Reviewer's report

Title: Protein-bound solute removal during extended multipass versus standard hemodialysis

Version: 2 Date: 10 February 2015

Reviewer: Detlef H Krieter

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In a secondary analysis of a small crossover study, the efficacy of multipass HD on protein-bound toxin removal was compared to standard HD. Main result was a lower elimination of highly protein-bound toxins in MPHD despite longer session duration, which was attributed to reduced diffusive clearance after saturation of the recirculated dialysate.

The results of the study are interesting and further add to the knowledge about protein-bound toxin removal in dialysis. Language and presentation are generally acceptable. Only very few concerns need to be addressed.

Major Concerns:

Page 2, abstract, conclusion: PBT removal was lower with MPHD. Thus, it is unclear from which argument the authors conclude that MPHD is an acceptable alternative to SHD?

Page 5, methods: Extrapolating the “Total solute removal on weekly basis” by calculation “from TSR as measured and calculated in a single session and multiplied by the dialysis frequency per week” may overestimate real removal in MPHD. Treatment six times per week may influence predialysis levels, which correlate with the single session removal. The results of this calculation should be deleted.

Minor concerns:

Introduction, 1st paragraph: The paragraph is lacking literature references to support the main statements.

Page 2, line 24: From the very beginning of HD there was no doubt that HD 3x/week is non-physiological. Rephrase.

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.