were defined by LV relative wall thickness and LV mass indexed to height (gram/height in m2.7). Multivariable logistic regression analyses were performed to define young adulthood determinants of LV geometric patterns. 

**Results**  
The prevalence of normal geometry, concentric remodelling, eccentric and concentric hypertrophy were 79.0%, 7.6%, 8.7% and 4.7% respectively. Males showed significantly higher prevalence for concentric remodelling and eccentric hypertrophy than females (5.6% vs 2.0% and 6.4% vs 2.3%, p < 0.01), however such differences were not noted for normal geometry and concentric hypertrophy (p > 0.05). Using the normal geometry group as reference, individuals with eccentric and concentric hypertrophy showed significantly higher levels of BMI (36.5 kg/m2 and 38.6 kg/m2 vs 27.2 kg/m2, p < 0.001), SBP (127.5 mm Hg and 137.2 mm Hg vs 114.7 mm Hg, p < 0.001), DBP (85.2 mm Hg and 89.7 mm Hg vs 73.5 mm Hg, p < 0.01), glucose (111.2 mg/dl and 129.3 mg/dl vs 85.2 mg/dl, p < 0.01), DM (24.3% and 41.6% vs 4.3%, p < 0.001) and triglycerides (156.8 mg/dl vs 128.5 mg/dl, p < 0.001) and total/HDL-C ratio (4.9 vs 4.1, p < 0.01) were higher significantly in eccentric hypertrophy only. However, none of these risk factors differed significantly between normal geometry and concentric remodelling groups (p > 0.05). In Multivariable logistic regression models age, gender, BMI, SBP, DBP, glucose, DM, triglycerides and total/HDL-C ratio, male gender was related to concentric remodelling hypertrophy (OR = 6.354, 95% CI 3.24 to 55.0, p < 0.002). 

**Conclusions** The findings showed that eccentric hypertrophy and concentric hypertrophy were more frequent and male gender, obesity and DM were significant determinants of these patterns of adverse cardiac remodelling in young adults. 

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**THE EFFECT OF ALDH2 GENETIC POLYMORPHISM ON MYOCARDIAL ISCHAEMIA REPERFUSION INJURY IN CHINESE**

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**Background** Recently, several animal studies investigated the relation between ALDH2 and cardiac ischaemia/reperfusion injury, but the results were controversial. Meanwhile, no relevant researches on population have been reported. And It is well known that acetaldehyde dehydrogenase 2 (ALDH2) has a significant polymorphism in Asian, where the mutant allele is carried by a single-nucleotide polymorphism of so-called G487A polymorphism in Asian, which has significant reduced or lost catalytic activity than people with ALDH2∗1/1 genotype.

**Objective** To investigate the association between ALDH2 G487A polymorphism and myocardial ischaemia/reperfusion injury in Chinese.

**Methods** We serially measured the release of troponin I (cTNI) and creatine kinase MB (CKMB) in 148 patients with acute myocardial infarction. The extent of cardiac injury was estimated by cTNI and CKMB respectively. Meanwhile, ALDH2 genotype was detected as well as other clinical parameters. Logistic regression analysis was used to analyse the association between the ALDH2 genotypes and myocardial ischaemia/reperfusion injury.

**Results** In 146 patients with acute myocardial infarction whose myocardial injury was estimated by cTNI (p = 0.040) and in patients with STEMI undergoing PCI whose myocardial injury was estimated by cTNI (n = 72, p = 0.018) and CKMB (n = 67, p = 0.035) respectively, the proportion of individuals with mutant allele was higher in patients with smaller injury than in that with larger.

**Conclusions** ALDH2 G487A polymorphism is possibly associated with myocardial ischaemia/reperfusion injury in Chinese. ALDH2 genetic mutation (G487A) may confer independent cardioprotection in patients with acute myocardial infarction undergoing PCI and those with STEMI undergoing PCI.

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**POST-OPERATIVE OBSERVATION OF THE SAFETY AND ANGIOGENESIS EFFECT OF DIRECT CURRENT STIMULATION IN A MYOCARDIAL INFARCTION RABBIT MODEL**

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**Introduction** The purpose of the current study was to evaluate the safety of low voltage direct current (DC) electric stimulation and its angiogenesis effect in a rabbit myocardial infarction (MI) model with electrodes directly fixed on the epicardium.

