pectors (UAP), and to explore the associations between catestatin and the long-term outcome of STEMI and UAP.

METHODS The study enrolled 46 acute STEMI patients and 89 UAP patients who accepted successful PCI, and 35 patients without CHD, and followed up for 2 years. The MACE included cardiovascular death, recurrent acute myocardial infarction (AMI), readmission for heart failure or revascularization.

RESULTS The plasma catestatin level in STEMI group (0.80±0.62 ng/ml) and in UAP group (0.95±0.62 ng/ml) were significantly lower than that of control group (1.38±0.98 ng/ml) (p = 0.001). There were 7 MACEs (readmission for revascularization) in the UAP group, and there were 8 MACEs (2 recurrent AMI, 3 readmission for revascularization, and 3 readmission for heart failure) in STEMI group including, during 2 years follow up after discharge. There were no significant differences between STEMI group and UAP group. The MACEs occurred at median 13.5 months after discharge. Kaplan - Meier hazard analysis showed that there were no significant differences in MACE between the patients with high level catestatin and low level catestatin (p = 0.587). In the Cox proportional hazards regression, LVEF was the only independent predictor for MACE (HR 0.95, p < 0.029), catestatin level was not independently associated with MACE.

CONCLUSIONS The plasma catestatin levels in STEMI and UAP patients were lower than that in the patients without CHD. The catestatin levels were not related to the MACE among CHD patients. An early determination of the catestatin level was not independently associated with MACE.

GW26-e1011 The relationship between the composite index of the serum bilirubin and serum lipid variables and the serum fibrinogen level and the severity of coronary heart disease

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OBJECTIVES To explore the relationship between the composite index of the serum bilirubin and serum lipid variables, the serum fibrinogen(FIB) level and the severity of coronary heart disease. To investigate whether it is more significant for the composite index of the serum bilirubin and serum lipid variables to predict coronary than the traditional serum lipid variables, like cholesterol(TC) and low density lipoprotein cholesterol(LDL-C).

METHODS A total of 324 patients who had undergone coronary angiography were collected. They were divided into two groups by their results of coronary angiography: one group to the obstructive CHD patients. An early deficiency of catestatin might play a pathogenic role in the subsequent development of acute coronary syndrome. Catestatin is thus emerging as one of the three main coronary arteries or their major branches.

RESULTS The results of TC, LDL-C, FIB, TC/(HDL-C-TBIL) and LDL-C/(HDL-C-TBIL) has shown significant differences (P<0.05) between CAD group and normal group. Significant difference(P<0.05) has shown in the FIB levels and LDL-C/(HDL-C-TBIL) ratio, TC/(HDL-C-TBIL) ratio and HDL-C levels, TBIL levels and IBIL levels among group A, B, C and D. Bivariate analysis shows that the results of TC, FIB, LDL-C/(HDL-C-TBIL) ratio, TC/(HDL-C-TBIL) ratio positively correlated with GENSINI score, HDL-C, TBIL and IBIL levels negatively correlated with the GENSINI score; what’s more, the results showed that the TBIL levels negatively correlated with the TG levels and LDL-C levels. The area under the ROC curve of LDL-C/(HDL-C-TBIL) was 0.801 and the 95% confidence interval of the corresponding area was 0.745-0.858. If the pivotal point of diagnosis of CAD was 0.1643, the specificity was 81.0%, and the sensitivity was 61.7%. The area under the ROC curve of LDL-C/(HDL-C-TBIL) was 0.801 and the 95% confidence interval of the corresponding area was 0.751-0.860. If the pivotal point of diagnosis of CAD was 0.2930, the specificity was 81.0%, and the sensitivity was 65.6%.

CONCLUSIONS The composite index of the serum bilirubin and serum lipid variables and the serum fibrinogen(FIB) level positively correlated with the severity of coronary heart disease. Using the composite index of the serum bilirubin and serum lipid variables to predict the severity of coronary atherosclerosis is better than traditional serum lipid variables do.

GW26-e1444 Comparisons between atherosclerotic plaque characteristics by computed tomography angiography and fractional flow reserve

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OBJECTIVES This study was to evaluate the association between atherosclerotic plaque characteristics (APCs) by coronary computed tomography angiography (CTA), and lesion ischemia by fractional flow reserve (FFR).

METHODS 232 patients (mean age 63 years; 71% males) underwent coronary CTA, with FFR performed for 407 coronary lesions. Coronary CTA was interpreted for <50% and ≥50% stenosis, with the latter considered of interest. APVs by coronary CTA were defined as: 1) positive remodeling (PR), lesion diameter/reference diameter >1.10; 2) low attenuation plaque (LAP), any voxel <50 Hounsfield units; and 3) spotty calcification (SC), nodular calcified plaque <3 mm. Odds ratios (OR) and net reclassification improvement of APCs for lesion ischemia, defined by FFR<0.8, were analyzed.

