

to the catheterisation laboratory between 8 and 12 h after the last subcutaneous dose, designed to receive 60 IU/kg IV dalteparin 5 min before PCI, and no additional dalteparin was given to patients who came to the catheterisation laboratory within 8 h of the last subcutaneous dose. The primary efficacy outcome was the incidence of death, non-fatal myocardial infarction (MI), and urgent revascularization for repeating ischaemia. The primary safety outcome was the incidence of bleeding not related to coronary artery bypass graft (CABG) surgery.

Results One patient developed acute thrombosis during PCI but not resulted in acute myocardial infarction (AMI). In-hospital and during follow-up within 35 days, no patient experienced death or non-fatal myocardial infarction and urgent target vessel revascularization, Thrombolysis In Myocardial Infarction (TIMI) major bleeding and minor bleeding occurred in 0% and 4.2% of patients respectively.

Conclusions It may be safe and efficient using dalteparin instead of UFH in selective percutaneous coronary intervention of patients with coronary heart disease.

e0545 RESEARCH ON INHIBITING VASCULAR REMODELLING OF CAPTOPRIL AND XUEFUZHUYU CAPSULE ON THE BASIS OF RESTRAINING ACTIVATION AND MIGRATION OF ADVENTITIAL FIBROBLASTS

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Background Vascular remodelling is the common pathophysiological basis of atherosclerosis, hypertension and coronary artery disease, et al. It is also one of pathogenesis mechanisms which causes target organs damage and dysfunction. Now, new evidences show that the vascular adventitia may be involved in the formation of vascular remodelling. The activation and migrating to the intima of vascular adventitial fibroblasts is one of the important reasons leading to intimal thickening and stenosis.

Objective To observe inhibition of ACEI drugs Captopril and Chinese medicine Xuefuzhuyu Capsule to vascular remodelling and adventitial fibroblasts activating and migrating.

Methods 1. The intima of left carotid common arteries was denuded by balloon injury. Animals with the percutaneous transluminal angioplasty (PTA) were divided into five groups at random: sham, model, Captopril and Xuefuzhuyu group, which including 8 rats. The injured sections were taken out and made into specimens for HE staining to observe vascular wall thickness, area and vascular stricture rate after rats had been drenched for 28d. 2. It was adopted that primary culture of, vascular adventitial fibroblasts and TGF β 1-induced (10 ng/ml) model. Rats were randomly divided into normal group, Captopril group and Xuefuzhuyu group. Arterial blood were collected after drenching drug 7d and drug serums effected on the TGF β 1-induced fibroblasts for 48 h. The α -SM-actin expression changes were detected by the western blot method and cell migration rate by cell scratch method.

Results 1. Effects of drugs on indexes of vascular remodelling: Neointimal thickness of Xuefuzhuyu group significantly was reduced than that of model group ($18.92 \pm 4.77 \mu\text{m}$ vs $52.11 \pm 21.65 \mu\text{m}$, $p < 0.01$), and so did neointimal area ($0.048 \pm 0.013 \text{mm}^2$ vs $0.130 \pm 0.049 \text{mm}^2$, $p < 0.01$). At the same time, vascular stricture rate of Xuefuzhuyu group was obviously decreased compared with model group (8.910 ± 2.120 vs $22.85 \pm 9.763\%$, $p < 0.01$). These three indexes of Captopril group were no statistically significant differences through lessening trend. 2. Effect of drug serum on expression of α -SM-actin of TGF β 1-induced fibroblasts: Light density values (OD)

of normal controls, TGF- β 1, Captopril and Xuefuzhuyu group were 0.852 ± 0.0223 , 1.071 ± 0.0486 , 0.889 ± 0.0310 and 0.858 ± 0.0204 respectively, and values of captopril and Xuefuzhuyu group were significantly reduced compared with TGF- β 1 group ($p < 0.01$). 3. Effect of drug serum on mobility of TGF β 1-induced fibroblasts: Cell migration rates of captopril and Xuefuzhuyu group lowered significantly than that of TGF- β 1 group (0.140 ± 0.0687 and 0.108 ± 0.0435 vs 1.000 ± 0.0000 , $p < 0.01$).

