Muscle Cramps and Creatine Kinase Elevations in Hemodialysis Patients

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Dear Sir,

References

We read with interest the article by Hernando et al. [1]. It is noteworthy that, of the 23 patients with muscle cramps, 13 (56.5%) had normal creatine kinase levels. There is an inverse correlation between creatine kinase and age, and the authors note that the group with high creatine kinase values was younger. Review of the literature shows that patients on continuous ambulatory peritoneal dialysis, who do not have an increased incidence of muscle cramps, have equally high creatine kinase levels as patients on hemodialysis [2]. Furthermore, while muscle cramps do occur frequently during hemodialysis, creatine kinase levels after dialysis are often lower than the levels before [2] possibly due to sodium acetate and elevated pH, both of which decrease creatine kinase activity [3]. Thus, while we believe that theoretically muscle cramping per se may increase creatine kinase levels, there is substantial evidence to suggest that muscle cramping plays no significant role in the elevations in creatine kinase levels seen in dialysis patients and that other explanations must be sought.

Hernando P, Caramelo C, Lopez Garcia D, Hernando L: Muscle cramps: A cause of elevated creatine kinase levels in hemodialysis patients. *Nephron* 1990;55:231–232. Singhal PC, Barth RH, Ginsberg NS, Lynn RI: Determinants of serum creatine kinase activity in dialysis patients. *Am J Nephrol* 1988;8:220–224.

Szasz G, Gruber W, Bernt E: Creatine kinase in Serum. I. Determination of optimum reaction conditions. *Clin Chem* 1976;22:650–656.