detectable AWM was significantly greater in the Q compared with the non-Q group ($p < 0.001$). When those non-Q patients without AWM are excluded, there was no significant difference in the extent of AWM between the Q and non-Q groups. Among those patients with AWM at entry who underwent repeat echocardiography at 6–12 weeks (final), both the Q and non-Q groups showed a significant reduction in extent of AWM. However, the mean % change (Δ) in AWM was significantly greater in the non-Q than in the Q group, and there was a trend toward lower final extent of AWM in the non-Q group. The mean ESAi was not significantly different between the two groups at entry or at follow up.

	Q (n = 41)	Non-Q (n = 7)	p
AWM entry	29 ± 19*	24 ± 11**	0.53
AWM final	22 ± 21*	8 ± 11**	0.10
Mean % Δ AWM	−22 ± 55	−75 ± 28	<0.02

*$p < 0.02$, **$p < 0.002$

These findings were independent of the performance of angioplasty. In conclusion, failure to develop Q waves following thrombolysis predicts a lower likelihood of developing significant regional LV dysfunction and, if dysfunction is present, predicts a greater degree of recovery.

4:45

806-4 Association of Ventricular Arrhythmias with Left Ventricular Remodeling After Myocardial Infarction: Is it a Missing Link?

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It is well known that both complex ventricular arrhythmias (CVA) and LV dysfunction after MI are predictors of poor prognosis. Several studies have assessed the relationship of CVA and LVEF with controversial results; however, the relationship of CVA and LV remodeling after MI has not been clarified yet. We have prospectively evaluated 97 consecutive pts with acute MI by serial echocardiographic examinations (day 1, 2, 3 and 7 and after 3 weeks) in order to determine end-diastolic volume index (EDVi), end-systolic volume index (ESVi) and EF. Holter monitoring was performed after 3 weeks. Coronary angiography was performed in 88 patients before hospital discharge.

Results: CVA (defined as Lown classes 3–5) were found in 16/97 pts. In the logistic regression model, variables predictive of CVA were ESVi on admission ($b = 0.048$, $p = 0.032$) and EDVi after 3 weeks ($b = 0.034$, $p = 0.012$). CVA were related to the increase of EDVi and ESVi throughout the study ($F = 5.62$, $p = 0.046$ and $F = 6.42$, $p = 0.017$, respectively by MANOVA). The incidence of CVA was not related to EF, thrombolysis, infarct-related artery patency, angiographic extent of coronary artery disease and infarct location.

Conclusions: These data indicate that CVA are related to progressive LV dilation, rather than to depressed EF. It appears that CVA may be the missing link that explains association of LV remodeling with higher mortality.

807 Cardiac Function and Failure in the Elderly

Wednesday, March 22, 1995, 4:00 p.m.–5:00 p.m.
Ernest N. Morial Convention Center, Room 16

4:00

807-1 Congestive Heart Failure with Preserved Systolic Function in a Large Community-Dwelling Elderly Cohort: The Cardiovascular Health Study

Julius M. Gardin, Alice Arnold, Dalane Kitzman, Vivienne E. Smith, Joao A.C. Lima, H. Sidney Klopfenstein, Diane E. Bild, CHS Research Group. *University of California, Irvine, CA*

LV diastolic dysfunction is known to be an important cause of congestive heart failure (CHF) in the elderly. However, the prevalence of LV diastolic dysfunction as a mechanism of CHF in a large, elderly cohort is unknown. The Cardiovascular Health Study is an NHLBI sponsored multi-center study of community-dwelling individuals 65 years and older designed to evaluate cardiovascular risk, mortality and morbidity. In Year 2 (1989–90), 4,629 of 5,201 individuals successfully underwent two-dimensional echocardiography (2-D echo) evaluation of the left ventricle (LV). The table outlines the prevalence of definite CHF by history and LV systolic function as assessed by 2-D echo. *Normal* LV systolic function was defined as normal LV ejection fraction (EF) and wall motion by qualitative/semiquantitative assessment, *abnormal* was defined as presence of either abnormal EF or wall motion (akinesis/dyskinesis), and *borderline* was intermediate.

