

Treating hypertension in the very elderly

G. Michael Allan MD CCFP Laurie Mallery MD FRCPC Noah Ivers MD CCFP

Clinical question

What are the risks and benefits of treating hypertension in patients older than 80 years of age?

Evidence

- HYVET,¹ an RCT, included 3845 patients older than 80 (mean 83.5) years; 60% female; systolic blood pressure (SBP) >160 mm Hg; mean follow-up of 2.1 years.
 - Placebo or indapamide (1.5 mg) with or without perindopril (2 to 4 mg); target BP was <150/80 mm Hg.
 - Outcomes: mortality—number needed to treat (NNT) 47 (treatment 10% vs 12%), $P=.02$; any cardiovascular disease (CVD)—NNT 34 (treatment 7.1% vs 10.1%), $P<.001$.
 - Potential limitations:
 - HYVET was stopped early (might exaggerate benefit²);
 - Healthy elderly population ($\leq 12\%$ CVD history, <7% diabetes, no dementia) limits generalization;
 - Patients with standing SBP <140 mm Hg were not included; few subjects had orthostasis (7.9% to 8.8%).


Context

- A systematic review of data on patients 80 years or older from 7 trials (N=1670, mean age 83 years) found anti-hypertensive therapy significantly reduced CVD events ($P<.01$) but left uncertainty about effects on mortality.³
- In patients older than 60 years, BP treatment reduces mortality (NNT 84, $P<.001$) and CVD outcomes (NNT 24, range 29-21) over 4.5 years.⁴
 - Lower-risk patients get slightly less benefit.^{4,5}
 - Updated meta-analysis⁴ of older-than-80 age subgroups³ with HYVET¹ found improved CVD outcomes but no clear mortality benefit.⁴
- HYVET was specifically designed to address hypertension in the healthy very elderly and for that population would be more reliable than pooled subgroup data.
 - Target BP was higher than that of most guidelines.
 - In secondary analysis of another trial, target SBP <150 mm Hg was as good as lower targets in older patients.⁶
 - A 2010 trial⁷ of 3260 patients aged 70 to 84 found no difference in CVD outcomes between SBP targets <150 and <140 mm Hg.
 - Patients in HYVET¹ and most patients in the meta-analysis⁴ used thiazide diuretics as first-line therapy.

Bottom line

Treating hypertension in healthy patients older than 80 years of age is effective. Exact targets are uncertain, but the primary trial aimed for 150/80 mm Hg. Benefits are uncertain for the frail elderly or those with orthostasis or standing systolic BP below 140 mm Hg.

Implementation

Managing hypertension in the elderly is important to reduce cardiovascular risk, but targets should be patient-specific, accounting for comorbidities.⁸ Consider monitoring standing BP to avoid orthostatic hypotension in the very elderly. Drug side effects or interactions are common and difficult to manage, even in dedicated clinics.⁹ Treatment adherence is a considerable barrier for achieving targets¹⁰; simplifying dosing is an easy way to improve adherence.¹¹ Self-management programs can also improve BP control.¹² Hypertension Canada has patient resources¹³ and a list of approved home BP monitors,¹⁴ which might facilitate self-management and improve adherence.¹⁵ 

Dr Allan is an Associate Professor in the Department of Family Medicine at the University of Alberta in Edmonton. **Dr Mallery** is Head of the Division of Geriatric Medicine at Dalhousie University and Director of the Centre for Health Care of the Elderly in Halifax, NS. **Dr Ivers** is a family physician at Women's College Hospital in Toronto, Ont.

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