Reviewer’s report

Title: An open prospective study of amikacin pharmacokinetics in critically ill patients during treatment with continuous venovenous haemodiafiltration.

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Reviewer: Mariann Churchwell

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An open prospective study of amikacin pharmacokinetics in critically ill patients during treatment with continuous venovenous haemodiafiltration.

General comments.
Overall, I had difficulty following or working my way through the details as written for the background, methods and results. The discussion has areas that need to be edited such as the first paragraph and others that explain the authors thoughts very well such as the paragraph starting with “once daily” on page 18. The authors seem to over-explain concepts that are well-described in the literature such as drug half-life “on” and “off” dialysis yet do not adequately explain other areas for instance why was there “no discernable distribution phase” as reported on page 15? But then use phrases such as “which is generally slightly higher than” (page 15).

The authors need to decide the target audience of this paper? Clinicians? Pharmacokinetic Professors?

Some Specific comments

Background: Overall goal of the study is stated but the objectives as written are not clear or concise. For example: objective (a) on page 6 as written is not a specific study object but a paragraph describing methods. Objective (b) is several objectives (also serum level concentrations is an incorrect use of the terms). The authors need to concisely define and state the study objectives. The remaining details should be presented concisely in the methods. The background is very long as though I was reading a review paper but then realized there was a methods section. Much of the background material is not necessary. The reader does not need a full history of amikacin studies in CRRT.

Methods

A) The authors did not describe how the data represented in figure 1 was acquired or how the patients were identified.

B) After the blood samples were attained how were the samples processed and stored? Describe briefly in 1-2 sentences

C) Page 8 under Analytical Procedure paragraph 2 is confusing as written.

D) The small number of patients enrolled (n=5). Also, the amikacin dosing strategy changed during the study period for 3 of the participants so the patient
sample is n=3 and n=2?

Results:
Page 11 paragraph 2. “The effect of CVVHDF therapy….“ This data could be stated in 1-2 concise sentences but same basic idea which is well-described in the literature that once CRRT is stopped the drug half-life increases is repeated several times as if it is a new idea.
Perhaps this should be written as a case series since some of the data appears to be reported as a case series.
Page 14 last paragraph estimates of PK parameters should be put in a table.
Tables and figure: My opinion is there are too many tables and that data in the tables should not be reported extensively in the results and again in the discussion section.
Table 2 - title instead of using TDM perhaps state that is was from multiple doses and samples?
Review the figures. It appears that there is a problem with your data. Hours are listed on the “X” axis which would mean the patients were followed for more than 200 hours or maybe a decimal was left off.

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

Quality of written English: Not suitable for publication unless extensively edited

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