Dobutamine-Induced Obstruction May Not Predict Exercise-Induced Obstruction in Hypertrophic Cardiomyopathy

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Background: Alcohol septal ablation is increasingly used for the treatment of obstructive hypertrophic cardiomyopathy with obstruction (HOCM). The dobutamine (D)-provoked LV outflow pressure gradient (PG) is commonly used to determine whether patients with HOCM should undergo the procedure.

Methods: To determine the clinical relevance of D-PG, we performed echocardiography during and after D infusion and incremental upright bicycle exercise (Ex) in 10 consecutive HOCM patients referred for alcohol septal ablation. Results: Mean age was 52 years, maximal D dose was 9.4 mcg/Kg/min, and maximal tolerated workload was 101 Watts. Mean data are as shown:

<table>
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<tr>
<th></th>
<th>Resting HR</th>
<th>Peak HR</th>
<th>SBP max (mmHg)</th>
<th>SBP rest (mmHg)</th>
<th>PG rest (mmHg)</th>
<th>PG max (mmHg)</th>
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<tbody>
<tr>
<td>D</td>
<td>64</td>
<td>82</td>
<td>114</td>
<td>124</td>
<td>34</td>
<td>104</td>
</tr>
<tr>
<td>Ex</td>
<td>74*</td>
<td>126**</td>
<td>127</td>
<td>158*</td>
<td>42</td>
<td>73**</td>
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*p < 0.05, ** p < 0.01, compared to D value as compared with D. The average percentage increase in PG was much less with Ex (117% vs 336%) despite much greater increases in heart rate (HR) (74% vs 28%) and systolic blood pressure (SBP) (25% vs 8%). During Ex, patients achieved a much higher double product (20,147 vs. 10,123, p < 0.001) and higher PG (72 vs. 104 mmHg, p < 0.01). Patients reported that the level of exertion during testing exceeded that encountered in daily life, and their measured exercise capacity was greater than expected from reported NYHA class: 1.7 vs. 2.5 (p < 0.05).

Conclusion: D-induced gradients are of uncertain clinical relevance in HOCM. When alcohol septal ablation is being considered exercise testing may be preferable to determine if a provocative PG is likely to contribute to a patient's exertional dyspnea.

1032-131 Impaired Coronary Circulation in Patients With Apical Hypertrophic Cardiomyopathy: Noninvasive Analysis by Transthoracic Doppler Echocardiography

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Background: Abnormal coronary flow and coronary flow reserve have been identified in patients with hypertrophic cardiomyopathy (HCM). However, characteristics of coronary circulation in patients with apical hypertrophic cardiomyopathy (ApHCM), that is a relatively rare form of HCM, have not been fully assessed. Recent advancement in transthoracic Doppler echocardiography (TTDE) provides noninvasive assessment of coronary flow velocity (CFV) pattern and reserve (CFVR) with coronary vasodilators in patients with various cardiac diseases. Thus, we designed this study to examine the characteristics of CFV and CFVR in patients with ApHCM.

Methods: We analyzed the wall thickness with various cardiac diseases. Thus, we designed this study to examine the characteristics of coronary flow and coronary flow reserve in patients with hypertrophic cardiomyopathy (HCM). However, characteristics of coronary circulation in patients with apical hypertrophic cardiomyopathy (ApHCM), that is a relatively rare form of HCM, have not been fully assessed. Recent advancement in transthoracic Doppler echocardiography (TTDE) provides noninvasive assessment of coronary flow velocity (CFV) pattern and reserve (CFVR) with coronary vasodilators in patients with various cardiac diseases. Thus, we designed this study to examine the characteristics of CFV and CFVR in patients with ApHCM.

Results: A higher AWPW and MDV, and a longer TPV were observed in ApHCM than those of control subjects (53 ± 13 versus 54 ± 21 cm/sec, p < 0.001). CFVR in ApHCM was significantly lower compared with control subjects (AWPW, 2.9 ± 0.7 vs. 2.3 ± 0.6 mm Hg, p < 0.001), whereas MDV during hyperemia was similar between ApHCM and control subjects (53 ± 13 versus 54 ± 21 cm/sec, p > 0.05).

Conclusion: ApHCM patients referred for alcohol septal ablation is being considered exercise testing may be preferable to determine which patients with HOCM should undergo the procedure.

1032-132 An Analysis of Patients With Hypertrophic Obstructive Cardiomyopathy and Persisting New York Heart Association Class III Symptoms During Long-Term Follow-Up After Septal Ablation

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Background and inclusion: Of about 90% of the patients (pts) with symptomatic hypertrophic obstructive cardiomyopathy (HOCM), symptoms and outflow gradient (LVOTG) can significantly be reduced by septal ablation (PSMA). Pts with persisting heart failure symptoms during long-term follow-up after PSMA are not characterized sufficiently. We analyzed our long-term cohort of 178 pts treated between 1996 and 1998 with respect to symptoms during long-term follow-up after PSMA.

Methods: The population was 178 pts treated between 1996 and 1998 in our unit. The main outcome were NYHA class III symptoms. The NYHA class III symptoms included dyspnea in patients with hypertension, orthopnea, paroxysmal nocturnal dyspnea, and pulmonary edema. The NYHA class III symptoms were assessed by transthoracic echocardiography (TTE) and coronary angiography (CAG). The NYHA class III symptoms were defined as: NYHA class III symptoms included dyspnea in patients with hypertension, orthopnea, paroxysmal nocturnal dyspnea, and pulmonary edema.

Results: NYHA class III symptoms were reported by 151 pts (85%). The NYHA class III symptoms were reported by 151 pts (85%).

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