**Materials and methods** 28 Japanese white rabbits were randomly divided into control and treatment groups with 14 rabbits in each group. MI was induced by left anterior descending (LAD) artery ligation. A pair of platinum electrodes was directly placed on the ambiateral epicardium next to the LAD artery. Low voltage DC electric stimulation (4.0 V/cm, 60 min/day) was given to the treatment group immediately following the surgery until the 4th week post-operation. Parameters including blood routine, biochemistry, cardio and respiratory, pathology and immunohistochemistry from both groups were monitored throughout the experiment. Capillary density was counted at the end of the experiment.

**Results** The overall mortality rate was 7.1%, pneumothorax rate was 5.6%, and the intraoperative arrhythmia rate was 7.1%. Transient hypotension, anaemia, leucocytosis, hypoxaemia and slight increase of the myocardium enzyme were observed in both control and treatment groups. Except minor inflammatory cell infiltration and mild hyperaemia, there was no other adverse response observed on the myocardium caused by electric thermal effect. The capillary density in the treatment group (140.7±21.5) was significantly higher than that of the control group (60.3±21.7) (p < 0.001) at the end of the experiment.

**Conclusion** It is safe to apply low voltage DC electric stimulation to the MI rabbits in addition to promote the myocardium angiogenesis.

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**INTRAVASCULAR ULTRASOUND STUDY ON ANGIOGRAPHIC CONTRAST MATERIEL DRAIN-LAGGED CORONARY SEGMENTS**

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**Introduction** To investigate the structural characteristics and its clinical significant of angiographic contrast materiel drain-lagged coronary segments.
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**Materials and methods** 23 segments coronary arteries in 20 patients with angiographic contrast material drain-lagged were performed by intravascular ultrasound (IVUS) imaging. The characteristics of the plaques and reference segments were analysed. Percent area stenosis and remodelling index were calculated.

**Results** External elastic membrane cross-sectional area in angiographic contrast material drain-lagged segments greater than reference segments (17.04±3.36 mm² vs 14.35±3.62 mm², p<0.01). Lesions had greater lumen area compared with reference (13.72±2.38 mm² vs 11.86±2.57 mm², p<0.01). Lesions had a soft plaque and minor stenosis (percent area stenosis 19.48±5.25%) and positive remodelling was more frequent (20/23, 87%) in lesions.

**Conclusion** Posimtive remodelling and minor atherosclerosis plaque in coronary segments are the causes of angiographic contrast material drain-lagged. This lesion has structural characteristics of unstable plaque.

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**e0374** **COMPARISON OF TREADMILL EXERCISE TEST AND 99MTCMIBI/18FFDG MYOCARDIAL SPECT IMAGE FOR IDENTIFYING Viable MYOCARDIUM IN PATIENTS WITH OLD MYOCARDIAL INFARCTION**

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**Objective** The aim of this study was to investigate the correlation between myocardial viability in old myocardial infarction as assessed by treadmill exercise test and 99mTc-MIBI/18F-FDG dual isotope simultaneous acquisition of single photon emission CT (SPECT).

**Methods** 15 consecutive patients (13 males, 2 females, mean age 55±8 years) with old myocardial infarction were included in this study. All patients underwent coronary arteriography, maximal treadmill exercise testing and 99mTc-MIBI/18F-FDG SPECT. Patients were classified into myocardial viability group and non myocardial viability group according to 99mTc-MIBI/18F-FDG SPECT. The semi-quantitative scoring system was used for SPECT images. Myocardial viability was defined as an improvement of perfusion at least >1 grade in at least two contiguous segments during 18F-FDG SPECT. The indices of treadmill exercise testing were measured and compared in myocardial viability and non myocardial viability groups. Compared with the results of 99mTc-MIBI/18F-FDG SPECT, the sensitivity and specificity of these indices for detecting of myocardial viability were calculated.

