

detect the residual activities of platelet induced by thrombin AA or ADP. And then the inhibition ratios of platelet after therapy were calculated and the characteristics of their distribution were analysed.

Results 1) The maximal potential activities of platelet are not homogeneous. Among the patients enrolled in this study, 7.1% is in very low activity while 14.3% is in very high. 2) The inhibition on aggregation of platelet also differs in ADP pathway and AA pathway. The frequency fractional of aspirin is more lower when the inhibition rate is under 30% and more higher when it is between 70%–79.9% ($p<0.05$). 3) The actual frequency fractional variation of each intensity of inhibition also differs significantly ($p=0.0026$). 4) Even in the same patient the inhibition of platelet aggregation of the two pathways, AA and ADP, is not synchronous. 5) Only 1.6% of the patients experienced resistance in both aspirin and clopidogrel pathway, and 3.8% of them are over-sensitive in both.

Conclusion We should assess basic activity of platelet and the reacts to remedies on every patient individually because they differ significantly in each case. Even in same patient, the change of inhibition on aggregation of platelet by aspirin or clopidogrel is not synchronous. So, we should assess the effects of aspirin and clopidogrel respectively in each patient. In Chinese patients with ACS, the inhibition intensity of platelet by aspirin with regular dosage is higher than that of clopidogrel. Only 1.6% patients with both aspirin and clopidogrel resistance, who are at high risk of thrombosis, while 3.8% patients over-sensitive to both aspirin and clopidogrel, who are at high risk of haemorrhage. All of these mean that the individual assessment on activity of platelet and reaction of antiplatelet therapy should been done in order to adjust medicine and dosages.

e0459 **PRIMARY EVALUATION TO SAFETY AND VALUE OF IABP IN PATIENTS WITH ACUTE CORONARY SYNDROME COMPLICATED WITH PUMP FAILURE**

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Objective To evaluate the therapeutic effect and safety, and the result of coronary angiography (CAG) and serum brain natriuretic peptide (BNP) level in patients with acute coronary syndrome complicated with pump failure treated with intra aortic balloon pump (IABP).

Methods Between January 2008 and May 2009, 121 patients with acute coronary syndrome (ACS) and pump failure were divided into IABP group (61 cases) and the control group (60cases), respectively. There were 76 male patients and 45 female patients, while 77 were ST-elevation myocardial infarction (STEMI), 35 were Non ST-elevation myocardial infarction (NSTEMI) and 9 were Unstable angina pectoris (UA).40 patients fell into Killip rank-II, 45 patients fell into [i]Killip rank-III, while 36 patients fell into Killip rank-IV. All of them were suitable for IABP treatment and there was no contraindication. They all received basic treatment, including anti-anginal therapy, anti-platelet, cholesterol lowering, eatl. All patients underwent CAG and percutaneous coronary intervention (PCI). The IABP group were treated with IABP while the control group were not. Evaluations 1. Clinical effect (including the effect of angina and pump failure), timing in hospital, death rate in 30d 2. The CAG result after PCI. 3. The level of EF measured by cadioultrasound. 4. The level of BNP were measured.

Results After treatment, the IABP group were higher significantly than the control group in clinical effect, including the effect of angina and pump failure [94.7% vs 71.6% ($p 0.05$)]; IABP group was lower than the control group on the BNP after treatment, there were significantly difference in two groups ($4893\pm 966\rightarrow 316\pm 91$ vs

$4687\pm 912\rightarrow 511\pm 120$ (ng/l) ($p<0.01$). As for the complication, there were few patients with bleeding (3.2% (2/61)), haematoma (3.2%(2/61)), acute earterial embolism (1.6% (1/61)), fever (1.6% (1/61)), platelet decreasing (4.8% (3/61)). Although there were more complications in IABP group, after treatment the symptom got advanced and there were no severe complication.

Conclusion IABP can significantly advance the haemodynamic indexes and serum BNP level of the patients of ACS with pump failure, can ease the pain of Angina, improve the tolerance and successful rate of the PCI treatment, and decrease death rate. And there is no severe complication, and it is a kind of safe treatment.

e0460 **EFFECT OF SHENGMAI INJECTION (SMI) ON BLOOD VASCULAR ENDODERMIS FUNCTION AND CARDIAC FUNCTION IN CORONARY ARTERY DISEASE WITH TYPE 2 DIABETES PATIENTS**

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Objective To investigate the drug effects of Shengmai Injection (SMI) on blood vascular endodermis function and cardiac function in coronary artery disease (CAD) with type 2 diabetes mellitus (2-DM) patients.

Methods A total of 120 patients with type 2 diabetes mellitus and CAD diagnosed by coronary angiography (CAG) were randomised into two groups, the control group, treated with conventional therapy and the SMI group, treated with SMI. The patients' nitrite oxide (NO), Endothelin-1 (ET-1), AngII in venous blood were noted, and the blood vascular endodermis function, cardiac function were measured before treatment and after 3 weeks treatment, so as to observe and compare their changes in the two groups.

Results After 3 weeks of treatment, the serum content of NO was significantly higher, the serum content of ET-1 and AngII were significantly lower in the SMI group than that in the control group ($p<0.01$); The patients' blood vascular endodermis function and cardiac function were improved in SMI group than that in the control group ($p<0.01$).

