MAFB rs2902940 and rs6102059 SNPs were determined by the SnAPSHOT technology platform.

RESULTS The AA genotype of rs2902940 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 rs2902940 in the MAFB region of China GW26-e2341 Prevalence of Congenital Heart Disease in Xinjiang Multi-Ethnic Region of China Fen Liu, Yining Yang, Xiang Xie, Xiaomei Li, Xiang Ma, Zhenyan Fu, Bangdang Chen, Ying Huang, Chunfang Shan, Xiaoming Gao, Yitong Ma, Xinjiang Key Laboratory of Cardiovascular Disease, Clinical Medical Research Institute, The First Affiliated Hospital of Xinjiang Medical University

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 echocardiogram (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 stenosis (11.7%), Bicuspid aortic valve (7.9%), pulmonary valve stenosis (5.4%), tetralogy of fallot (TOF, 4.2%) were common acyanotic and cyanotic congenital defects observed. Further, among these CHD children, 21.7% mothers had a history of abortion, and 24% caught a cold, 10% had a history of diabetes, and 6.7% received antibiotic treatment during the first trimester of pregnancy. The highest incidence of CHD in Hui children at 0-6 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 factor 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 Zhiming Yang, Huiyu Yang, Yunfei Bian, Shuwen Gong, Fen Gao, Junnan Li, Jinlong Song, Fen Yan Department of Cardiology, The Second Hospital of Shannxi Medical University

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, cardiac risk factor and normal coronary angiography). In the ATP group, coronary angiography was re-performed after quickly injecting ATP 40ug into coronary by angio- graphic 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±20.6 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 (\( P<0.05 \).). 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, hs-C reactive protein and clopidogrel reactivity in unstable angina patients Xiaolu Chen, Xianghua Fu The second hospital of Hebei Medical University

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 inhibition by clopidogrel 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(HTTPR). 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(PAR) 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(PAR). According to the degree of platelet aggregation inhibition [DPAI, DPAI=(PAR0-PAR1)/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, \( P<0.05 \)).
3. Correlation analysis: Unvariable logistic regression analysis showed that MPV and hs-CRP were independent predictors of clopidogrel resistance in unstable angina pectoris patients.

CONCLUSIONS MPV and hs-CRP were independent predictors of clopidogrel resistance in patients with unstable angina.

GW26-e4585 Plasma catestatin: a useful biomarker for coronary collateral development with chronic myocardial ischemia

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OBJECTIVES Catestatin is an endogenous multifunctional neuroendocrinepeptide. Recently, catestatin was discovered as a novel angiogenic cytokine. The study was to investigate the associations between endogenous catestatin and coronary collateral development among the patients with chronic myocardial ischemia.

METHODS Thirty-eight patients with coronary artery chronic total occlusions (CTO) (CTO group) and 38 patients with normal coronary arteries (normal group) were enrolled in series. In the patients with CTO, coronary collateral development was graded according to the Rentrop score method. Rentrop score of 1-3 collateral development was regarded as good collateral group and 0-2 collateral development was regarded as good collateral group. Plasma catestatin level and vascular endothelial growth factor (VEGF) were measured by ELISA kits.

RESULTS The mean serum levels of catestatin in CTO group were significantly higher than that in normal group (1.97±1.01 vs 1.36±0.97 ng/mL, p<0.009). In the CTO group, the patients with good collateral development had significantly higher catestatin and VEGF levels than those with poor collateral development (2.36±0.73 vs 1.61±1.12 ng/mL, p=0.018; 425.23±140.10 vs 238.48±101.00 pg/mL, p=0.001). There is a positive correlation between plasma catestatin levels and Rentrop score (r=0.40, p=0.013) among the patients with CTO. However, there is no correlation between plasma catestatin levels and VEGF (r=-0.06, p=0.744). In the multiple linear regression models, plasma catestatin was one of the independent factors of coronary collateral development after adjustment for confounders.

CONCLUSIONS The plasma catestatin was associated with coronary collateral developments. It may be a useful biomarker for coronary collateral development and potential target for therapeutic angiogenesis in patients with CTO.

GW26-e0240 The role of red blood cell distribution width in mortality and cardiovascular risk among patients with coronary artery diseases: a systematic review and meta-analysis

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OBJECTIVES Red cell distribution width (RDW) might be a novel biomarker that reflects multiple physiological impairments related to atherosclerosis and coronary artery diseases (CAD). We conducted this systematic review and meta-analysis to evaluate the association of RDW between all-cause mortality and fatal/non-fatal cardiovascular disease (CVD) events in CAD patients.

