Han Population

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**OBJECTIVES** Coronary artery disease (CAD) is a chronic inflammatory disease involving the complex interplay between multiple genetic and environmental factors. As a central regulator of inflammation, NF-κB plays an important role in the development and progression of inflammatory diseases. The aim of this study was to investigate whether promoter polymorphisms in NFKB1 and NFKBIA gene contribute to CAD in a Chinese Han population.

**METHODS** This is a case-control study. NFKB1 promoter polymorphism (-94ins/delATTG) and NFKBIA promoter polymorphisms (-818A/G,-826C/T, and -297C/T) were genotyped using TaqMan SNP genotyping assays in 1140 Han CAD cases and 1156 Han CAD-negative controls, and then NFKBIA haplotype blocks were reconstructed according to the genotype data.

**RESULTS** No statistical significance was observed for the distribution frequency of the NFKBIA -881A/G, -826C/T, or -297C/T allele, genotype and haplotype polymorphisms between CAD cases and controls. None of the studied NFKBIA SNPs were associated with CAD. There was significant difference in the distribution of the genotypes (P = 0.001) and alleles (P = 0.001) of NFKB1-94ins/del polymorphism in CAD cases and controls. The homozygous variant genotype of NFKB1-94ins/del ATTG was consistently associated with increased risk of CAD among all participants after adjustment for covariates (OR=1.505, 95% CI 1.903 to 1.905, P = 0.001).

**CONCLUSIONS** In our study, we did not detect any relationship between NFKBIA promoter polymorphisms and CAD. However, the -94ins/del polymorphism in NFKBIA promoter affects the susceptibility for CAD in Chinese Han population, providing a new insight into the genetic basis of CAD in Chinese Han population.

**GW26-e1352**

Reduced T-cell thymic export reflected by sj-TREC in patients with coronary artery disease

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**OBJECTIVES** Thymus involution can contribute to immune disturbance. This study aimed to explore whether recent thymic export
the TDR of ischemia/reperfusion myocardium from 53.2±8.7 ms/69.0±8.0 ms to 30.5±5.9 ms/39.0±7.0 ms (P<0.002). Nine rabbits were observed early-afterdepolarizations (EADs) and thirteen rabbits were experienced frequent ventricular tachyarrhythmias during LADs ligation. Allocryptopine intervention successfully suppressed the I/R-induced arrhythmias by 35.4% (P<0.018).

**CONCLUSIONS** Allocryptopine maintains the electrophysiological heterogeneity of repolarization among myocardial layers and effectively prevents I/R induced arrhythmias.

**GW26-e4600**

Clinical effect of recombinant human brain natriuretic peptide combined with levosimendan on acute myocardial infarction complicated with heart failure

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**OBJECTIVES** To observe the efficacy and safety of recombinant human brain natriuretic peptide (rh-BNP) combined with levosimendan in treating patients with acute myocardial infarction complicated with heart failure.

**METHODS** Hospitalized patients who suffered from anterior wall AMI with heart failure (Killip II–III) within 12 to 24 hours from the onset of chest pain were randomized into two groups (n =30, respectively): control group (receiving dobutamine and/or cedilanid on the basis of essential therapy) and experimental group (receiving rh-BNP combined with levosimendan on the basis of essential therapy). The hemodynamics, clinical parameters of test and adverse events were observed before and after treatment.

**RESULTS** In experimental group, compared with those before treatment, there were statistical differences in respiratory rate (RR), heart rate (HR), systolic blood pressure (SBP), arterial blood gas oxygen saturation (SaO2), cardiac index (CI), extravascular lung water index (EVLW1) at 2h and the following time points after treatment (all P<0.05). In control group, compared with those before treatment, there were statistical differences in RR, HR, SaO2, CI, EVLWI at 6h after treatment and in the next time points (all P<0.05). RR, HR, SBP, SaO2, CI, EVLWI at 2h and 6h after treatment had statistical differences between two groups, and the differences in RR, HR, CI, EVLWI persisted for 72 hours after medicine administration. There was a statistically significant difference between two groups in urine volume, plasma NT-proBNP concentration, left ventricular ejection fraction (LVEF) and length of stay in CCU (all P<0.05). For adverse events monitoring, there was no significant change between two groups in hepatic parameters and electrolyte level and coagulation function before and after treatment.

**CONCLUSIONS** rh-BNP combined with Levosimendan is superior to the conventional drugs in improving hemodynamics, increasing urine volume, decreasing the plasma NT-proBNP concentration, improving clinical symptoms, increasing LVEF, and reducing the length of stay in CCU in patients with acute myocardial infarction complicated with heart failure, which has better tolerance and safety.

**GW26-e0268**

Incidence and Predictors Of Prolonged Dual Antiplatelet Therapy Among Patients After Percutaneous Coronary Intervention

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**OBJECTIVES** The optimal duration of dual antiplatelet therapy (DAPT) after percutaneous coronary intervention (PCI) remains controversial. The present study sought to elucidate the frequency and predictors of DAPT beyond 12 months after stent deployment in Chinese population.

**METHODS** We examined the incidence of extended DAPT at 12 months follow-up among patients after successful PCI enrolled in a 28-site Chinese registry. Predictors of prolonged DAPT beyond 12 months were evaluated using multivariable cox proportional hazard model.

**RESULTS** Among 2,130 patients, DAPT was continued in 46% (n=983) beyond 12 months after stent implantation. There was a significant heterogeneity of DAPT duration among centers. Compared to those