RESULTS The number of vessels diseased and per capita implant frame in the PCI group with elevated hs-cTnT is higher than the PCI group with normal hs-cTnT (P < 0.05). The incidence rate of cardiovascular events in the PCI group with elevated hs-cTnT is higher than the PCI group with normal hs-cTnT and the control group (P < 0.05); however, there is no significant difference between the PCI group with normal hs-cTnT and the control group.

CONCLUSIONS hs-cTnT combined with FFR can guide the coronary artery interventional treatment in treating critical lesion, and predict the rate of major adverse cardiac events after interventional therapy.

GW26-e5422
Patients with residual ischemia on intracoronary electrocardiography after stenting coronary bifurcation lesions have more angina at 12 month follow-up - insights form intracoronary electrophysiography strategy for treatment of coronary bifurcation lesions

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OBJECTIVES To evaluate influence of icECG-guided strategy for treatment of side branch after stenting main vessel (in provisional T-stenting strategy) on one year angina or new-onset heart failure symptoms recurrence

METHODS 132 patients with stable or unstable angina followed at least 12 months. Inclusion criteria - coronary bifurcation lesion, RVD > 2.5 - 4.5 mm; SB RVD > 2.0 mm. Exclusion criteria: STEMI; LM stenosis; CTO; lesion of interest located at infarct-related artery; LVEF < 30%; moderate/severe degree valvular disease; primary cardiomyopathy; 1/LBBB, atrial fibrillation/flutter with no identifiable isoelectric line. Intracoronary ECG-guided strategy was followed: after stenting main coronary artery, icECG had been recorded then balloon dilatation +/- kissing balloon inflation was performed. Depending on results from icECG (occurrence of ST-segment elevation, STE) 6 groups were formed: Group 1 - SB<50% after stenting, with icECG STE in side branch region, no further intervention on SB. Group 2 - SB<50% after stenting, no icECG STE; no additional treatment of side branch. Group 3 - SB>50% after stenting, icECG STE in side branch region, balloon dilatation of side branch ostium and icECG STE was eliminated afterwards. Group 4 - SB<50% after stenting, icECG STE in side branch, balloononing of side branch ostium, but sustained icECG STE on final record from side branch. Group 5 - icECG STE in side branch region after stenting, but ostial stenosis was less than 50% and no treatment performed. Group 0 - SB<50% <50% after stenting and no icECG STE.

RESULTS The rates of angina recurrence or new-onset heart failure at 12 months are presented in the table. On multivariate analysis, the residual ischemia on icECG had more recurrent angina or new-onset heart failure symptoms. That was independent from chosen treatment strategy for side branch stenosis.

GW26-e1392
Impact of Tungguan Capsule on periprocedural myocardial injury undergoing percutaneous coronary intervention in coronary heart disease

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OBJECTIVES Percutaneous coronary intervention (PCI) has become a frequently procedure for coronary revascularization in patients with coronary heart disease (CHD). Although technical advances in PCI are becoming better and more effective medical therapy can be used, the incidence of periprocedural myocardial injury (PMI) is still high, which is associated with increased subsequent mortality. Here we aimed to analyze the effects of Chinese herbal compound Tungguan Capsule (TGC) on PMI under elective PCI in CHD.

METHODS We retrospectively enrolled 288 consecutive patients with normal preprocedural cTn underwritten elective PCI. Patients were divided into the two groups according to whether or not took TGC at least one day before PCI: TGC group (n = 104) and non-TGC group (n = 186). PMI was evaluated by cTnI analysis within 24 hours. The relationship of TGC with peak cTnI values after PCI was examined.

RESULTS Peak postprocedural cTnI >1 upper limit of normal (ULN), >3 ULN, and >5 ULN were detected in 136 (32.6%), 120 (41.7%) and 103(35.8%), respectively. The baseline clinical and procedural characteristics between the two groups were not statistically significant (P > 0.05). cTnI values of the two group were not statistically significant (P = 0.828) before PCI, but non-TGC group was significant higher than TGC group (P = 0.018) after PCI. Then, TGC group post-operative cTnI elevation 1×ULN was 47 patients (45.2%), and non-TGC group was 112 patients (60.9%), the difference between the two groups were statistically significant (P = 0.010). Furthermore, TGC group post-procedural cTnI elevation 3×ULN and 5×ULN were 86 patients (46.7%) and 74 (40.2%), respectively, the difference incidence of PMI between the two groups were statistically significant (P < 0.05). In the multivariable model, TGC group was associated with lower risk of postprocedural cTnI elevation above 1×ULN (OR, 0.51; 95% CI, 0.29 - 0.89; P = 0.019), 3×ULN (OR, 0.51; 95% CI, 0.28 - 0.92; P = 0.025), 5×ULN (OR, 0.52; 95% CI, 0.28 - 0.98; P = 0.045), respectively.

CONCLUSIONS With TGC and CHD treated before PCI may effectively reduce the degree of postprocedure cTnI elevation and decrease the incidence of PMI, suggesting the Chinese herbal compound TGC might play an important role in myocardial protection.