METHODS Relevant studies were searched and identified in the MEDLINE and EMBASE databases. English-language prospective studies that reported risk estimates for RDW and mortality/CVD events were included. Data were extracted regarding the characteristics and clinical outcomes, and a quality assessment was conducted. Results were extracted for the highest versus lowest RDW level, and meta-analyses were carried out using random effects models.

RESULTS We identified 22 studies enrolling 80,216 participants. The study duration ranged between 1 month and 23 years. Of the 15 studies that were included in the meta-analysis, higher RDW indicated a significant increased risk for all-cause mortality in CAD patients: pooled risk ratio (RR) 2.20 (95% CI, 1.42-3.39; P<0.0004). The results for fatal, non-fatal and fatal/non-fatal events were: pooled RR 1.80 (95% CI, 1.35-2.41; P<0.0001), RR 1.86 (95% CI, 1.50-2.31; P<0.00001) and RR 2.13 (95% CI, 1.20-3.77; P=0.01). Heterogeneity was moderately present; however, sensitivity analyses for follow-up duration, CAD subtype, or RDW as dichotomous values showed similar results.

CONCLUSIONS The meta-analysis indicates that higher RDW levels are associated with increased risk of mortality and CVD events in patients with established CAD.

GW26-e2173 Association of Mean Platelet Volume with Impaired Myocardial Reperfusion and Short-term Mortality in Patients with ST-Segment Elevation Myocardial Infarction Undergoing Primary Percutaneous Coronary Intervention

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OBJECTIVES Impaired myocardial reperfusion is associated with adverse clinical outcomes in patients with ST-segment elevation myocardial infarction (STEMI). The aim of this study was to investigate the impact of admission mean platelet volume (MPV) on the myocardial reperfusion and 30-day all-cause mortality in STEMI patients with successful epicardial coronary reperfusion after primary percutaneous coronary intervention (PCI).

METHODS A total of 453 STEMI patients who underwent primary PCI within 12 hours of symptoms onset and achieved TIMI 3 flow at infarct-related artery (IRA) after PCI were enrolled and divided into two groups based on postinterventional myocardial blush grade (MBG): those with MBG 2/3 and those with MBG 0/1. Admission MPV was measured before coronary angiography. The primary endpoint was all-cause mortality at 30 days.

RESULTS MPV was significantly higher in patients with MBG 0/1 than in patients with MBG 2/3 (10.38±0.98 vs 9.59±0.73, P<0.001). The cumulative 30-day all-cause mortality rate was significantly higher in the groups with high MPV and MBG 0/1 (6.8% vs 1.5%, P=0.005, 7.6% vs 1.9%, P=0.006, respectively). Multivariate logistic regression analysis demonstrated MPV was independently associated with postinterventional impaired myocardial reperfusion (OR 2.668, 95% CI 2.000 to 3.559, P<0.001) and 30-day all-cause mortality (HR 1.763, 95% CI 1.009 to 3.079, P=0.046).

CONCLUSIONS Increased MPV at admission is an independent predictor of impaired myocardial reperfusion and short-term mortality in STEMI patients with successful epicardial coronary reperfusion after primary PCI.

GW26-e2184 The short- and long-term effects of ischemic postconditioning in STEMI patients: a meta-analysis

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OBJECTIVES Compelling evidence from large randomized trials demonstrates the salutary effects of ischemic postconditioning on cardioprotection against ischemic/reperfusion injury. However, some studies appear negative findings. Our objective was to assess the short- and long-term effects of postconditioning in patients presenting with evolving ST-elevation myocardial infarction (STEMI). Relevant studies from were identified through electronic.

METHODS Relevant studies from were identified through electronic literature search from PubMed, library of congress and EMBASE. Studies published up to December 2014 were eligible for inclusion. Patients older than 18 years presenting within 12 h of a first STEMI and eligible for angioplasty were considered for the study. Ischemic postconditioning was performed by applying consecutive cycles of reocclusion / reperfusion after reperfusion. The outcome include infarct size assessed by SPECT or CMR, cardiac biomarkers and left ventricular ejection fraction (LVEF).