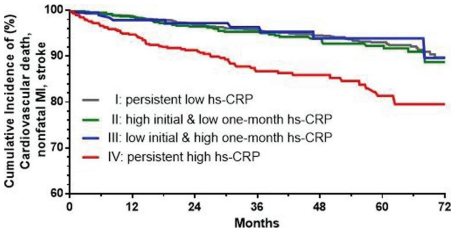
median 0.8 [IQR 0.4, 1.9], p<0.001). The persistent high group showed the increased risk of MACE compared with other groups (log-rank test, p<0.0001) (Figure). After adjustment, the persistent high group remained significantly higher in terms with the occurrence of MACE (HR, 2.46; 95% CI, 1.69 to 3.57; p<0.001).



Conclusion: This is the first study to show that serial measurement of hs-CRP level can help to choose the high-risk patients following PCI. About one-fifth of East Asian patients may be the good candidate favoring the use of anti-inflammatory agents such as the canakinumab following PCI.

BEST POSTERS IN IMAGING IN ARRHYTHMIAS

P5353
Assessment of biventricular function in atrial fibrillation patients with obstructive sleep apnea: a speckle tracking imaging study

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Introduction: Obstructive sleep apnea (OSA) is a common finding in atrial fibrillation (AF) patients with a prevalence of 30 to 50% according to the last studies. It is known that OSA can affect both right and left ventricular functions.
Purpose: The aim of this descriptive study was to compare echocardiographic left and right ventricular systolic function in patients with different degrees of OSA, and to detect early echocardiographic signs of subclinical dysfunction using speckle tracking imaging.
Methods: It was a descriptive and cross-sectional study. It concerned forty patients with atrial fibrillation who underwent overnight polygraphy. Non inclusion criteria were: previous coronary artery disease, more than mild valvular heart disease, primary cardiomyopathies, obstructive or restrictive lung disease, history of intra-cardiac device implantation, pulmonary hypertension due to identifiable causes. Patients with poor echocardiographic window were excluded. Polygraphic tracings were manually scored by a Pneumologyst. All patients underwent baseline echocardiographic evaluation for conventional parameters and left ventricular global strain and free wall right ventricular strain were assessed.
Results: The sex ratio was 0,53 (26 women and 14 men). The average age was 63,8±10,7 years. Hypertension was the most common cardiovascular risk factor found in 67,5% of patients. The mean body mass index was 28,6±4,3 kg/m^2. Analysis of the sleep study results, showed that OSA was present in 36 participants (90%). Mild OSA was diagnosed in 11 patients (27,5%), moderate OSA in 9 patients (22,5%) and severe OSA was present in 16 patients (40%). The average hypopnea apnea index was 22,1±12,9 event/h. Left Ventricular ejection fraction (LVEF° evaluated by biplane Simpson method was 56±10,7%. Six patients (15%) had a LVEF less than 50% and there was no significant correlation low LVEF and Positive OSA's diagnosis (AHI ≥5) (p=0,2) nor Severe OSA (AHI ≥30) (p=0,74). The average value of left ventricular global longitudinal strain was -16,3±4,1% and it was significantly decreased in patients with severe OSA (r=0,384 - p=0,019). Right ventricular strain assessed by speckle tracking had a mean value of -20,8±7,6% but it wasn't correlated with polygraphic parameters.
The indexed LV mass (119,4±35,7 g/m^2) and left atrium volume (43,6±20,2 ml/m^2) were comparable between patients with severe OSA and the remaining patients, with p values rated respectively to 0,58 and 0,16.
Conclusion: The most relevant finding in our study, was that subclinical LV dysfunction assessed by speckle tracking imaging was associated with severe OSA. This could highlight the role of sepckle tracking imaging as a means of severe OSA screening in AF patients.

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Left trial appendage strain rate is predictive of thromboembolism in patients with nonvalvular atrial fibrillation

