Clinical reviews

Our panel of GPs review recent research papers in their specialist areas that may influence the way you practise

Reviewers

Addiction
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Cardiovascular disease
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Mental health
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Obstetrics and gynaecology
Dr Chris Barclay
GP with an interest in O&G, Suffolk

Paediatrics
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Sexual health
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GP with an interest in sexual health and NIHR Research Fellow, Imperial College, London

Smoking cessation
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Urology
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Cardiovascular disease

Low BP in elderly patients treated for hypertension associated with increased mortality

Systolic blood pressure (BP) below 135 mmHg was associated with greater mortality in patients, aged 80 and over treated for hypertension, in an observational primary care study.

Electronic medical record data were used from practices in England participating in the Clinical Practice Research Datalink (CPRD). Patients aged 80 or over with hypertension who had had at least three BP measurements in the past three years and were taking at least one class of antihypertensive drug were studied. Patients with the following comorbidities at baseline were excluded: dementia, cancer, coronary heart disease, stroke, heart failure, and end-stage renal failure.

The outcome measures were mortality, cardiovascular events (ischaemic stroke, myocardial infarction (MI) and heart failure), and fragility fractures. Systolic BP was grouped in 10 mmHg increments from less than 125 to 185 mmHg or more. The reference group was 145-154 mmHg.

Data on 79,376 patients who met the inclusion criteria were analysed. Mean age was 82, and more than two-thirds were women (69.5%). There were 25,543 deaths during follow-up.

Mortality hazards demonstrated a U-shaped pattern. The lowest mortality was in patients with systolic BP of 135 to 154 mmHg. Mortality in patients with a systolic BP < 135 mmHg was higher than that of the reference group; hazard ratio (HR) 1.25 (95% CI: 1.19-1.31). This equated to one extra death per 13 participants.

Furthermore, the authors note that this difference in mortality was consistent over short- and long-term follow-up and that adjusting for diastolic BP did not change the risk.

The risk of MI increased linearly with increasing systolic BP, and stroke risk increased with a systolic BP of 145 mmHg or greater.

The risk of heart failure was higher in those with systolic BP < 125 mmHg than in the reference group; HR 1.20 (95% CI: 1.02-1.40). HR values for heart failure rose progressively at systolic BP levels higher than the reference group.

No correlation was seen between systolic BP and risk of fragility fractures.

It is accepted practice to apply the same hypertension treatment targets regardless of patient age but is there a danger of treating elderly patients too aggressively?

The authors concluded that in routine primary care a systolic BP of less than 135 mmHg was associated with greater mortality in the oldest adults with hypertension. They do point out that although they adjusted for important confounders the nature of an observational study means that it cannot completely exclude residual confounding.

'More work is needed to establish whether unplanned systolic blood pressure of less than 135 mmHg in older adults with hypertension may be a useful clinical sign of poorer prognosis requiring overall clinical review of care,' the authors state.

These findings are a prompt for a more robust assessment of the effects of potentially overtreating hypertension which may be just as harmful as a failure to treat persistently elevated blood pressure.

DR PETER SAVILL

Delgado J, Masoli J, Bowman K et al. Outcomes of treated hypertension at age 80 and older: Cohort analysis of 79,376 Individuals. *J Am Geriatr Soc* 2016 Dec 30. doi: 10.1111/jgs.14712

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