Chocolate Lowered Blood Pressure

BY MARY ANN MOON
Contributing Writer

Eating a small piece of dark chocolate every day reduced systolic and diastolic blood pressure in a randomized, controlled study of older people who had prehypertension or stage 1 hypertension.

The "dose" was too small to adversely affect glucose metabolism or insulin sensitivity, and it did not cause weight gain, German investigators reported in the July 4 issue of the Journal of the American Medical Association.

The magnitude of the chocolate's effect was comparable with that of "comprehensive dietary modifications that have proven efficacy to reduce cardiovascular event rate."

Moreover, whereas "long-term adherence to complex behavioral changes is often low and requires continuous counseling, [the adoption] of small amounts of flavanol-rich cocoa into the habitual diet is a dietary modification that is easy to adhere to and therefore may be a promising behavioral approach," wrote Dr. Dirk Taubert and his associates at the University Hospital of Cologne (Germany).

The investigators studied chocolate's effect in 20 men and 24 women aged 55-75 years who were in good general health, except for having prehypertension (blood pressure of 130/85 to 139/89 mm Hg) or stage 1 hypertension (blood pressure of 140/90 to 160/100 mm Hg). The subjects were not taking any antihypertensive medications and had normal plasma lipid and plasma glucose levels.

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Study participants ate 6.3 g daily, or 1 piece of a 16-piece bar.

Study participants were randomly assigned to eat a single 6.3-g dose—1 piece of a 16-piece bar weighing 100 g—of commercially available polyphenol-rich dark chocolate or a similar-sized dose of polyphenol-free white chocolate every day for 18 weeks. They were instructed to eat the candy 2 hours after their evening meal, to abstain from other cocoa products, and to maintain their usual diet and physical activity throughout the course of the clinical trial.

Both systolic and diastolic blood pressure declined steadily over time in the participants who ate dark chocolate, but not in those who ate white chocolate.

By the end of the study, systolic blood pressure had declined by a mean of 2.9 mm Hg, and diastolic pressure by a mean of 1.9 mm Hg; these differences from baseline were statistically significant.

After 18 weeks, all 22 of the subjects in the dark-chocolate group had lower blood pressure readings than at baseline, and 4 (18%) no longer qualified as hypertensive. This corresponds to a 21% relative risk reduction (JAMA 2007; 298:49-60).

"Although the magnitude of the [blood pressure] reduction was small, the effects are clinically noteworthy. On a population basis, it has been estimated that a 3–mm Hg reduction in systolic BP would reduce the relative risk of stroke mortality by 8%, of coronary artery disease mortality by 5%, and of all-cause mortality by 4%," the investigators noted.

"It is likely that the cocoa flavanols in dark chocolate were responsible for the observed effects" on blood pressure, the researchers wrote.

Previous research has suggested that cocoa flavonols may enhance the formation of endothelial nitric oxide, leading to vasodilation. ■

Lifestyle Can Rectify Some Prehypertension

BY SHARON WORCESTER
Southeast Bureau

New Orleans — Therapeutic lifestyle changes are effective for lowering blood pressure in individuals with prehypertension, but obese individuals may not derive maximum benefit, according to findings from a prospective study of nearly 2,500 patients who had prehypertension at baseline.

Of the 1,113 obese adults (body mass index of greater than 30 kg/m^2), 858 overweight adults (BMI of 25-29.9 kg/m^2), and 506 nonoverweight adults (BMI less than 25 kg/m^2) who participated in a community-based therapeutic lifestyle changes (TLC) program, 952 (38%) experienced blood pressure normalization with TLC.

The blood pressure reductions were statistically significant in all groups, but the greatest reductions were seen in the nonoverweight subjects (average reduction of 10/8 mm Hg vs. 7/6 mm Hg for overweight subjects, and 6/5 mm Hg for obese subjects), Dr. Barry A. Franklin reported in a poster at the annual meeting of the American College of Sports Medicine.

