

Clinical Characteristics of Patients with Stress-provoked Reversible Left Ventricular Dysfunction

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Background Recently, variable patterns of stress-provoked transient left ventricular(LV) dysfunction have been reported. We sought to evaluate the clinical characteristics of patients with stress-provoked reversible LV dysfunction. **Methods** Using the data base of our echocardiography laboratory, patients who showed reversible LV dysfunction during hospital admission were selected. Among them, patients with underlying coronary artery disease, hypertrophic cardiomyopathy and myocarditis were excluded. Results During the last 3 years, 70 patients were found to have transient LV dysfunction associated with physical or emotional stress. Typical LV apical ballooning was observed in 12 patients, whereas the other 58 patients showed variable patterns of LV dysfunction. Both group showed similar patterns of ECG changes and serum cardiac enzyme level. **Conclusions** Besides typical LV apical ballooning, severe emotional and physical stress may provoke variable patterns of LV dysfunction, and further refinement is necessary to define the diagnostic criteria of stress-provoked cardiomyopathy.

	Typical Ballooning(n=12)	Atypical pattern(n=58)	p value
ECG		0.14	
T wave inversion	5(41.7%)	30(51.7%)	
ST elevation	3(8.3%)	16(27.6%)	
Cardiac enzymes			
Creatine kinase-MB, ng/mL	9.7±8.6	12.4±29.2	0.75
Troponin-I, ng/mL	4.2±5.3	3.3±7.3	0.67
Triggering factor			
Physical stress	9(75%)	49(84.5%)	0.42
Underlying disease	3(37.5%)	26(54.3%)	
Procedure related (ERCP, BFS etc)	3(37.5%)	11(23.9%)	0.85
Operation related	1(12.5%)	5(10.9%)	0.27
Emotional stress	3(25%)	9(15.5%)	0.42

Clinical implication of LA Volume Index over Late Diastolic Mitral Annulus Velocity (LAVi/A')

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Backgrounds : The information of A' with LA volume (LAV) may provide additive effect for the evaluation of diastolic function. **Objectives** : We assessed the ability of LAVi over A' (LAVi/A') for the detection of advanced diastolic dysfunction (pseudonormal or restrictive physiology) and correlated this index with patient's clinical outcome. **Methods** : 118 patients (men 71, 60±13yr) referred for chest discomfort or dyspnea were evaluated by comprehensive Doppler echo (transmitral inflow Doppler, tissue Doppler on mitral annulus and pulmonic vein Doppler). Using ROC analysis, we compared the area under the curves (AUC) for prediction of advanced diastolic dysfunction among BNP, LAVi, and LAVi/A'. All of patients was clinically followed for 13.7 months (median). Overall mortality and the combined end point of morbidity (cardiac death and rehospitalization) were compared according to the cut-off value of LAVi/A' by Kaplan-Meier and log-rank test. **Results** : The AUC of BNP and LAVi/A' for the detection of advanced diastolic dysfunction were 0.940 and 0.937 respectively, which were higher than LAVi of 0.879 (p<0.05). LAVi/A' value of 3.82 represented sensitivity 90% and specificity 92% for prediction of advanced diastolic dysfunction. During the follow-up, overall mortality and the incidence of the combined end point were significantly higher in the group of LAVi/A'≥3.82 than the other (Figure). **Conclusions** : LAVi/A' is a excellent screening echo index for advanced diastolic dysfunction. LAVi/A'≥3.82 can predict poor clinical outcome.

