A Single Point-in-Time eGFR Is Not Associated with Increased Risk of Dementia in the Elderly

We appreciate the growing interest in unraveling the association between CKD and dementia. Kurella *et al.*[1] report results from the Systolic BP Intervention Trial (SPRINT) on the association of eGFR with cognition and show that a single baseline eGFR is not predictive of mild cognitive impairment or dementia, whereas association is seen with a declining eGFR. With the high prevalence of both CKD and dementia in older adults, these observations are highly relevant and clarify risk of dementia in a way that can affect clinical care and alleviate unnecessary anxiety and interventions.

Contrary to this SPRINT study,[1] prior studies show an increased risk of cognitive decline with a lower point-in-time eGFR value.[2–4] How do we reconcile these findings? The populations studied are different. Whereas prior studies included population cohorts,[2–4] SPRINT[1] enrolled high-risk participants—a population at the highest risk for dementia. Addition of CKD to this already high-risk group did not further increase the risk of mild cognitive impairment or dementia. This raises an important question: is it CKD or the vascular disease that accompanies CKD that predicts dementia? We believe current data support that eGFR is a proxy measure, reflecting broader and systemic effects of vascular disease that accompanies declining eGFR and declining brain function and dementia. As seen in this study,[1] a declining eGFR has different implications than a point-in-time low eGFR. Whereas the former may represent a population with increased endothelial dysfunction, the latter may be secondary to burnt-out GN, interstitial nephritis, or obstruction, with less-pronounced systemic vascular effects. Moreover, the association between eGFR and cognition may be confounded by baseline differences in age, comorbidities, and education (known risk factors for cognitive impairment) in participants with and without lower eGFR. Because the risk of dementia increases rapidly with age, with an individual's risk of developing dementia doubling every 5 years after age 65, age matching may be especially important. In fact, in the subgroup analysis of the Health, Aging, and Body Composition Study,[2] stratification by age eliminated the association between eGFR and cognition (odds ratio, 1.10; 95% CI, 0.80 to 1.51) in participants >73 years old, indicating that age-related factors not specific to eGFR are likely to explain the association. In conclusion, we concur that a point-in-time eGFR in older persons is not associated with cognitive decline.

DISCLOSURES

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