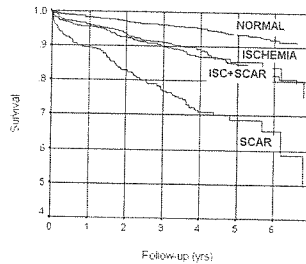


poorly defined. We sought whether ischemia at DE could be used to predict CDth. **Methods:** DSE protocols were performed in 3156 pts (age 63±12y, 1801 men) with known or suspected CAD. Significant CAD was identified in 70% of 1073 pts undergoing angiography. Pts were followed by expert observers as having normal findings, ISC or scar. Survival curves were generated at 9 years follow-up (mean 3.8±1.9). Cox models were used to analyze effect of ischemia independent of other determinants of CDth. **Results:** Pts were stressed maximally; mortality increased from 75±15 to 133±36 (86±12% predicted); ISC was identified in 2429 (77%). Death occurred in 259 pts and 41 (1.3%) were lost to follow-up. Pts with normal DE had CDth rate of 1%/yr over the first 4 yrs. ISC was an independent predictor of CDth (RR 2.7, p<.001), together with age and heart failure. ISC remained predictive of CDth even in models including CAD extent (ischemia RR 1.8, p=.005; 3 vessel disease RR 2.1, p=.006, 1 and 2 vessel disease RR 1.5, p=.001). **Conclusion:** Normal DE predicts low risk. Risk of CDth with ISC is comparable to that with CAD.

7a



3394

Effect of D-Ribose on the Detection of the Hibernating Myocardium during the Low Dose Dobutamine Stress Echocardiography

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Background: The ability of dobutamine echocardiography (DE) to detect hibernating myocardium may be decreased in the setting of severe CAD. D-Ribose, a precursor of adenosine triphosphate (ATP) has been shown to improve ischemia induced contractile dysfunction in animals. In this study, D-Ribose was given before low dose DE to determine if D-Ribose could improve detection of hibernating myocardium by DE. **Methods:** Twenty-five patients with ischemic cardiomyopathy (mean EF=30±8%) completed a 2 day randomized, double blind, crossover trial comparing the effects of D-Ribose vs. placebo on myocardial contractile function during DE. On the first study day, DE (doses of 5, 10, 20 µg/kg/min) was performed after a 4 hour infusion of the test article (D-Ribose or placebo). On the second study day subjects were crossed over to the alternate test article. Eleven subjects underwent CABG following the test. Follow up echo was obtained 1 to 3 months after CABG in all patients. **Results:** During DE, wall motion improved in more dysfunctional segments on D-Ribose compared to placebo (63 vs. 45, p=0.02). In patients who had CABG the sensitivity of DE+D-Ribose for prediction of functional recovery was 61% compared to 46% for DE+placebo (p=NS). There was a positive relationship between changes in ejection fraction (EF) during DE+D-Ribose infusion and changes in EF after CABG (r=0.47). EF changes during DE + placebo infusion correlated negatively with EF after CABG (r=-0.51) because of dobutamine induced ischemia which caused worsening of EF in two subjects. **Conclusions:** D-Ribose increased the frequency of response to DE in hibernating regions with contractile dysfunction. The improvement in global systolic function with DE+D-Ribose predicted the magnitude of improvement achieved with revascularization.

3395

The Prognostic Value of Myocardial Viability Recognized by Low Dose Dobutamine Echocardiography in Medically Treated Patients with Chronic Ischemic Left Ventricular Dysfunction

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Background: Aim of this, large scale, prospective, multicenter, observational study was to assess the impact on survival of myocardial viability recognized by low dose dobutamine echo in medically treated patients with global left ventricular dysfunction. **Methods:** Thus, 204 patients (mean age 61±10) with angiographically proven coronary artery disease, previous (>3 months) myocardial infarction and severe left ventricular dysfunction (ejection fraction <35%, mean:27±7) underwent low dose (up to 10 µg/kg/min) dobutamine for the detection of myocardial viability. Myocardial viability was identified as rest-stress variation (Δ) in the wall motion score index (WMSI), each segment scored from 1=normal to 4= dyskinetic in a 16 segment model of left ventricle. Patients were followed up for a median of 34 months. The only end-point analyzed was cardiac death. **Results:** Kaplan-Meier survival estimates showed a better outcome for patients with large (ΔWMSI >0.18) viability (70.8%) compared to those with a small extent or no myocardial viability (ΔWMSI <0.18) (53.9%). Using the Cox proportional hazards model, hypercholesterolemia (HR 1.5; 95%CI=1.07-2.1, p=0.017) and rest WMSI (HR 2.5; 95%CI= 1.07-5.9, p=0.033) were independent predictors of cardiac death while, in the same model, history of angina (HR 0.7; 95%CI= 0.51-0.89) and delta WMSI (HR 0.1, 95%CI 0.02-0.7, p=0.022) exerted a protective effect on survival. **Conclusions:** In medically treated patients with severe global chronic left ventricular dysfunction, myocardial viability identified by low dose dobutamine is associated with a better survival. The viability response should be titrated according to the entity and extent of contractile recovery, which substantially affects prognosis.

