Five-year Mortality Rates of the Total Cholesterol Quintiles

Total Cholesterol (mg/dl)	Quintile 1 (<129)	Quintile 2 (129-160)	Quintile 3 (161-189)	Quintile 4 (190-223)	Quintile 5 (>223)
N	222	225	227	232	228
Death or Urgent Transplant	137	108	103	77	72
Survival	23.8%	35.1%	37.2%	51.6%	55.2%
Unadjusted Relative Risk (95% CI)	2.458 (1.846-3.271)	1.609 (1.194-2.168)	1.630 (1.206-2.203)	1.027 (0.744-1.416)	1.00
Adjusted Relative Risk (95% CI)	1.946 (1.242-3.047)	1.386 (0.873-2.199)	1.732 (1.079-2.082)	1.043 (0.640-1.698)	1.00

1205-160 Prognostic Implication of the Valsalva Manouver in Patients With Dilated Cardiomyopathy

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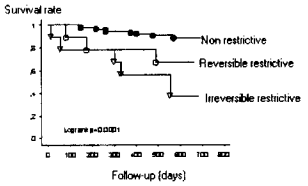
In patients with dilated cardiomyopathy (DCM), restrictive mitral pattern (RMP) is a marker of diastolic dysfunction and of impaired survival. Pharmacologic unloading with nitroprusside discriminates between reversible and irreversible RMP adding important prognostic information to baseline mitral inflow pattern. We aimed to analyze whether ventricular unloading by means of the Valsalva manouver might give similar prognostic information. **Methods**: In 106 DCM pts (63±12 years; 72% male), LV diastolic (LVD) and systolic (LVS) volumes and EF were measured from apical 4-chambers view (area-length method). Mitral E (E), A (A) wave velocities, their ratio (E/A) and E deceleration time (DTe) were measured. RMP was defined as E/A >2 or E/A > 1 and DTe < 140 msec. Non-RMP was defined as E/A < 1 or E/A > 1 and DTe ≥ 140 msec. In patient with RMP, unloading was induced by the Valsalva manouver and mitral inflow pattern was recorded close to the end of the strain phase (10 sec). During unloading the presence of RMP was defined as at baseline. Patients were divided in three groups: non-restrictive (Group 1: 88 pts), reversible-RMF (Group 2: 9 pts), irreversible-RMF (Group 3: 9 pts). **Results**: Kaplan-Meier survival curve is shown in the figure. **Conclusion**: In DCM patients the Valsalva manouver is a simple, rapid and useful tool to enhance prognostic assessment.



1205-162 Efficacy, Tolerability, and Long-Term Effects of Carvedilol in Women

Christopher S. Allada, Anne M. Keogh, Eugene Kotlyar, Christopher S. Hayward, Peter S. Macdonald, *St Vincent's Hospital, Sydney, Australia.*

Background: Women do not always exhibit the same physiological responses to heart failure therapy as do men. We wished to determine whether there are differences in tolerance of, or responses to carvedilol between males and females.
Methods: In a cohort of 70 women and 431 men started on open label carvedilol for NYHA functional class I-IV heart failure between February 1996 and May 2001, 51 women (80%) and 348 men (80.7%) have remained on carvedilol for more than 12 months. A comparator group of men on carvedilol greater than 12 months was found for the 51 women by matching for age, diagnosis, and NYHA functional class, and a retrospective comparision was conducted.
Results:

Women (n=51)	Baseline	3 months	6 months	12 months	Change-baseline to 12 months
NYHA	2.9 ± 0.7	2.5 ± 0.7 *	2.2 ± 0.7 *	2.2 ± 0.6 *	- 24.1 %
6MWT (m)	384 ± 117	440 ± 64 ***	419 ± 57 ***	434 ± 82 ***	+ 13.0 %
LVEDD (mm)	66 ± 11	64 ± 11	64 ± 141	63 ± 12	- 4.6 %
LVESD (mm)	56 ± 12	52 ± 13	52 ± 14	50 ± 14	- 10.7 %
FS (%)	0.17 ± 0.08	0.20 ± 0.08	0.19 ± 0.07	0.22 ± 0.09	+ 29.4 %
EF (%)	0.30 ± 0.10	0.34 ± 0.11 **	0.34 ± 0.12 *	0.36 ± 0.12 **	+ 20.0 %

Men (n=51)	Baseline	3 months	6 months	12 months	Change-baseline to 12 months
NYHA	2.9 ± 0.6	2.3 ± 0.7 **	2.1 ± 0.8 **	2.1 ± 0.7 ****	- 27.6 %
6MWT (m)	442 ± 66	498 ± 90 *	489 ± 105 *	483 ± 194 *	+ 9.3 %
LVEDD (mm)	74 ± 12	73 ± 14	73 ± 14 *	72 ± 15 **	- 2.7 %
LVESD (mm)	63 ± 13	61 ± 16	60 ± 17	60 ± 17	- 4.8 %
FS (%)	0.16 ± 0.08	0.17 ± 0.09 *	0.19 ± 0.08 ***	0.19 ± 0.09 ***	+ 18.8 %
EF (%)	0.27 ± 0.11	0.30 ± 0.14 *	0.32 ± 0.14 **	0.33 ± 0.14 ***	+ 22.2 %

ANOVA analysis: * p < 0.05, ** p < 0.01, *** p < 0.001
Conclusion: Both men and women tolerated carvedilol equally well and had a similar side effect profile. Men and women who received carvedilol for greater than 12 months benefited similarly with regards to an improvement in their NYHA functional class, greater 6 minute walk test (6MWT) distances, and echocardiographic parameters including smaller left ventricular end-diastolic diameter (LVEDD), smaller left ventricular end-systolic diameter (LVESD), improved fractional shortening (FS) and improved ejection fraction (EF). These benefits were seen as early as 3 months after commencing carvedilol. Women received at least as much benefit as the men. Therefore, if the side effects can be tolerated it is beneficial for both men and women to remain on carvedilol.

