Clinical and Research Medicine: Pace and Cardiac Electrophysiology

**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). \( \Delta \text{TPLS} \) 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, \( \Delta \text{TPLS} \) were significantly increased in AF group (52.83±22 vs 51.33±20.2, p<0.05). In Patients with AF, ACLS were significantly decreased than in control group (10.09±3.5 vs 13.74±2.1, 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 \( \Delta \text{TPLS} \) and ACLS, speckle tracking echocardiography could be a method to non-invasively assess LA function in paroxysmal atrial fibrillation patients.

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**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 15–48 months follow-up, a total of 7 patients encountered 28 alert events. Among the 28 alert events, 5 (17.2%) 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.

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

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**Objective** To investigate the characteristics of supraventricular tachycardia affiliated with left concealed ativoventricular accessory pathway (AP) with rapid rate dependent ventriculoatrial conduction and the experience of electrophysiologic (EP) study and radio-frequency 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 (VSR) and left ventricle, mapping AP and RFCA.

**Result** 8 cases were all left concealed ativoventricular AP. In all patients that special kind of atrioventricular AP with rapid rate group and control ones, besides MinHR. \( P_{\text{MaxHR}}=0.003, \ P_{\text{MaxHR}}=0.023 \) and \( P_{\text{MinHR}}=0.440 \). 2) Positive correlation were detected between AHI and MaxHR (r=0.520, p<0.001), as well as dHR (r=0.205, p<0.001). 3) Linear regression was preformed 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.