

Clinical reviews

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

Reviewers

Addiction

Dr Jez Thompson
GP Leeds and Clinical
Director Lifeline (North)
RCGP regional lead
substance misuse

Cardiovascular disease

Dr Peter Savill
GP Watercress Medical,
Medstead
GPwSI Cardiology,
Southampton

Diabetes

Dr Matthew Lockyer
GP Suffolk and hospital
practitioner in diabetic
medicine

Dr Peter Savill

GP Watercress Medical,
Medstead
GPwSI Cardiology,
Southampton

Mental health

Dr Phillip Bland
GP with an interest
in mental health,
Dalton-in-Furness

Obstetrics and gynaecology

Dr Chris Barclay
GP with an interest
in O&G, Suffolk

Paediatrics

Dr Chris Barclay
GP with an interest
in O&G, Suffolk

Sexual health

Dr Richard Ma
GP with an interest
in sexual health
NIHR Research Fellow,
Imperial College,
London

Smoking cessation

Dr Jez Thompson
GP Leeds and Clinical
Director Lifeline (North)
RCGP regional lead
substance misuse

Urology

Dr Jonathan Rees
GPwSI Urology, Bristol

Mental health

Overtreatment of hypertension may accelerate cognitive decline in the elderly

Overtreatment of hypertension in older patients with dementia or mild cognitive impairment may speed up the rate of cognitive decline, an Italian cohort study has found.

A total of 172 participants, 63% women, aged 65 and over (mean 79), were recruited from outpatient memory clinics. Their mean baseline Mini Mental State Examination (MMSE) score was 22.1. Approximately two thirds (68%) had dementia and the rest (32%) had mild cognitive impairment (MCI).

Twenty four hour ambulatory blood pressure (BP) recording was performed at the baseline assessment. The office BP and MMSE score were recorded at baseline and after a median follow-up period of nine months.

Patients were divided into tertiles of average daytime systolic BP (SBP): ≤ 128 mmHg, 129-144 mmHg and ≥ 145 mmHg.

At follow-up, the average drop in MMSE score was significantly greater

for those in the lowest tertile (-2.8) than for those in the intermediate (-0.7 ; $P = 0.002$) and highest (-0.7 ; $P = 0.003$) tertiles.

A significant association between low daytime SBP and cognitive decline was only found among those taking antihypertensive drugs (70% of the sample). This association was seen in both dementia and MCI subgroups, and was independent of age, baseline MMSE and vascular comorbidity. The association between office SBP and change in MMSE score was weaker.

The authors recognise that their study is limited by the small sample size and short follow-up period. This is an observational study and therefore cannot determine the direction of causation.

Evidence from longitudinal studies suggests that the relation between BP and cognitive decline is complex: whereas hypertension in middle age is associated with an increased risk of cognitive decline 15-20 years later, the onset of dementia is usually preceded by a fall in BP.¹

It is unclear whether the dementing process lowers BP as a result of autonomic dysfunction, or low BP exacerbates cognitive decline as a result of cerebral hypoperfusion. The persistence of the association after adjustment for baseline MMSE provides some evidence in favour of the second explanation.

I think it would also have been helpful to test for postural hypotension as a marker of autonomic dysfunction.

Hypertension guidelines do not caution against overtreatment of BP. The SIGN guideline recommends treatment targets of $<140/85$ mmHg for those at high cardiovascular risk and $<130/80$ mmHg for those with established cardiovascular disease, diabetes, chronic kidney disease (CKD) or target organ damage, and concludes that there is no convincing evidence of harm from BP reduction to even lower levels (with the exception of SBP <110 mmHg in CKD

patients with proteinuria).²

NICE recommends a target clinic BP $<140/90$ mmHg (ambulatory BP $<135/85$ mmHg) for those aged under 80 and $<150/90$ mmHg (ambulatory BP $<145/85$ mmHg) for those aged 80 and above, with lower targets for those with diabetes and/or proteinuria.³

This study suggests that guidelines should be revised to warn against excessive BP lowering in elderly patients with cognitive impairment.

Ambulatory BP monitoring is a more accurate way of identifying those who are overtreated. I would also advocate routinely checking sitting and standing BP in this group of patients.

The results of the study might be used to justify the controversial enhanced service for dementia case finding.⁴ It could be argued that timely diagnosis could identify patients at risk of harm from excessive BP lowering. However, case finding is recommended in patients aged 60 and above whereas the mean age of participants in the study was 79, and it is uncertain whether younger patients are at the same risk from overtreatment.

DR PHILLIP BLAND

● **Mossello E, Pieraccioni M, Nesti N et al.**
Effects of low blood pressure in cognitively impaired elderly patients treated with antihypertensive drugs.
JAMA Intern Med 2015;175:578-85 »

REFERENCES

- 1 Duron E, Hanon O. Vascular risk factors, cognitive decline and dementia. *Vasc Health Risk Manag* 2008;4:363-81
- 2 Scottish Intercollegiate Guidelines Network. SIGN 97: Risk estimation and the prevention of cardiovascular disease. SIGN, Edinburgh. 2007
- 3 National Institute for Health and Clinical Excellence. CG127. Hypertension: the clinical management of hypertension in adults. NICE. London. 2011
- 4 NHS England. Enhanced Service Specification. Dementia identification scheme. NHS. Leeds. 2014