Results: DM1 presented the following abnormalities respect to controls: a significantly lower E wave (67.4±15.4 vs 78.8±13.3 m/s, p<0.0001) and a collagen relation between CVF and sex, age, cardiovascular risk factors, BMI, medical treatment or any other clinical data. CVF were more often found in patients with typical AHCM (Fischer, p=0.047). CVF were associated to very low ventricular volumes (LEDV 62.38±10.9 ml vs 97.6±3.9 ml p<0.001 and LEDSV 23.38±8.6 ml vs 40.6±14.9 ml p=0.022) but not to atrial volume, diastolic pattern, maximum apical thickness or the apex/posterior wall index.

Conclusion: Using the appropriate echocardiographic protocol, CVF can be frequently found in the AHCM, mainly in the typical pattern and in those with very low ventricular volumes. The pathology and clinical significance of this results should be defined.

1166
Clinical characterization of left ventricular noncompaction
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Objective: Non-compaction of ventricular myocardium (LVNC) is a rare cardiomyopathy characterized by multiple prominent trabeculations with deep interventricular recesses that communicate with the ventricular cavity. It is accompanied by depressed ventricular function, systemic embolism and ventricular arrhythmia. This study was conducted to clarify the clinical features of patients with LVNC who were diagnosed in Shahid Rajae Cardiovascular Medical Center.

Methods and results: We retrospectively reviewed patients with LVNC between December 2004 and December 2005. Twenty four patients were identified. They consist of 6 females and 18 males with an mean age of 38.2 years (age range: 13-62 years). The average ejection fraction was 32.3%. The extension of noncompacted myocardium that was observed on 2-D echocardiography, was predominantly at the postero-lateral LV apex..There were two patients with systemic embol,1 with nonsustained ventricular tachycardia, and 1 with WPW (table 1). In 5 patients there were associated cardiac lesions including congenital heart disease, PDA in one patient, muscular VSD with double chambered RV and valvular PS in another patient, severe aortic regurgitation with ascending aortic aneurysm in two patients, and severe mitral regurgitation in one patient.

Conclusion: LVNC most frequently diagnosed primarily by echocardiography and its prevalence seems to be increased with the improvement of cardiac imaging so echocardiographers should be aware and trained to recognize this abnormality.

Table 1. Clinical presentations of patients with LVNC

<table>
<thead>
<tr>
<th>Reasons for Presentation</th>
<th>Number of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low cardiac output/CHF</td>
<td>12</td>
</tr>
<tr>
<td>Coronary Artery Disease</td>
<td>3</td>
</tr>
<tr>
<td>Source of Emboli</td>
<td>3</td>
</tr>
<tr>
<td>Aortic Insufficiency</td>
<td>2</td>
</tr>
<tr>
<td>Congenital Heart Disease</td>
<td>2</td>
</tr>
<tr>
<td>Mitral Insufficiency</td>
<td>1</td>
</tr>
<tr>
<td>Infective Endocarditis</td>
<td>1</td>
</tr>
<tr>
<td>Routine Echocardiography</td>
<td>1</td>
</tr>
</tbody>
</table>

1167
Morphologic variables and diastolic function in hypertrophic cardiomyopathy
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Introduction: Hypertrophic cardiomyopathy (HCM) has great phenotypic, clinical and prognosis heterogeneity. Several characteristics such as obstruction, severe hypertrophy, elevated filling pressures and severe interstitial fibrosis have been related to poor prognosis. The study aimed to determine the relationship between morphologic and dynamic variables of HCM assessed by echo-Doppler and magnetic resonance (MR).

Methods: Forty HCM, 21 men, mean age 58±19 years, 43% obstructive, were studied. NYHA: 40%, II: 22% and III: 8%. Left ventricular mass (LVM), maximum wall thickness and presence of late gadolinium enhancement (LGE) were assessed by cardiac MR, taking into account their severity, extension and uptake patterns. Maximum dynamic gradient, grade of mitral regurgitation (MR) and LV filling pressures (LVFP) estimated by the mitral E/E’ tissue (E’/E) ratio were assessed by echo-Doppler.

