

Blood pressure target in the elderly

One of the unsettled questions in hypertension has been blood pressure targets for older people. This has also been affected over time by the definition of “old”. For example, in one of the early large and influential trials addressing this issue, SHEP¹, “old” was defined as > 60 years. This definition is not appropriate to the modern era, where participants in large (across the age range) hypertension trials like ALLHAT², ASCOT³ and SPRINT⁶ average in the mid-late 60’s, and the definition of “old” has shifted up to > 75 or even 80years.

While most of the big trials included individuals > 75 years of age, the numbers were generally not sufficient for separate analysis. The HYVET Trial⁴, the only randomised trial of antihypertensive treatment vs no treatment in octogenarians with untreated SBP > 160mmHg showed conclusively that lowering SBP to < 150mmHg reduced cardiovascular events and death, and following this a target BP of < 150/90 was suggested for this group.

More recent studies, most notably notably SPRINT⁶, (mean age of participants 68 years, with 28% >75yers) have pointed to better cardiovascular outcomes with new, lower blood pressure targets (<130/80 rather the < 140/90). These have been incorporated in newer guidelines like the 2017 ACC/AHA Hypertension Guideline⁷, but again, their applicability to an exclusively older population was uncertain.

We now have the results of a new trial INFINITY⁸ which help to fill in that gap. 199 patients aged \geq 75 years with systolic blood pressure > 150mmHg on >1 antihypertensive drug or >170mmHg on 0-1 antihypertensive drug, were randomised to 2 arms – intensive blood pressure lowering (24-hour ambulatory systolic BP \leq 130mmHg), and standard blood pressure lowering (24-hour ambulatory systolic BP \leq 145mmHg). Mean age of participants was 80 years. Achieved 24-hr mean SBP in the 2 groups was 127.7 mmHg and 144mmHg respectively. The intensive group, over 3 years, experienced significantly fewer non-fatal cardiovascular events, and also significantly less progression of subcortical white matter disease on MRI.

On balance, I now believe there is no reason to accept substantially higher blood pressure targets in individuals > 75 years, compared with younger people. I would therefore advise aiming to achieve < 140/90 in the office/clinic situation, and < 135/85 on home BP monitoring (average resting awake home BP 135/85 equates approximately to 24-h ambulatory BP of 130/80).

This will not be achievable in all individuals, and clearly in frail individuals, and those with a propensity of postural hypotension or falls need to be managed with the utmost caution. Nevertheless, INFINITY gives us reason, and confidence to aim for lower blood pressure targets in relatively active and robust individuals of 75 years and older.

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