

Materials and methods 23 segments coronary arteries in 20 patients with angiographic contrast materiel drain-lagged were performed by intravascular ultrasound (IVUS) imaging. The characteristics of the plaques and reference segments were analysed. Percent area stenosis and remodelling index were calculated.

Results External elastic membrane cross-sectional area in angiographic contrast materiel drain-lagged segments greater than reference segments ($17.04 \pm 3.86 \text{ mm}^2$ vs $14.35 \pm 3.62 \text{ mm}^2$, $p < 0.01$). Lesions had greater lumen area compared with reference ($13.72 \pm 2.38 \text{ mm}^2$ vs $11.86 \pm 2.57 \text{ mm}^2$, $p < 0.01$). Lesions had a soft plaque and minor stenosis (percent area stenosis $19.48\% \pm 5.23\%$) and positive remodelling was more frequent (20/23, 87%) in lesions.

Conclusion Posimentione remodelling and minor atherosclerosis plaque in coronary segments are the causes of angiographic contrast materiel drain-lagged. This lesion has structural characteristics of unstable plaque.

e0374 **COMPARISON OF TREADMILL EXERCISE TEST AND $^{99m}\text{TcMIBI}/^{18}\text{F-FDG}$ MYOCARDIAL SPECT IMAGE FOR IDENTIFYING VIABLE MYOCARDIUM IN PATIENTS WITH OLD MYOCARDIAL INFARCTION**

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Objective The aim of this study was to investigate the correlation between myocardial viability in old myocardial infarction as assessed by treadmill exercise test and $^{99m}\text{Tc-MIBI}/^{18}\text{F-FDG}$ dual isotope simultaneous acquisition of single photon emission CT (SPECT).

Methods 15 consecutive patients (13 males, 2 females, mean age 55 ± 8 years) with old myocardial infarction were included in this study. All patients underwent coronary arteriography, maximal treadmill exercise testing and $^{99m}\text{Tc-MIBI}/^{18}\text{F-FDG}$ SPECT. Patients were classified into myocardial viability group and non myocardial viability group according to $^{99m}\text{Tc-MIBI}/^{18}\text{F-FDG}$ SPECT. The semi-quantitative scoring system was used for SPECT images. Myocardial viability was defined as an improvement of perfusion at least >1 grade in at least two contiguous segments during $^{18}\text{F-FDG}$ SPECT. The indices of treadmill exercise testing were measured and compared in myocardial viability and non myocardial viability groups. Compared with the results of $^{99m}\text{Tc-MIBI}/^{18}\text{F-FDG}$ SPECT, the sensitivity and specificity of these indices for detecting of myocardial viability were calculated.

Results 8 out of the 15 studied patients were defined as myocardial viability group, and the rest of 7 patients were in non myocardial viability group. 7 out of 8 (87%) patients in myocardial viability group were accompanied with exercise-induced Q-wave prolongation. Myocardial viability was detected more often in patients with smaller QT dispersion (≤ 70 ms). Q-wave prolongation had well consistency with $^{99m}\text{Tc-MIBI}/^{18}\text{F-FDG}$ SPECT for detecting myocardial viability ($\chi^2 = 8.04$, $p = 0.009$). The sensitivities, specificities, positive predictive values, and negative predictive values of Q-wave prolongation and QT dispersion ≤ 70 ms for evaluating myocardial viability were 87.5%, 85.6%, 87.5%, 85.6% and 75.0%, 71.4%, 75.0%, and 71.4%, respectively.

Conclusion In patients with old myocardial infarction, exercise-induced Q-wave prolongation and QT dispersion were related to myocardial viability identified with $^{99m}\text{Tc-MIBI}/^{18}\text{F-FDG}$ SPECT. Exercise-induced Q-wave prolongation and QT dispersion were found to be the sensitive and specific ECG marker for detecting of myocardial viability.

e0375 **LONG-TERM ENHANCED EXTERNAL COUNTERPULSATION REPAIRS PLATELET MEMBRANE FLUIDITY AND ALLEVIATES LIPID PEROXIDATION IN PATIENTS WITH STABLE ANGINA PECTORIS**

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Objective To explore the effect of long-term enhanced external counterpulsation (EECP) on platelet membrane fluidity (PMF) and lipid peroxidation in patients with stable angina pectoris.

Methods Long-term EECP was performed on 30 patients with stable angina pectoris, 1 h once a day for 36 days. Platelets were harvested from all patients pre-EECP (before EECP), during EECP (EECP for 18 h) and post-EECP (EECP for 36 h). Fluorescence polarisability P' was measured by fluorescence spectrophotometer. Meanwhile, the levels of lipid peroxidation and plasma lipids including total cholesterol (TC), triglyceride (TG), low density lipoprotein cholesterol (LDL-C) and high density lipoprotein cholesterol (HDL-C), were measured.

Results Compared with pre-EECP, PMF was repaired significantly in patients with stable angina pectoris, no matter EECP performed for 18 h or for 36 h (0.337 ± 0.053), (0.257 ± 0.042) vs (0.543 ± 0.066), respectively, ($p < 0.05$). Similarly, lipid peroxidation levels were also alleviated obviously (0.427 ± 0.053) $\mu\text{mol/l}$, (0.302 ± 0.046) $\mu\text{mol/l}$ vs (0.712 ± 0.126) $\mu\text{mol/l}$, respectively, ($p < 0.05$). Moreover, it seems a more significant change in both PMF and lipid peroxidation when EECP performed for 36 h than for 18 h. On the contrary, there was no significant change in the levels of plasma lipids (TC, TG, LDL-C, HDL-C). A direct negative correlation was observed between PMF and the levels of lipid peroxidation.

Conclusion This result demonstrates that Long-term EECP can alleviate lipid peroxidation and restore or repair PMF in patients with stable angina pectoris, contributing to postponing atherogenesis.

e0376 **EFFECT OF METABOLIC SYNDROME ON PROGNOSIS OF REVASCULARIZATION IN PATIENTS WITH CORONARY ARTERY DISEASE**

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Background The prevalence of the cardiovascular risk factors is growing. The effect of the metabolic syndrome on outcomes in patients with preexisting CAD has not been well studied. This study was conducted to assess the prevalence, characteristics, in-hospital and long term prognosis of CAD with metabolic syndrome, and to determine which factor that influencing the CAD prognosis most.

Methods The DESIRE (Drug-Eluting Stent Impact on Revascularization) registry represents a database of 2368 patients with coronary artery disease (CAD) between Jul, 2003 and Sep, 2004. Media long-term follow-up was 3.5 years (293–1855 days). Metabolic syndrome was based on modified the Adult Treatment Panel (ATP) III Definition of the Metabolic Syndrome in 2005, using body mass index (BMI) instead of waist circumference. We tested the ability of MS and its components to predict the incidence of major adverse cardiac and cerebral events (MACCE) in a large cohort of patients undergoing revascularization.

Results Presence of MACCE was predicted only by MS (adjusted OR (OR)=1.319, 95% CI 1.020 to 1.706, $p = 0.035$) but not other risk factors of cardiovascular (such as elder, male, smoking, high LDL cholesterol, CAD family history). MS was present in 45.6% (high FG

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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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.

e0378

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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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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.