

HYPERTENSION

Should thiazides be used for hypertension in obese patients?

Previous studies of hypertensive patients at high risk of cardiovascular events have reported paradoxically higher event rates in normal-weight patients than in obese individuals. A subanalysis of ACCOMPLISH trial data suggests that this paradox might reflect the differential effects of antihypertensive treatment types, rather than the effect of body size, *per se*.

The ACCOMPLISH trial aimed to compare the effects of benazepril plus amlodipine versus benazepril plus a thiazide diuretic (hydrochlorothiazide) in hypertensive patients at high risk of cardiovascular events. As a prespecified subanalysis, Michael Weber and colleagues have now assessed patient outcomes on the basis of BMI by categorizing participants as either obese (BMI ≥ 30 kg/m²; $n = 5,709$), overweight (BMI ≥ 25 to < 30 kg/m²; $n = 4,157$) or normal weight (BMI < 25 kg/m²; $n = 1,616$).

In a pooled analysis of treatment arms, the researchers found that the primary end point of cardiovascular death, non-fatal myocardial infarction or non-fatal

stroke occurred more frequently in normal weight than obese hypertensive individuals. This effect was primarily driven by differences in the diuretic treatment arm. In the benazepril plus hydrochlorothiazide arm, rates of the primary end point were significantly lower in overweight (hazard ratio [HR] 0.71, 95% CI 0.53–0.94) and obese individuals (HR 0.61, 95% CI 0.46–0.81) than in



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normal-weight participants. By contrast, rates of the primary end point did not differ between BMI categories in patients assigned to benazepril plus amlodipine.

The researchers say that different underlying mechanisms of hypertension in normal weight and obese patients might explain the reduced cardiovascular protection provided by the thiazide-based regimen in lean patients. However, an accompanying editorial states that the greater efficacy of hydrochlorothiazide in the obese group could simply reflect the greater prevalence of individuals at risk of heart failure and advises against the use of diuretics for the treatment of hypertension regardless of body weight.

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Original article Weber, M. A. *et al.* Effects of body size and hypertension treatments on cardiovascular event rates: subanalysis of the ACCOMPLISH randomised controlled trial. *Lancet* doi:10.1016/S0140-6736(12)61343-9

Further reading Messerli, F. H. & Bangalore, S. Diuretic-based regimens for obese patients? *Lancet* doi:10.1016/S0140-6736(12)61819-4