Reviewer's report

Title: Cardiac dyssynchrony is strongly correlated with 2-year dialysis adequacy and N-terminal prohormone of brain natriuretic peptide levels in continuous ambulatory peritoneal dialysis patients

Version: 1 Date: 16 August 2012

Reviewer: Etienne Gayat

Reviewer’s report:

Huang et al report a 2-year follow-up study of continuous peritoneal dialysis patients. The main aim of the study was to link left ventricular dyssynchrony assessed by 3D echocardiography and peritoneal solute clearance at 2 years.

The question raised by the author seems relevant and the methodology is novel and appropriate. However, several issues need to be fixed before considering the present manuscript for publication.

Major Compulsory Revisions
1. The authors should identify clearly a main endpoint and several secondary endpoints. This could help them to present the methods and the results and to organize the discussion. In the present form, the manuscript is difficult to read and it’s also difficult for the reader to catch the information.

2. The discussion needs to be deeply revised. Indeed, the authors rather than discuss give results that’s were not previously reported in the Results section.

3. The statistical analyses need to be improved.
   - Because the sample size is small and because it seems very unlikely that the continuous variables were normally distributed, it seems adequate to use non-linear model. Then, rather than using generalized linear model, the authors should use non-linear model or prove that the effect of the studied variables is linear.
   - There is no sample size calculation. Why the authors choose to include 13 controls?
   - The authors didn’t describe the selection process of the variables included in the multivariate models. Was it based on the p value in the univariate analysis or based only on the clinical relevance?
   - In the Table 5, the authors should use the same approach than for the previous models and give regression coefficients rather than correlation coefficient. There is no reason for using a different approach and it make the results difficult to read.

Minor Essential Revisions
1. The term “correlated” in the Title should be replaced by “associated” which is more appropriate in the statistical point of view.
2. In the abstract:
   - In the methods section, the authors should clearly identify a main endpoint
   - In the results section, the sentence “Difference in SI (…) control group” needs to be clarified.
   - The conclusion needs to give a “take home message” eventually usable in the clinical practice which is not the case in its present form.

3. The authors didn’t perform a reproducibility study. There is some evidence in the literature concerning this aspect. The authors need to discuss this point.

4. The numerical results must be presented as median [interquartile range] and not as mean +/- SD as the continuous variables are not normally distributed (as stated by the authors).

5. The Table 2 is useless and the corresponding results should simply be inserted in the text of the Results section.

6. The references 8 and 20 are the same.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests