

VASc score to be an independent predictor of SDT-S ($\beta=0.22$, adjusted $R^2=0.04$, $P=0.025$) and SDT-eSR ($\beta=0.26$, adjusted $R^2=0.19$, $P=0.005$) in whole subjects and SDT-eSR ($\beta=0.30$, adjusted $R^2=0.15$, $P=0.008$) in subjects with atrial fibrillation.

Conclusions: CHA₂DS₂-VASc score might be independently associated with longitudinal and circumferential left ventricular mechanics impairment and intra-ventricular dyssynchrony in atrial fibrillation patients. Atrial fibrillation itself was possibly associated with impaired left ventricular longitudinal and circumferential systolic mechanics and circumferential diastolic mechanics as well as intra-ventricular dyssynchrony.

Non-Invasive Cardiac Electrical Inspection

GW25-e2194

Value of transesophageal echocardiography in the minimally invasive mitral valve operation

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Objectives: The purpose of this study was to discuss the value of transesophageal echocardiography (TEE) in the minimally invasive mitral valve operation.

Methods: Totally 150 patients of minimally invasive mitral operation were performed. 57 males and 93 female, mean age 50.64 ± 13.48 y. TEE was performed for valve and cardiac function assessment, making operation plan, venous cannulation guidance and building the extracorporeal circulation. Completing the mitral valvular operations by the right anterolateral minithoracotomy through the 4th intercostals. Assess the effective deairing, cardiac function and the results of operation by the TEE at the time of weaning from cardiopulmonary bypass (CBP).

Results: All TEE were performed safely except for one patient's teeth injured. MVP in 49, MVR in 98, MVR associated CABG in 1, repairing the perivalvular leakage in 2 (beating heart). Reoperation of bleeding in 3, re-intubation in 2, death in 1.

Conclusions: TEE is useful in guiding successful placement of the building of CPB, evaluating valve structure and the cardiac function and deairing detection during minimal invasive mitral valve operation.

GW25-e3406

Assessment of tricuspid annulus and right ventricular function in isolated tricuspid valve regurgitation: echocardiography versus Cine MRI

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Objectives: To evaluate the accuracy of two-dimensional echocardiography (2DE) and real-time three-dimensional echocardiography (RT3DE) in assessing tricuspid annulus (TA) and RV function compared with cine MRI.

Methods: In our study, 23 patients with isolated tricuspid valve regurgitation which diagnosed by 2DE were enrolled. The patients also underwent RT3DE examinations and cine MRI. The TA diameter (TAD), TA fractional shortening (TAFS) and RV fractional area change (FAC) were measured by 2DE and cine MR images. RV volumes in end-diastolic and end-systolic phase and ejection fraction (RV-EF) were measured by RT3DE and cine MR images. Bland-Altman analysis and linear correlations were applied to compare the differences between echocardiography and MRI.

Results: There was a fairly correlation of TAD and TAFS between cine MRI and 2DE ($r=-0.53$, $P=0.013$; $r=0.51$, $P=0.026$, respectively), while good correlation with RT3DE ($r=0.77$, $P=0.005$; $r=0.75$, $P=0.006$, respectively). There was a good correlation of RV volumes and RV-EF between cine MRI and RT3DE ($r=0.73$, $P=0.002$; $r=0.78$, $P=0.001$, respectively). The Bland-Altman analysis reveals that, compared with MRI, RT-3DE slight underestimated TAD (mean: 1.18, limitation: $-1.88 \sim 4.34$) and TAFS (mean: 2.15, limitation: $-2.88 \sim 6.34$).

Conclusions: RT-3DE is an effective imaging modality to evaluate TA and RV function for patients with isolated tricuspid valve insufficiency. It can directly be used as routine examination in clinic.

GW25-e4288

Differences of Cardiac Repolarization in Electrocardiography during Hospitalization for Takotsubo Cardiomyopathy and Acute Myocardial Infarction in Female patients

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Objectives: Takotsubo cardiomyopathy (TC) is characterized by an acute transient left ventricular systolic dysfunction mimicking acute myocardial infarction (AMI) without significant coronary stenosis, and particularly common in women.

Aim: The aim of this study was to examine the cardiac repolarization in electrocardiography of TC and AMI, and to compare them from hospital admission to hospital discharge.

Methods: From March 2012 to March 2014, we prospectively studied 811 consecutive acute myocardial infarction (AMI) patients admitted to department of cardiology of Peking University First Hospital. There were 246 female patients among the total. Finally, 7 female cases were diagnosed Takotsubo cardiomyopathy (TC). A complete 12-lead electrocardiography was performed after the admission, and repeated every 4 hours within the first 24 hours, and once a day after then till 7 days later. All female patients of TC underwent coronary angiography, and 70.2% of the female patients with AMI also underwent coronary angiography and percutaneous revascularization.

Results: Female patients with TC had a significant longer QTc interval at admission and during the whole hospitalization. In contrast, QTc interval was constantly longer in female patients with TC and still significantly longer after 7 days ($P<0.05$). QTc in female patients with TC was on average 40 ms longer. Long QTc was significantly more prevalent in female patients with TC from day 1 to 7. Amplitude of maximum T-wave inversion was slightly higher in female patients with TC compared with those with AMI from day 1 to 7 ($P<0.05$).

Conclusions: Perhaps the ECG characters of the longer QTc and the higher Amplitude of maximum T-wave inversion are helpful to differentiate TC from AMI in female patients.

GW25-e0097

Interleukin-6 promoter polymorphism is associated with P wave dispersion in hypertensive subjects with atrial fibrillation

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Objectives: Inflammation has been shown to be implicated in the pathophysiology of atrial fibrillation (AF). Interleukin-6 (IL-6) is a pleiotropic cytokine, functions as a mediator of inflammatory response and has both pro-inflammatory and anti-inflammatory properties. Little is known about genetic factors of inflammation in the accompanying atrial electrical remodeling expressed by P wave dispersion (P_{disp}). The aim of the present study is to evaluate the association of -634C/G polymorphism of IL-6 gene with P_{disp} in Han Chinese hypertensive patients with AF.

Methods: A total of 100 patients with essential hypertension (EH) were eligible for this study. Patients with paroxysmal AF ($n=50$) were allocated to the AF group, and 50 subjects without AF to the control group. The PCR-based restriction fragment length polymorphism (PCR-RFLP) technique was used to assess the genotypes frequencies.

Results: The distribution of the IL-6 -634C/G genotypes (CC, CG, and GG) was 68.00%, 28.00%, and 4.00% in the controls, and 44.00%, 40.00%, and 16.00% in AF subjects, respectively ($P=0.0269$). The frequency of the G allele in the AF group was significantly higher than that in the control group (36.00% vs 18.00%, $P=0.0041$). Compared to the wild type CC, the G allele carriers (CG+GG genotypes) had a 2.7045-fold increased risk of AF (odds ratio = 2.7045, 95% confidence interval = 1.1966-6.1126, $P=0.0156$). AF patients with the CG + GG genotype had greater left atrial dimensions ($P=0.0319$) and P_{disp} ($P=0.0032$) than did patients with the CC genotype. The longer P_{disp} in the subjects with the CG + GG genotype was also found in the control group ($P=0.0016$).

Conclusions: These findings support that IL-6 -634C/G polymorphism is associated with P_{disp} , left atrial dilation and AF, suggesting an active implication of inflammation in the atrial electrophysiological and constructional remodeling predisposing to AF.

GW25-e1495

The Relationship between the Blood Pressure Variability and the Severity of Coronary Artery Lesions

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Objectives: To investigate the relationship between the blood pressure variability and the severity of coronary artery lesions.

Methods: 114 patients were performed 320-slices spiral CT and 24 hours ambulatory blood pressure monitoring (ABPM) from Oct 2008 to Dec 2010. Age, gender, smoking, blood glucose and blood lipids were recorded. All cases were divided into two groups including coronary atherosclerosis group and non-coronary atherosclerosis group according to the results of coronary CT. The relations between blood pressure variability and the incidence of coronary artery lesions, the associations between blood pressure variability and the severity of coronary artery lesions (SSS) were analyzed.

Results: Age and LDL-C were significant risk factor of coronary atherosclerosis ($P<0.05$). HDL-C was significant protect factor of coronary atherosclerosis ($P<0.05$). 24h systolic blood pressure SD, daytime diastolic blood pressure SD, daytime systolic blood pressure SD had significantly correlation with coronary atherosclerosis ($P<0.05$). Age and 24h diastolic blood pressure SD had positively correlation with SSS score ($P<0.05$).

Conclusions: Increased blood pressure variability was associated with the severity and incidence of coronary atherosclerosis. Blood pressure variability is an important predictor of coronary artery disease.