GW26-e2127
Hypoalbuminemia and contrast-induced nephropathy in patients undergoing percutaneous coronary intervention

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OBJECTIVES Preoperative low albumin level is considered to be a risk factor for acute kidney injury in surgical patients. However, the impact of hypoalbuminemia on contrast-induced nephropathy (CIN) in patients undergoing percutaneous coronary intervention (PCI) is unknown.

METHODS A total of 674 consecutive patients who underwent selective PCI were included, in which 294 patients had a preoperative albumin level <2.5g/dl (hypoalbuminemia), and 380 patients had a preoperative albumin level >3.5g/dl. CIN was defined as an elevation of serum creatinine by ≥25% or ≥0.5mg/dl from baseline within 48h after PCI. Multivariate logistic regression and propensity analyses were performed to evaluate the association between hypoalbuminemia and CIN.

RESULTS At last, 36 (12.24%) patients with hypoalbuminemia developed CIN, comparing to that 28 (7.37%) patients without hypoalbuminemia developed CIN (p = 0.032). After adjustment for the other risk factors (old age, anemia, eGFR-60ml/min/1.73m2, and diabetes mellitus), hypoalbuminemia was independently associated with CIN (multivariable logistic analysis OR 1.452[1.06-2.29], P = 0.008), 3.5g/dl from baseline within 48h after PCI. Multivariate logistic regression and propensity analyses were performed to evaluate the association between hypoalbuminemia and CIN.

CONCLUSIONS Hypoalbuminemia might serve as an independent predictor in patients undergoing CIN.

GW26-e0100
Comparison of iodixanol and iopromide in Patients with Renal Insufficiency undergoing Coronary Angiography by Minimally-invasive Hemodynamic Monitor

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OBJECTIVES Intra-arterial iodinated contrast media (CM) may increase the cardiac preload in the process of percutaneous coronary
intervention (PCI), especially for patients with chronic kidney disease (CKD) and congestive heart failure (CHF). The objective of this study was to investigate the impact of CM with different osmolality on cardiac preload in patients with CKD and CHF.

**METHODS** 90 non-ST elevation acute coronary syndromes (NSTEMI or ACS) patients with renal insufficiency (estimated glomerular filtration rate < 60 ml/min) and CHF were equally randomized to receive either iodixanol 320 (Visipaque) or iodopamide 370 (UltraLisit) in PCI procedures. We applied pulse indicator continuous cardiac output (PICCO) technology to observe the change of hemodynamic indexes in the perioperative period. Contrast induced nephropathy (CIN) was defined as increase in serum creatinine > 0.5 mg/dl or > 25% from baseline.

**RESULTS** Baseline characteristics were well-matched between the 2 groups. CIN developed in 21 patients (23.3%), and there was no significant difference between the iodixanol and iodopamide groups (17.8% vs. 28.3%, P = 0.213). Extravascular lung water index (ELWI), global end-diastolic index (GEDI) and central venous pressure (CVP) were all significantly increased after application of CM in the iodopamide group (13.1±3.8 ml/kg vs. 8.4±3.2 ml/kg in ELWI; 1381±472 ml/m² vs. 962±362 ml/m² in GEDI; 14±5 mmHg vs. 11±5 mmHg in CVP; all P < 0.001), and the changes of these preload indexes in the iodopamide group were significantly greater than in the iodixanol group (all P < 0.05). The incidence of adverse events in terms of death, myocardial infarction, repeat revascularization did not differ between the two groups, but the incidence of acute heart failure in the iodopamide group was significantly higher than the iodixanol group (P = 0.048).

**CONCLUSIONS** Iodopamide could significantly increase cardiac preload in patients with CKD and CHF as compared to iso-osmolar CM iodixanol, and this is associated with a higher occurrence of acute heart failure event during the perioperative stage.

**GW26-e0392** Central Venous Pressure Guided Hydration Reduces Contrast Induced Nephropathy in Patients Undergoing Coronary Procedures with Chronic Kidney Disease and Congestive Heart Failure

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**OBJECTIVES** Patients at moderate or high risk for contrast induced nephropathy (CIN) should receive sufficient hydration before contrast application to prevent CIN. The guidelines recommend controlling the rate of fluid administration in patients with heart failure, but inadequate hydration markedly increases the incidence of CIN. We expect to explore an individual hydration method for patients with congestive heart failure (CHF) and chronic kidney disease (CKD) to reduce the incidence of CIN and at the same time to avoid the acute heart failure for these patients.

**METHODS** This prospective, randomized, double-blind, comparative clinical trial enrolled 264 consecutive patients with CHF and CKD undergoing coronary procedures. These patients randomly received either central venous pressure (CVP) guided hydration (n = 132) or standard intravenous isotonic saline hydration (control group; n = 132). In the CVP guided group, hydration infusion rate was automatically adjusted according to CVP level every hour, and both study groups received adequate hydration but at different rates. CIN was defined as an absolute increase in serum creatinine (SCr) > 0.5 mg/dL (44.2 µmol/L) or a relative increase >25% compared to baseline Scr. Adverse events were assessed by 3 months follow-up and all such events were classified by staff who were masked to treatment assignment. This trial is registered with ClinicalTrials.gov, number NCT02450377.

