Meditation Helps Vascular Function in Black Teens

BY MIRIAM E. TUCKER
Senior Writer

VANCOUVER, B.C. — Transcendental meditation may improve vascular function in African American teenagers with high-normal blood pressure, Vernon A. Barnes, Ph.D., said at the annual meeting of the American Psychological Association.

Transcendental meditation (TM), a process by which “the mind is allowed to settle down to a state of least mental activity,” has been shown to decrease sympathetic nervous system tone, hypothalamic-pituitary-adrenocortical axis activation, and cortisol levels, which are associated with reductions in blood pressure.

In a study by Dr. Barnes and his associates at the Medical College of Georgia, Augusta, systolic and diastolic blood pressures were significantly reduced in 50 African American adolescents with high-normal blood pressures who practiced TM twice a day for 4 months (Am. J. Hypertens. 2004;17:366-9).

In that study, 67 African American adolescents (mean age 16.2 years) were randomized to practicing TM for 15 minutes at a time. One session was held in school during homeroom, the other was at home. Another 34 teens received 15-minute didactic health education sessions about weight management, healthy diet, and physical activity each day at school, and also were assigned to walk 15 minutes a day.

At-home compliance with the meditation—in which “the ordinary thinking process becomes quiescent and a distinctive wakeful but deeply restful state” is achieved—was 76%, excluding weekends and holidays. Dr. Barnes told FAMILY PRACTICE NEWS.

Echocardiographic-derived measures of the patients’ endothelium-dependent vasodilation to reactive hyperemia (EDAD)—a functional measure of vascular remodeling that is inversely correlated with cardiac structure and function—were collected before and after the intervention at 4 months.

The procedure involved scanning the subjects’ right brachial artery prior to and for 2 minutes following 4 minutes of hyperemia, which was induced by inflating the cuff to 200 mm Hg. EDAD was calculated as the percentage change from baseline diameter to maximum post-cuff release diameter. The sonographer was blinded to which group the subject was in, Dr. Barnes said.

From pre- to 4 months post intervention, EDAD in the TM group increased 21%, from 12.4% to 15%, compared with a 4% decrease of 12.3% to 11.8% in the health education group.

“If this improvement is replicated among other at-risk groups and in cohorts of cardiovascular disease patients, this will have important implications for inclusion of TM in the efforts to prevent and treat CVD and its clinical consequences,” he said.

Other benefits were seen as well. Anecdotes related by students corroborated school records documenting improved school-related behavior and fewer rule violations. Students also saw improvements in overall school attendance and personal relationships, Dr. Barnes said.

This study, funded by the National Heart, Lung, and Blood Institute, was similar to a previous study by a psychosomatic society in which those “having the highest potential to change clinical practice.”

About 2% of African Americans on ACE inhibitor Develop Angioedema

BY MITCHEL L. ZOLER
Philadelphia Bureau

ORLANDO, FLA. — About 2% of African Americans treated with an ACE inhibitor develop angioedema in the first 6 months on the drug, according to results from a prospective study of enalapril with more than 12,000 patients.

Although angioedema is a known potential adverse effect of treatment with an ACE inhibitor, prior findings never established the risk patients face in a prospective, controlled study, John B. Kostis, M.D., said while presenting a poster at the annual meeting of the American College of Cardiology. Among whites, about 0.5% developed angioedema in the first 6 months of treatment with enalapril.

Patients who developed angioedema most commonly had it soon after starting enalapril treatment, but results also showed that the adverse effect could occur at any time, especially in African Americans. A time plot of the appearance of angioedema in African Americans showed an increasing cumulative incidence throughout the 6 months of treatment. About 1% of these patients developed angioedema in the first 40 days on enalapril, and another 0.5% had the effect during the next 30 days. During the first 80-110 days of study 0.3% more were affected. In contrast, almost all white patients who developed angioedema had a reaction in the first 70 days of treatment.

This analysis used data collected in a 2,500-patient study that compared the drugs omapatrilat and enalapril in patients with hypertension. Randomization assigned 12,634 patients to treatment with enalapril, reported Dr. Kostis, chairman of the department of medicine at the Robert Wood Johnson University Hospital in New Brunswick, N.J.

The first symptom of angioedema in the study, 65 (75%) had onset within 30 days of starting enalapril, reported Dr. Kostis, chairman of the department of medicine at the Robert Wood Johnson University Hospital in New Brunswick, N.J.

About 2% of LIFE participants were of normal weight—that is, having a BMI of at least 25 and less than 30 kg/m2—than in the normal-weight patients. Among the 8% of LIFE participants with class II or III obesity (defined by a BMI of 35-39.9 kg/m2 or at least 40 kg/m2, respectively), the adjusted risk of the primary end point was 35% greater than in normal-weight individuals, he said.

The differences in outcome based on body build were even more striking with respect to cardiovascular mortality, which occurred in 432 LIFE participants. The adjusted risk was 71% greater in thin patients and 80% greater in those with class II or III obesity than in normal-weight hypertensive patients.

Losartan-based therapy was associated with a highly significant 15% reduction in the primary composite end point relative to atenolol-based treatment, regardless of BMI category.

Results of this analysis underscore the necessity of particular aggressive control of blood pressure and other cardiovascular risk factors in hypertensive patients at the extremes of body build distribution, Dr. de Simone concluded.