

Methods 228 patients with acute coronary syndrome undergoing delayed percutaneous coronary intervention were randomly divided into standard statin group (SSG n=115) and intensive statin group (ISG n=113). Patients in SSG were given simvastatin 20 mg/day and patients in ISG were given simvastatin 80 mg/day for at least 7 days before PCI, Serum creatinine was measured at admission, 24 h and 48 h after PCI, and the Creatinine clearance was calculated. The levels of hs-CRP, ICAM-1 and P-selectin were also measured.

Results Serum creatinine underwent significant increase after PCI, the peak value occurred at 24 h, and then began to decrease. At 48 h after PCI, the creatinine level significantly decreased ($p<0.001$) to baseline level in ISG, whereas in SSG the creatinine level failed to decrease significantly. Serum creatinine at admission was not significantly different between the two groups, But at 24th and 48th hour after PCI, it were lower in ISG than SSG ($p<0.05$ at 24th hour and $p<0.001$ at 48th hour). The creatinine clearance significantly decreased after PCI, the lowest value occurred at 24 h, and then it began to increase. In SSG, the creatinine clearance increased significantly ($p=0.03$) at 48 h, but still significantly lower than baseline level. In ISG, the creatinine clearance increased significantly ($p<0.001$) at 48 h and recovered to the level at baseline. Creatinine clearance improved much more in ISG at 24 and 48 h than that in SSG ($p<0.001$ at 24th hour and at 48th hour). Although procedure caused significant increase in hs-CRP, P-selectin and ICAM-1 ($p<0.001$), the increase in ISG was smaller than SSG ($p<0.001$).

Conclusion Pretreatment with intensive statin dosage before PCI can further decrease the occurrence of CIN. This benefit may be associated with the lowering of hs-CRP, P-selectin and ICAM levels.

e0647 THE ANIMAL MODEL ESTABLISHMENT OF ACUTE CORONARY NO-REFLOW PHENOMENON IN YORK SWINE VIA INTRACORONARY INJECTION OF MICROSPHERE WITH BLOOD SUSPENSION

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Objective To explore the fusibility of establishing animal model of no reflow phenomenon in swine by super selecting LAD with 4F catheter, and injecting polyethylene microspheres and blood suspension (PMBS) into LAD.

Methods Total of 15 york swines were included in this study. CAG was performed by 4F micro-catheter technique, and PMBS was injected into the superselected LAD. The coronary blood flow was evaluated by TIMI frame counts and the level of myocardial tissues perfusion was evaluated by TMPG. The model of NRP of AMI was considered as success while TIMI blood flow being less than grade 2 or TFC more than 36.2 counts or TMPG less than grade 1. Left ventriculography was performed with 4F Pigtail and left ventricular systolic, diastolic pressure was recorded. MRAP, mRVP, mPAP and PCWP were measured by swan-ganz floating catheter, and CO was measured by thermodilution. ECG and blood pressure were monitored, and platelet aggregate ratio, CK-MB, TnI and blood gas analysis were measured. Ischaemic region, normal region and borderline were scissored respectively and sent to check for pathology, and the necrotic zone of myocardium was weighed and the percentage of which in left ventricle was calculated.

Results According to the standards of NRP, 11 animals achieved the NRP model of AMI successfully, achievement ratio of the models was 73.3%, average times of injection of PMBS were 3.2 ± 0.6 . While the model of NRP was established, instant ECG showed that ST segment elevated and formed single-direction curve with high T wave, and R wave was gradually depressed. Though PO_2 was decreased after establishment of NRP model, the level of which was in normal range. PAP, PCWP and LVEDP were increased at instantly, 30, 60, 120,

180 min after NRP with AMI, which had statistical significance ($p<0.05$). SBP and DBP were decreased after successful establishment of NRP model. Heart rate was increased ($p<0.05$) and LVP was decreased ($p<0.05$) after successful establishment of NRP model. Decrease of mean perfusion pressure was negative correlation with TFCs. Pathological examination showed that myocardium fibre swelling, sarcolysis, reticular formation and local liquefaction necrosis occurred. The area of myocardiolysis in the left ventricle was 28.6%.

Conclusion This model had advantages of direct-viewing, simplicity, repetitiveness, mild trauma, closed chest, high achievement ratio and more similar to NRP after PCI in clinical compared with myocardium dyeing and other methods. It might provide better experimental animal model for microcirculation disturbance after AMI.

e0648 EFFECTS OF PRETREATMENT WITH SIMVASTATIN ON THE AREA OF MYOCARDIAL INFARCTION IN REPERFUSION INJURY RABBITS AFTER ACUTE MYOCARDIAL INFARCTION

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Objective To investigate the effects and mechanism of the pretreatment with simvastatin on the area of myocardial infarction in reperfusion injury rabbits after acute myocardial infarction (AMI).