Conclusion The SMI could not only improve the blood vascular endodermis function but also improve the cardiac function in coronary artery disease with type 2 diabetes mellitus patients.

e0461 **THE APPLICATION PROSPECTS OF ORAL FXA INHIBITORS IN ACUTE CORONARY SYNDROME**

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Acute coronary syndrome (ACS) patients would still have twice heart attack, even after they had received the standard regimen, such as vascular reconstruction, oral anti-platelet therapy, and other evidence based medical therapy. Therefore, clinical have been in urgent need of a new and effective anticoagulant. OASIS-research have shown that the factor Xa play a decisive role in the process of coagulation. For ACS patients' anticoagulant therapy, compared with normal or low molecular weight heparin, the FXa indirect inhibitor Fondaparinux sodium can not only be effective in reducing cardiovascular events, but also greatly reduce the risk of bleeding. It is especially for the patients with higher risk of bleeding and regardless the patient's age, gender, renal function and risk stratification. Based on these findings, a variety of clinical trials

about small molecule oral direct inhibitor of activated factor X (FXa) anticoagulant (rivaroxaban and apixaban) gradually carried out. The conclusion has show clear pharmacokinetic and efficacy features. Rivaroxaban showed superior effectiveness in the Clinical study RECORD, making it become the first clinical application anticoagulant and not require anticoagulation monitoring. It is proved that rivaroxaban reduce the mortality from deep vein thrombosis, pulmonary embolism and all-cause by 18.9%. Take off to want: it will not increase the risk of bleeding. Rivaroxaban has been used for preventing vein thrombosis in adult elective total hip or total knee replacement. Related trials in the prevention of stroke leading by atrial fibrillation and secondary prevention of acute coronary syndrome (ACS) is in progress. APPRAISE studies show that aspirin or aspirin plus clopidogrel therapy added to 5mg or 10mg apixaban may have therapeutic potential in the hope to prevent second heart attack in ACS patients. And the further tests hope the combination based on standard regimen can effectively reduce the cardiovascular events, stroke and mortality in ACS patients. Currently, apixaban clinical trials in prevention of venous thrombosis and prevention of stroke caused by atrial fibrillation are also on going. Current studies tend to show that, compared with placebo, oral factor Xa inhibitor base on standard regimen can give available benefits in ACS patients. But these findings still need further large-scale controlled studies to confirm the statistical significance.

e0462 RELATIONSHIP BETWEEN RED CELL DISTRIBUTION WIDTH AND COMPLICATION RISK IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

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Objective To investigate the relationship between red cell distribution width (RDW) level and risk of complication in acute myocardial infarction (AMI) patients; to compare the correlation of RDW with NT-proBNP, cTnI and hs-CRP.

Methods From January 2006 to December 2009, 200 consecutive AMI patients admitted in cardiology department of affiliated hospital of putian university were enrolled. Patients were classified into complication group (n=145) or complication-free group (n=55) according to the presence or absence of new-onset symptomatic heart failure, arrhythmia or cardiac shock. Patients were divided into quartiles based on RDW value ($\leq 12.8\%$, 12.9%–13.8%, 13.9%–14.7%, $\geq 14.8\%$, n=50 in each quartile), and OR of incident complication was calculated by using logistic regression. Correlation of RDW with NT-proBNP, cTnI and hs-CRP was compared by spearman rank correlation analysis.

Results RDW levels in complication group was significantly higher than that in Complication-free group ($14.5 \pm 0.97\%$ vs $12.9 \pm 0.85\%$, $p < 0.05$). RDW levels of AMI patients were positively associated with complication risk, after adjustment for estimated glomerular filtration rate, serum ferrum, left ventricular end-diastolic dimension, left ventricular ejection fraction, and plasma NT-proBNP, cTnI and hs-CRP levels, the highest RDW quartile entailed 1.96 times greater risk for complication than the lowest quartile (95% CI 1.34–2.79, P cTnI > hs-CRP (rs=0.31, 0.29 and 0.21 respectively, all $p < 0.05$).

Conclusion Higher RDW is closely associated with increased risk of AMI complication and elevated plasma NT-proBNP and cTnI level.

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Conclusion Higher RDW is closely associated with increased risk of AMI complication and elevated plasma NT-proBNP and cTnI level.

e0464 CLINICAL SIGNIFICANCE OF THE CHANGES OF SERUM TNF- α , IFN- γ , MMP-9

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A variety of inflammatory factors in atherosclerosis (AS) plays a complex role, the combination of two or more of the inflammatory mediators can increase inflammatory mediators in coronary heart disease diagnosis and treatment of value.

Objective To investigate Clinical significance of the changes of serum TNF- α , IFN- γ , MMP-9, oxLDL levels in patients with acute coronary syndrome (ACS).

Method Selected 63 patients who had been done coronary angiography from June 2009 to January 2010 in our hospital. There are 37 males and 26 females, divided into 3 groups: acute myocardial infarction (AMI) group, unstable angina group and the normal control group. According to the results of coronary angiography the patients were divided into 3 groups: acute myocardial infarction group, unstable angina group and the normal control group. There are 27 cases in AMI group, 17 males and 10 females, mean age (62.5 ± 11.4) years. Selection criteria: According to clinical symptoms, ECG changes, myocardial enzyme increases, coronary angiography, all patients are Q-wave myocardial infarction, and the incidence in the 3h~24h. There are 20 patients in UAP group, 13 males and 7 females, mean age (64.4 ± 9.1) years of age. Selection criteria: Overworked deterioration of angina and (or) resting angina, and at least onseted once severe angina in 48h, electrocardiographic