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 without diabetes.

**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.

**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 immunosorent 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, multifactor, 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.

**Methods** 85 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 date for CTA. 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%, 95.8%, 97.8%, 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.