	Overall	Men	Women
Total Studied by Echo	4,629	1,971	2,658
Definite CHF by History	79 (1.7%)	43 (2.2%)	36 (1.4%)
Abnormal LV Systolic Function	31 (39%)	20 (46%)	11 (31%)
Borderline LV Systolic Function	11 (14%)	5 (12%)	6 (17%)
Normal LV Systolic Function	37 (47%)	18 (42%)	19 (53%)

Conclusions: In this large elderly cohort: (1) the prevalence of definite congestive heart failure by history was 2%; (2) nearly one-half of participants with definite CHF had normal LV systolic function; (3) the distribution of systolic dysfunction among participants with definite CHF did not differ significantly by gender. These findings suggest a high prevalence of LV diastolic dysfunction as the mechanism of CHF among a large cohort of elderly, community-dwelling individuals.

4:15

807-2 Effect of Age on Left Ventricular Diastolic Filling Patterns During Orthostatic Stress

Christian J. Swinne, Edward P. Shapiro, Frances C. O'Connor, Patricia Reyerson, Jerome L. Fleg *Gerontology Research Center, NIA, NIH; Johns Hopkins Bayview Medical Center, Baltimore, MD*

Although numerous studies have demonstrated reduced early diastolic left ventricular (LV) peak filling velocity (E) and accentuated late filling velocity (A) with advancing age in the supine position, the effect of orthostatic stress on age-associated diastolic filling patterns is unknown. Accordingly, 30 healthy normotensive volunteers ages 19 to 90 years from the Baltimore Longitudinal Study of Aging underwent sequential Doppler echocardiography after 3 minutes each in the supine, seated, and standing positions. In the overall sample, standing was accompanied by an increase in heart rate (HR) of 8.8 ± 1.7 beats/min, and decreases in E (20.6 ± 2.7 cm/s), A (5.0 ± 2.7 cm/s)and LV diastolic dimension (LVDD) (7.8 ± 0.8 mm), $\bar{x} \pm$ SEM, each $p < 0.001$ versus supine values. Systolic blood pressure (SBP) and atrial filling fraction (AFF) were unaffected by posture. Correlation coefficients versus age for relevant Doppler and hemodynamic variables are shown.

	E	A	E/A	AFF	HR	SBP	LVDD
Supine	−0.58†	0.80†	−0.78†	0.84†	0.01	0.56†	−0.14
Sit	−0.36	0.77†	−0.83†	0.78†	−0.04	0.37*	−0.07
Stand	−0.24	0.60†	−0.69†	0.71†	−0.32	0.47†	0.09
ΔSupine→Stand	0.53†	−0.46†	0.56†	−0.17	−0.61†	0.22	0.40*

*$p < 0.05$ †$p < 0.01$

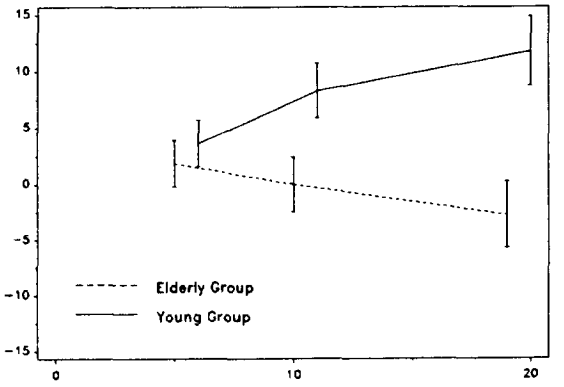
Thus, orthostatic stress abolishes the reduction of E and attenuates the exaggerated A observed with advancing age in the supine position, probably because of the blunted standing-induced HR increase in older subjects. However, the supine age-associated increase in AFF is unaffected by orthostasis.

4:30

807-3 The Effect of Age on the Hemodynamic Response to Dobutamine

L. Ashley Stroud, Gregory B. Russell, Dalane W. Kitzman. *Bowman Gray School of Medicine of Wake Forest University, Winston-Salem, North Carolina*

Although aging is associated with decreased beta-adrenergic responsiveness and many patients undergoing dobutamine stress echocardiography (DSE) are elderly, the effect of age on the hemodynamic response to dobutamine (DOB) has not been reported. Furthermore, hypotension is frequently observed during DSE and the mechanism is controversial. Therefore, we examined the heart rate (HR) and systolic blood pressure (SBP) responses in



WEDNESDAY PM