

Behavioral Interventions Improve Cardiac Biomarkers

DURHAM, N.C.-Exercise and stress management, in addition to reducing depression and general distress in heart patients, may also improve biomarkers of cardiovascular health. These include flow-mediated dilation and baroreflex sensitivity.

So reported James Blumenthal, Ph.D., and colleagues at the Duke University Medical Center here in the April 6 issue of the *Journal of the AMA*. The study may be the first to demonstrate that a non-pharmacological intervention can have positive effects on physiological, medical endpoints, said Dr. Blumenthal.

His group sought to determine the effect of aerobic exercise training and stress management training on both psychosocial functioning and biomarkers of cardiovascular risk.

They enrolled 134 patients with stable ischemic heart disease and exercise-induced myocardial ischemia. Participants were randomized to one of three groups -- routine medical care only, routine care plus exercise training for 35 minutes 3 times per week, and routine care plus weekly stress management training.

All participants were assessed by a battery of psychological and physiological tests before randomization and again after 4 months of follow up. As expected, patients in the behavioral intervention groups were less depressed and stressed than the routine care group. Surprising, however, were results relating to biomarkers for cardiovascular disease. Key findings here included:

Patients in the exercise and stress management groups showed smaller reductions in left ventricular ejection fraction during mental stress testing than the routine care group ($P=0.03$).

In the subset of patients with significant stress-induced wall motion abnormalities (WMA), the exercise and stress management patients had lower mean WMA rating scores ($P=0.02$).

Patients in the exercise and stress management groups had greater mean improvements in flow-mediated dilation than the routine care group ($P=0.03$).

Patients in the stress management group showed significant improvements in baroreflex sensitivity compared with the routine care group (P=0.02).

While acknowledging that their study did not have sufficient power to demonstrate reduced morbidity or mortality associated with the behavioral interventions, the authors concluded:

"Our results suggest that exercise and stress management training offer considerable promise to patients with stable ischemic heart disease through improvement in psychosocial adjustment and by modification of disease risk markers that may translate into improved clinical outcomes."

Action Points

Reinforce standard advice about the health benefits of regular exercise and managing stress with these new findings.

Caution patients with heart disease or at high risk not to begin any new exercise program without consulting you first.

By Jeff Miner, MedPage Today Staff Writer

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