



Comment on “Serum prealbumin: a potential predictor of right ventricular dysfunction in patients receiving programmed hemodialysis”

Longcai Fang¹ , Xiaofang Wang^{2*} 

Dear Editor,

We read with great interest a recent study¹ investigating the relationship between serum prealbumin concentration and right ventricular dysfunction (RVD) in patients undergoing programmed hemodialysis. In this study¹, the results found that patients with RVD had lower prealbumin concentration compared with patients without RVD (23.83 ± 8.50 mg/dL versus 31.38 ± 6.81 mg/dL, $p=0.001$), and prealbumin concentration had an important role in predicting RVD. However, after reading this study carefully, we think that the following questions deserve further clarification.

First, as described in Table 1 of that study¹, C-reactive protein (CRP) was higher in patients with RVD compared with patients without RVD [1.45 ($0.95-3.30$) versus 0.80 ($0.40-1.60$), $p=0.023$], suggesting that both prealbumin and CRP concentrations had a significant difference in patients with and without RVD. In this case, either lower prealbumin or elevated CRP concentrations may be associated with poorer right ventricular function, and it cannot be roughly assumed that lower right ventricular function is only associated with lower prealbumin, ignoring the role of CRP. Previous studies have shown that elevated CRP is associated with the prognosis of various diseases, including RVD² and programmed hemodialysis³. Therefore, it is necessary to adjust for the potential influence of CRP when exploring the relationship between prealbumin and right ventricular function.

Second, the treatment strategy for RVD patients is unclear. The study followed all participants for up to 3 years and compared the difference in mortality between patients with

and without RVD. However, detailed treatment strategies for RVD are indistinct. The treatment strategy is undoubtedly closely related to the prognosis of RVD patients. In the absence of treatment strategies, a possible hypothesis is that the higher mortality might be due to inappropriate treatment strategies independent of lower prealbumin concentrations. Therefore, it is necessary to provide treatment strategies between groups.

Third, brain natriuretic peptide (BNP) is currently well-recognized as a useful serological marker that is closely related to the prognosis of heart failure patients and is widely used in clinical practice. Notably, approximately one-third (18/57) of the subjects in this study were patients with RVD. However, information about BNP is unknown. In addition, a previous study⁴ demonstrated a significant negative correlation between BNP and prealbumin in hemodialysis patients ($r=-0.46$, $p=0.001$). Therefore, it may be possible to obtain an accurate relationship between prealbumin and RV function after excluding the potential influence of BNP.

In general, the conclusions of this study provide novel evidence and references for clinical practice, but further clarification of the above concerns will undoubtedly increase the accuracy and reliability of the conclusions.

AUTHORS' CONTRIBUTIONS

LF: Conceptualization, Investigation, Supervision, Writing – original draft. **XW:** Conceptualization, Investigation, Supervision, Writing – review & editing.

¹Haiyan Banger Hospital, Hemodialysis Center, Department of Nephrology – Zhejiang, China.

²Sijing Hospital – Shanghai, China.

*Corresponding author: dinghai3486709@126.com

Conflicts of interest: the authors declare there is no conflicts of interest. Funding: none.

Received on December 16, 2022. Accepted on January 10, 2023.

REFERENCES

1. Gok M, Kurtul A, Taylan G, Sayilar EI, Yalta K. Serum prealbumin: a potential predictor of right ventricular dysfunction in patients receiving programmed hemodialysis. *Rev Assoc Med Bras* (1992). 2022;68(6):792-6. <https://doi.org/10.1590/1806-9282.20211348>
2. Alonso-Martínez JL, Llorente-Diez B, Echegaray-Agara M, Olaz-Preciado F, Urbieto-Echezarreta M, González-Arencibia C. C-reactive protein as a predictor of improvement and readmission in heart failure. *Eur J Heart Fail*. 2002;4(3):331-6. [https://doi.org/10.1016/s1388-9842\(02\)00021-1](https://doi.org/10.1016/s1388-9842(02)00021-1)
3. Bazeley J, Bieber B, Li Y, Morgenstern H, Sequera P, Combe C, et al. C-reactive protein and prediction of 1-year mortality in prevalent hemodialysis patients. *Clin J Am Soc Nephrol*. 2011;6(10):2452-61. <https://doi.org/10.2215/CJN.00710111>
4. Chazot C, Jean G, Vo-Van C, Collonge C, Terrat JC, Vanel T, et al. The plasma level of brain natriuretic peptide is increased in malnourished hemodialysis patients. *Blood Purif*. 2009;28(3):187-92. <https://doi.org/10.1159/000230809>

