

44.5%; high TG 45.0%; low HDL 50.8%; high BP 61.4%; high BMI 60.7%). After follow-up in 3.5 years, the ratio of MACCE in CAD with metabolic syndrome patients increased significantly (18.9% vs 15.6%,  $p=0.036$ ). In multivariable model of five factors of MS, MACCE was predicted by high FG (fasting glucose) (OR=1.047, CI 1.005 to 1.091) and low HDL (OR=0.777, CI 0.610 to 0.989). MS confers a higher risk of long-term MACCE in CAD patients with (OR=1.258, CI 1.010 to 1.607) or without diabetes (OR=1.139, CI 1.004 to 1.505).

**Conclusions** The metabolic syndrome has primary predictive ability for MACCE in CAD patients, carried primarily by high FG and low HDL. MS confers a higher risk of long-term MACCE in CAD patients with or without diabetes.

### e0377 CLINICAL STUDY ON THE ONESTOPSHOP DIAGNOSTIC MODE FOR CORONARY ARTERY DISEASE USING CONTRASTED MSCT AT REST

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Wang Qi, Gai Luyue, Chen Yundai, Wang Zhiguo, Guan Zhiwei, Tian Jiahe. *Pla General Hospital*

**Background and objectives** Coronary angiography (CAG) always been regarded the "golden standard" for diagnosis of coronary artery disease (CAD), which was invasive and couldn't provide functional information. Combination of CT coronary angiography (CTCA) and stress myocardial perfusion scintigraphy (MPS) using SPECT could provide both anatomical and functional information non-invasively and accurately. However, the accumulative radiation dose and complex process limit the clinical practice. Taking advantage of the theory of myocardial perfusion changing phasically, we explored the feasibility and accuracy of contrasted MSCT at rest as "one-stop-shop" for diagnosis of CAD.

**Methods** 55 patients, suspected or diagnosed as CAD, were performed with CTCA using retrospective ECG gating at rest. CT first-pass myocardial perfusion imaging (CT first-pass MPI) were reconstructed in both diastolic and systolic phases using the same raw data for CTCA. CT numbers of the myocardium were used as an estimate of myocardial enhancement, which were showed by colour map. We defined myocardial ischaemia as a pattern of transient endocardial hypo-enhancement at systole and normal enhancement at diastole.

**Results** The sensibility, specificity, positive predictive value (PPV), negative predictive value (NPV) and accuracy of CTCA for diagnosis of CAD were 97.1%, 75.0%, 88.2%, 93.1% and 89.5%, respectively, and compared with 92.3%, 93.8%, 97.3%, 83.3% and 92.7%, respectively, for CT first-pass MPI, which had no significant difference with CTCA.

**Conclusions** CTCA+CT first-pass MPI could provide both anatomical and functional information of the CAD synchronously and simultaneously without any more radical dosage, contrast agent dosage and any stress process, which may become the new non-invasive "one-stop-shop" for diagnosis of CAD.

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Yang Lixia, Qi Feng, Guo Ruiwei, Wang Xianmei, Guo Chuanming. *Department of Cardiology Kunmin General hospital of Chinese PLA, China*

**Objective** To investigate implication of combination detection MCP-1 and RANTES chemotactic factors in patients with ACS compare to the traditional detection of hs-CRP. And to investigate the significance of the combined detection of a variety of chemokines in early identification, risk stratification, prognosis of ACS.

**Methods** The 300 patients were divided into Coronary Heart Disease (CHD) group ( $n=240$ ) and control group ( $n=60$ ) according to the Coronary Angiography (CAG), and CHD group were divided into acute coronary syndrome (ACS) group ( $n=180$ ) and stable angina pectoris (SAP) group ( $n=60$ ). The severity and extent of coronary lesions was analysed by CAG and typified by means of Gensini coronary score system. Linked immunosorbent assay was used to measure the concentration of MCP-1, RANTES and hs-CRP. At the same time venous blood samples were collected and total cholesterol (TC) triglyceride (TG), high density lipoprotein cholesterol (HDL-C), low density lipoprotein cholesterol (LDL-C), and red blood cells, white blood cells, platelets count, fibrinogen, and liver and kidney function were detected by automatic biochemical analyser determination.

**Results** Significantly increasing of MCP-1, RANTES, hs-CRP concentration, blood glucose, LDL-C levels were observed in ACS group compared to the SAP group and the control group ( $p<0.05$ ). And significantly decreasing of HDL-C concentration in ACS group were observed compared to the SAP group and control group. The accuracy of ACS prediction by combination detection MCP-1 and RANTES according to logistic regression equation is much better than the traditional detection of hs-CRP (90.6% vs 82.8%).

