revascularizations (1 PTCA-1.3 months after DSE and 1 CABG-12 months after DSE), one episode of angina and two admissions for CHF. The risk for MI and cardiac death in this population was zero.

At 45 months, 98% of the population remained free of revascularization by Kaplan-Meier analysis. The risk for revascularization was 1% per patient-year.

Conclusion: A normal DSE in women is associated with an excellent long-term prognosis.

1204-121

Diagnosis of Suspected Coronary Artery Disease in Women: A Cost-effectiveness Analysis

C. Kim, Y.S. Kwok, S. Saha, R.F. Redberg. University of California, San Francisco, USA

Background: Previous analyses in men have demonstrated cost-effectiveness of a diagnostic strategy for coronary artery disease (CAD) varied primarily with CAD prevalence in the tested population. It is unclear if this is true for women. We compared the cost-effectiveness of several strategies for diagnosing CAD in women.

Methods: In a cost-effectiveness analysis, we compared strategies for the diagnosis of CAD in 55-year-old women with chest pain. Strategies included exercise electrocardiography, exercise testing with thallium scintigraphy, exercise-echocardiography, cardiac catheterization, or no work-up. Exercise test accuracies were obtained from a meta-analysis. The probabilities for angina, myocardial infarction, and death were obtained from randomized controlled trials. The quality-of-life estimates were obtained from time-trade-off interviews. Costs were obtained from a university hospital cost-finding system and from a Northern California health maintenance organization.

Results: For a 55-year-old woman with definite angina, diagnosis with cardiac catheterization cost under $17,000 per quality-adjusted life-year saved (QALY) compared with exercise-echocardiography. For a 55-year-old woman with probable angina, diagnosis with cardiac catheterization cost under $76,000 per QALY compared with exercise-echocardiography. For a 55-year-old woman with nonspecific chest pain, exercise-echocardiography cost under $10,000 per QALY compared with no test.

Conclusion: Initial diagnosis of CAD with cardiac catheterization is cost-effective in 55-year-old women with definite angina. In 55-year-old women with probable angina, diagnosis with cardiac catheterization would increase life-years but increase cost significantly. Diagnosis of CAD with exercise-echocardiography is cost-effective in 55-year-old women with probable angina and nonspecific chest pain.

1204-122

Exercise Echo may Predict Coronary Disease but Not Clinical Course in Patients With Aortic Stenosis

R. Borden, N. Chee, T. Manwick. Cleveland Clinic Foundation, Cleveland, Ohio, USA

Asymptomatic aortic stenosis (AS) is frequent in older pts being evaluated for CAD. In these pts, the influence of raised LV pressures on the accuracy of exercise echo (ExE) is undefined. Moreover, the relevance of other ExE data to outcome in AS is unclear.

Methods: We studied ExE in 71 pts (61 ± 18 y, 32 women), with a mean valve area of 0.9 ± 0.2 cm². ExE protocols were selected according to pts age and functional state, and standard endpoints were used. Vocal signs were examined carefully during exercise: peak rate-pressure product and estimated functional capacity (METS) were recorded. Aortic gradients were derived from Doppler velocities using the modified Bernoulli equation, and valve area was obtained using the continuity equation. Ischemia was identified by new or worse wall motion abnormalities with stress, and compared with angiography in 39 pts.

Results: Heart-rate increased from 48 ± 10% predicted maximum to 92 ± 13%; peak rate-pressure product was 26,300 ± 5,000 and exercise capacity 7.2 ± 2.6 METS. Exercise was terminated due to fatigue in 57 pts (80%), chest pain, dyspnea or ST changes > 0.2 mV in 12 pts, and supraventricular tachycardia in 2 pts. No serious adverse events occurred. In 26 pts without significant CAD, specificity was 85%, but in 13 pts with CAD, sensitivity was 54%, reflecting borderline stress. Over 17 m follow-up, 37 remained asymptomatic, and 34 had events - valve replacement (24), worsening symptoms (8) or death (2). Pts with events were not predicted by the increment of gradient with stress (17 ± 21 vs 24 ± 17 mmHg in asymptomatic pts), or other exercise variables.

Conclusion: ExE appears to be safe and specific for CAD in pts with asymptomatic AS. Sensitivity may be compromised by performance of submaximal stress. ExE does not appear to predict the course of AS.

1204-123

The Predictive Value of Dobutamine Stress Echocardiography in Patients With Diabetes Mellitus


Background: There are no studies assessing the ability of negative dobutamine stress echocardiography (DSE) results to predict subsequent cardiovascular events rates (CERs) in diabetics. Current data suggests that a negative DSE result predicts a low one-year CER (25%), but this does not distinguish between diabetics and non-diabetics.

Objective: To compare CERs of diabetics and non-diabetics with a negative DSE over a long-term follow-up.

Methods: We reviewed 625 DSEs performed at our institution from 1992 to 1996, conducting a medical record review and phone interviews. We recorded a 4-year follow-up of 100 consecutive patients for CERs (myocardial infarction, death from cardiac causes, admissions for angina, heart failure, coronary angioplasty, bypass surgery).

Results: The 4-year event rates are summarized below.

Conclusions: Our data suggests that the CER following a negative DSE is similar for both diabetics and non-diabetics and that a negative DSE result carries a good 4-year prognosis in both groups.

1204-124

Ventriculography, but Not Coronary Angiography Predicts Viability by Dobutamine Stress Echocardiography

T.J. Lewandowski, J.A. Kovach, E. Bossone, W.F. Armstrong. University of Michigan and VA Medical Centers, Ann Arbor, MI, USA

Some authors have suggested that myocardial viability can be routinely assessed at cardiac catheterization. The purpose of this study was to determine if angiographic or ventriculographic (LVG) markers correlated with myocardial viability as determined by dobutamine stress echocardiography (DSE).

Angiograms (ANGIO), LVG, and DSE were compared in 15 Pts with echocardiographic ejection fraction < 30% (without recent MI or valvular heart disease) who underwent catheterization within 14 days of DSE. On coronary angiography, vascular territories were divided into 13 segments which correlated with ECHO (4 apical segments by DSE were combined into 1 segment). The RAO LVG was divided into 5 segments with corresponding DSE views. Viability by DSE was defined as improvement of wall motion by > 1 grade. Segments were considered viable by ANGIO if the artery was patent (- TIMI II flow) or supplied by collaterals with a visible target artery. LVG viability was defined as hypokinesis or normal wall motion.

There was agreement between ANGIO and DSE for viability in 118 segments and disagreement in 72 segments (p < NS). When LVG was compared with DSE, there was agreement in 46 segments and disagreement in 19 segments (p = 0.002). The positive predictive value of LVG for viability was 74% and the negative predictive value was 65%.

Conclusions: LVG at routine cardiac catheterization predicts viability by DSE.