

Re. “Effectiveness of protein-caloric supplementation in hemodialysis patients to improve the amino acid balance and avoid protein energy wasting: Author's response”



To the Editor:

I read with interest this valuable opinion contributing to the discussion about oral nutritional supplementation (ONS) in patients on hemodialysis (HD) as a potential measure to avoid and treat malnutrition. The authors kindly referenced our recent article [1], which aimed to evaluate ONS in a group of patients on HD. In a broad and detailed review, the authors raised doubts as to the conclusion of our research, pointing out that the “chosen kind of nutritional integration could constitute an insufficient stimulus for the protein anabolism.” I beg to differ with this opinion, especially because the aim of our study was in fact to evaluate the applicability of the preformed formula of the commercially available supplement in the clinical setting.

It is difficult to disagree with the provided point-by-point considerations regarding the need to create an amino acid mixture tailored to specific needs of patients with stage 5 dialysis chronic kidney disease. However, it also is difficult to find a common denominator between this elegant, albeit purely academic, dissertation and our clinical approach focused on finding a measure to alleviate the day-to-day problems found in thousands of patients in HD units all over the world.

Two specific issues need further clarification. First, as an author, I would rather reserve myself the right to chose and define the inclusion criteria in the study protocol, especially as they are clearly stated in our work and based on established criteria according to the International Society of Renal Nutrition and Metabolism, traditionally accepted in clinical practice [2]. I must sincerely congratulate the impressive consensus statements of the Italian Society of Nephrology [3] and promise to consider them in the future. Second, we were not able to discuss the negative influence of the supplement on the uremic microbiota dysbiosis because it was not possible for us to provide data in this respect. I agree that this is an issue of great importance and I can only be thankful to the authors for addressing it.

I must admit that I highly appreciate the concerns that our results are equivocal and our study has limitations. In our experience, clinical studies are plagued with such issues. Patients fail to gain calculated weight, cease to adhere to dietary counseling, and have laboratory findings far from those hypothetically expected. We all should be aware that even widely accepted measures of nutritional status, such as bioimpedance specifically recommended by the authors, may have many limitations when applied to patients on HD [4]. This population is among the most challenging to study, and the fact that we managed to enroll a homogenous and meticulously phenotyped group of patients on HD is an essential strength of our study.

Although our previous clinical experience and recent literature lead me to conclude that the rationally administered ONS is the most prudent and practical choice in everyday practice [5,6], I fully respect the different opinion presented by authors. I want to express my gratitude for their taking this opportunity to share their

expert advice and for making an effort to provide an invaluable review of our publication. The respectful, factual discussion always contributes to the development of knowledge, broadens perspectives, and is conducive to progress.

References

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Sylvia Małgorzewicz M.D., Ph.D.

Department of Clinical Nutrition and Dietetics, Medical University of Gdańsk, Poland

<https://doi.org/10.1016/j.nut.2018.11.008>

Re. “Amino acid profile after oral nutritional supplementation in hemodialysis patients with protein-energy wasting”



In the original work by Małgorzewicz et al. [1], the authors chose to use a protein-caloric supplementation composed by 18.75 g of protein/d plus 500 Kcal/d for 3 m, but this intervention did not seem to support the hypothesis of possible future nutritional improvement or stabilization of metabolism in patients on hemodialysis (CKD5D patient). Moreover, it is not feasible to evaluate the metabolic outcome considering CKD5D patients affected by protein energy wasting (PEW) by the current criteria, because in this paper, all defined statements were not in accordance with the most recent classifications. Besides the hemodialysis methodologies used are not known [2]. In fact, despite a limited quantitative increase in total amino acids (TAA), the expected increase in plasma levels of some essential amino acids (EAA) and branched chain amino acids (BCAA), such as isoleucine, leucine, lysine, phenylalanine, and valine, did not happen.

Moreover, the authors declared only “to maintain dietary intake within the recommended range” [1]; therefore, we assume that the protein-caloric prescription would have been 1.2 g protein/kg/d plus 30 to 35 Kcal/kg/d. Thus, a constant protein supplementation of approximately +23% added to 500 Kcal /d (+24%) should have resulted in an increase in body weight of >10% and a protein catabolic rate (PCR) much higher than 12% at the end of the study.