greater amplitude of far field potentials when performing catheter ablation in the left superior pulmonary vein. The results of the study also demonstrate that pulmonary vein anatomy is highly variable and that a different pattern of branching exists between the right and left pulmonary veins.

11:30 a.m.

**859-5**

Randomized Evaluation of the Utility of Intracardiac Echocardiography for AV Node Ablative Procedures

Raveen Dass, David Schwartzman, Arrhythmia Center, University of Pittsburgh, Pittsburgh, Pennsylvania.

Background: The value of intracardiac echocardiography (ICE) for guiding transvenous catheter ablation procedures which target the AV node complex is unclear. Methods: The ICE catheter utilized incorporated a rotating transducer operating at 9 MHz (Boston Scientific). Patients undergoing complete AV node ablation (AVN, n=30) or slow pathway ablation (SP, n=10) were randomly assigned to ICE-guided or standard (eg, fluoroscopy) technique. In the standard groups, ICE images were recorded but were unavailable to the operator for review until after the case. Results: (table shows median values; *p<.05 versus comparison group): All procedures were acutely successful. Total procedure duration, fluoroscopy power, and ablation electrode maximum temperature were not significantly different. Based on the ICE images, in the standard groups the principal reason for individual lesion failure was poor/unstable ablation electrode-endoocardial contact. Intraprocedurally, in the AVN cohort 1 patient in the standard group required crossover to ICE. During followup (at least 6 months in each patient); In the AVN cohort 2 patients in the standard group experienced recurrence of AV nodal conduction; In the SP cohort 1 patient in the ICE group experienced spontaneous recurrence of AV nodal reentry. Conclusions: For catheter ablation or modification of the AV node, relative to standard technique the ICE-guided technique reduced fluoroscopy exposure and ablation lesion burden.

<table>
<thead>
<tr>
<th>Group</th>
<th>Patients (n)</th>
<th>Fluor Time (min)</th>
<th>RF Lesions (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVN-ICE</td>
<td>15</td>
<td>0.0*</td>
<td>1*</td>
</tr>
<tr>
<td>AVN-Standard</td>
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<td>3.1</td>
<td>3</td>
</tr>
<tr>
<td>SP-ICE</td>
<td>5</td>
<td>0.2*</td>
<td>1</td>
</tr>
<tr>
<td>SP-Standard</td>
<td>5</td>
<td>5.5</td>
<td>3</td>
</tr>
</tbody>
</table>

11:45 a.m.

**859-6**

Four Vessel Pulmonary Vein Isolation Guided by Intracardiac Echocardiography Without Contrast Venography in Patients With Drug Refractory Paroxysmal Atrial Fibrillation


Background: Pulmonary vein (PV) isolation requires accurate definition of PV anatomy. Venography is time consuming and increases exposure to contrast and radiation. We present our experience with intracardiac echocardiography (ICE) to image and guide epicardial isolation of all four PV without venography. Methods: Twenty patients with refractory paroxysmal atrial flutter (age 49±10.6 yrs) with right and left pulmonary veins.

**1185 Clinical Electrophysiology**

Tuesday, March 19, 2002, Noon-2:00 p.m.
Georgia World Congress Center, Hall G Presentation Hour: 1:00 p.m.-2:00 p.m.

**1185-103**

Association of Angiotensin Converting Enzyme Polymorphism With Tachycardia Cardiomyopathy


Background: Insertion/deletion (I/D) polymorphism of angiotensin converting enzyme (ACE) gene has been implicated in ischemic and non-ischemic cardiomyopathy. However, its relation to tachycardia cardiomyopathy is unclear.

Methods: Twenty patients with persistent tachycardia and cardiomyopathy with ejection fraction (EF) 20 to 7% showed improvement in EF to 43 ± 9% (p < 0.001) after interventions for rate control (Group A, tachycardia cardiomyopathy). A separate group of patients with a history of atrial arrhythmias of 16 ± 16 months required interventions for rate control but maintained normal EF of 49 ± 5% (Group B, tachycardia without cardiomyopathy). We compared I/D genotype frequency of Group A and B with that of healthy normal volunteers (Group C).

Results: Gene frequency was significantly different in Group A, B, and C (p < 0.002). Group A was significantly different from Group B (p < 0.005) and Group C (p < 0.009). Despite Improvement, Group A's EF of 43% was significantly lower than Group B's EF of 49% (p < 0.02).

Conclusion: I/D polymorphism of ACE gene may account for cardiomyopathy secondary to tachycardia.

**1185-104**

Assessment of Therapeutic Efficacy in Neurocardiogenic Syncope: Clomipramine Versus Isoprotenerol Tilt Test

George N. Tzordanis, Dionysis Leftheriotis, Ethimodos G. Livieras, Panagida Fievat, Elias Zavell, Dimitrios T. Kramastinos, Chassidic Cardiovascular Surgery Center, Athens, Greece.

Background: In patients (pts) with recurrent neurocardiogenic syncope (NCS), evaluation of therapeutic efficacy by repeated head-up tilt testing (HUT) with isoprotenerol as drug challenge is questioned. Clomipramine has also been used during HUT for the diagnosis of NCS. In this study, we prospectively compared clomipramine HUT with isoprotenerol HUT in order to evaluate their relative efficacy in assessing response to therapy. Methods: We studied 46 pts (17 men, 29 women, mean aged 36±17 years) with history of recurrent NCS and two consecutive positive HUTs (HUTs-I), one with clomipramine and the other with isoprotenerol. The two tests were performed in a randomized sequence and on a 24-hour interval was interspersed between them. Our pts were randomly treated with fluoxetine or propranolol for 6 months and then the two HUTs were repeated in the same sequence (HUTs-II). We recorded the number of syncopal attacks during the last 8 months before therapy and during the 6 months of treatment. We also examined whether the decrease in syncope episodes during therapy was associated with the response to each of HUTs-II. Results: Fluoxetine and propranolol were equally effective in reducing syncopal attacks (4.0±1.8 before therapy vs 1.3±0.8 during therapy for fluoxetine and 3.8±1.6 vs 1.1±1.5 respectively for propranolol, p:NS). Following therapy, a negative clomipramine HUT was associated with a greater decrease in syncope episodes (4.0±1.7 vs 0.9±1.2) than a positive clomipramine HUT-2 (3.9±1.3 vs 1.4±1.1), p<0.01. No such difference was observed between pts with a negative isoprotenerol HUT-2 (3.9±1.2 vs 1.2±1) and those with a positive isoprotenerol HUT-2 (4.0±1.3 vs 1.0±1.0). Conclusion: In patients with NCS, clomipramine-HUT depicts therapeutic efficacy more accurately than isoprotenerol-HUT. This may have important clinical implications.