**Conclusions** Combined with clinical assessment of the actual occurrence of cardiovascular disease using a variety of risk factors, we believe that coronary heart disease and acute coronary syndrome is a complex network systems regulated by multi-element, multi-factor, looking for a single factor as markers for diagnosis of coronary heart disease ACS may be limited. Combined detection of a variety of cytokines which involved in the occurrence of coronary heart disease, and through comprehensive analysis of a number of cytokines to predict cardiac events may more accurately reflect the nature of acute coronary syndrome. MCP-1, RANTES chemokine play a more specific role in monocytes /macrophages, they play a key role in the development and rupture of vulnerable plaque in coronary heart disease, especially in ACS. The effect of combination detection chemotactic factors to predict ACS is better compare to general hs-CRP measurement, multi-chemotactic factors' combination detection maybe come to markers of early identification of ACS.

### e0379 STUDY OF CORRELATIONSHIP BETWEEN MYELOPEROXIDASE PARAOXONASE AND CORON

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Yang Lixia, Qi Feng, Guo Ruiwei, Wang Xianmei, Guo Chuanming. *Department of Cardiology Kunmin General Hospital of Chinese Plakunming, China*

**Objective** To investigate the clinical significance of myeloperoxidase (MPO) and paraoxonase (PON1) in coronary heart disease (CHD).

**Methods** We chossed 300 hospitalised coronary heart disease patients according to the results of selective coronaryangiography. Then, we divided them into coronary heart disease group ( $n=240$ ) and control group ( $n=60$ ). Coronary heart disease group were divided into stable angina pectoris (SAP) group ( $n=60$ ) and acute coronary syndrome (ACS) group ( $n=180$ ) according to clinical diagnosis. Coronary heart disease group were divided into group A, group B and group C according to type of coronary artery disease's pathological changes. We grade the lesions of coronary artery by means of Gensini coronary score system. The day after admission fasting. MPO and PON1 test specimens taken from coronary arterial blood was collected via the sheath and put into anticoagulant tube. the serum MPO were detected by colourimetry method and the PON1 concentration level was detected by pheny acetate method. All cases were asked about both history and physical examination to rule out malignancy, liver fibrosis, recent surgery, severe infection, acute cerebrovascular disease, peripheral vascular disease and so on.

**Results** The level of MPO in CHD group was significantly higher than that in the control group, and the level of PON level was significantly lower than that in the control group. In ACS group, MPO level was also significantly higher than that in SAP group, and the PON level was significantly lower than that in the SAP group. When the CHD is more severer, the MPO level will be more higher and the level of PON will be more lower. With coronary artery disease type and the severity of coronary artery disease, MPO levels increased gradually, while the PON level decreased gradually, step-wise regression analysis showed that MPO, PON, HDL, LDL concentrations were related significantly with the Gensini score of coronary lesions.

**Conclusion** MPO, PON1 would be better indicators to reflect the local inflammation of atherosclerotic plaque, LDL can affect the conversion of ox-LDL by MPO, PON1. So that, it can be the key mechanism of atherosclerotic plaque's stability. Through detection of serum pro-inflammatory factor (MPO), and anti-inflammatory factor (PON1) levels in CHD patients and investigate their relationship with CHD and coronary artery disease, further analysis of the imbalance of pro-inflammatory cytokines and anti-inflammatory factor may be particularly important in the pathological significance in coronary heart disease, especially in acute coronary syndrome, and provide a new basis for the diagnosis and prediction of coronary heart disease and coronary artery disease.

**e0380 ASSOCIATIONS BETWEEN PLASMA N-TERMINAL PRO BRAIN NATRIURETIC PEPTIDE AND OXIDATIVE STRESS IN PATIENTS WITH CHRONIC STABLE CORONARY ARTERY DISEASE**

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Liu Fucheng, Chen Luyuan. *Guangdong Cardiovascular Institute, Guangdong, China*

**Objectives** The present study was aimed to explore whether plasma N-terminal pro brain natriuretic peptide was associated with oxidative stress in patients with chronic stable coronary artery disease.

**Methods** Plasma levels of N-terminal pro brain natriuretic peptide, hemeoxygenase-1 and oxidative low-density lipoprotein were determined by electrochemiluminescence and ELISA respectively in ninety-four patients with chronic stable coronary artery disease and 35 controls without coronary artery disease confirmed by coronary angiography. Correlations were analysed among these three biochemical marks.