**Results** 8 out of the 15 studied patients were defined as myocardial viability group, and the rest of 7 patients were in non myocardial viability group. 7 out of 8 (87%) patients in myocardial viability group were accompanied with exercise-induced Q-wave prolongation. Myocardial viability was detected more often in patients with smaller QT dispersion (≤70 ms). Q-wave prolongation had well consistency with 99mTc-MIBI/18F-FDG SPECT for detecting myocardial viability (x²=8.04, p=0.009). The sensitivities, specificities, positive predictive values, and negative predictive values of Q-wave prolongation and QT dispersion ≤70 ms for evaluating myocardial viability were 87.5%, 85.6%, 87.5%, 85.6% and 75.0%, 71.4%, 75.0%, and 71.4%, respectively.

**Conclusion** In patients with old myocardial infarction, exercise-induced Q-wave prolongation and QT dispersion were related to myocardial viability identified with 99mTc-MIBI/18F-FDG SPECT. Exercise-induced Q-wave prolongation and QT dispersion were found to be the sensitive and specific ECG marker for detecting of myocardial viability.

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**e0375** **LONG-TERM ENHANCED EXTERNAL COUNTERPULSATION REPAIRS PLATELET MEMBRANE FLUIDITY AND ALLEVIATES LIPID PEROXIDATION IN PATIENTS WITH STABLE ANGINA PECTORIS**

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**Objective** To explore the effect of long-term enhanced external counterpulsation (EECP) on platelet membrane fluidity (PMF) and lipid peroxidation in patients with stable angina pectoris.

**Methods** Long-term EECP was performed on 30 patients with stable angina pectoris, 1 h once a day for 36 days. Platelets were harvested from all patients pre-EECP (before EECP), during EECP (EECP for 18 h) and post-EECP (EECP for 36 h). Fluorescence polarisability P was measured by fluorescence spectrophotometer. Meanwhile, the levels of lipid peroxidation and plasma lipids including total cholesterol (TC), triglyceride (TG), low density lipoprotein cholesterol (LDL-C) and high density lipoprotein cholesterol (HDL-C), were measured.

**Results** Compared with pre-EECP, PMF was repaired significantly in patients with stable angina pectoris, no matter EECP performed for 18 h or for 36 h (0.357±0.055), (0.257±0.042) vs (0.545±0.066), respectively, (p<0.05). Similarly, lipid peroxidation levels were also alleviated obviously (0.427±0.055) μmol/l, (0.302±0.046) μmol/l vs (0.712±0.126) μmol/l, respectively, (p<0.05). Moreover, it seems a more significant change in both PMF and lipid peroxidation when EECP performed for 36 h than for 18 h. On the contrary, there was no significant change in the levels of plasma lipids (TC, TG, LDL-C, HDL-C). A direct negative correlation was observed between PMF and the levels of lipid peroxidation.

**Conclusion** This result demonstrates that Long-term EECP can alleviate lipid peroxidation and restore or repair PMF in patients with stable angina pectoris, contributing to postponing atherogenesis.

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**e0376** **EFFECT OF METABOLIC SYNDROME ON PROGNOSIS OF REvascularization IN PATIENTS WITH CORONARY ARTERY DISEASE**

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**Background** The prevalence of the cardiovascular risk factors is growing. The effect of the metabolic syndrome on outcomes in patients with preexisting CAD has not been well studied. This study was conducted to assess the prevalence, characteristics, inhospital and long term prognosis of CAD with metabolic syndrome, and to determine which factor that influencing the CAD prognosis most.

**Methods** The DESIRE (Drug-Eluting Stent Impact on Revascularization) registry represents a database of 2368 patients with coronary artery disease (CAD) between Jul, 2003 and Sep, 2004. Median long-term follow-up was 3.5 years (293–1855 days). Metabolic syndrome was based on modified the Adult Treatment Panel (ATP) III Definition of the Metabolic Syndrome in 2005, using body mass index (BMI) instead of waist circumference. We tested the ability of MS and its components to predict the incidence of major adverse cardiac and cerebral events (MACCE) in a large cohort of patients undergoing revascularization.

**Results** Presence of MACCE was predicted only by MS (adjusted OR (OR)=1.519, 95% CI 1.020 to 1.706, p=0.035) but not other risk factors of cardiovascular (such as elder, male, smoking, high LDL cholesterol, CAD family history). MS was present in 45.6% (high FG