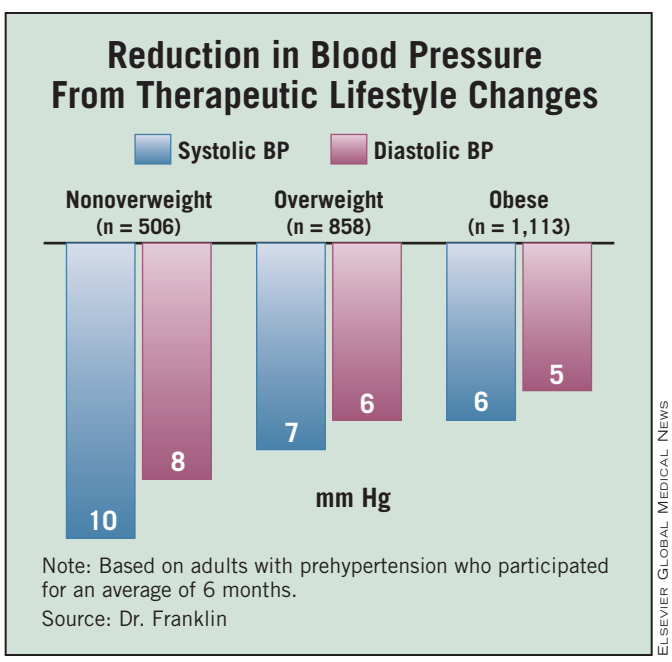
The greatest changes were seen in the nonoverweight group, despite significantly more weight loss in the obese subjects (6 pounds), and the overweight subjects (3 pounds), compared with the nonoverweight subjects (0 pounds), noted Dr. Franklin of William Beaumont Hospital, Royal Oak, Mich.

Overall, the average resting blood pressure of the study population (125/79 mm Hg) decreased by 6/3 mm Hg. Systolic blood pressure decreased by 7 mm Hg in those with a baseline systolic blood pressure of 120-139 mm Hg, and diastolic blood pressure decreased by 6 mm Hg in those with a baseline diastolic blood pressure of 80-89 mm Hg. All of the decreases were statistically significant.

The participants, who were not using any type of drug therapy to control blood pressure, were evaluated at baseline and after an average of 6 months of participation in the program, which involved exercise training, nutrition, weight management, stress management, and smoking cessation interventions.

The findings are important, Dr. Franklin explained, because although guidelines promote therapeutic lifestyle changes as a cornerstone in the management of prehypertension, findings from recent research that has focused largely on pharmacotherapy for prehypertension suggest that TLC is ineffective or inadequate.

These data show that TLC can be effective for managing prehypertension, which is a precursor of hypertension and a predictor of excessive cardiovascular risk, but they also suggest that there may be BMI-related differences in blood pressure responsiveness to TLC, he concluded. ■



Note: Based on adults with prehypertension who participated for an average of 6 months.
Source: Dr. Franklin

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Valsartan Cuts Hypertension in Young Children

BY PATRICE WENDLING
Chicago Bureau

Chicago — Valsartan significantly reduced both systolic and diastolic blood pressure without significant adverse events in the first trial of an angiotensin II receptor blocker in children younger than 6 years.

Valsartan is indicated for the treatment of hypertension and heart failure in adults, but had never been studied in children. In November 2006, the Food and Drug Administration approved safety labeling revisions for valsartan tablets to advise of the risk of fetal and neonatal morbidity when used by pregnant women.

Dr. Joseph Flynn and associates presented preliminary results in a poster at the annual meeting of the American Society of Hypertension from a multicenter, placebo-controlled study evaluating three doses of valsartan in 90 children with a mean seated systolic BP greater than or equal to the 95th percentile of the National High Blood Pressure Education Program normative BP values for children.

After a 1-week placebo washout screening phase, the children were randomized to low, medium, and high doses of valsartan for 2 weeks (phase 1), then rerandomized to placebo or valsartan for 2 more weeks (phase 2).

In phase 1, the doses were 5, 20, or 40 mg/day for those children weighing less than 18 kg, and 10, 40, or 80 mg/day for those weighing more than 18 kg. Half of the children stayed on the same dose in phase 2, and half were withdrawn to placebo.

At admission, the children's mean age was 3 years; 60% were boys, and 30% were black. Most children (79%) had hypertension related to renal disease; some (3%) were hypertensive because of heart disease, and 18% because of other causes.

In phase 1, valsartan significantly reduced both systolic and diastolic BP at all three doses, reported Dr Flynn, who conducted the study while at Children's Hospital at Montefiore, New York, and is now a professor of pediatrics at Children's Hospital and Regional Medical Center, in Seattle.

In phase 2, systolic and diastolic BP was significantly lower in children receiving valsartan, compared with those receiving placebo. The mean difference between valsartan and placebo was –4.1 mm Hg for systolic BP and –3.7 mm Hg for diastolic.

"Since many of these children have hypertension due to underlying renal disease, valsartan may be well suited for treatment of hypertension in this age group," Dr. Flynn said in an interview.

Adverse events, such as cold symptoms, were minor and were similar between the different dose groups, he said. In all, 29% of children experienced an adverse event in phase 1 and 39% in phase 2. No participants discontinued treatment because of an adverse event.

The investigators will undertake a further analysis of the 1-year open-label extension phase of the study to learn how well valsartan worked over a longer period of time. Studies of valsartan in children with proteinuria are also planned to evaluate its safety and effectiveness in reducing proteinuria. ■