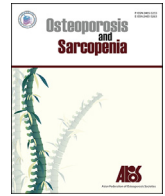




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Letter to the editor

Recognizing the importance of physical activity on sarcopenia in chronic kidney disease - Reply



Keywords:
Sarcopenia
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We thank Dr TJ Wilkinson et al for their interest in our work and the detailed, informative remarks about the paper [1,2]. We want to thank the Editor, Osteoporosis and Sarcopenia, for the opportunity to respond to the issues raised.

Low muscle strength is an integral part of the definition of sarcopenia. The current definitions of sarcopenia need a low muscle mass and low strength or physical performance for the diagnosis [3,4]. The relationship between muscle mass and strength is not congruent in chronic kidney disease (CKD). Considering muscle mass alone may lead to overestimating the prevalence of sarcopenia [5]. Also, an isolated decrease in muscle mass does not affect long term mortality, whereas the isolated reduction in muscle strength is a risk factor [6]. Our study did not have the requisite information on muscle strength. We agree with Wilkinson et al. that this might have led to the overestimation of sarcopenia. We had accepted the lack of muscle function information as a significant limitation in discussion [1].

Sarcopenia in CKD is contributed by multiple factors, including advanced age, acidosis, insulin resistance, dialysis therapy, low-grade inflammation and inadequate protein-energy intake. Previous observational studies from our center had shown that physical inactivity is a major concern; around 60% of the patients stop working once they develop CKD, despite the median age being about 50 years [7,8]. CKD related sarcopenia is characterized by increased muscle catabolism and resting energy expenditure, unlike age-related sarcopenia [9]. Poor nutrition and physical inactivity are 2 sides of a coin. We agree that the critical perpetuating event might be physical inactivity, which the health care provider should diligently address. Protein supplementation and physical activity can be synergistic; resistance exercises may improve insulin resistance and trigger new protein synthesis. Even though protein supplementation and physical exercise have independently been shown to be associated with improvements in sarcopenia, randomized trials have failed to show a beneficial effect in combining exercise with dietary supplementation [10]. Most dietary or exercise intervention trials are limited to patients on long-term dialysis; dialysis

itself is a trigger for catabolism and muscle inflammation. Unfortunately, there is a lack of quality data on the combination of nutrition and exercise programmes in predialysis kidney disease [9,10]. Possibly, a one size fits all approach might not be appropriate to address sarcopenia in CKD. We agree with Wilkinson et al that a holistic, patient-centric approach is needed for improving outcomes.

Conflicts of interest

The authors declare no competing interests.

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