CONCLUSIONS 1. The most common type of SCF is simultaneous three-vessel involvement; The most common vascular involvement is LAD.

2. The speed of coronary flow slows down with the increasing of the diameter of coronary.

3. The increasing of PCV, D-D, BUN, the diameter of left main and the proximal RCA may be risk factors of SCF.

GW26-e1259

Significance of Soluble Urokinase-type Plasminogen Activator Receptor in Patients with Coronary Heart Disease

Zhenda Zheng, Cailian Cheng, Dinghui Liu, Zhiming Song, Lin Chen, Xiaoxian Qian
The Third Affiliated Hospital, SUN Yat-sen University, Guangzhou 510630, China

OBJECTIVES To uncover the clinical roles of Soluble Urokinase-type Plasminogen Activator Receptor (su-PAR) in different types of coronary heart disease.

METHODS We divided all the cases into four groups: 30 cases in NCAD group, 20 cases in SA group, 25 cases in UA group, 30 cases in AMI group. In all these groups, the plasma levels of su-PAR in plasma were measured with a solid phase enzyme-linked immuneosorbent assay (ELISA) when the cases were brought into this study and two weeks after they were brought into this study.

RESULTS All the samples taken from the peripheral vessels were immediately analyzed after the cases were brought into this study in the 4 groups, the difference of the plasma levels of su-PAR was significant. The AMI group were higher than the UA group [(4.53 ± 0.57) mg/L vs. (3.23 ± 0.48) mg/L, $P<0.001$]; the UA group were higher than the SA group [(3.23 ± 0.48) mg/L vs. (1.45 ± 0.27) mg/L, $P<0.001$]; however the different between the SA group and the NCAD group was not significant [(1.45 ± 0.27) mg/L vs. (1.40 ± 0.25) mg/L, $P>0.05$]; the difference of the plasma levels of su-PAR between the cases were brought into this study and two weeks after was not significant $(0.005\pm0.05, P>0.05)$.

CONCLUSIONS The change of su-PAR are different in different types of coronary heart disease patients. There is an ascending trend of su-PAR in the SA group, the ascending trend is more significant in the UA group, and the most significant in the AMI group.

GW26-e2273

Cardiac Troponin I and Longitudinal Strain Predict for Prediction of Clinical Outcomes in Patients with ST-segment Elevation

Zhongling Mo, Yin Wang, Liping Chen
Department of Echocardiography, Cardiovascular Disease Center, 1st Hospital of Jilin University

OBJECTIVES Cardiac biomarkers including the levels of cardiac troponin I (cTnI) after ST-segment elevation myocardial infarction (STEMI) is associated with infarct size and left ventricular remodeling and dysfunction. But the relationship between the biochemical measures and the global cardiac function is less well defined. This study is aim to observe the level of cTnI and longitudinal strain by speckling tracking in prediction of the outcomes.

METHODS 115 patients admitted with acute ST-elevation myocardial infarction (STEMI) in left descending artery and received percutaneous coronary intervention (PCI) in our study. Forty age-matched persons without prior MI, arrhythmia, hypertension, valvular disease and DM with normal coronary artery detected by coronary angiography were control group. The level of cTnI was studied from venous blood samples within 1 hour, 6 hours 12 hours and 18 hours. Within 72 hours of the onset of STEMI and 3 months follow-up, two-dimensional echocardiography was performed within 72 hours, 3 months follow-up.

RESULTS Biochemical markers showed a peak at 6 hours (159.74 ± 122.0) for cTnI. Multivariable analysis revealed that the peak systolic longitudinal strain was independently related to structural changes which showed the 15% increase in diastolic dimension at 3-month follow-up compared with baseline.

CONCLUSIONS Our study showed cardiac troponin I and reduced systolic longitudinal strain were related to the outcomes of STEMI. cTnI levels are a useful risk stratification tool in STEMI patient.

GW26-e5428

A performance comparison of five different DECT image sets for Detecting Myocardial Perfusion Defects compared with 13NH3 PET

Wenhuan Li, Kuncheng Li
Xuanwu Hospital of Capital Medical University

OBJECTIVES To identify the optimal dual energy computed tomography (DECT) image set for the detection of myocardial perfusion defects, by comparing diagnostic performance of five different DECT image sets (iodine mapping, monoenergetic images, nonlinearly blended images, linearly blended images, and 100 KV images), using $^{13}NH_3$ positron emission tomography (PET) as reference standard.

METHODS Forty-nine consecutive patients, with known or strongly suspected of coronary artery disease, were prospectively enrolled in our study. Cardiac DECT was performed at rest state using a second-generation 128-slice dual-source CT. The DECT data were reconstructed to iodine mapping, monoenergetic images, nonlinearly blended images, linearly blended images, and 100KV images by different postprocessing techniques. The myocardial perfusion defects on DECT images were visually assessed by two observers, using standard 17-segment model. Diagnostic accuracy of five different image sets was assessed using $^{13}NH_3$ PET as the gold standard. Discrimination was quantified using the area under the receiver operating characteristic (ROC) curve (AUC), and AUCs were compared using the method of DeLong.

RESULTS The DECT and PET examinations were successfully completed in 30 patients and a total of 510 segments were analyzed. Cardiac PET revealed myocardial perfusion defects in 209 segments (41%). In ROC curve analysis, iodine mapping showed significantly better performance (AUC, 0.922) than monoenergetic images (AUC, 0.813), 100 kV images (AUC, 0.779), nonlinearly blended images (AUC, 0.763), and linearly blended images (AUC, 0.728) (P $<$.001 for each comparison).

CONCLUSIONS DECT iodine mapping correlates well with $^{13}NH_3$ PET and is superior to other DECT image sets for the detection of myocardial perfusion defects in the first-pass myocardial perfusion.

GW26-e4456

The clinical and the angiographic characteristics of the Korean-Chinese nationality and Han nationality with coronary heart disease of Yanbian area in China

Lan Cui, Chunzi Jin
Yan Bian University Hospital

OBJECTIVES To compare the clinical and the angiographic characteristics of the Korean-Chinese and Han nationality with coronary heart disease (CHD) in Yanbian area in China.

METHODS The risk factors and distribution of culprit vessels of coronary artery were retrospectively analyzed in 753 cases of CHD. The levels of plasma nitric oxide (NO) and the protein of endothelial nitric oxide synthase (eNOS) were measured by Elisa kit (Cusabio).

RESULTS Alcohol consumption was significantly higher in Korean-Chinese than in Han patients. No difference was observed in other risk factors between two groups. The numbers of stenotic coronary arteries were significantly higher in Korean-Chinese patients. Plasma NO and eNOS were significantly lower in Korean - Chinese patients.

CONCLUSIONS There are significant differences in the angiographic characteristics and the levels of plasma NO and eNOS between Korean-Chinese and Han patients with CHD in Yanbian area in China. Reduced eNOS may be responsible for increased stenotic coronary arteries in Korean-Chinese CHD patients compared to Han in Yanbian area in China. Mechanistic link between alcohol consumption and eNOS/NO deficiency or angiographic abnormality needs further investigation.