Reviewer’s report

Title: Plasma fibrinogen and mortality in patients undergoing peritoneal dialysis: a prospective cohort study

Version: 0 Date: 16 Mar 2020

Reviewer: Tiny Hoekstra

Reviewer's report:

General comments
The authors describe the association between plasma fibrinogen levels and both cardiovascular and all-cause mortality in a large population of peritoneal dialysis patients. Not much is known on this topic and the paper is therefore of interest. The study population is very large considering that it is a single center study.

The study is on an etiological research question, i.e. whether fibrinogen is causally related to (cardiovascular) mortality. Therefore, terminology like ‘predictor’ and ‘prognostic’ should be avoided as it suggests a prediction study.

Specific comments
Introduction
Most of the cited literature is quite old, also the more general literature on CKD and fibrinogen, Please check for more recent papers (e.g. Gackler et al, 2019, Schuett et al, 2017 and Brophy et al 2013).

Methods
Participants
It remains unclear whether the study involves incident or prevalent patients. In the section on data collection it is mentioned that all data (including fibrinogen) is collected before PD characterization. However, in the discussion it is mentioned that prevalent patients were included. If I understood correctly incident PD patients were included with measurements available before the start of PD. Follow-up time only starts at the time patients received PD for 3 months (and therefore patients that died before were excluded). Is this correct? Please make this more clear throughout the paper. In the case I misunderstood and it involves also patients that were treated with PD for longer periods, information should be provided on dialysis vintage.

Statistical analyses
- Fibrinogen is treated both as a categorical exposure variable and continuously. Please mention this clearly in the statistics section.
- The study population is large and I would therefore suggest to divide the study population in three groups based on fibrinogen levels. This would provide more insight into the dose-response association.
- In the statistics section it is only mentioned which P value was considered for interactions. It is however not clear which variables were tested in this respect. A significant interaction was found with diabetes. But were other characteristics tested as well (and turned out to be non-
significant)? There should be a clear rationale to perform these kind of analyses and it should be made clear if these analyses were pre-specified.

Results
- The study population is quite young. Is this representative of the overall dialysis population in China?
- The results of the analyses with fibrinogen as a continuous exposure are presented in the column 'total cohort'. From the text I understood that these HR's are for a 1 g/L increase in fibrinogen. This should however also be clear from the table.
- Please provide number of events in the 2 subgroups (Table 3 and Table 4).
- Please provide also the results of cardiovascular mortality in Table 4.
- Table S1: these numbers are also mentioned in the main text. This table can therefore be omitted.
- Figure S2. To my opinion these figures can be omitted as they do not provide information on the research question.

Discussion
The main conclusion is now on the observed interaction with diabetes for all-cause mortality. However, the primary outcome was cardiovascular mortality and in addition the rationale for the stratified analyses is unclear. To my opinion this finding should thus be presented as an (interesting) secondary finding. It remains unclear how these different associations might be explained. I am thus not convinced this is not a chance finding.

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- Are the description of any error bars and probability values appropriate?
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