Clinical reviews

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

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Cardiovascular disease

Which drugs should be used first line for hypertension?

Tailoring choice of antihypertensives to the patient rather than using strict age criteria might be more beneficial, the authors of a UK observational cohort study suggest.

Using the primary care Clinical Practice Research Database (CPRD-GOLD), the investigators identified new users of antihypertensive drugs between 2007 and 2017 in a propensity score matched cohort study. Patients with diabetes at baseline were excluded.

The outcome measures were a change in systolic blood pressure in users of angiotensin converting enzyme inhibitors and angiotensin receptor blockers (ACEi/ARB) compared with users of calcium channel blockers (CCB), stratified by age (< 55 years vs ≥ 55) and ethnicity (black vs non-black), from baseline to 12, 26, and 52 weeks of follow-up.

A total of 87,440 patients commenced therapy with ACEi/ARB, 67,274 with CCB, and 22,040 with thiazides.

For non-black people who did not have diabetes and who were under 55, CCB use was associated with a 1.69 mmHg (99% CI: −2.52 to −0.86) greater reduction in systolic blood pressure relative to ACEi/ARB use at 12 weeks, and a 0.40 mmHg (99% CI: −0.98 to 0.18) greater reduction in those aged 55 and older. However, subgroup analyses using six finer age bands showed that CCB use vs ACEi/ARB use was associated with a greater reduction in systolic blood pressure only in those aged ≥ 75 years (at 12, 26 and 52 weeks' follow-up).

For black people without diabetes, although CCB new use was associated with numerically greater reductions in blood pressure than ACEi/ARB, compared with non-black people without diabetes, the confidence intervals were overlapping between the two groups indicating no strong evidence for a difference.

Current NICE recommendations for first-line hypertension treatment are based on age, ethnicity, and diabetes.[1] CCB are recommended for those aged 55 and older and for people of black African or African-Caribbean ethnicity of any age. ACEi/ARB are recommended for non-black people under the age of 55 and for all patients with diabetes.

The authors concluded that these results suggest that the current UK guidelines for first-line antihypertensive treatment might not necessarily lead to greater reductions in blood pressure and as such a more tailored approach would be worth considering. In particular, age might not be the best factor to determine drug choice.

The study authors state:
'We observed reductions in blood pressure for CCB that were similar in magnitude to those for ACEi/ARB in people aged above and below 55. This finding suggests that some people aged 55 and older who are currently offered CCB but have indications for renin-angiotensin blockade such as proteinuria, could be missing the therapeutic benefits of ACEi/ARB.

'Our results suggest that the algorithm for choice of pharmacotherapy in UK NICE guidance could be simplified. Moving towards a choice of any of the three major hypertension drug classes with suggested compelling indications for their use would align the UK with international guidance, in particular with regard to age.'

DR PETER SAVILL

Sinnott S-J, Douglas IJ, Smeeth L et al. First line drug treatment for hypertension and reductions in blood pressure according to age and ethnicity: cohort study in UK primary care. *BMJ* 2020;371:m4080

REFERENCE

1 National Institute for Health and Care Excellence. NG136. Hypertension in adults: diagnosis and management. NICE. London. 2019 www.nice.org.uk/guidance/ng136

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