TESST Predicts Cardiac Risk in Elderly Diabetics

BY MITCHEL L. ZOLER

ORLANDO — In elderly patients with diabetes and no history of coronary artery or peripheral artery disease, exercise capacity less than 85% of predicted independently identified patients at increased risk for death, stroke, or myocardial infarction in a study of more than 600 patients.

"This is the first study in patients with diabetes and without known coronary artery disease" to show that functional capacity predicts outcome, Dr. Wilbert S. Aronow said at the annual scientific sessions of the American Heart Association.

The finding suggests more aggressive use of a treadmill exercise sestamibi stress test (TESST) to screen patients with diabetes, especially as they get older. "Zero in on these patients; they are at greater risk," said Dr. Aronow, a cardiologist at New York Medical College in Valhalla.

Older patients with diabetes who show poor exercise capacity on a TESST need aggressive treatment by lipid-lowering drugs and blood pressure control, regardless of the extent of their vascular disease. It's also possible that exercise training could improve outcomes in these patients, although Dr. Aronow admitted that the value of exercise training must be proved in a controlled study.

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DR. ARONOW

"Especially in elderly patients with long-duration diabetes, the [management] approach should focus on blood pressure and on lowering low-density lipoprotein cholesterol," commented Dr. Prakash C. Deedwania, professor of medicine and chief of cardiology at the University of California, San Francisco, in Fresno.

The study included 609 consecutive patients with diabetes and no history of coronary artery disease, peripheral artery disease, pulmonary disease, or diabetic neuropathy. Their average age was 70 years. All patients underwent a TESST, the duration of which was limited by dyspnea in all cases; none of the patients had chest pain during the exercise test.

Dr. Aronow and his associates calculated the percentage of predicted exercise each person achieved based on their age and sex. A peak exercise level less than 85% of predicted occurred in 301 patients (49%), and a level of 85% or greater occurred in the other 308 (51%). The two subgroups had similar profiles for age; sex; race; smoking prevalence; hypertension; dyslipidemia; body mass index; and use of insulin, aspirin, statins, and angiotensin-converting enzyme inhibitors. In all, 241 patients also underwent coronary angiography: 128 patients from the low exercise–capacity group and 113 from the group with a level of 85% or greater.

Angiography revealed multivessel obstructive coronary disease in 38% of the low exercise–capacity patients and in 18% of the higher exercise–capacity patients, a statistically significant difference.

After an average follow-up of 47 months, low exercise–capacity patients had a mortality rate of 10%, and a combined rate of death, myocardial infarction, or stroke of 21%. In contrast, the higher exercise–capacity patients had a mortality rate of 4% and a combined event rate of 12%, statistically significant differences between the two subgroups.

A multivariate analysis that controlled for 20 baseline variables showed that patients with an exercise capacity of 85% or greater had a significant 48% reduced risk for death, myocardial infarction, or stroke, compared with the other group. Exercise capacity was the only significant predictor of these events in the model.

Patients who stop an exercise test because of dyspnea probably have exercise-induced left ventricular dysfunction, Dr. Deedwania said. In elderly patients with diabetes, coronary disease often does not manifest as chest pain, but rather as heart failure symptoms, he noted.

Dr. Aronow had no financial disclosures for his study. ■