Results: LVM and maximum myocardial thickness determined by MR correlated acceptably with LVFP (p=0.5; p=0.03). 73% of patients had some degree of LGE. LGE grades 3 and 4, extension in more than 6 segments and presence of a diffuse pattern were associated with elevated LVFP (p<0.0001). Mild or moderate late enhancement, with an extension less than 6 segments did not present an increase in LVFP.
Conclusion: LVM, maximum wall thickness, severity and diffuse late enhancement pattern were associated with greater deterioration in diastolic function and increase in filling pressures.

1168 Echocardiographic assessment in patients with hypertrophic obstructive cardiomyopathy after alcohol ablation in 5 to 9 years observation

Methods: The results of alcohol ablation in 18 pts 5 to 9 years post PTSA in comparison with early, 1 and 3 years results. Assessed parameters: peak outflow gradient (LVOTG), left ventricular dimension in systole (LVd) and diastole (LVd), interventricular septum (IVS) and posterior wall (PW) thickness in diastole, left atrium dimension (LA), mitral E and A waves, E/A ratio, isovolumetric relaxation time (IVRT) and deceleration time. We estimated changes in LV anatomy and contractility, valves function and other new findings. Results: In all patients we observed significant reduction of LVOTG (from 74±40 mm Hg to 13±12 mm Hg). At the end of observation 2 pts had LVOTG >40 mm Hg and 2 pts >20 mm Hg. LVS increased after 6 months from 2.2±0.6 to 2.9±0.6 cm (p<0.001). LVd from 4.2±0.6 cm to 4.6±0.6 cm (p<0.05) and IVS diminished from 2.4±0.6 cm to 1.5±0.4 cm (p<0.001). PW and LV didn’t change significantly. Results after 6 months and in follow-up were similar. Among diastolic function parameters IVRT was shorter after 6 months and 1 year than before procedure and in follow-up. Mitral insufficiency diminished in most of pts. In 3 pts definite reduction of LVOTG and IVS remodeling ended after 1-3 years. In 1 pt we observed worsening of LV systolic function (progression toward congestive cardiomyopathy?) from 5 years after PTMSA, in other after 7 years - mitral annulus calcification and in 1 significant mitral regurgitation. In 4 pts pacemaker or cardioverter implantation 1 or more years after PTSA was necessary. In 5 oldest patients we observed new atherosclerotic plaques in aorta. Conclusion: PTSA is an effective method in treatment of HOCM in long-term observation. Results in 6 months follow-up are permanent in most of patients. Rhythm and conduction disturbances are still significant problem after successful PTSA.

1169 Characterization of left and right ventricular diastolic function by conventional and tissue doppler imaging and clinical outcome in patients with hypertrophic cardiomyopathy

Methods: Tissue Doppler Imaging (TDI) is a new technique that can assess early phenomena of left ventricular dysfunction. We studied 32 patients with biopsy proven hypertrophic cardiomyopathy (HCM) and 24 patients with idiopathic dilated cardiomyopathy (DCM). We compared the results of TDI and the clinical outcome of both groups. Results: In the HCM group we detected a lower Te/90 beats/min and absence of moderate to severe mitral regurgitation. In the DCM group we observed a higher Te/90 beats/min and a higher incidence of mitral regurgitation. Conclusion: TDI can detect early changes of left ventricular dysfunction.

1170 Echocardiographic data, characteristics and long-term follow-up in Takotsubo Cardiomyopathy

Methods: We reviewed echocardiographic studies of 15 patients with the diagnosis of Takotsubo Cardiomyopathy. Diagnosis was established by left ventricular angiography describing apical ballooning without evidence of relevant coronary artery stenoses. All patients were admitted with the clinical signs of an acute myocardial infarction between July 2001 and January 2006. In these patients baseline transthoracic echocardiography (TTE) was obtained in a median time-interval of 1.7 days (minimum 0; maximum 6) after coronary angiography. Follow-up TTE was performed in varying time intervals after hospital admission and the patients were followed over a long-term period (2 months to 4 years).

