cost-effectiveness of screening coronary artery disease patients with B-type natriuretic peptide.

**Methods:** We constructed a decision tree that compared screening with BNP with follow-up echocardiography (echo) in those with a high BNP to no screening. We estimated economic and health outcomes using a Markov-model based on data from the SOLVD trial and prevention trials. We determined the sensitivity (67%) and specificity (78%) of BNP (Biosite, threshold 100 pg/ml) for the detection of an EF < 40% using data from 293 patients with coronary artery disease and no history of heart failure. Methods: PH was prospectively defined as a tricuspid regurgitation jet velocity of > 2.5 m/sec. 2-Dimensional assessment of chamber dimensions and ventricular systolic performance, pulsed Doppler quantitation of left ventricular stroke volume, continuous wave Doppler estimation of pulmonary artery systolic pressure, and right ventricular systolic and diastolic function (dP/dt from TR spectral trace) were examined. Results: PH was present in 33% of patients and peak TR velocities (TRV) > 3 m/sec were observed in 9%. In univariate analysis, TRV was the strongest predictor of all-cause mortality (relative risk 8.3; 95% CI = 1.7 to 40; P = 0.003). TRV did not correlate with left ventricular ejection fraction, stroke volume or cardiac output. Patients with TRV > 2.5 m/sec had significantly larger right atrial areas (20 ± 5 vs 18 ± 4 cm², P < 0.001, values are mean ± SD) and evidence of right ventricular systolic and diastolic dysfunction (dP/dt; 419 ± 139 vs 659 ± 371 mmHg/sec, P < 0.01 and –dP/dt; 157 ± 52 vs 236 ± 77 mmHg/sec, P < 0.001). Ventricular volumes, ejection fraction, and severity of mitral regurgitation were similar between groups as were non-echo SSD parameters including fetal hemoglobin, white blood cell and platelet counts, and hydralazine use.

Conclusion: Secondary pulmonary hypertension is a powerful independent predictor of mortality in SSD, is unrelated to cardiac output and is associated with abnormalities in RV systolic and diastolic function. Echocardiography can be used as a screening tool to identify a high-risk subgroup in SSD that may benefit from therapeutic interventions.