IMAGING AND DIAGNOSTIC TESTING

SELECTION OF STRESS MODALITY AS A STRONG MARKER OF PROGNOSIS IN 12,770 PATIENTS WITH SUSPECTED CORONARY ARTERY DISEASE

ACC Poster Contributions
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We hypothesized that the clinician’s decision making process leading into selection of stress modality, exercise versus pharmacological, is a predictor of prognosis.

Methods and Results: Our stress data base consisting of 12,770 patients for the period 1993 to 2007 was analyzed. Of these patients, 9941 had exercise stress, 1789 had vasodilator stress and 1040 had dobutamine stress. All cause mortality was obtained from the National Death Index and analyzed as a function of stress modality. Age of the patients was 61±13 years, 63% were men. Over a period of 7.7±4.5 years, there were 2884 deaths. As shown in the figure, survival analyzed by the Kaplan-Meier method was best in those undergoing exercise stress, followed by those undergoing vasodilator and dobutamine stress respectively (log rank p<0.0001). Using Cox regression model, stress modality remained a strong predictor of mortality (p<0.0001) after adjusting for age and gender. Higher age and male gender were independently associated with a higher mortality (both p<0.0001). A total of 6499 patients had echocardiograms within 3 months of stress and in these patients, additional independent predictors of higher mortality included lower LV ejection fraction (p<0.0001), higher LV wall thickness (p<0.0001) and larger LV endsystolic diameter (p<0.0001).

Conclusions: The clinical decision making process that goes into selection of stress modality in patients with known or suspected coronary artery disease is a strong independent predictor of survival.