# Fewer Than Ever Hypertensives Follow DASH Diet

BY PATRICE WENDLING
*Chicago Bureau*

CHICAGO — Few adults with known hypertension are following the DASH diet plan, even though some evidence suggests that it is roughly the equivalent of being on a single blood pressure medication.

Moreover, accordance with the Dietary Approaches to Stop Hypertension (DASH) plan has deteriorated since it was incorporated into in national guidelines, Dr. Philip Mellen said at the annual meeting of the American Society of Hypertension.

"We appear to be improving somewhat with respect to awareness of hypertension and treatment of hypertension," he said during a press briefing. "But overall, dietary patterns appear to be doing worse over time."

The landmark 1997 DASH trial showed that a diet rich in fruits, vegetables, grains, and low-fat diary products lowered blood pressure among patients with hypertension by an average of 11.4 mm Hg systolic and 5.5 mm Hg diastolic (N. Engl. J. Med. 1997;336:1117-24).

The dietary guidelines were incorporated into the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure reports in 1998 (JNC 6) and 2003 (JNC 7).

Dr. Mellen and his colleagues at Wake Forest University, Winston-Salem, N.C., used 1999-2004 data from the ongoing National Health and Nutrition Examination Survey (NHANES) IV to generate a DASH score for 4,386 adults with hypertension. Scores were based on self-reported 24-hour intake of nine target nutrients identified in the study (fat, saturated fat, protein, cholesterol, fiber, magnesium, calcium, potassium, and sodium). Individuals with a score of 4.5 or more were considered accordant with the DASH diet. (The data did not indicate whether any of the participants had been instructed to follow the DASH diet.) These results were compared with scores calculated for 4,556 adults with hypertension in the NHANES III 1988-1994 survey.

DASH accordance fell significantly from 29.3% in NHANES III to 21.7% in NHANES IV.

The decline was due largely to significantly fewer Americans in the recent survey reaching targets for total fat, fiber, and magnesium, Dr. Mellen said.

The percentage of patients achieving the DASH goal of reducing total fat intake to less than 27% of calories fell from 43% in NHANES III to 36% in NHANES IV.

Similarly, the percentage of participants on a 2,100-kcal diet eating the DASH recommended 31 grams of fiber daily decreased significantly (20% vs. 12%), as did the percentage ingesting the target 500 mg a day of magnesium (14% vs. 6%).

**Although treatment and awareness are improving, 'overall, dietary patterns appear to be doing worse over time.'**

**DR. MELLEN**

In a multivariate analysis that adjusted for caloric intake and poverty index ratio, participants were significantly more likely to be DASH-accordant if they were aged 40-59 years (odds ratio 2.75, versus those aged 20-39 years); were aged 60 years or older (OR 3.94, versus those aged 20-39 years); had more than a high school education (OR 1.80); or had diabetes (OR 1.53).

Blacks were significantly less likely than others to follow the DASH diet (OR 0.61), while there was a nonsignificant trend toward higher accordance among Mexican Americans compared with whites, Dr. Mellen said. Accordance did not differ between men and women.

Limited access to fresh fruits and vegetables in urban settings may contribute to poorer accordance among blacks and those with less education, he said in an interview. ■

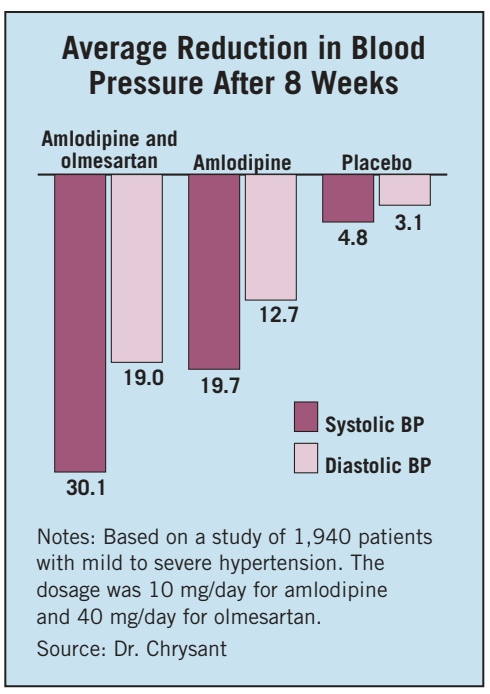
# *Amlodipine Plus Olmesartan Tops Monotherapy for BP Reduction*

BY PATRICE WENDLING
*Chicago Bureau*

CHICAGO — Combining the calcium channel blocker amlodipine with the angiotensin receptor blocker olmesartan provides greater reductions in blood pressure than does either agent used as monotherapy, Dr. Steven G. Chrysant said at the annual meeting of the American Society of Hypertension.

