3:00

ANTIARRHYTHMIC MODIFICATION OF INDUCED VENTRICULAR TACHYCARDIA; DOES IT PREDICT TYPE OF RECURRENT ARRHYTHMIC EVENT?

Jeffrey Kluger, Ellison Berns, Jane R. Fisher, and Michael Ujhelyi, Hartford Hospital and The University of Connecticut, Hartford, CT

Pts with inducible (IND) sustained monomorphic ventricular tachycardia (VT) at baseline electrophysiology study (EPS) underwent serial drug testing. Ninety six pts presented with cardiac arrest (n=30), VT (n=56), or syncope (n=10). Pts were divided into 3 groups based on their pre-discharge drug EPS: Group I (n=41) were noninducible (NI) (≤15 beats), Group II (n=32) IND modified VT (≥100msec increase in VT cycle length, systolic blood pressure ≥90mmHg and no symptoms), Group III (n=23) IND unmodified VT. There were no significant differences among the Groups in presenting arrhythmia, type of heart disease (84% coronary artery disease) and mean ejection fraction (36±15%). Amiodarone use was greater in Group III vs Group I (p<.02) but not Group II. Pts were followed for 18±19 months for recurrent VT, sudden cardiac death (SCD), and total mortality.

	Group I	Group II	GroupIII
Recurrent VT*	3(7%)	9(28%)	7(30%)
Sudden cardiac death	2(5%)	1(3%)	1(4%)
Total mortality	8(20%)	5(16%)	4(17%)

* p<.025 Group I vs II and III

In pts presenting with cardiac arrest, 3 (10%) had SCD on follow-up irrespective of pre-discharge EPS results vs only 1 (1.5%) who presented with VT or syncope (p=.08). Conclusion: Noninducibility predicts a reduction in recurrent VT, but persistent inducibility whether modified or unmodified on pharmacologic therapy may not predict sudden cardiac death. Furthermore, the incidence of SCD on pharmacologic therapy is negligible in pts who presented with VT or syncope irrespective of pre-discharge EPS.

3:15

CAN ACUTE DRUG TESTING WITH PROGRAMMED STIMULATION PREDICT POTENTIAL PROARRHYTHMIC EFFECTS

Laurence M. Epstein, Belinda Flores, Mark E. Josephson, Alfred E. Buxton. University of Pennsylvania, Philadelphia, Pennsylvania.

We sought to determine if acute drug testing with programmed stimulation (PS) can identify pts at risk for potential proarrhythmic effects of type 1A agents. We studied 80 pts with prior myocardial infarction and spontaneous hemodynamically stable sustained ventricular tachycardia (VT-s). Spontaneous VT-s occurred in 30 patients (group 1) only during therapy with a type 1A agent (procainamide(PA)-22, quinidine-8), and in 50 pts (group 2) receiving no antiarrhythmic therapy. Groups were similar with respect to age, sex, extent of CAD and ejection fraction. All pts underwent PS in the drug free state and after PA IV loading (15mg/kg). PS included burst pacing and up to 3 extrastimuli at 2 RV sites and ≥ 2 cycle lengths.

				Δ VT induction(#extrastim)			
Group 1	inducible VT-s	ΔVERP(%)	ΔVT CL(%)*	NI	Same	more	less
baseline	29 (97%)						
PA	28 (93%)	+9±7	+33±19	1	11	4	13
Group 2							
baseline	47 (94%)						
PA	45 (90%)	+10±7	+26±15	2	26	3	16

No sign. difference between group 1 and 2 for all categories; *- pts with same morphology VT-s before and after PA;

1.Pts with prior myocardial infarction who have spontaneous VT-s only on type 1A agents have a similar frequency of induced VT-s as those who present with VT-s off drugs. 2. The change in VERP and VT-s cycle length after PA was similar in both groups. 3. In the majority of pts, regardless of presentation, the same number or fewer extrastimuli were needed to induce VT-s after PA. Thus, baseline PS and acute PA drug testing with PS failed to identify pts whose spontaneous VT-s occurred only while on drug therapy. Therefore, either testing is of limited value in identifying potential proarrhythmic drug effects, or spontaneous VT-s during drug therapy rarely represents a proarrhythmic effect of the therapy.

