e0434 THE EFFECTS OF PROTON PUMP INHIBITORS ON CLOPIDOGREL EFFICACY IN PATIENTS WITH ACS THROUGH PCI IN CHINA

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Background Almost all kinds of proton pump inhibitors (PPI), especially Omeprazole, have been reported to inhibit the antiplatelet activation of clopidogrel in the therapy of coronary artery disease and were associated with a higher risk of major cardiovascular events ranging from a 24.3% with lansoprazole to a 29.2% with pantoprazole in the increased risk. But recently, two clinical trials give us a paradoxical result from the above in nearly 13,800 patients with ACS. So, what the true influences of PPI on clopidogrel activation are still unclear. And especially, it has not been reported before in ACS group through PCI in Chinese patients. Objectives: To assess the effects of omeprazole on clopidogrel efficacy in patients with ACS through PCI in Chinese patients.

Methods In this randomised controlled trial, all patients (n=186) with ACS and elective PCI who received aspirin (loading dose 300 mg before PCI, followed by maintaining dose 100 mg/day) and clopidogrel (loading dose 600 mg before PCI, followed by maintaining dose 75 mg/day) were randomised to receive omeprazole (20 mg/day) or placebo for 7 days. Residual platelet activity and platelet activation inhibition rate in ADP pathway were detected in the third day after PCI with modified thrombelastography-mapping (TEG-mapping) in ADP induced method.

Results Between the two groups with and without omeprazole, the mean platelet activation inhibition rate with ADP induced method is $63.52\% \pm 23.11\%$ vs 67.26 ± 24.17 ($p=0.2895$) detected with TEG, respectively. But when we divided the patients into 5 levels according to the clinical meaning of platelet activation inhibition rate, the frequency distribution in these 5 levels in the tow groups showed significant difference ($p=0.0062$), especially the decrease of frequency in higher platelet activation inhibition rate with omeprazole. But without any changes can be seen in the distribution of highest or lowest inhibiting levels group.

Conclusion Without any significant effects of omeprazole on clopidogrel in total strength of inhibition rate to platelet can be observed in patients with ACS through PCI taking clopidogrel with 600 mg loading dose and aspirin with 300 mg loading dose. But omeprazole decrease the frequency distribution of higher platelet inhibition rate induced by clopidogrel significantly without increasing clopidogrel non-responds rate.

e0435 THE DOUBLEFACED METABOLIC AND INFLAMMATORY EFFECTS OF STANDARD DRUG THERAPY IN PATIENTS AFTER DRUGELUTING STENT IMPLANTATION

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Objective The inflammatory response and the long-term endothelium healing after drug-eluting stent (DES) placement has recently emerged as a major concern. We investigated the change of metabolic parameters and systematic inflammatory status of circulating mononuclear cells (MNC) in patients after coronary DES implantation.

Methods 27 patients with non-ST segmental elevation acute coronary syndrome that had undergone DES implantations were

consecutively recruited and administrated with standard drug therapy for 12 weeks. The systematic inflammation on MNC was measured before DES implantations and after 12 weeks' medication. NF- κ B binding activity in MNC and expression of its subunits p65 and p50, and depressed cytosolic I κ B expression of MNC were detected to reveal the systematic inflammation after DES implantations.

Results Metabolic parameters total cholesterol, triglycerides, HDL, LDL improved significantly after 12 weeks' standard medication, but plasma concentrations of interleukin-6, tumour necrosis factor- α , migration inhibitor factor, and matrix metalloproteinase-9 increased compared with baseline ($p=0.012$, 0.035 , 0.062 and 0.112 , respectively). The NF- κ B DNA binding activity in MNC increased significantly compared with baseline ($p=0.015$), concomitantly with decreased I κ B- β ($p=0.052$) and PPAR- γ in MNC ($p=0.002$). Although there were strong correlations within the change of metabolic parameters and within the change of proinflammatory factors, no significant correlations between them were observed.

Conclusions Standard drug therapy can improve metabolic parameters, but fail to restrain the deteriorated systemic inflammatory responses prolonged at least 3 month. These findings raise concern about the efficiency of the current standard therapy in the era of DES. However, longer term endpoint-based studies are necessary to further explore the relationship between the inflammatory factors and the clinical cardiovascular events.

e0436 CLINICAL STUDY ON RELATIONSHIP BETWEEN THE PLASMA LTB4 LEVELS AND UNSTABLE PLAQUE IN ACUTE CORONARY SYNDROME

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Objective To explore the association between plasma Leukotriene B4 (LT-B4) and the severity of coronary artery lesions in coronary heart disease (CHD) patients.

Methods 400 patients were divided into CHD group (n=310) and control group (n=90) according to the Coronary Angiography (CAG). 310 patients in CHD group divided into Acute Coronary Syndrome (ACS) group (n=217) and Stable Angina Pectoris (SAP) group (n=93) according to clinical information. The severity and extent of coronary lesions was analysed by CAG and typified by means of Gensini coronary score system. LT-B4 level in plasma of all patients were tested by Enzyme linked immunosorbent assay. And blood pressure, height, weight, body mass index (BMI)=kg/m² were measured at the same time. 85 cases of coronary heart disease patients were underwent 64-slice spiral CT coronary artery imaging. Then, we evaluate the main plaque in Coronary artery.

