

greater amplitude of far field potentials when performing catheter ablation in the left superior pulmonary vein. The results of this 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 Interventions

Raveen Bazaz, David Schwartzman, Atrial 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/electrogram-guided) 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, radiofrequency 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-endocardial contact. Intra-procedurally, 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.

	AVN-ICE	AVN-Standard	SP-ICE	SP-Standard
Patients (n)	15	15	5	5
Fluoro Time (min)	0.0 *	3.1	0.2 *	5.5
RF Lesions (n)	1 *	3	1 *	3

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

Vijendra Swarup, Koji Azegami, Mauricio S. Arruda, Martin C. Burke, Albert C. Lin, David J. Wilber, University of Chicago Hospitals, Chicago, Illinois.

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 empiric isolation of all four PV without venography. **Methods:** 24 pts (age 49±10.6 yrs) with refractory paroxysmal atrial fibrillation (PAF) underwent circumferential mapping (Lasso, Biosense/Webster) and isolation of all four pulmonary veins with radiofrequency ablation. ICE (Acuson) was used to guide transeptal puncture, and determine PV diameters and flow velocities before and after ablation. During ablation, ICE was utilized to monitor catheter positioning. **Results:** All veins were successfully imaged by ICE and electrically isolated as documented by post ablation PV mapping. Mean duration of transeptal catheterization was 134 ± 35 min and fluoroscopy time was 41.8 ± 13 min. There were only minor changes in PV diameters and flow velocities immediately post procedure. Spiral CT images at 3 months did not demonstrate PV stenosis or occlusion in any pt. No PAF was documented in 19/24 pts (79%) during short-term follow-up

		Lt Superior PV	Lt Inferior PV	Rt Superior PV	Rt Inferior PV
Diameter (cm)	Pre	1.4 ± 0.2	1.6 ± 0.2	1.7 ± 0.4	1.5 ± 0.3
	Post	1.2 ± 0.2	1.5 ± .2	1.6 ± 0.4	1.3 ± 0.3
Peak Velocity (m/sec)	Pre	0.56 ± 0.15	0.53 ± 0.13	0.56 ± 0.18	0.46 ± 0.09
	Post	0.75 ± 0.3	0.68 ± 0.26	0.59 ± 0.15	0.56 ± 0.12

Conclusion: Exclusive use of ICE without venography to guide ablation of all four pulmonary veins is a feasible and practical strategy. Continuous real-time guidance of energy delivery at the PV ostium may enhance both the safety and effectiveness of 4 vessel isolation relative to other imaging techniques.

POSTER SESSION

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 Gene Polymorphism With Tachycardia Cardiomyopathy

Pramod M. Deshmukh, John D. Noti, Mary A. Romanyshyn, Guthrie Clinic, Ltd, Sayre, Pennsylvania, Guthrie Research Institute, Sayre, Pennsylvania.

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 unknown.

Methods: Twenty patients with persistent tachycardia and cardiomyopathy with ejection fraction (EF) 20 ± 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 ± 15 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 Groups A, B, and C (p < 0.002). Group A was significantly different from Group B (p < 0.035) 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 Isoproterenol Tilt Test

George N. Theodorakis, Dionyssios Letheriotis, Efthimios G. Livanis, Panagiota Flevari, Elias Zarvalis, Dimitrios T. Kremastinos, Onassis Cardiac 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 isoproterenol 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 isoproterenol HUT in order to evaluate their relative efficacy in assessing response to treatment. **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-1), one with clomipramine and the other with isoproterenol. The two tests were performed in a randomized sequence and 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-2). We recorded the number of syncopal attacks during the last 6 months before therapy and during the 6 months of treatment. We also examined whether the decrease in syncopal episodes during therapy was associated with the response to each of HUTs-2. **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-2 was associated with a greater decrease in syncopal 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 isoproterenol HUT-2 (3.9±1.2 vs 1.2±1.1) and those with a positive isoproterenol HUT-2 (4.0±1.3 vs 1.0±1.0). **Conclusion:** In patients with NCS, clomipramine-HUT depicts therapeutic efficacy more accurately than isoproterenol-HUT. This may have important clinical implications.

1185-105 Prevalence of Self-Reported Syncope: An Epidemiologic Study From Olmsted County, MN

Lin Y. Chen, Win K. Shen, Douglas W. Mahoney, Steven J. Jacobsen, Richard J. Rodeheffer, Mayo Clinic, Rochester, Minnesota.

Background: Although syncope is a common clinical syndrome with significant prognostic, psychosocial and economic implications, our current understanding of the prevalence of syncope is based on a few small studies in the past, and from very selected populations. In this study, we estimated the prevalence of syncope in a cross-sectional survey of the adult population of Olmsted County, MN. **Methods:** Residents of Olmsted County, MN >45 years of age were randomly sampled to take part in a cross-sectional study of left ventricular function in a population. A detailed questionnaire, which included questions pertaining to syncope, was administered to the participants of the parent study. Subjects were specifically asked to respond to the following question, "Have you ever experienced a black-out?" The prevalence of syncope was estimated as the number of self-reported cases divided by the number responding to the questionnaire. The association of syncope prevalence with patient characteristics was investigated using a chi-square test of independence for categorical data and a chi-square test of trend for ordinal data. **Results:** A total of 1925 subjects responded to the questions related to syncope. The median age of the participants was 61 years (Q1=53, Q3=71) and 905 (47.0%) were male. Overall, 364 subjects reported an episode of syncope in their lifetime giving a crude estimated prevalence of 19% (95% CI: 17% to 21%). There was no statistically significant association of syncope prevalence with age (p=0.86). Females reported a higher prevalence of syncope (22% vs. 15%, p<0.01). The median age of onset of syncope was 25 years (Q1=15, Q2=50) with 47% having at least one recurrence. Females tended to report more recurrent episodes of syncope than males (51% vs. 41%), but this was not