

Safety and Efficacy of Thiazide Diuretics in Hypertension



To the Editor:

More than 30 years ago the prospective, randomized Systolic Hypertension in the Elderly Program (SHEP) study documented that treatment with a thiazide, specifically chlorthalidone, substantially reduced outcome in elderly patients with isolated systolic hypertension.¹ Treatment was associated with a 36% reduction in stroke in 4736 patients, and a reduction in major cardiovascular events, by 55 events per 1000 patients over 5 years. In view of the above and other prospective studies in aggregate, we are puzzled by the conclusions of Ravioli et al,² that taking of a thiazide was the strongest independent predictor of falls and syncope, and the authors' call for the thorough questioning of the use of thiazides in elderly patients who are prone to falls.

In this retrospective cross-sectional study based on Emergency Department admission criteria and chart review, baseline characteristics of thiazide and non-thiazide groups were so vastly different and so inadequately accounted for, that comparison of the 2 groups seems unrealistic. For example, those taking a thiazide were considerably older (74 vs 57 years), and much more likely to be on a loop diuretic (21% vs 9%) and on an angiotensin-converting enzyme inhibitor or angiotensin receptor blocker (82% vs only 22%). Further, the mean dose of hydrochlorothiazide was a mere 17 mg, yet in the thiazide group there was a tripling in acute kidney injury, chronic kidney disease, falls, and syncope, and a doubling in mortality. For proper

interpretation it would be crucial to know how many patients were admitted to the Emergency Department due to an adverse effect directly caused by thiazides and in how many these effects were merely coincidental.

Thiazide diuretics have been used for more than half a century, and their adverse effects have been well documented.³ Whenever efficacy and safety of a drug class has been established by prospective randomized trials, it seems unlikely that a retrospective cross-sectional study based on Emergency Department admission criteria and chart review can best this information.

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<https://doi.org/10.1016/j.amjmed.2021.10.036>

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Funding: None.

Conflicts of Interest: FHM serves as an ad hoc consultant for Menarini, Medtronic, and Krka. The other authors have no conflicts of interest.

Authorship: All authors had access to the data and participated in writing the manuscript.

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