Daiichi Sankyo Inc. filed a new drug application in November 2006 for a fixed-dose combination of the two antihypertensives. Known as Azor, this investigational agent is under regulatory and trade name review in the United States.

Lead investigator Dr. Chrysant reported data from a phase III double-blind, placebo-controlled factorial study in which 1,940 patients with mild to severe hypertension were randomized to either monotherapy or co-administration of amlodipine 5-10 mg/day and olmesartan 10-20-40 mg/day for 8 weeks. Hypertension was defined as seated diastolic BP between 95 mm Hg and 120 mm Hg.

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At admission, the average age of patients was 54 years, and their mean BP was 164/102 mm Hg; 13.5% had diabetes, and 34% were hypertensive treatment–naive, said Dr. Chrysant, who reported that he has received grant and research support from the study sponsor, Daiichi Sankyo Pharma Development.

After 8 weeks, all combinations of amlodipine and olmesartan resulted in significantly greater blood pressure reductions than either medication alone or placebo, said Dr. Chrysant, a cardiologist at the Oklahoma Cardiovascular and Hypertension Center, University of Oklahoma, Oklahoma City.

Amlodipine 10 mg/day plus olmesartan 40 mg/day produced the best results, reducing systolic BP an average of 30.1 mm Hg and diastolic BP an average of 19.0 mm Hg. In contrast, the average reductions were 19.7/12.7 mm Hg for amlodipine 10 mg alone and 4.8/3.1 mm Hg for placebo.

"Only the high-dose combination dropped the pressure below 140 over 90 [mm Hg]," Dr. Chrysant said at a press briefing.

Adverse events were comparable between groups, occurring in 511 of 970 (53%) combination therapy patients and in 91 of 162 placebo-treated patients (56%). There was one stroke in the olmesartan monotherapy group that was possibly drug related, he said.

Reports of headache, fatigue, and dizziness were highest in the placebo group. The highest incidence of edema (25%) was reported in the amlodipine monotherapy group. But adding on 40 mg of olmesartan halved this incidence rate, Dr. Chrysant said. He suggests this could be an added benefit of the combination regimen, because many hypertensive patients stop taking their medication because of swollen feet. ■

# NSAIDs Raise Blood Pressure Unpredictably Over Time

BY FRAN LOWRY
*Orlando Bureau*

ORLANDO — Chronic use of nonsteroidal anti-inflammatory agents promotes sodium-retention weight gain and can cause blood pressure to rise by an average of 5 mm Hg, Dr. Matthew R. Weir said at a meeting sponsored by the National Kidney Foundation.

The increase is "not insignificant" when one considers how widely used these drugs are, said Dr. Weir, professor of medicine at the University of Maryland, Baltimore.

Most clinicians are familiar with the renal syndromes caused by NSAIDs and tend to be concerned about kidney disease or dysfunction. But these effects tend to be reversible.

The effects of NSAIDs on blood pressure may pose a more serious issue, Dr. Weir said. "One has to view NSAIDs as antinatriuretic compounds. This is a concern because, depending on how much salt you eat, the actual dose of the NSAID you are taking, and your preexisting levels of blood pressure, you can get very different effects on overall changes in blood pressure over time."

The age-related changes in renal blood supply that occur over time may be an important issue in older patients, who are more likely to be using NSAIDs to relieve the pain of chronic conditions such as arthritis.

To avoid adverse cardiovascular effects, always use the lowest possible dose of anti-inflammatory drug, regardless of class. Consider using shorter-acting agents, which may allow the kidney to restore its sodium and water balance, he advised.

Counsel patients taking NSAIDs to try to avoid dietary sodium. "Quite clearly, when you give chemicals that engender sodium sensitivity … you should tell your patients that they really need to avoid dietary sodium as best they can," said Dr. Weir.

**Calcium channel blockers have been shown to help alleviate any blood pressure–related change with NSAIDs.**

**DR. WEIR**

Blood pressure must be monitored carefully in persons taking NSAIDs, and blood pressure medications adjusted accordingly. Calcium channel blockers in particular appear to retain their lowering effect on blood pressure despite chronic NSAID use.

"We are not sure why, but calcium channel blockers may have natriuretic properties that are independent of so-called prostaglandin-dependent mechanisms within the kidney. We studied this years ago and found that calcium channel blockers helped alleviate any blood pressure–associated change with nonsteroidal anti-inflammatory drugs," Dr. Weir said.

Nonprescription drugs should not be overlooked, he added. "We should take a careful history on the use of over-the-counter NSAIDs. They don't often appear on medication lists." ■

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