

**ATRIAL FIBRILLATION/FLUTTER DOES NOT DECREASE SURVIVAL IN CONGESTIVE HEART FAILURE**

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Atrial Fibrillation/Flutter (AF) is a common arrhythmia complicating congestive heart failure. We evaluated the impact of AF on survival in 642 patients who had serial 12 lead ECGs and Holter tapes in the VA Cooperative Study of Vasodilators in Heart Failure (VHeFT I). 143 patients with AF (Group I) were compared with 489 patients without AF (Group II). The baseline characteristics of the patients were significant in the following:

	GROUP I	GROUP II	P VALUE
CT ratio	.56±.06	.53±.06	p<.001
LA size (mm)	48.5±9.7	45.1±7.9	p<.002
Max VO <sub>2</sub>	14.1±3.9	15.0±3.8	p<.003
LVDD (cm/M <sub>2</sub> )	3.3±.55	3.5±.59	p<.001
LVDS (cm/M <sub>2</sub> )	2.7±.54	3.0±.63	p<.001

Group I not only showed no decrease in survival, but tended towards improved survival at 3 years, 69.2% vs. 61.8% (p<.12). Patients with AF at the start of the study had no trend or difference in survival from those in sinus rhythm. Those who developed AF during the study had an improved survival at 3 years, 79.5% vs. 64.6% (p<.02).

**Conclusions:**

AF does not worsen survival in CHF. Strenuous attempts to restore or maintain sinus rhythm may have no effect on survival in these patients.

Tuesday, March 5, 1991

**8:30AM-10:00AM, Room 314, East Concourse  
Asymptomatic Ischemia**

8:30

SILENT LEFT VENTRICULAR DYSFUNCTION DURING ROUTINE STRUCTURED INTERVIEW AND INDUCED MENTAL STRESS IN STABLE CORONARY PATIENTS: IMPACT OF TYPE A BEHAVIOR. Dhakar Jain, Matthew Burg, Robert Soufer, Robert Kerns, Barry L Zaret, VAMC West Haven and Yale University, New Haven CT.

Behavioral factors may be important in the causation of silent myocardial ischemia. To test this hypothesis, we studied 20 stable male Pts (mean age±SD 65±7 years) with known coronary artery disease (CAD) and reversible ischemia on stress <sup>201</sup>Tl imaging. Pts underwent continuous ambulatory radionuclide monitoring of LV function using the VEST. LV ejection fraction (LVEF), LV volumes, heart rate (HR), ST segment and arterial blood pressure (BP) data were obtained serially. Pts continued antianginal medication during study. Pts underwent videotaped Friedman Structured Interview (INT), induced mental stress by mental arithmetic (MS), computer choice reaction time test (RT: designed to increase parasympathetic tone) and mild exercise (walking at regular speed). Each activity was preceded by a period of rest and stabilization. Degree of type A behavior was scored on the basis of INT (scored 0-34, 34 being the highest on this type A scale). Eleven Pts (55%) (Gp I) showed >0.05 fall in LVEF during MS (mean fall 0.12±0.07) lasting >1 minute. The remaining Pts (n=9, Gp II) showed no fall in LVEF during MS. All Gp I Pts showed a significant and comparable fall in LVEF on INT (0.09±0.04), compared to 2/9 Gp II Pts (p<0.0001). None developed symptoms or ST segment changes during INT or MS. Group I and II had comparable increases in systolic/diastolic BP on INT (average 40±24/19±13 mm Hg) and MS (34±21/13±10) with comparable minimal increase in HR (average 8±7 beats/min INT; 6±7 beats/min MS). None showed a fall in LVEF with RT. During walking, both groups increased LVEF without ischemic response. Gp I scored 18±5 compared to 11±6 for Gp II (p<.02) on type A behavior scale. Only type A behavior score distinguished those with MS provoked LV dysfunction from those without.

Thus silent LV dysfunction and ischemia are frequent during MS in CAD Pts who score high for type A behavior. The INT used to define type A behavior is also stressful since it induced a comparable degree of silent LV dysfunction in these Pts. Behavior pattern plays an important role in silent myocardial ischemia related to MS.

8:45

**MOST EPISODES OF AMBULATORY ISCHEMIA IN STABLE CORONARY PATIENTS ARE NOT ASSOCIATED WITH NOTICABLE EXERCISE OR MENTAL STRESS.**

Richard F. Davies, Peter W. Klinke, Habibullah Habibi, Pierre Dessain, Jennifer A. Butters, and CASIS Investigators. University of Ottawa Heart Institute, Ontario, Canada.