Conclusions 1. Both captopril and Xuefuzhuyu Capsule inhibit vascular remodelling to a certain extent. Animal experiments shows that more benefits can be obtained from the Xuefuzhuyu than Captopril. 2. Drug serums of two drugs can inhibit activation and migration of adventitial fibroblasts, which may be one of mechanisms of inhibiting vascular remodelling.

e0546 EFFICACY AND SAFETY OF CT-GUIDED PERCUTANEOUS CORONARY INTERVENTION OF LEFT MAIN AND OR TRIPLE VESSEL CORONARY ARTERY DISEASE

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Introduction Unlike invasive coronary angiography (ICA) which allows visualisation of the coronary vessel lumen, coronary CT angiogram (CCTA) allows both visualisation of the vessel lumen and the vessel wall. The information obtained may potentially allow better pre-PCI planning and safe outcomes.

Aim The aim of this prospective study was to assess the efficacy and safety of CT guided PCI in patients with left main and or triple vessel coronary disease.

Methods Patients, who were listed for PCI based on the results of CCTA, were randomly selected in the study over a 5 year period. Coronary CT angiographic inclusion criteria were, 50%–100% dm occlusion in a major coronary artery with a target vessel diameter ≥ 2.25 mm, involving all 3 of the main coronary arteries and or left main coronary artery. They underwent CCTA using 64 MSCT and 128 MSCT scans. Coronary stenoses on the ICA were determined independently in the catheterisation laboratory using online quantification software. Coronary angiographic inclusion criteria were 50%–100% diameter occlusion, and vessel diameter ≥ 2.25 mm.

Results A total of 34 consecutive patients who met the inclusion criteria were enrolled during the study period. The mean age was 57.2 ± 8.2 years while the male to female ratio was 15:2. There were 544 coronary segments in the study population. There were 177 (32.5%) coronary segments with significant ($\geq 50\%$) stenosis on CCTA. In comparison, there were 180 coronary segments with significant stenosis on ICA. The difference is accounted for by 6 false negative and 3 false positive results on CCTA. All patients who were scheduled for PCI on the basis of the CCTA results proceeded to PCI. A total of 116 stents were implanted, representing an average of 3.4 ± 1.6 stents per patient (range, 1–12 stents). Technical success was achieved in all the 34 patients who proceeded to PCI. Significant triple vessel disease was present in 88.2% (30/34) of patients and left main disease was present in 11.8% (4/34). During PCI and stenting, there were no patients who had a major adverse cardiac event (MACE), developed a stroke, underwent emergency bypass graft surgery or died. During follow-up (mean of 24 months) only 1 patient had another PCI done due to development of significant lesion in the non-stented segment after approximately 38 months from the previous CT scan and PCI. The 5-year event-free survival was 100%.

Conclusion All eligible patients who underwent pre-PCI CT planning were associated with uncomplicated and successful procedures. The long-term outcome was excellent as there were no repeat procedures due to restenosis and no emergency CABG was needed.

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e0547 LEFT ATRIUM FUNCTION IN PATIENTS WITH PAROXYSMAL ATRIAL FIBRILLATION: ANALYSIS FROM TWO-DIMENSIONAL SPECKLE TRACKING ECHOCARDIOGRAPHY

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Introduction To observe the changes of left atrium function in patients with paroxysmal atrial fibrillation (AF) using two-dimensional (2D) speckle tracking echocardiography (STE).

Methods The study population consisted of 33 patients with paroxysmal atrial fibrillation and 30 age, sex-matched control subjects in sinus rhythm (SR) who were referred to our echocardiography laboratory. All of the patients were in sinus rhythm when they were checked. Left atrial diameter (LAD), left atrial area (LAA), interventricular septum thickness (IVST); Left ventricular end-diastolic diameter (LVEDD) were measured in 2-dimensional echocardiography imaging. LV ejection fraction was determined. Measured mitral valve A wave velocity time integral (VTI-A) and maximum velocity (VA). LA wall strain in the longitudinal direction obtained using 2DSTE. Measured peak atrial longitudinal strain (PALS) and atrial contraction longitudinal strain (ACLS) in apical 4-chamber view and apical 2-chamber view. Measured time to peak longitudinal strain (TPLS). Δ TPLS was defined as the difference between the TPLS in apical 4-chamber view and apical 2-chamber view.

Results There were no significant differences between the 2 groups regarding age (63 ± 12 vs 60 ± 9 years), sex (males 48% vs 60%) and history of hypertension and diabetes mellitus. Compared with control group, Δ TPLS were significantly increased in AF group (52.83 ± 32.2 vs 31.33 ± 20.2 , $p < 0.05$). In Patients with AF, ACLS were significantly decreased than in control group (10.09 ± 3.3 vs 13.74 ± 3.1 , $p < 0.05$). The PALS; LAD; LVEDD; IVS; EF; VA; VTI-A and LAA between paroxysmal AF and control group did not show significant difference ($p > 0.05$).

