

## Letter to Editor

# Proton pump inhibitors to control phosphorus levels in hemodialysis patients

### Dear Editor

Cekiç et al. (1), in their study titled "Proton pump inhibitors with calcium acetate on serum phosphorus levels in hemodialysis patients," provided valuable insights into the investigation of the clinical benefits of using proton pump inhibitors (PPIs) in addition to drugs used for phosphorus control. We believe that the results of this study have significant implications for clinical practice, particularly in the management of phosphorus control in patients with chronic renal failure or undergoing dialysis. The findings shed light on the potential benefits of using PPIs as an adjunctive therapy in addition to standard phosphorus control medication.

While Cekiç et al. highlighted the potential clinical benefits of PPI, I would like to add some comments for further investigation. Considering the number of dialysis sessions per week is crucial as it directly influences phosphorus levels. Hemodialysis is vital for removing excess phosphorus from the body (2). Increasing the frequency of dialysis sessions may enhance phosphorus clearance, leading to better control of serum phosphorus levels. Therefore, investigating the correlation between dialysis frequency and phosphorus levels can provide valuable insights into optimizing treatment strategies for patients with end-stage kidney disease (ESKD). Another important consideration is the impact of dialysis type on phosphorus control. High-flux dialysis offers increased clearance of more significant molecular weight substances, including phosphorus, compared to low-flux dialysis (3). Therefore, exploring the differential effects of low flux and high flux dialysis on phosphorus levels in ESKD patients is essential. Understanding the implications of dialysis type can guide clinicians in selecting the most appropriate dialysis modality for phosphorus control in individual patients. Moreover, the

influence of diet on phosphorus levels cannot be overlooked in the management of ESRD patients (2, 4). Certain foods, particularly those high in phosphorus content, can significantly impact serum phosphorus levels (5). Therefore, it should consider matching the diet among the studied individuals to minimize variations in phosphorus intake. This can be achieved through dietary counseling and providing standardized meal plans. Additionally, it is important to educate ESKD patients about phosphorus-rich food sources, emphasizing the need for moderation and portion control. By addressing dietary factors, healthcare providers can optimize phosphorus control with pharmacological interventions. While focusing on phosphorus control, future studies should also assess the impact on long-term outcomes and quality of life in ESKD patients. Maintaining optimal phosphorus levels is crucial for reducing mortality risk and mitigating cardiovascular complications, mineral bone disorders, and other complications associated with ESKD. Additionally, exploring the effects of various phosphorus control strategies on patients' quality of life, including dietary restrictions and medication adherence, can help tailor interventions that balance efficacy and patient well-being.

In this regard, future studies on phosphorus control in ESKD patients should consider associated vital factors to determine the direct impact of PPI on controlling the levphosphorous level. These include evaluating the impact of dialysis frequency and type on phosphorus levels, matching dietary interventions among study participants, considering comorbidities and medications, and assessing long-term outcomes and quality of life. By addressing these considerations, researchers and healthcare providers can advance the field of phosphorus control, ultimately improving patient outcomes and enhancing the overall quality of care for ESKD patients.

**Acknowledgments:** Not applicable.

**Conflicts of interests:** The author declares no conflict of interest.

**Funding:** Not applicable

**Keywords:** Proton pump inhibitors, Phosphorus, Hemodialysis.

**Citation:**

Hojati A. Proton pump inhibitors to control phosphorus levels in hemodialysis patients. Caspian J Intern Med 2025; 16(1): 185-186.

**Amineh Hojati (MD) <sup>1\*</sup>**

1. Gastrointestinal and Liver Diseases Research Center, Guilan University of Medical Sciences, Rasht, Iran

**Correspondence**

**Amineh Hojati**, Gastrointestinal and Liver Diseases Research Center, Guilan University of Medical Sciences, Rasht, Iran .Razi Hospital, Sardar-Jangle Ave., P.O. Box: 41448-95655, Rasht, Iran

**Email:** amineh\_hojati@yahoo.com

**Tel:** +98 1315535116

**Received:** 19 Nov 2023

**Revised:** 22 Nov 2023

**Accepted:** 11 Dec 2023

**Published:** 27 Oct 2024

**References**

1. Cekiç D, Sipahi S, Arman ME. Proton pump inhibitors with calcium acetate on serum phosphorus levels in hemodialysis patients. Casp J Intern Med 2023; 14: 737–40.
2. Biruete A, Hill Gallant KM, Lloyd L, et al. 'Phos'tering a Clear Message: The Evolution of Dietary Phosphorus Management in Chronic Kidney Disease. J Ren Nutr 2023; 33: S13-20.
3. Nguyen TT, Jang K, Her N, et al. Fabrication of hollow fiber membranes with different inner diameters for enhanced uremic toxins removal in hemodialysis: Exploring from high-flux to high molecular weight retention onset classes. J Memb Sci 2022; 663: 121065.
4. MacLaughlin HL, Friedman AN, Ikizler TA. Nutrition in kidney disease: Core Curriculum 2022. Am J Kidney Dis 2022; 79: 437–49.
5. Rubio-Aliaga I, Krapf R. Phosphate intake, hyperphosphatemia, and kidney function. Pflugers Arch. 2022; 474: 935-47.