Reviewers report

Title: Citrate prevents complement activation and neutrophil degranulation by heparin, when used for anticoagulation during continuous venovenous haemofiltration in critically ill patients.

Version: 1 Date: 11 June 2013

Reviewer: Somchai Eiam Eiam-Ong

Reviewers report:

Schilder L et al. presented that Citrate might decrease complement activation and neutrophil degranulation as measured by C5a and elastase/ MPO, respectively. While the observation in the topic is interesting and the English language is acceptable, there are several concerns regarding the method of patient selection, data presentation, and the conclusion.

Major Compulsory Revisions,

1. The total population of the research were obtained from 2 separate populations, citrate vs. no anticoagulant and citrate vs. heparin, then the patients in the citrate groups were combined. Thus, comparison between no anticoagulant vs. heparin might be inappropriate. The separate comparisons of citrate vs. no anticoagulant and citrate vs. heparin without no coagulant vs. heparin might be more appropriate.

2. In table 3, the baseline of the laboratory data, there were differences in platelet and creatinine among groups. This might affect the neutrophil function and platelet degranulation which might affect complement activation. The crossover of different methods in the same patients might be appropriate to study this topic.

3. The title is not appropriate, lower C5a level might not be caused by lower complement activation and lower MPO might not be the result of lower neutrophil degranulation (but lower endothelium excretion).

4. The higher Uf rate in citrate group might cause a lower contact time of blood and cellulose. The proper correction/presentation might be necessary.

Minor Essential Review,

1. The description in the result section should be rewritten. For an example, in result page 8 under “Elastase” topic, “The concentration at outlet increase over time”, but in the figure the concentration increase from 10 min to 60 min and then seems to be at the same level through 720 min.

2. The correlation and the sepsis mortality data should be demonstrated.

3. In the result section, the name of the group should replace the group number to make it easier to follow.

4. In figures, the symbol name should also be present in the figures.

5. Figure 1D. the gray color columns were not clearly seen.
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.