Method 20 New Zealand white rabbits were randomly divided into four groups: group A, AMI/reperfusion; group B, pretreated with simvastatin (5 mg/kg) for 3 days before AMI; group C, treated with glibenclamide (K_{ATP} channel blocker) (5 mg/kg) before AMI, group D, treated with glibenclamide and simvastatin before AMI. Models of AMI/reperfusion were established by 180-min of coronary occlusion and 60-min of reperfusion. At the end of reperfusion, the coronary artery was reoccluded, and the risk zone was delineated with Evan' blue. Hearts were sectioned (2 mm) and incubated in 1% TTC in phosphate buffer for 20 min to define white necrotic tissue when fixed in 10% formalin for 24 h, and the level of plasma creatine kinase-MB was assessed and evaluated.

Result (1)The content of CK-MB was significantly decreased in group B than that in group A and group C ($P<0.01$), however, it was markedly decreased in group D than those of group A, and significantly increased than that of group B. (2) The risk zone volumes were similar among all the groups. The infarct size was $(43.6\pm 4.6)\%$ in group A, Simvastatin treatment resulted in a significant limitation of infarct size in group B ($23.6\pm 2.8\%$ VS group A, $P<0.01$), the infarct size was similar in group C ($45.1\pm 4.5\%$) compared with that in group A ($P>0.05$). However, it was markedly decreased in group D ($36.8\pm 3.4\%$) than that of group A ($P<0.05$), and significantly increased than that of group B ($P<0.05$).

Conclusion Simvastatin significantly reduced myocardial infarct size and the level of plasma myocardial enzyme during AMI and reperfusion in rabbits, which has protective effects on ischaemic/reperfused myocardium, and the activation of ATP-sensitive K channels might be involved in this protective mechanism.

e0649 LONG-TERM EFFECTS OF RA-URIS PACING ON LEFT VENTRICULAR REMODELLING IN PATIENTS WITH CHRONIC HEART DYSFUNCTION

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Objective To assess the effects of RA-URIS dual chamber sequential pacing on left ventricular remodelling and cardiac function in SSS or AVB patients with chronic heart dysfunction.

Methods 32 patients with SSS or AVB associated chronic heart dysfunction were divided two groups RA-URIS pacing group (13 cases) and RA-RVA pacing group (19 cases). The parameters including left ventricular mass index (LVMI), left ventricular ejection fraction (LVEF) and 6 min walk test (6-MWT) were compared between two groups in pre-pacing and in follow up 24 months after pacing.

Results There were no difference on LVEF, LVMI and 6-MWT between two groups before pacemaker implanted. But after 24 months for pacing therapy in RA-URIS group, there was significant increase in LVEF (48.3 ± 10.1 vs 40.7 ± 8.4 , $p < 0.05$), 6MWT (386 ± 69 vs 330 ± 78 , $p < 0.05$) and decrease in LVMI (102.5 ± 16.3 vs 120.1 ± 18.5 , $p < 0.05$) Meanwhile, LVEF, 6-MWT (48.3 ± 10.1 vs 43.7 ± 5.5 , 386 ± 69 vs 329 ± 91 , $p < 0.05$) were increased and LVMI (102.5 ± 16.3 vs 113.6 ± 17.4 , $p < 0.05$) were decreased significantly in RA-URIS group compared with those of RA-RVA group in 24 months follow up.

Conclusion The results showed that RA-URIS pacing may reverse left ventricular remodelling in patients with chronic heart dysfunction as well as improving life quality.

e0650 THE EFFECTS OF BIVENTRICULAR SYNCHRONOUS PACING ON CBF, MVO₂ AND CWE IN DOGS

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Objective To compare the effects of biventricular synchronous pacing with different pacing site on coronary Blood flow (CBF), myocardial oxygen consumption (MVO₂) and cardiac work efficiency (CWE).

Methods RA-cHisB and RA-RVA sequential pacing, RVA-LVPL and cHisB-LVPL pacing, RA-RVA-LVPL and RA-cHisB-LVPL pacing were randomly performed in 14 dogs with general-anaesthetised, opened chest and artificial-ventilation. SNR was as self-control. Every pacing mode was to capture SNR for 20 min with a recovery of physiologic parameters for 10 min, and then shift another pacing mode in turn. CBF and CO were measured by a electromagnetic flowmeter. Blood sample were respectively collected from the catheters in left ventricle and coronary sinus for getting the arterial O₂ saturation (SaO₂), coronary sinus O₂ saturation (ScsO₂) and Hgb.