RESULTS By FFR, ischemia was present in 151 lesions (37%). Aggregate plaque volume (APV) was associated with a 50% increased risk of ischemia per 5% additional APV. PR, LAP, and SC were associated with ischemia, with a 3 to 5 times higher prevalence than in nonischemic lesions. In multivariable analyses, a stepwise increased risk of ischemia was observed for 1 (OR: 4.0, p < 0.001) and ≥2 (OR: 12.1, p < 0.001) APVs. These findings were APV dependent, with PR (OR: 5.3, p < 0.001) and LAP (OR: 2.1, p = 0.038) associated with ischemia, but not SC. When examined by stenosis severity, PR remained a predictor of ischemia for all lesions, whereas APV and LAP were associated with ischemia for only ≥50%, but not for <50% stenosis.

CONCLUSIONS APV and APCs by coronary CTA improve identification of coronary lesions that cause ischemia. PR is associated with all ischemia-causing lesions, whereas APV and LAP are only associated with ischemia-causing lesions ≥50%.

GW26-e2105 Polymorphisms in the MAFB gene are associated with the risk of coronary artery disease and ischemic stroke

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OBJECTIVES MAFB has been associated with serum lipid levels in the European population. However, little is known about such association in the Chinese population or in atherosclerosis-related patients. Therefore, the purpose of the present study was to assess the association of the single nucleotide polymorphisms (SNPs) in the MAFB and serum lipid levels and the risk of coronary artery disease (CAD) and ischemic stroke (IS) in the Chinese population.

METHODS A total of 1,065 unrelated patients (CAD, 525 and IS, 540) and 599 healthy controls were recruited in this study. Coronary angiography was performed in patients with CAD. CAD was defined as significant coronary stenosis (>50%) in at least one of the three main coronary arteries or their major branches (branch diameter >2 mm). The classification of IS was made according to the TOAST (Trial of Org 10172 in Acute Stroke Treatment) criteria. The selected IS patients in the study included individuals who were eligible for one of the two subtypes of TOAST criteria: Large-artery atherosclerosis and small-vessel occlusion. Subjects with a history of hematologic, neoplastic, renal, liver, thyroid, autoimmune diseases and type I diabetes mellitus were excluded. The selected IS patients who had a past history of CAD were excluded, while the selected CAD patients who had a past history of IS were excluded from the study. Genotypes of the
MAFB rs920940 and rs6102059 SNPs were determined by the Snapshot technology platform.

**RESULTS** The AA genotype of rs920940 SNP was associated with an increased risk of CAD (adjusted OR = 1.63, 95% CI = 1.07-2.48, P = 0.023) and IS (adjusted OR = 1.69, 95% CI = 1.09-2.61, P = 0.017). The GA/AA genotype was also associated with an increased risk of CAD (adjusted OR = 1.56, 95% CI = 1.04-2.32, P = 0.030 for GA vs. GG) and IS (adjusted OR = 1.72, 95% CI = 1.14-2.60, P = 0.010 for GA/AA vs. GG). Significant interactions were observed only in those with higher BMI, hypertension and diabetes (P<0.05). The subjects with GA/AA genotypes in controls had lower serum ApoAI levels than the subjects with GG genotype (P = 0.024).

**CONCLUSIONS** The A allele carriers of SNP rs920940 in the MAFB conferred a decreased serum ApoAI levels in controls and an increased risk of CAD and IS. The GA/AA genotypes interacted with higher BMI, hypertension and diabetes to contribute the risk of CAD and IS.

**GW26-e2341**

**Prevalence of Congenital Heart Disease in Xinjiang Multi-Ethnic Region of China**

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**OBJECTIVES** This multiple-ethnic, community-based, cross-sectional study was conducted to estimate the prevalence and distribution of congenital heart disease (CHD) in Xinjiang, northwestern part of China. Four major ethnicities, Han, Uygur, Kazakh, and Hui Chinese in this region were investigated during February 2010 and May 2012.

**METHODS** A total of 14,530 children (0-18 yr) completed the survey and were examined. Those suspected of having the CHD were further evaluated with electrocardiograph (ECG) and the diagnosis was confirmed by echocardiography.

**RESULTS** Of these children, 240 (boys, 43.8% and girls, 56.3%) were identified with CHD, giving an overall prevalence of 16.5% (17.7% in Uygur, 6.9% in Han, 11.4% in Kazakh, and 38.1% in Hui Chinese, respectively). Ventricular septal defect (VSD, 29.2%), atrial septal defect (ASD, 20.8%), patent ductus arteriosus (PDA, 13.7%), aortic coarctation (13.7%), Bicuspid aortic valve (7.9%), pulmonary valve stenosis (5.4%), tetralogy of fallot (TOF, 4.2%) were common acyanotic and cyanotic defects observed. Further, among these CHD children, 21.7% mothers had a history of abortion, and 24% caught a cold, 10% had a febrile illness and 6.7% received antibiotic treatment during the first trimester of pregnancy. The highest incidence of CHD in Hui children at 6-12 yrs group was observed with the highest percentage of CHD family history and consanguinity.