Results: Twenty-four (93%) of the patients were female. The median age was 69±6 years. All but one patient were in sinus rhythm. One patient documented atrial fibrillation on ECG. Angiography demonstrated LV systolic dysfunction with substantially reduced ejection fraction (EF) (30±10%; range 28% to 45%). In the acute-phase (day 0 to day 2 after admission), TTE showed typical midapical left ventricular dysfunction with a median ejection fraction (EF) of 37±7.3% (range 25% to 56%). The segmental distribution was focussed on the apical segments and in only few patients also medial segmental wall motion abnormalities were seen. Basal segments were normo- or hypokinetic at rest and the resultant fractional shortening was 32±11.2% (range 18 to 46.3). Short-term follow-up was performed in 7 patients at a median time-interval of 20.8±15.4 days and showed an increase in left ventricular function with a median EF of 64±13.2%. Resolution of left ventricular dysfunction was proved in 6 patients after a median follow-up of 23.8 (4/74) days. Mitral valve insufficiency was recognized as mild in 6 cases and as moderate in 2. Tricuspid valve insufficiency was recognized in 6 patients. Right heart failure was present in 4 patients. In all three patients right heart failure was resolved at day 6, 7 and 24 of the follow-up TTE of each patient. In three patients an intraventricular systolic flow acceleration with a late-peaking systolic velocity curve, was detectable. Median intraventricular flow velocity in these three patients was 4 m/sec, attributable to an intraventricular pressure gradient of 50 mm.Hg (35/66). Sticking was a moderate left ventricular hypertrophy in these three cases. Outflow tract gradient rapidly resolved in the controlled two cases. All of the controlled patients had a normal EF at long-term follow-up, which was performed after a median time of 19 months from the initial event.

1171 Relation between BNP, exercise capacity and left ventricular outflow tract obstruction in patients with hypertrophic cardiomyopathy

Methods: In 19 patients (age 51.1±14.2 years; 11 female) a complete echocardiographic study (with assessment of left ventricular outflow tract obstruction) and cardiopulmonary exercise test (CPX) with assessment of peak VO2 and VE/VO2 slope (index of excessive exercise ventilation) were performed. In all patients venous blood for BNP analysis was collected after 30 min rest and immediately after exercise.

Results: In 10 patients left ventricular outflow tract obstruction was diagnosed. There weren’t any significant differences between groups with (HOCM) and without obstruction (HCM) concerning age (44±17 vs 55±6 years), BNP levels at rest and after exercise, and peak VO2 (r=-0.21, p=0.10). There was a trend toward higher VE/VO2 slope (index of ventilatory response to exercise) in HCM. BNP level increased significantly with exercise in both groups; HOCM - rest vs exercise - 351±395 vs 505±532 pg/ml; P=0.008 and HCM - rest vs exercise - 391±395 vs 467±450 pg/ml; P=0.005. In the whole investigated group there were significant correlations between BNP level at rest and peak VO2 (r =-0.6; p=0.004) and VE/VO2Cslope (r=0.6; p=0.009); and BNP peak exercise level and peak VO2 (r =-0.6; p=0.01) and VE/VO2Cslope (r=0.5; p=0.03).

Conclusion: These preliminary observations indicate that BNP level and exercise capacity are not related to left ventricular outflow tract obstruction in HCM. The significant correlations between BNP levels and exercise capacity in patients with HCM, which are similar to that found in heart failure require further investigation.

1172 Prevalence of pericardial effusion in an HIV-infected population

Methods: We prospectively studied 286 consecutive HIV+ patients referring to the outpatient clinic of our hospital for routine check-up, during chemotherapy or whenever a cardiac disease was suspected. All patients had electrocardiogram (EKG), clinical, 2-D and Doppler cardiac evaluation by univariate analysis, a statistical significant correlation was documented between the end point and tricuspid A velocity (r=0.20, p=0.04), tricuspid A velocity (r=-0.20, p=0.04), tricuscript E/A ratio (r=0.27, p=0.006), septal mitral Ea (r=-0.28, p=0.006), septal E/Ea ratio (r=-0.32, p=0.001) and lateral mitral Aa (r=-0.20, p=0.04). By forward stepwise regression analysis, septal E/Ea ratio (R²=0.34, p=0.001) and tricuscript E/A ratio (R²=0.36, p=0.001) predicted sudden cardiac death, ventricular fibillation/ventricular tachycardia or ICC discharge. Conclusion: Septal E/Ea and tricuscript E/A ratio are strongly associated with adverse clinical events in patients with HCM. Measurement of these indexes may assist in the risk stratification of patients in this setting. 

Abstracts