

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 Psychosomatic Society.

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.

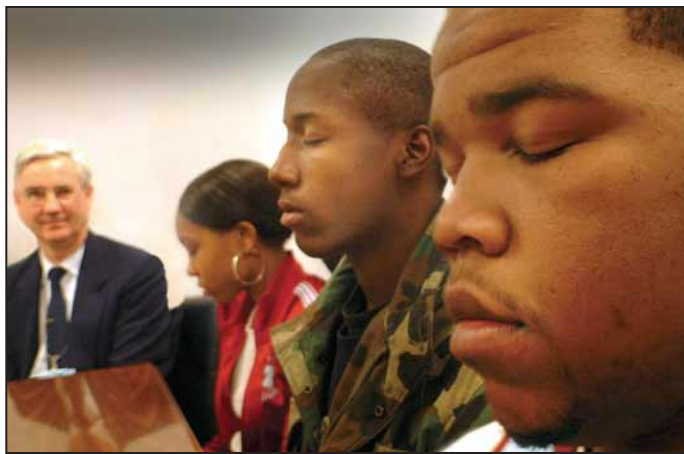
In a study by Dr. Barnes and his associates at the Medical College of Georgia, Augusta, systolic and diastolic blood pressures were significantly reduced in 50 African American adolescents with high-normal blood pressures who practiced TM twice a day for 4 months (*Am. J. Hypertens.* 2004;17:366-9).

In that study, 57 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 54 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%, including weekends and holidays, Dr. Barnes told *FAMILY PRACTICE NEWS*.

Echocardiographic-derived measures of the subjects’ endothelium-dependent vasodilation to reactive hyperemia (EDAD)—a functional measure of vascu-



Dr. Vernon A. Barnes watches as teens with high-normal blood pressure practice TM during homeroom.

lar remodeling that is inversely correlated with cardiac structure and function—were collected before and after the interventions, and again at 4 months’ follow-up.

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 sleep, athletic and school performance, and personal relationships, Dr. Barnes said.

This study, funded by the National Heart, Lung, and Blood Institute, was singled out by the psychosomatic society as among 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 final 110 days of the study, 0.5% 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 25,000-patient study that compared the drugs omapatrilat and enalapril in patients with hypertension. Randomization assigned 12,634 patients to treatment with enalapril, of whom about 10% were African American. Patients were allowed to have a history of treatment with an ACE inhibitor, and 35% of enrolled patients had this background. The study excluded patients with a history of angioedema, anaphylaxis, drug-induced or chronic urticaria, or multiple drug sensitivities.

Following randomization, dosages of both drugs were titrated in the first 8 weeks so blood pressures were below 140/90 mm Hg. During the next 16 weeks, adjunctive antihypertensive therapy could be added to help patients reach or maintain the target blood pressure.

Overall, angioedema developed in 86 (0.7%) of the patients treated 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 usually is lip swelling. All patients had been instructed at the start of treatment to immediately stop their medication and contact their physician if this or other symptoms of angioedema occurred. Of the 86 patients with angioedema in the study, 65 (75%) had

the mildest form, class I, that required no special treatment aside from stopping enalapril. A class II reaction occurred in 19 (22%) patients, requiring treatment with catecholamines or steroids. Two (2%) had a class IIIa reaction that required hospitalization but without airway compromise. No patients had the most severe form, class IV, which means either airway protection is needed or the patient dies.

A step-wise logistic regression analysis was done using several candidate demographic and clinical variables to calculate the risk contributed by individual factors. The strongest risk factor was a history of rash in response to drugs, which boosted the risk of angioedema 3.8-fold. African Americans had a 2.9-fold increased risk, compared with white patients. The other significant risk factors were a history of seasonal allergies, which raised risk 79%, and age greater than 65 years, which boosted risk 60%.

It’s unclear why ACE inhibitors cause angioedema. The most common hypothesis is that the effect stems from their inhibition of the breakdown of bradykinin, which then accumulates. The swelling in angioedema resembles what happens in patients with a C1 inhibitor deficiency, which is known to be caused by excess bradykinin production, said Harold J. Kim, M.D., a cardiologist at Robert Wood Johnson University Hospital and a collaborator on this study. ■

Low or High BMI Increases Event Risk in Hypertensives

BY BRUCE JANCIN
Denver Bureau

NEW ORLEANS — Hypertensive patients at the extremes of body build have a markedly greater cardiovascular event rate than those who are of normal weight, Giovanni de Simone, M.D., reported at the annual scientific sessions of the American Heart Association.

Dr. de Simone of Federico II University, Naples, Italy, presented a secondary analysis of the double-blind multinational Losartan Intervention for Endpoint Reduction in Hypertension (LIFE) trial, in which 9,079 hypertensive individuals were randomized to losartan- or atenolol-based antihypertensive therapy and followed for 4-6 years.

The primary LIFE end point—a composite of cardiovascular death and nonfatal MI and stroke—occurred in 1,081 patients. The adjusted risk was 25% greater in the 2.2% of study participants who were thin—that is, with a body mass index of less than 20 kg/m²—than in the 24% of LIFE participants who were of normal weight.

Similarly, after adjusting for age, gender, race, smoking status, diabetes, left ventricular hypertrophy, and other variables, the rate of the primary

study end point was 17% greater in the 45% of LIFE participants who were overweight—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-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 particularly aggressive control of blood pressure and other cardiovascular risk factors in hypertensive patients at the extremes of body build distribution, Dr. de Simone concluded. ■