Monday, March 4, 1991
2:00PM–3:30PM, Room 257, West Concourse
Surgical Treatment of Valvular Heart Disease

2:00

TWO HUNDRED CONSECUTIVE MITRAL VALVE REPAIRS FOR MITRAL REGURGITATION: EARLY AND LATE RESULTS

Lawrence H. Cohn, John J. Collins, Jr, Gregory S. Couper, Nancy Kinchla, Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts

200 consecutive patients with mitral valve regurgitation (MR) have undergone mitral valve repair from 1982-1990: 17M/83F, 19-86 years, 62.5. The etiology of the MR was myxomatous in 120, ischemic in 48, rheumatic in 21, endocarditis in 10 and congenital in 1. Mean functional class (FC) was 3.4. 83 pts had concomitant CABG (41.5%) and 69 were ≥ 70 years (34.5%). Posterior and anterior leaflet resections and chordoplasties were performed variously with either ring annuloplasty in 131 (72 CE, 59 Duran) or no annuloplasty in 69 (34.5%). There were 5 operative deaths (2.5%): 4/5 after CABG, 4/5 in patients ≥ 70, P = .05). Follow-up was 99%. There were 21 late deaths (14 cardiac, 7 non-cardiac) with an overall actual survival of 76±5% at 5 years; for no CABG 82±7% vs 68±8% with CABG (P = .06); 81±6% < 70 vs 69±9% ≥ 70 years (P = .05). Reoperations for structural valve failure (SVD) were in 21 (10%); freedom from SVD at 5 years was 84±4%. Freedom from TE at 5 years was 92 ± 2% and freedom from all causes of reoperation at 5 years was 84 ± 4%.

The operative risk of this aged and complex group of patients with MR is low but patients ≥ 70 years appear at slightly higher risk both early and late. Mitral valve repair continues to be the procedure of choice in the non-calcified regurgitant mitral valve from diverse etiologies in any age group.

2:15

DOPPLER ECHOCARDIOGRAPHY OF AORTIC VALVE ALLOGRAFTS AND PULMONARY AUTOGRAFTS: A COMPARISON OF FREE-HAND VALVE AND AORTIC ROOT REPLACEMENT

Victor G. Davila-Roman, Benico Barzilai, Suzan Murphy, Peggy Brown, Nicholas T. Kouchoukos. Washington University, St. Louis, MO

Aortic insufficiency (AI) occurs commonly following aortic valve replacement with free-hand aortic allografts. The purpose of this study was to define the incidence of AI following root replacement (aortic allograft or pulmonic autograft). Twelve patients having aortic root replacement with aortic allografts (6) or pulmonic autografts (6) (Grp. I) and 16 patients having aortic valve replacement with free-hand aortic allografts (Grp. II) had echocardiographic evaluation with 2-D, Doppler and color flow imaging (CFI) early after surgery (< 2 weeks) and at 3-6 month intervals thereafter. The mean follow-up was 7.5 months (range 3-13) for Grp. I and 10 months (range 4-18) for Grp. II.

	Early follow-up			Intermediate follow-up		
	No. pts	AI # pts	AV pk vel*	No. pts	AI # pts	AV pk vel*
Grp.I	12	1 (m)	1.6	9	3 (2m,1mo)	1.5
Grp.II	16	8 (m)	1.7	14	9 (6m,3mo)	1.7

m=mild; mo=moderate; AI=aortic insufficiency; *m/s

Results: 1) CFI detected AI in 1/12 (8%) in Grp. I vs 8/16 (50%) in Grp. II in the early f/u period (p = .02); this difference persisted at intermediate f/u, Grp. I 3/9 (33%) vs Grp. II 9/14 (64%; p = NS); 2) no patient exhibited AI greater than moderate in the f/u period; 3) no significant difference between the two groups was seen in the peak aortic velocity by Doppler. Thus, AI is more common after free-hand valve allografts than after aortic root replacement as detected by Doppler techniques.