Reviewer's report

Title: A retrospective, longitudinal study estimating the association between interdialytic weight gain and cardiovascular events and death in hemodialysis patients

Version: 2
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Reviewer: Giuseppe Enia

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This paper by Claudia Cabrera et al confirms that interdialytic weight gain (IDWG), predicts all cause and cardiovascular death, an observation already done in previous large registry studies.

The novelty of the paper is the finding that IDWG is also associated with hospitalizations for non-fatal myocardial infarction or heart failure/volume overload and two composite end-points combing cardiovascular mortality with non-fatal hospitalizations. Moreover, Authors show that relative IDGW may be more predictive than absolute IDWG.

Minor revisions

comment 1.
A diagram showing the study design would improve the readability of the paper. Otherwise, the reader, as I did, must refer to reference 6, which contains the diagram.

comment 2
Please report the follow-up times (median and range).

Major points

comment 3
Since, as the Authors are well aware of, IDWG can also be a proxy of general well-being and younger patients with better nutritional status may have higher IDWG, if possible it would be interesting to adjust for markers of nutrition (i.e. serum albumin concentration, serum creatinine) and inflammation (C reactive protein)

comment 4
Due to the observational nature of the study, I would suggest the Authors to downplay their conclusion that “current and upcoming strategies and therapies that mitigate IDWG may improve CV health and survival among ESRD patients”. Perhaps it should be better to change the latter sentence in “clinical trials are needed to evaluate if current and upcoming strategies and therapies that mitigate IDWG may improve CV health and survival among ESRD patients”.

Discretionary revision.

comment 5

I would suggest to try an analysis using the variability of IDWG (standard deviation for each patient) as predictor of outcomes

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.