Reviewer's report

Title: Fluid Overload in Hemodialysis Patients: A Cross-Sectional Study to Determine its Association with Cardiac Biomarkers and Nutritional Status

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Reviewer: Jinn-Yang Chen

Reviewer's report:

Using baseline characteristics of 244 hemodialysis patients at three hemodialysis facilities in Vienna, the authors tried to make links between fluid overload measured by BCM and parameters for cardiovascular, inflammatory and nutritional status.

Major Critics

1. Comorbid conditions of these patients should be described deliberately. Patients would be prone to fluid overloading due to their comorbidities (e.g. CHF or DM). The reasons of being more fluid-overloaded for patients receiving dialysis in University Hospital might not always be due to more comorbidities, but due to more academic and less clinical activities for University Hospital-based Nephrologists. The authors need to show the data of comorbid conditions in details.

2. The cardiovascular, inflammatory and nutritional makers were shown to be related to comorbidity burden by many publications. Although not well-validated in ESRD patients, Charlson comorbidity index or USRDS index (Liu et al, KI 2010) could be used to measure the total comorbidity burden. Personally, I think the effects of comorbidity on these markers would be greater than fluid status. A multivariate regression model containing the comorbidity index was needed to illustrate the independent effects of fluid overloading.

3. The lack of association between fluid status and blood pressure needs more investigation. Dialysis vintage and heart function (at least ejection fraction or diastolic function) should be provided to help explain the exceptional finding.

4. In terms of the inverse association between fluid status and BMI, lean body mass would be a better marker of nutrition status. The information of lean body mass could be easily obtained from the BCM.

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.
Declaration of competing interests:

I declare that I have no competing interests' below