Patients with CAD have frequent ischemic episodes on Holter monitoring (HM). To study the contribution of exercise and emotional stress to total ischemic burden, we examined detailed diaries collected from 32 patients with at least 1 episode of ischemic ST depression (STD) during 48 hours of off-drug HM. A total of 233 episodes of ≥ 1 mm STD lasting ≥ 1 min were recorded. Episodes were classified as associated with > mild exercise (E), with mental stress (M), or neither (N). Results:

	N	Sx(%) <sup>3</sup>	HR <sup>4</sup>	STD <sup>5</sup>	Dur <sup>6</sup>	STI <sup>7</sup>	INT <sup>8</sup>
E	44	5(11)	116 <sup>1</sup>	2.0 <sup>1</sup>	9.3 <sup>2</sup>	15.4 <sup>2</sup>	678
M	10	0(0)	109 <sup>1</sup>	2.1 <sup>1</sup>	3.1 <sup>2</sup>	3.8 <sup>2</sup>	38
N	179	2(1)	112	2.1	6.4	10.4	1862

<sup>1</sup> p=NS vs N <sup>2</sup> P<.01 vs N <sup>3</sup> symptoms <sup>4</sup> peak HR <sup>5</sup> peak STD

<sup>6</sup> mean episode duration <sup>7</sup> mean integral of STD over time per episode <sup>8</sup> total integral of STD over time for 48 hours

Episodes associated with exercise were longer and more symptomatic, but comprised only 7.2% of the total ischemic duration and 8.1% of the INT. Episodes associated with mental stress were shorter and asymptomatic, and comprised only 1.9% of the total ischemic duration and 1.5% of the INT. We conclude that the majority of ischemia in ambulatory CAD pts is due to asymptomatic episodes that are not associated with noticeable exercise or mental stress. Further research is needed to determine how these episodes are triggered.

9:00

**MYOCARDIAL ISCHEMIA AND NECROSIS IN PATIENTS WITH DOCUMENTED CORONARY ARTERY DISEASE UNDERGOING NON-CARDIAC SURGERY.**

Paul Ruble, Shukri David, Vincent Reyes, Zoltan G. Turi, Harper Hospital and Wayne State University School of Medicine, Detroit, MI.

The Goldman Cardiac Risk Index Score (CRIS) is widely used for preoperative assessment of cardiac risk in patients undergoing non-cardiac surgery. In addition, preoperative Holter monitoring for ST segment changes has been reported a strong predictor of postop cardiac events. In our recently completed trial (PORIS - PeriOperative Reduction of Ischemia Study), 77 patients with documented coronary artery disease underwent Holter monitoring for ischemic ST segment changes from the day pre-op through 96 hours post-op. Patients had clinically stable angina pectoris. Cardiac enzymes (MB-CK) were drawn every 4 hours for 24 hours after surgery, and every 8 hours thereafter. Of the 77 patients, 27 had ST changes felt to be diagnostic of ischemia; 8 had enzyme patterns of myocardial necrosis (MI). CRIS for patients without ischemia (5.8±.9) did not differ significantly from patients with ischemia (6.0±1.1), or patients with MI (8.1±2.4). Of patients with MI, 4 of 8 were CRIS Class I (<5 points). Values are mean±SEM.

	No Preop Ischemia (n=59)	Preop Ischemia (n=18)
CRIS	5.4±0.8	7.3±1.4
Intraop Ischemia	2 (3%)	7 (39%)
Postop Ischemia	8 (14%)	12 (67%)
MI	4 (7%)	4 (22%)

p<0.00001 comparing intra and postoperative ischemia to preop ischemia in the two groups. The relative risk of intra or postoperative ischemia in patients with preop ischemic changes is 6.5 (95% CI 2.6-16.0); sensitivity of preop ST segment changes is 59%, specificity 91%, positive predictive value 72%, negative predictive value 85%.

**Conclusion:** patients undergoing noncardiac surgery, who have documented coronary artery disease and stable clinical syndromes, have high perioperative risk of ischemia and MI despite low CRIS. While the risk of postop ischemia is significantly higher in patients with preop ST segment changes, absence of preop ST changes by Holter monitoring had only a moderate negative predictive value for postop ischemic events.