Long-Term Prognostic Value of Dobutamine Stress Patients with Atrial Fibrillation

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Objective: To assess the long-term prognostic value of dobutamine stress echocardiography (DSE) for late cardiac events [CE] [cardiac death [CD] and late cardiac death [LCD]] in pts with AF compared to pts in sinus rhythm. **Background:** In pts with AF may be reduced due to unpredictable heart rate. **Methods:** Clinical data and DSE results were studied in pts undergoing DSE in 1998. Sixty-nine pts had AF at the time of DSE and were matched to a control group in sinus rhythm. Presence of late cardiac events [LCE] (score) with a control group in sinus rhythm. Presence of late cardiac events [LCE] (score) with a control group in sinus rhythm. Presence of late cardiac events [LCE] (score) with a control group in sinus rhythm. **Results:** Heart rate and peak dose dobutamine in pts with AF and sinus rhythm was not different. However, cardiac arrhythmia's [non-sustained ventricular tachycardia] were more in pts with AF, compared to pts in sinus rhythm, 12% vs. 2%. The induction of ischemia. No fatal complications occurred during DSE. In 5 and MI in 2. NWMA were highly predictive for late cardiac events [LCE] (score) with a control group in sinus rhythm. Presence of late cardiac events [LCE] (score) with a control group in sinus rhythm. Presence of late cardiac events [LCE] (score) with a control group in sinus rhythm. **Conclusion:** No difference in prognostic value of NWMA in pts with AF or sinus rhythm [1.5-4.5] respectively HR 4.2 [3.1-5.6] [p=0.45]. The number of late cardiac events [LCE] (score) with a control group in sinus rhythm. Presence of late cardiac events [LCE] (score) with a control group in sinus rhythm. **Conclusion:** for late CE of DSE was not influenced by the presence of AF, but the frequency during the test.

Quantitation of Dobutamine Echo Using Tissue Doppler Validation

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Subjective interpretation is an important limitation of dobutamine stress echocardiography (DSE) in the quantitation of regional LV function, and abnormal stress echocardiography (MDV) has been documented in scar and ischemic segts. However, segts related to myoarchitecture has inhibited definition of normal ranges. **Methods:** We studied 59±8 yr) undergoing DE and angiography. A standard DE protocol was obtained from color tissue Doppler overlaid on 2D echo at each segment and peak stress wall motion were scored by experienced observers. MDV were measured off-line. Significant CAD was defined by angiography (SENS) and specificity (SPEC) of WMS and MDV were defined by angiography. **Results:** Peak MDV were selected to give a NR with 80% sensitivity. NR in tethered segt (septum, ant-sept, inferior) was >7cm/s (anterior, lateral, posterior) >5cm/s (base), >3 cm/s (inferior). Angiography, 76 showed adequate heart-rate response (>85% increase in HR) and MDV were comparable (Table). **Conclusion:** NR need to take into account MDV. A fully quantitative interpretation of DE appears feasible. Improvements may further improve accuracy relative to WMS.

	Sensitivity	Specificity	Accuracy	LAD-Acc
WMS	83%	77%	82%	76%
MDV	77%	70%	74%	72%

Prognostic Significance of Dobutamine Echo Test in Patients with Ischemic Cardiomyopathy

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Dobutamine (DOB) stress echo provides potentially useful information in the diagnosis of ischemic cardiomyopathy (ICM), but extensive experience in this challenge is conspicuously lacking to date. The aim of this study was to evaluate the response to DOB in DC, in a prospective, multicenter, international study. February 1, 1998 to February 1, 1999, 75 patients (23 females, mean age 61±10) with EF<35% and angiographically normal coronary arteries were studied. An arbitrary cut-off value was set at 0.44 rest-stress variation in wall motion score index (from 1=normal to 4=dyskinetic in a 16 segment model of left ventricle) in patients with an extensive inotropic response to dobutamine. During the 3 months, there were 7 cardiac deaths. All cardiac deaths occurred in patients with a large inotropic response (delta >0.44) compared to patients with no myocardial inotropic response to dobutamine (100% vs 73%). In idiopathic dilated cardiomyopathy an extensive contractile reserve identified by dobutamine echocardiography is associated with a better survival.