**Results** Logarithms-transformed levels of N-terminal pro brain natriuretic peptide and oxidative low-density lipoprotein in patients with chronic stable coronary artery disease were both higher than the controls ( $5.01 \pm 0.14$  vs  $3.73 \pm 0.16$  Ln mg/l,  $p < 0.001$ ;  $2.38 \pm 0.09$  vs  $0.09 \pm 0.13$  Ln ug/l,  $p < 0.001$ ), whereas quart-root-transformed level of hemeoxygenase-1 was lower than the controls ( $6.10 \pm 0.24$  vs  $13.96 \pm 0.86$  Sqrt ug/l,  $p < 0.001$ ). The difference in these three biochemical marks between the two groups was still in presence after being adjusted by age, sex, blood glucose, lipids and left ventricular ejection fraction. However, there wasn't difference in them in subgroup analysis by coronary artery lesion count. Logarithms-transformed levels of N-terminal pro brain natriuretic peptide and oxidative low-density lipoprotein were associated with each other positively ( $r = 0.281$ ,  $p < 0.05$ ), whereas logarithms-transformed level of N-terminal pro brain natriuretic peptide was correlated to quart-root-transformed level of hemeoxygenase-1 negatively ( $r = -0.277$ ,  $p < 0.05$ ). Quart-root-transformed level of hemeoxygenase-1 was associated with logarithms-transformed level of oxidative low-density lipoprotein negatively ( $r = -0.575$ ,  $p < 0.001$ ). After being adjusted by age, sex, blood glucose, lipids and

left ventricular ejection fraction, logarithms-transformed level of N-terminal pro brain natriuretic peptide was still associated with logarithms-transformed level of oxidative low-density lipoprotein positively ( $r = 0.269$ ,  $p < 0.05$ ) and with quart-root-transformed level of hemeoxygenase-1 negatively ( $r = -0.261$ ,  $p < 0.05$ ).

**Conclusions** N-terminal pro brain natriuretic peptide was closely associated with oxidative stress in patients with chronic stable coronary artery disease. However the details of the interaction between brain natriuretic peptide and oxidative stress remain unknown.

**e0381 THE ASSOCIATION BETWEEN LP-PLA<sub>2</sub> ACTIVITY AND MAJOR CARDIOVASCULAR EVENTS IN ACUTE CORONARY SYNDROME AT THE CHINESE COMMUNITY**

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Li Ning, Li Shuijun, Yu Chen, Gu Shuiming. *Shanghai Xuhui Central Hospital*

**Objective** Lipoprotein-associated phospholipase A<sub>2</sub> (Lp-PLA<sub>2</sub>) is a useful inflammatory marker of cardiovascular risk, but there are only few reports of its prognostic significance as a risk factor for acute coronary syndrome (ACS). It is necessary to evaluate the association of Lp-PLA<sub>2</sub> with major cardiovascular events (MCVE) in patients with ACS and assess its incremental value for risk discrimination over established risk factors and biomarkers.

**Methods** 152 patients with ACS and one hundred forty-two patients without coronary artery disease (CAD) from Shanghai Xuhui District (aged <80 years) were enrolled from February 2007 to March 2008 and followed for a median of 6 months (4–10 months). Plasma Lp-PLA<sub>2</sub> activity was measured at baseline with liquid chromatography tandem mass spectrometry. Its clinical significance was evaluated with existing risk indicators.

**Results** Lp-PLA<sub>2</sub> activity was higher in patients with ACS than that in patients without CAD ( $22.36 \pm 1.23$  mg/ml vs  $19.74 \pm 3.85$  mg/ml;  $p = 0.027$ ). During the follow-up period, 5 cases of cardiovascular death, 8 cases of non-fatal myocardial infarction, and 11 cases of target vessel revascularization occurred. Elevated Lp-PLA<sub>2</sub> was associated with an increased risk of MCVE (HR, 1.52; 95% CI, 1.09 to 2.37;  $p = 0.033$ ). The Lp-PLA<sub>2</sub> activity level in incidental cases was higher than that in non-incidental cases ( $p = 0.04$ ).

**Conclusion** In this community-based cohort of patients with ACS, Lp-PLA<sub>2</sub> was strongly and independently associated with major cardiovascular events and contributed incrementally to risk discrimination.

**e0382 RELATIONSHIP BETWEEN BRAIN NATRIURETIC PEPTIDE LEVELS IN PATIENTS WITH ACUTE CORONARY SYNDROME AFTER PERCUTANEOUS CORONARY INTERVENTION AND CARDIOVASCULAR EVENTS**

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Liao Wei, Zhou Aiqin. *The Affiliated Hospital of Gannan Medical College*

**Objective** To analyse the relationship between in patients with acute coronary syndrome (ACS) at 48 h after percutaneous coronary intervention (PCI) and the relationship between the variation of brain natriuretic peptide (BNP) and the short and long-term cardiovascular events.

**Methods** 156 patients with ACS were given conventional preoperative and postoperative medication and standardised PC1. Plasma levels of BNP were measured at 48 h after operations. All patients were divided into two groups according to the level of BNP: A group