Results HDL-C in CHD group was significantly lower than that in control group, but BMI, TC, TG, LDL-C, GLu and uric acid increased significantly compared with the control group. LT-B4 level in CHD patients increased significantly compared with the control group ($p<0.05$). The concentrations of LT-B4, LDL-C and GLu in ACS group were increased significantly compared with SAP group, HDL-C in ACS group was significantly lower than that in the SAP group ($p<0.05$). As the the change of lesion type and the increasing of the severity of coronary artery disease, LT-B4 concentration increased gradually ($p<0.05$). The plasma LT-B4 levels in soft plaque group and fibrous plaque group were much higher than that in calcified plaque group in CHD patients, and the difference was statistically significant ($p<0.05$). Stepwise regression analysis showed that the concentration of LT-B4 was significantly correlated with Gensini score of coronary lesions.

Conclusion The LT-B4 level in ACS patients elevated significantly which might be positive correlated with the severity of coronary artery disease, and could promote the formation of vulnerable plaque. Plasma Leukotriene-B4 testing can improve the accuracy of detection of coronary artery plaque by 64-slice spiral CT in patients with ACS, and have certain prediction effect of the diagnosis of the ACS and the judgements of coronary lesions. Currently, leukotriene receptor antagonist have been widely used in allergic inflammation in the respiratory system, but the clinical application in atherosclerotic disease is still being studied. Therefore, in-depth study the molecular mechanisms of 5-lipoxygenase /leukotriene pathway in the process of acute coronary syndrome may play an important role in the prediction and control of ACS and the vulnerable plaque.

e0437 THE CHANGES AND SIGNIFICANCE OF COMBINED DETECTION MCP1 AND RANTES CHEMOTACTIC FACTORS IN PATIENTS WITH ACUTE CORONARY SYNDROME

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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.

e0438 BONE MARROW CELL THERAPY IMPROVES SYSTOLIC FUNCTION WHEREAS HAS NO EFFECT ON REMODELLING OF LEFT VENTRICULAR IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION: A META-ANALYSIS OF RANDOMISED CONTROLLED TRIALS

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Objectives The objective is to perform a meta-analysis of clinical trials that investigated the effects of bone marrow cell (BMC) therapy on left ventricular (LV) function and LV remodelling in patients after acute myocardial infarction (AMI).

Background Intracoronary injection of BMCs in the acute phase of myocardial infarction has been proposed to replace cardiomyocytes lost and prevent deleterious pathological remodelling after myocardial infarction. Previously published trials have investigated the effects of cell therapy on LV function and remodelling in AMI patients. However, the sample size of these studies is small and the conclusions are inconsistent.

Methods Trials were identified in Cochrane Library, EMBASE, and PubMed databases, reviews, and reference lists of relevant papers. The weighted mean difference (WMD) was calculated for net changes in LV ejection fraction (LVEF) and LV end-diastolic volumes (LVEDV) by using random or fixed-effect models.

Results Ten randomised controlled trials (12 comparisons) with a total of 814 participants were included. In an overall pooled estimate, compared with the control group, BMCs therapy significantly improved the LVEF change from baseline to follow-up (WMD: 3.79%, 95% CI 2.4% to 5.7%, $p < 0.001$). However, compared with the control group, stem cell therapy did not influence the LVEDV changes from baseline to follow-up (WMD: -1.76 ml, 95% CI -4.61 to 1.08 ml, $p = 0.233$).

Conclusion This meta-analysis suggests that cell therapy improves left ventricular contractility, whereas has no effect on LV remodelling.

e0439 RELATIONSHIP BETWEEN N-TERMINAL PRO-B-TYPE NATRIURETIC PEPTIDE AND GRACE RISK STRATIFICATION

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Objective To study the relationship between NT-proBNP levels obtained on admission and GRACE risk score as well as risk stratification in patients with NSTEMI (UA/NSTEMI).

Methods We enrolled 126 patients with unstable angina or Non-ST-segment elevation myocardial infarction that admitted in our hospital from June of 2009 to May of 2010, 84 of the patients with UA and 42 of them with NSTEMI. Then measured their concentration of plasma NT-proBNP, cTnI, CK-MB, liver and kidney function, blood coagulation function and other Routine laboratory tests on admission. All the patients received echocardiography evaluation and 124 of them underwent angiographic examination. All the patients received risk assessment based on Clinical data, the Global Registry of Acute Coronary Events (GRACE) score which include 8 variables (age, heart rate, systolic blood pressure, serum creatinine level, Killip class at admission, presence of ST-depression, elevated cardiac biomarkers, cardiac arrest) were used to evaluate Clinical Risk. After calculate the GRACE score, the patients were stratified into three levels. Analyse the relationship between NT-proBNP level and GRACE risk score in patients with NSTEMI.