**RESULTS** Baseline characteristics were well-matched between the two groups. Mean baseline Scr and the predictive CIN risk score were comparable in the two groups. The total mean volume of isotonic saline administered in the CVP guided hydration group is significantly higher than the control group (1977±147 ml vs. 1202±247 ml; P < 0.001). CIN occurred less frequently in CVP guided hydration group than in the control group (15.9% vs. 29.5%; P = 0.006). The incidences of acute heart failure (acute pulmonary edema) during the perioperative period did not differ between the two groups (6.8% vs. 7.6%; P = 0.500). A lower incidence of cumulative 90-day adverse events (renal replacement therapy, acute myocardial infarction, acute heart failure and death) was also observed in CVP guided hydration patients than in controls (8.3% vs. 20.5%; P = 0.004).

**CONCLUSIONS** CVP guided fluid administration can safely and effectively reduce the risk of CIN for patients with CKD and CHF.

**GW26-e0451** Circulating Long Non-coding RNA, NONHSAT112178, with a Novel Biomarker for Diagnosis of Coronary Artery Disease

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**OBJECTIVES** To investigate the long noncoding RNA (lncRNA) NONHSAT112178 as a biomarker for coronary artery disease (CAD) in peripheral blood monocyte cells (PBMC).

**METHODS** RT-qPCR was performed to validate the microarray results. ROC curve was applied to study the potential of NONHSAT112178 as a biomarker. Diagnostic models from NONHSAT112178 alone or combination of risk factors were further validated. The function of NONHSAT112178 was confirmed in THP-1 cell line by siRNA.

**RESULTS** The result indicated the expression of NONHSAT112178 in PBMCs from CAD patients increased more than twice times by microarray analysis and RT-qPCR compared with the control group, P < 0.05. Further validated independently in a population (20-20), NONHSAT112178 expression (about 2.2 fold) was consistent with the result from lncRNA microarray. The predictive value of NONHSAT112178 was assessed in a larger population of 211 CAD patients and 171 controls. Using a diagnostic model by Fisher criterion, NONHSAT112178 was considered as a risk factor. The corresponding sensitivity was increased from 70.00% to 82.00%, the specificity was slightly decreased from 94.00% to 78.00%, respectively. AUC was increased from 0.727 to 0.785 (P < 0.001), from 0.712 to 0.768 (P = 0.010), and from 0.769 to 0.835 (P < 0.05), in original, training and test set, respectively. Moreover, in a physiological condition, NONHSAT112178 was found to be specific in CAD compared with other cardiovascular diseases. Finally, we found neighboring protein-coding gene peroxisome proliferator-activated receptor delta (PPARD), and its target genes adipose differentiation-related protein (ADRP) and angiotensin-like 4 (ANGPTL4) are all transrepressed by NONHSAT112178.

**CONCLUSIONS** Our present study indicated that NONHSAT112178 with function, neighboring protein-coding gene PPARD, combination of risk factors can be used as a biomarker for CAD.

**GW26-e1018** Left Ventricular End-Diastolic Pressure and Brain Natriuretic Peptide Guided Low-Dose Furosemide for Preventing Contrast-induced Nephropathy in the Percutaneous Coronary Intervention

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**OBJECTIVES** This study was to evaluate on the prophylactic effect of low-dose furosemide guided by left ventricular end-diastolic pressure (LVEDP) and brain natriuretic peptide on contrast-induced nephropathy of patients with percutaneous coronary intervention on basis of adequate hydration.

**METHODS** The patients of PCI(Percutaneous Coronary Intervention) were recruited. The inclusion criteria: 1.male or female, 18-75 years old; 2.sign the informed consent. Exclusion criteria: 1.inability to obtain consent from participants; 2.primary percutaneous coronary intervention for ST-segment elevation myocardial infarction; 3.renal replacement therapy; 4.exposure to radiographic contrast media within the previous 2 days; 5.allergy to radiographic contrast media; 6.acute decompensated heart failure; 7.severe valvular heart disease; 8.mechanical aortic prosthesis; 9.left ventricular thrombus; 10.history of kidney or heart transplantation. The patients were divided into two groups: the control group and experimental group, the basic characteristics and routine examinations were recorded. All patients were given standard hydration process according to the guideline, the control group was administered 20 mg furosemide right after the procedure, but the experimental group was treated individually, according to the result of BNP(Brain Natriuretic Peptide) and LVEDP (Left Ventricular End-Diastolic Pressure). Only the patients of LVEDP≥15mmHg or BNP≥100pg/ml or BNP more than 50% of preoperative values were given 20 mg furosemide and the rest had no special treatment. The creatinine was obtained before and after the PCI procedures, so the creatinine clearance rate and glomerular filtration rate could be calculated, also the all-cause mortality,