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Peer reviewed

Serum phosphorus and the risk of progression of chronic kidney disease

Sir,

We read with interest the recent paper by Voormolen *et al.* [1], describing an association between higher serum phosphorus levels and faster decline in renal function, in 432 patients with advanced chronic kidney disease (CKD). The authors contend that their study is the first to describe such an association in a large number of pre-dialysis CKD patients. We would like to direct the authors' attention to two other papers, published last year and examining the same issue. We studied the association between serum phosphorus level and the incidence of dialysis or doubling of serum creatinine in 985 male patients (mostly CKD stages 3–4) [2]. We found that higher phosphorus was associated with a higher incidence of the renal end-point, even after adjustment for a number of potential confounders; a 1 mg/dl higher serum phosphorus level was associated with an adjusted hazard ratio (95% confidence interval) of 1.29 (1.12–1.48, $P < 0.001$) for the composite renal end-point. Another study examined risk factors for progression of CKD in 1094 black patients, enrolled in the African American Study of Hypertension and Kidney Disease (AASK) and, while serum phosphorus level was not its main focus, it also found serum phosphorus level to be one of the several independent predictors of progressive CKD [3]. The results presented by Voormolen *et al.* are certainly concordant with those described in these earlier studies and should form the basis for future trials examining the impact that lowering of serum phosphorus might have on progression of CKD.

Conflict of interest statement. None declared.

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Note: Dr Voormolen *et al.* were invited to provide a reply, but we did not receive a response.

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2. Schwarz S, Trivedi BK, Kalantar-Zadeh K, Kovesdy CP. Association of disorders in mineral metabolism with progression of chronic kidney disease. *Clin J Am Soc Nephrol* 2006; 1: 825–831
3. Norris KC, Greene T, Kopple J *et al.* Baseline predictors of renal disease progression in the African American Study of Hypertension and Kidney Disease. *J Am Soc Nephrol* 2006; 17: 2928–2936

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