14 males, 150 mg clopidogrel per day) and the control group (n=26, 15 males, 75 mg clopidogrel per day). QCA and TIMI Myocardial perfusion grading (TMPG) were used to analyse the lesion and reperfusion of the culprit vessel and myocardium. Record the information of patients in-hospital, in the 1 month and 6 months including the level of BNP, left ventricular ejection fraction (LVEF), the left ventricular peak ejection rate (LPER), the left ventricular peak filling rate (LPFR), the left ventricular time to peak ejection rate (LTPER) and left ventricular time to peak filling rate (LTPFR).

Result 1. The CTFC of the high maintenance dose group after PCI was smaller than the standard dose groupThe percentage of TMPG 3 grade was higher in the high maintenance dose group 2. The left ventricular peak ejection rate (LPER), the left peak filling rate (LPFR) 6 months after PCI in the high maintenance dose group was higher than the control group. The left ventricular time to peak ejection rate (LTPER), left ventricular time to peak filling rate (LTPFR) 1 month after PCI in the high maintenance were lower than the control group. 3. There were less acute and subacute thrombosis cases in the high maintenance dose group than the standard dose group. There was no significant difference in haemorrhage events between two groups.

Conclusion The high maintenance dose clopidogrel can improve cardiac function. There is potential benefit in increasing coronary blood flow and improving myocardium perfusion. High maintenance dose clopidogrel decreases the acute and subacute thrombosis but do not increase the haemorrhage events.

e0456 RELATIONSHIP BETWEEN HYPOKALAEMIA AT THE EARLY STAGE OF ACUTE MYOCARDIAL INFARCTION AND MALIGNANT VENTRICULAR ARRHYTHMIA

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Objective To investigate the relationship between hypokalaemia at the early stage of acute myocardial infarction (AMI) and malignant ventricular arrhythmia (MVA) as well as the features of hypokalaemia.

Methods Total of 302 patients were involved in this study and conformed to the following conditions: getting AMI primarily, onset was within 24 h, accepted serum potassium test and Holter monitoring on admission, didn't use diuretics before, hyperthyroidism, diabetes, vomiting or diarrhoea resulted from gastrointestinal diseases. Relevant data including types of AMI, namely STEMI or NSTEMI; infarct sites of STEMI; time interval from onset of AMI to admission; whether or not hypokalaemia (serum potassium≤3.5 mmol/l) and MVA were recorded. The relationships between hypokalaemia and MVA, the time interval and hypokalaemia, types of AMI and hypokalaemia, infarct sites and hypokalaemia were analysed. SPSS13.0 was used for statistical analysis. The categorical data was processed with chi-square test and p values below 0.05 were considered significant.

Results The incidence of hyokalaemia for 24 patients within 3h from onset of AMI to admission was 37.5%. The incidence of MVA between the group with and without hypokalaemia had significant difference (10.47% vs 3.36%, $p<0.05$). The incidence of hypokalaemia between the group within 3 h and group within 3 h to 24 h of time interval from onset of AMI to admission had significant difference (37.5% vs 15.47%, $p<0.05$). There was no significant difference in incidence of hypokalaemia between the group of STEMI and NSTEMI (20.35% vs 12.68%, $p>0.05$). There was no significant difference in incidence of hypokalaemia between groups with anterior wall AMI and non-anterior wall AMI (25.88% vs 18.81%, $p>0.05$).

Conclusion At the early stage of AMI, hypokalaemia is often present. MVA was close associated with hypokalaemia at the early stage of AMI, which indicated that hypokalaemia was a cause of death.

e0457 ESTABLISHMENT OF CONTRAST INDUCED NEPHROPATHY MODEL IN RATS INTERVENTION

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Objectives The purpose of this study was to establish a rat model of CIN and to evaluate its efficacy.

Methods Totally 24 SD rats were randomly allocated into experimental group (group A, n=12) and control group (group B, n=12). After dehydration for three days, rats in group A were given intravenous MDDS, while rats in group B were given intravenous normal saline (NS). Then, all rats got normal water-drinking to the end of study. Renal ultrasonic examination was performed to observe the morphologic changes, diameters of renal artery and blood flow in renal artery. Blood samples were taken to measure the level of serum creatinine. The tissue of kidney were incised for microscope and electron microscope study.

Results The dimensions of the two groups before and after dehydration were not different. It gradually enlarged after CM injection. These changes were the most obvious at 6 and 12 h, which did not recover at 24 h. The PSV, EDV, S/D and VTI were lowerest at 6 h and then recover to normal level at 24 h. RI was increased after CM injection, the lowest occurred at 6 h, and recovered to normal level at 24 h. Serum creatinine was significantly elevated after dehydration, the highest level occurred at 12 h and then began to recover at 24 h. Microscope examination to renal sample at 12 h found patch disappearance of tubular structure, widely congestion at medullar area. No pathological glomerular changes were found under microscope. Electron microscope examination found desquamation, sparseness of microvillous of tubular endothelium, membrane confusion, disappearance, swelling, fragmentation of the MIT, with obstrcted tubular lumen and basal membrane swelling.

Conclusion Combined with dehydration, intravenous injection of contrast lead to obvious acute kidney injury, with the changes of kidney tissue pathology, haemodynamics and kidney functions which are similar to the characteristics of CIN in humanbeings.

e0458 COMPARATIVE STUDY OF ASPIRIN AND CLOPIDOGREL IN HIGH RISK ACS

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Background It is not reasonable to administrate the same dosage of antiplatelet medicine to all patients with ACS regardless of patients' height, weight, metabolism and effectiveness of those medicines. And thromboelastography (TEG) has provided a relatively stable, convenient, duplicable method for testing activity of platelet in recent years.

Objective To investigate the inhibition levels and characteristics of frequency distributions of platelet aggregation after antiplatelet therapy with aspirin and clopidogrel in Chinese patients with ACS undergoing PCI.

Methods High risk Patients with ACS received PCI after administration of loading dosage of clopidogrel (600 mg) and aspirin (300 mg) subsequence with maintenance dose of clopidogrel (75 mg per day) and aspirin (100 mg per day) for one year. Blood sample was gotten 24–48 h after PCI for the test of TEG-mapping in order to

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 basical treatment, including anti-anginal therapy, anti-platelet, cholesterol lowing, 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 ($4893\pm966\rightarrow316\pm91$ vs $4687\pm912\rightarrow511\pm120$ (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