Therapeutics

The Dietary Approaches to Stop Hypertension diet lowered systolic blood pressure in stage 1 isolated systolic hypertension

Moore TJ, Conlin PR, Ard J, et al, for the DASH Collaborative Research Group. **DASH (Dietary Approaches to Stop Hypertension) diet is effective treatment for stage 1 isolated systolic hypertension.** *Hypertension* 2001 Aug;38:155–8.

QUESTION: In patients with stage 1 isolated systolic hypertension (ISH), does the Dietary Approaches to Stop Hypertension (DASH) diet lower systolic blood pressure (SBP)?

Design

Randomised (unclear allocation concealment*), unblinded,* controlled trial with 8 weeks of follow up (sub-group analysis of the DASH trial).

Setting

Multicentre study in the USA.

Patients

Among the 459 patients in the DASH trial, this study focused on 72 patients (mean age 54 y, 52% men) with stage 1 ISH (SBP 140 to 159 mm Hg and diastolic BP < 90 mm Hg).

Intervention

After a 3 week run-in period on a typical American (control) diet, patients were allocated to 1 of 3 diets for 8 weeks: the DASH diet (n=23), which is rich in fruits, vegetables, and low fat dairy foods; a diet rich in fruits and vegetables (n=24); or continuation of the control diet (n=25). All patients were included in the analysis.

Main outcome measure

Change in SBP.

Main results

Analysis was by intention to treat. SBP was lower in patients assigned to the DASH diet than in those assigned

to the control diet ($p < 0.001$) or those assigned to the fruits and vegetables diet ($p < 0.01$) (table). In the DASH diet group, more patients reduced their SBP to < 140 mm Hg than did those in the control group (table). The difference in SBP reduction was of borderline significance between the DASH diet group and the fruits and vegetables group ($p=0.07$) (table).

Conclusion

In patients with stage 1 isolated systolic hypertension, the Dietary Approaches to Stop Hypertension diet lowered systolic blood pressure more than did a control diet or a fruits and vegetables diet.

*See glossary.

Dietary Approaches to Stop Hypertension (DASH) diet v a fruits and vegetables diet (FV) and a control diet in stage 1 isolated systolic hypertension at 8 weeks†

Outcomes	Comparisons	Mean change from baseline (95% CI)	Event rates	RBI (CI)	NNT (CI)
Change in SBP (mm Hg)	DASH v control	-11.2 (-6.1 to -6.2)			
	DASH v FV	-8.0 (-2.5 to -13.4)			
SBP < 140 mm Hg	DASH v control	78% v 24%	226% (69 to 597)	2 (2 to 4)	
	DASH v FV	78% v 50%	57% (1 to 158)	Borderline significance	

†SBP = systolic blood pressure. Other abbreviations defined in glossary; RBI, NNT, and CI calculated from data in article.

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COMMENTARY

The success of the DASH diet in treating ISH is particularly good news. ISH is the most common form of hypertension in the elderly, who have frequent side effects from medication.¹ In particular, orthostatic hypotension may provoke falls or fractures.

Will general practice patients comply with and benefit from the DASH diet? In studies evaluating the DASH diet, adherence is assured by supplying meals to the participants. The Trial of Nonpharmacologic Interventions in the Elderly (TONE) showed that older patients with hypertension (those likely to have ISH) could adhere to a healthier diet for 30 months. 40% of those on a low salt diet were able to discontinue antihypertensive medication, and 44% were able to stop medication by using both weight reduction and salt restriction.² Hospitals and institutions for the elderly can and should serve low fat diets similar to the DASH diet.

Can we improve compliance with beneficial lifestyle changes? Counselling in the doctor's office is not enough. Most patients forget the advice they have been given.³ Health promotion programmes must reinforce the guidance supplied in the office. Mass media campaigns are helpful. Mailing newsletters to patients improves compliance.⁴ Our general practice patients have had difficulty understanding the DASH diet. The diet lists the type and quantity of food allowed. Supplying sample menus would facilitate patient adherence. Hospitals need to become models by adopting healthy diets for all patients and staff.

A low sodium DASH diet was more effective in lowering BP than the standard DASH diets.⁵ Because elderly patients (and African-Americans) are most sensitive to sodium restriction, the low sodium DASH diet may prove more effective in treating ISH. Those patients whose BP was not reduced by DASH (10%) might have responded to additional sodium restriction.

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