Meta-Analysis of the Effects of Treating Blood Pressure on Cardiovascular Outcomes of Dialysis Patients

To the Editor:

We read with great interest the well-written article featuring a meta-analysis on the impact of blood pressure (BP)–lowering therapy on cardiovascular mortality in dialysis patients, performed by Agarwal and Sinha. The authors rightly emphasize that, although raised BP is a huge global and indeed renal, scourge, at least as far as the development and progression of chronic kidney disease is concerned, there is currently great uncertainty among nephrologists about whether intervention for raised BP in dialysis patients is helpful or harmful. Not only is there no consensus about when and how to measure BP in dialysis patients, but recent publications from large dialysis cohorts clearly associate lower, not higher, BP with adverse outcomes.

The approach, interpretation, and outcomes by Agarwal and Sinha are in contrast with another similar exercise, also published very recently. Agarwal and Sinha included fewer studies, analyzed their data differently, and, crucially, discovered marked heterogeneity in patient population, inclusion criteria, end points, and outcomes. In particular, their work suggests that, if there is any benefit derived from intervention for raised BP, it is only seen in subjects with raised BP, as opposed to the prescription of cardiovascularly active drugs, with putative cardioprotective properties, for subjects regardless of starting BP.

Where we take issue with Agarwal and Sinha is whether their noble efforts have actually advanced us at all. Only 2 studies, the 2 largest of their chosen ones, were positive, and these were positive as “stand-alone” analyses, without the statistical legerdemain inherent in meta-analytic manipulations. Clearly, there is an even stronger case now to be made for a large, well-designed double-blinded, placebo-controlled interventional study, with prespecified randomization for incident versus prevalent dialysis vintage, entry BP, entry left ventricle performance, and previous cardiovascular burden.

Disclosures

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