**CONCLUSIONS** The overall prevalence of CHD in four ethnic children at age of 0-18 yr in Xinjiang was 16.5%. VSD, ASD and TOF were the most common acyanotic and cyanotic congenital heart defects, respectively. This study also investigated some modifiable risk factors which may link to the difference in the incidence of CHD among the 4 ethnic groups.

**GW26-e2353**

**The Immediate Effect of ATP and Nitroglycerin on Coronary Slow-flow Angina Pectoris**

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**OBJECTIVES** To study the immediate effect of injecting ATP and nitroglycerin into coronary artery on treating Coronary Slow Flow Angina(CSFa).

**METHODS** 56 patients, complaining the Angina symptom, without stenotic lesions of epicardial major arteries and with slow flow in anterior descending branch (LAD), both of which verified by coronary angiography, were chosen among 2842 patients undergoing coronary angiography between May,2009 and Dec,2011. They were assigned to ATP (31) and nitroglycerin (25), Control group (34, patients with matched age, gender, cardiovascular risk factor and normal coronary angiography). In the ATP group, coronary angiography was re-performed after quickly injecting ATP 40ug into coronary by angiographic catheter. In the nitroglycerin group, patients were dealt with nitroglycerin 200ug. The coronary blood flow was measured by TIMI Frame Count (TFI). Obtain TFC values which recorded in liver position in LAD slow-flowing patients before and after the treatment and in normal patients.

**RESULTS** 1. Basic TFC value was 76.3±2.06 in the ATP group, 73.8±18.3 in the nitroglycerin group and 28.7±2.6 in the control group. 2. TFC value was reduced to 26.3±3.2 in the ATP group after the treatment (Compared to the value before the treatment, P <0.01. Compared to the control group, there was no significant difference.). The value was reduced to 48.6±8.2 in the nitroglycerin group after the treatment (Compared to the value before the treatment, P <0.01. The value was above the level of the control group, P <0.05.). The TFC value before and after ATP treatment was obviously higher than the nitroglycerin group (P <0.05). 3. For the 15 patients in the nitroglycerin group, mean TFC value was 56.6±6.2, after another treatment-injecting ATP 40ug, TFC value was reduced to 26.6±4.7 (In contrast to nitroglycerin treatment, P <0.01. Compared to the control group, P >0.05, no significant difference).

**CONCLUSIONS** After ATP injection, the immediate coronary flow was normalized in patients with CSFA, superior to nitroglycerin treatment. For the poor recovery patients after nitroglycerin treatment, giving ATP could make coronary flow reach to normal level. Obviously, the major pathologic change of myocardial ischemia caused by CSFA was located in microvessel.

**GW26-e3583**

**Correlation between platelet parameters, hypersensitive C-reactive protein and clopidogrel reactivity in unstable angina patients**

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**OBJECTIVES** Unstable angina is a severe type of coronary heart disease (CHD). Dual antiplatelet therapy with aspirin and clopidogrel was established as a cornerstone of therapy in patients with unstable angina(UA) and stent implantation. Platelet aggregation varies from one individual to the next. We refer those treated with clopidogrel had minimal or no alternation in platelet function as clopidogrel resistance (CR) or high on-treatment platelet reactivity(HTRP). CR is considered a failure of antiplatelet treatment. Patients who have CR are at increased risk of major adverse cardiac events. Recent studies have identified numerous influencing factors for the antiplatelet effect of clopidogrel. The aim of this study was to explore the association between platelet parameters, hs-CRP and clopidogrel resistance.

**METHODS** A total of 124 unstable angina patients were enrolled in this study from November 2013 to January 2014, in the second hospital of Hebei Medical University. All patients had not taken aspirin or clopidogrel that affect platelet function. Blood routine test, coagulation routine test, myocardial enzyme, hepatic function, renal function, plasma lipid, platelet aggregation rate(PAR0) were checked within one day. A loading dose of 300mg clopidogrel and 300mg aspirin were given to all the patients, and 75mg/d clopidogrel and 100mg/d aspirin were maintained. Platelet aggregation rate was remeasured at 7th day(PAR0). According to the degree of platelet aggregation inhibition [DPAI, DPAI−(PAR0−PAR0)], all patients were divided into clopidogrel resistance group(CR) and clopidogrel sensitive group(CS). There were 33 cases (19 males and 14 females) in CR group, the mean age was 61.91, while there were 91 cases (49 males and 42 females) in CS group, and the mean age was 62.40. Platelet parameters including platelet count(PLT), mean platelet volume(MPV), platelet distribution width(PDW) and hypersensitive C-reactive protein(hs-CRP) levels were compared between the two groups.

**RESULTS** 1. Baseline clinical characteristics: There was no significant difference between CR group and CS group in age, gender, BMI, history of hypertension, history of diabetes mellitus, smoking history and drinking history. 2. Platelet parameters and hs-CRP level: The PLT, PDW, PCT levels had no significant difference between the CR group and the CS group. The MPV level was significant higher in the CR group than that of CS group(9.31±1.00fl vs. 8.48±0.96fl, P<0.05). And the hs-CRP level was significant higher in the CR group than that of CS group(6.62±4.30 vs. 3.38±3.18, P<0.05).