Results No significant difference in CBF among the RA-cHisB-LVPL, RA-RVA-LVPL and RA-cHisB pacing were found. CBF in RA-RVA pacing was decreased than that in RA-cHisB-LVPL, RA-RVA-LVPL and RA-cHisB pacing. MVO₂ among the all groups had no significant changes compared with each other. CO of RA-cHisB, RVA-LVPL and cHisB-LVPL pacing were increased as compared with that in RA-RVA pacing ($p < 0.01$). CO in cHisB-LVPL pacing was increased by 6.7% than that in RVA-LVPL pacing. CO in RA-cHisB pacing was increased by 8.7% than that in RA-RVA pacing. CO in RA-RVA-LVPL pacing was increased as compared with that in RA-cHisB and cHisB-LVPL pacing, respectively. CO in RA-cHisB-LVPL pacing was increased than that in RA-RVA-LVPL pacing. The changes of CWE were similar to that of CO among all pacing groups. CWE in RA-cHisB-LVPL pacing was significantly enhanced as compared with that in RA-cHisB and RA-RVA-LVPL pacing. Conclusions RA-cHisB dual chamber, cHisB-LVPL biventricular and RA-cHisB-LVPL triple-chamber pacing might significantly increase CBF and CWE without the increment of MVO₂.

Conclusion The biventricular synchronous pacing have the beneficial effects on maintaining the balance between myocardial oxygen supply and consumption and increasing CWE by enhancing the cardiac ejection performance.

e0651 EVALUATION ON ACUTE HAEMODYNAMIC EFFECTS OF INTRAVENOUS RHBNP IN ACUTE MYOCARDIAL INFARCTION PATIENTS WITH HEART FAILURE BY CONTINUOUS SWAN-GANZ CATHETER MONITORING

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Objectives To compared and evaluated the acute haemodynamic effects and safety of intravenous rhBNP versus nitroglycerin (NIT) in AMI patients with ADHF by Swan-Ganz catheter (6F, ARROW, Inc USA) monitoring through a prospectively designed study.

Methods 42 consecutive AMI patients with ADHF were randomised into rhBNP group ($n=21$, $1.5 \mu\text{g}\cdot\text{kg}^{-1}$ bolus intravenous injection followed by $0.0075 \mu\text{g}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$ for the first 3 h and $0.015-0.03 \mu\text{g}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$ infusion for following 21 h) and NIT group ($n=21$, 10 to $100 \mu\text{g}\cdot\text{min}^{-1}$ intravenous infusion for 24 h). The invasive haemodynamic parameters were measured at the baseline, during 24 h of drug infusion and 6 h of post-infusion by Swan-Ganz catheter monitoring via subclavian access while total urine output during 30 h and relative serum chemistries were measured. MACE was followed up 1 week.

Results As early as 30 min after the initiation of rhBNP, PCWP was reduced by 48.9% contrasted to baseline and cardiac index (CI) was increased by 27.1% at 1 h of rhBNP infusion respectively, ($p < 0.05$); these significant changes in PCWP and CI continued throughout 24 h of rhBNP infusion and 6 h of discontinuing the infusion ($p < 0.05$). Although PCWP reduced significantly at 2 h of NIT infusion ($p < 0.05$) and CI elevated significantly at 3 h of infusion. The total urine output for 30 h of this study in rhBNP group tended to be more than that in NIT group ($p > 0.05$), while serum potassium concentration in rhBNP group was significantly increased relative to baseline value (3.4 ± 0.5 vs $4.0 \pm 0.4 \text{ mmol}\cdot\text{L}^{-1}$, $p < 0.05$). There was no symptomatic hypotension or other adverse events appeared to be associated with rhBNP administration under this study.

Conclusions Intravenous injection of rhBNP results in more rapid, strong and prolong haemodynamic improvement than that of NIT in AMI patients with ADHF as well it is also feasible and safe in clinic as a selective agent for AMI patients with ADHF.

e0652 THE LEVEL CHANGES OF IL-8 AND THE RELATIONSHIP TO THE LEFT VENTRICULAR ANEURYSM FORMATION AND CARDIAC PERFORMANCE IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

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Objective To investigate the changes in interleukin-8 (IL-8) and the relationship with the left ventricular aneurysm (LVA) and cardiac function in acute myocardial infarction (AMI) patients using left ventriculography (LVG).

Methods A total of 106 patients with primary anterior AMI accompanied LVA diagnosed by LVG were submitted to LVG after onset of AMI symptom and divided into LVA group and non-LVA group. Plasma IL-8 was measured. At the immediately after PCI and 6th month after AMI, the parameters of left ventricular end diastolic volume index (LVEDVI), left ventricular end systolic volume index (LVESVI), left ventricular ejection fraction (LVEF), wall motion score (WMS) and left ventricular end diastolic pressure (LVEDP) were measured by LVG. The main adverse cardiac events were recorded in 24th week after PCI.