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Introduction: Left atrial appendage (LAA) dysfunction, along with atrial fibrillation and "atrial cardiopathy" are considered to be the most important moments in the pathogenesis of cardiac thromboembolism. Currently, transesophgeal echocardiography (TEE) provides several methods that accurately evaluate the morphology and function of the LAA. Nevertheless, there is a continuous search for new methods/markers of LAA dysfunction.
Purpose: So far, the deformation of the LAA has not yet been studied in the prediction of cardiac thromboembolism. Therefore, we aimed to evaluate the significance of LAA deformation as assessed by speckle-tracking imaging in relation to thromboembolic events.
Methods: We retrospectively analyzed a group of 72 patients with a mean age of 65 years who were referred to our echocardiography laboratory before electrical cardioversion of nonvalvular atrial fibrillation. Stroke was defined by a history of hospital admission and positive imaging study from brain computed tomography. Each patient underwent 2D TEE. Morphology and function of the LAA was assessed by measurement of several parameters: two morphological types of LAA were distinquished, "chicken wing" and "non-chicken wing", the presence of spontenous echocontrast or thrombus, LAA peak emptying flow velocity, area derived LAA end-systolic, end-diastolic volumes, and LAA ejection fraction. In addition, LAA global strain (S) and strain rate (SR) were estimated from 2D images using Velocity Vector Imaging.
Results: By comparing the two groups of patients, with (16/72) and without embolic events (56/72), there were no significant differences in clinical and echocardiographic data, only with the exception of LAA S and SR values. LAA S (-1.45% ± 1.85% vs. -3.51% ± 2.87%, p=0.008) and SR (-0,17±0,34 1/s vs. -0,63±0,53 1/s) were significantly reduced in patients with embolic events than those without embolisation. In the analysis of unadjusted relationship between embolic events and potential clinical and echocardiographic covariates, only S and SR were significantly related to embolisation (p=0.01, p=0.008, respectively). After adjustment of the two variables, S and SR, only SR remained as a significant predictor of embolic events (OR 53.5, 95% CI, 1.27–2250.2, p=0.03). The area under the ROC curve for LAA SR was 0.78 (95% CI, 0.66–0.87). Using a cut-off value >-0.34 1/s for SR, the sensitivity was 75% and specificity 71.4%.
Conclusion: Our study demonstrated that decreased LAA SR is independently associated with thromboembolic events.

P5355
Evaluation of functional recovery of structural reverse remodeling of the left atrium by pulmonary vein isolation in patients with atrial fibrillation

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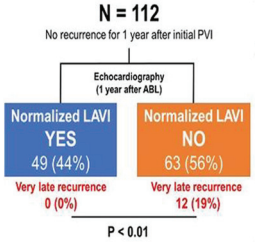
Background: Atrial fibrillation (AF) promotes left atrial (LA) remodeling and vice versa. Pulmonary vein isolation (PVI) effectively treats AF and affects LA structural reverse remodeling by maintaining sinus rhythm. However, the effects of PVI on LA functional reverse remodeling remain unclear.
Purpose: This study aims to investigate structural and functional reverse remodeling of LA post initial PVI using serial echocardiographic studies and to assess the correlation between LA reverse remodeling and the long-term outcome of PVI.
Methods: Of 245 consecutive patients undergoing initial PVI, we enrolled 112 patients (mean, 63±9 years; males, 65%; diagnosed with paroxysmal AF, 54%) based on the inclusion criteria of patients with no organic heart diseases, baseline LA volume index (LAVI) ≥34 mL/m^2, and no AF recurrence for 1 year after PVI. We acquired the conventional and speckle tracking echocardiographic parameters within 24 hours and at 1 year after PVI. We defined the normal range of LAVI as LAVImax <34 mL/m^2 according to the recent guidelines. LA functional parameters were also acquired from 10 healthy subjects (mean, 58±12 y; males, 70%) to assess whether the patients with AF obtained the normal LA function after PVI.
Results: After 1 year of the initial PVI, 49 (44%) patients attained the LA volume within the normal range (Figure). These patients exhibited lower CHADS2 score (0.9±0.9 vs. 1.4±1.0; p<0.01), smaller LAVImax (40±7 mL/m^2 vs. 53±12 mL/m^2; p<0.01), and better LA function of a' (8.0±2.1 cm/sec vs. 6.8±2.1 cm/sec; p<0.01), pump strain (–5.8% ± 3.6% vs. –4.3% ± 3.0%; p=0.02), and reservoir strain (17.9±5.8% vs. 15.5±5.8%; p=0.03) at the baseline than the patients

Figure



Table

Variables	Control (N=10)	All patients (N=112)	Normalized LAVI YES (N=49)	Normalized LAVI NO (N=63)
		Baseline	1 year after PVI	
LA structural parameters				
LAD (mm)	30.8 ± 5.2	40.1 ± 6.1*	34.7 ± 5.1*	40.1 ± 5.1*†
LAVI max (ml/m^2)	26.6 ± 5.1	47.3 ± 11.7*	28.1 ± 3.5	42.5 ± 8.2*†
LAVI min (ml/m^2)	14.7 ± 3.4	30.5 ± 10.7*	17.6 ± 3.3*	28.3 ± 7.9*†
LA total EF (%)	44.5 ± 10.5	36.7 ± 10.5*	37.4 ± 8.6*	34.1 ± 9.1*
LA functional parameters				
a' (cm/sec)	10.5 ± 1.3	7.3 ± 2.2*	8.9 ± 1.2*	8.1 ± 1.4*†
E/e'	6.6 ± 0.8	11.6 ± 3.1*	9.9 ± 2.4*	11.0 ± 3.8*
LA pump strain (%)	-11.9 ± 3.3	-7.4 ± 2.8*	-8.0 ± 3.0*	-6.9 ± 2.7*†
LA reservoir strain (%)	25.5 ± 3.3	18.3 ± 5.1*	19.8 ± 4.9*	17.0 ± 5.0*†

Values are mean ± SD. LA = left atrial; LAD = left atrial dimension; LAVI = left atrial volume index; EF = emptying fraction.
*P < 0.05 versus control. †P < 0.05 versus the patients who achieved LA volume within normal range.