POSTER SESSION

1206 Cardiovascular Disease: Aging

Tuesday, March 19, 2002, 3:00 p.m.-5:00 p.m.
Georgia World Congress Center, Hall G
Presentation Hour: 3:00 p.m.-4:00 p.m.

1206-146 Aging Produces Marked Viscoelastic Alterations in Viable Myocardium

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Age is a leading prognostic factor for post myocardial infarction mortality. Ventricular remodeling in viable myocardium can ultimately compromise cardiac function; but the effect of aging on the remodeling process is not well understood. Objective: To evaluate the effect of aging on remodeling using an experimental aging animal model. Methods: Myocardial infarction was induced by LAD ligation in Fischer 344 aging rats at 3 and 18 months of age. Sham procedures were performed in both groups as a control. High-resolution acoustic microscopy was conducted at 50 MHz on excised LV segments 3 months post infarction. Quantification of the integrated backscatter (IB) power, a marker of the viscoelastic index, was performed on viable regions of myocardium in the 3 and 18 month old rat groups and their respective shams. Results: The IB for the viable zone in the 18 month old rats was significantly higher than the IB for the viable region in the 3 month old rats, respectively, (-45.4±1.0 dB vs -48.4±0.8 dB , p < 0.05). In addition, the difference in IB between the sham regions and the viable zones was approximately two times higher in the old rats than in the young rats, (4.3 dB vs 1.4 dB, p <0.05). Of note, the IB of the regions in the young and old shams were statistically similar, (-49.8±0.9 dB vs -49.7±1.1 dB, p = NS). Conclusion: This data suggests that in the setting of post myocardial infarction remodeling, the viable myocardium in older hearts undergo a significant increase in viscoelastic index over that found in younger hearts. This increase was not present in the young and old sham populations. Therefore, aging potentiates the change in the viscoelastic index that occurs in viable myocardium post myocardial infarction and subsequently may effect both systolic and diastolic function. These findings may further our understanding of the effects of aging on ventricular remodeling.

1206-147 Compensatory Changes in Atrial Function With Aging

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Aim: Atrial function is clinically relevant but assessment is difficult. Doppler Tissue Imaging (DTI) has quantified intrinsic ventricular contraction. We hypothesized that DTI could measure atrial contraction as a marker of atrial function.
Methods: 92 healthy subjects (no history of hypertension, diabetes, ischemic heart disease, not on cardioactive medications) (Grp 1:under 50yrs;Mean:32yrs): n=47) and (Grp 2:over 50yrs; Mean:63yrs): n=45) with normal transthoracic echocardiograms were studied. Atrial contraction velocity in late diastole (A') was measured by PW Doppler DTI from apical 4C view by sampling at the septal mitral annulus. Echo parameters of atrial function including mitral A wave velocity (A vel), A wave velocity time integral (AVTI), atrial fraction ((A VTI/Total inflow VTI) x 100%) and Atrial Ejection Force (Aef) (0.5x rho x mitral orifice area x(A vel)2) were measured. From apical 4C and 2C views, maximum LA volume in ventricular systole (LAESV) and minimum LA volume in diastole(LAEDV) were calculated by the biplane method of discs. LASV= LAESV-LAEDV.
Results: DTI velocity of A' was higher in Grp 2 vs Grp 1. (9.8±1.8 vs 8.5±1.5 cm/sec; p=0.0005). The A vel (0.6± 0.14 vs 0.79±0.2 m/sec; p=0.0001), A VTI (8±3.1 vs 11.2±4cm; p=0.0001), atrial fraction (35.4±8.7vs 46.5±8;p=0.0001) and Aef (14±8 vs22±12; p=0.003) were higher in Grp 2. A' vel correlated with Aef and atrial fraction (Spearmean rank p=0.04 and p=0.0075 respectively). Multiple regression analysis for predictors of A' vel, atrial fraction and Aef showed that age was the single common predictor. In Grp 2, 26/45 pts had E/A < 1 suggesting impaired relaxation while present in only 2/47 in Grp 1. LAESV, LAEDV and LASV were not significantly different in the 2 groups. Thus, atrial contraction velocity increased with age suggesting that this was a normal compensatory mechanism to overcome age associated decline in LV compliance.
Conclusions: 1) DTI (A' vel) can be used to quantify atrial contraction; 2) A' vel contributes at least in part to atrial fraction and Aef; 3) A' velocity increases in "normal" older individuals to compensate for decreased LV compliance;4) normal aging does not increase atrial size significantly.