Conclusions 2DSTE can effectively and easily measure LA Δ TPLS and ACLS, speckle tracking echocardiography could be a method to non-invasively assess LA function in paroxysmal atrial fibrillation patients.

e0548 CORRELATION BETWEEN APNOEA HYPOPNOEA INDEX AND SLEEPING HEART RATE IN CHINESE ADULT

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Objective To detect the correlation between apnoea-hypopnoea index (AHI) and parameters of sleeping heart rate.

Method 404 subjects who experienced polysomnography (PSG) during 2005–2008 in The Third Hospital of Peking University ENT department were included. The participants were separated as obstructive sleep apnoea-hypopnoea syndrome and normal population. OSAHS patients were divided into mild, moderate and severe group according to Chinese guideline. Max sleeping heart rate (MaxHR), min sleeping heart rate (MinHR) and difference of heart rate (max minus min, dHR) were compared between groups.

Result 1) MaxHR, MinHR and dHR were 92.00 ± 13.11 /min, 51.15 ± 9.72 /min and 40.84 ± 12.30 /min in OSAHS population. The three parameters in control participants were 87.40 ± 11.82 /min, 50.24 ± 9.81 /min and 37.16 ± 12.35 /min, respectively. Significant differences of MaxHR and dHR were detected between OSAHS

group and control ones, besides MinHR. ($p_{\text{MaxHR}}=0.003$, $p_{\text{dHR}}=0.028$ and $p_{\text{MinHR}}=0.440$). 2) Positive correlation were detected between AHI and MaxHR ($r=0.320$, $p < 0.001$), as well as dHR ($r=0.205$, $p < 0.001$). 3) Linear regression was performed to adjusted bias induced by sex, age or other factors. Result of regression indicated that AHI was an independent factor of MaxHR and dHR.

Conclusion The max sleeping heart rate and difference of sleeping heart rate was significantly high in OSAHS population. AHI was an independent risk factor of sleeping heart rate.

e0549 SINGLE CENTRE EXPERIENCE ON INTRATHORACIC IMPEDANCE MONITORING IN CHRONIC HEART FAILURE PATIENTS

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Objective To observe the effectiveness of intrathoracic impedance monitoring on detecting aggravation in chronic heart failure patients with InSync Sentry CRT-D.

Methods We retrospectively analysed the clinical data of 14 consecutive patients. Patients were regularly followed up every 3–6 months after the implantation. At each visit, interrogation of the device was done by specified doctors. Patients were instructed to inform the researcher in case of a device alert, and to take extra 40 mg of furosemidum if they really had aggravated symptoms later. Data about heart failure hospitalisation was collected retrospectively from the medical record.

Results During 18–48 months follow-up, a total of 7 patients encountered 28 alert events. Among the 28 alert events, 3 (10.7%) alerts were not followed by any clinical condition, and 23 (82.1%) alerts were followed by deterioration of heart failure symptoms. Besides, 2 alerts were related to the onset of pulmonary infection. In the end, only 5 patients were hospitalised 10 times for deterioration of cardiac function.

Conclusions The function of intrathoracic impedance monitoring is reliable in predicting deterioration of heart failure, so prompt medical intervention may reduce symptoms and hospitalisations due to decompensation.

e0550 RADIOFREQUENCY CATHETER ABLATION OF LEFT CONCEALED ATRIOVENTRICULAR ACCESSORY PATHWAY WITH RAPID RATE DEPENDENT VENTRICULOATRIAL CONDUCTION

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Objective To investigate the characteristics of supraventricular tachycardia affiliated with left concealed atrioventricular accessory pathway (AP) with rapid rate dependent ventriculoatrial conduction and the experience of electrophysiological (EP) study and radiofrequency catheter ablation (RFCA) in these cases.

Methods 8 patients, 5 male, 3 female, aged from 24 to 62 years, who all had symptoms of paroxysmal palpitation and whose ECG recorded at the onset of tachycardia all manifested as narrow QRS complex, underwent electrophysiologic study and RFCA by the routine method, which including the properties of ventriculoatrial conduction while pacing (S_1S_1) were performed in right ventricular apex (RVA) and left ventricle, mapping AP and RFCA.

Result 8 cases were all left concealed atrioventricular AP. In all patients that special kind of atrioventricular AP with rapid rate