Reviewer's report

**Title:** Effect of therapeutic plasma exchange on plasma levels and total removal of adipokines and inflammatory markers

**Version:** 1  
**Date:** 17 July 2015

**Reviewer:** Milan Piya

**Reviewer's report:**

The authors Schmidt et al have conducted a study in 21 subjects undergoing TPE on two occasions around 25 hours apart as part of their clinical care, and have measured adipokines before and after both sessions of TPE. The authors note that sICAM is reduced and remains reduced between the two sessions and that sTNFR and resistin are reduced after the session of TPE but return to previous levels by the time they had their second TPE session. There is a lack of literature around the effect of TPE on circulating proteins including adipokines and inflammatory markers and this paper does shed some light on this.

There are several major comments listed below:

1. This study was conducted in a population that had an immunological condition which is likely to result in a different baseline level of the adipokine before 1st TPE. Are the authors aware of how different the levels were compared to previous reported levels in the literature for ‘healthy’ populations? Please reference on line 198 and explain what the differences are. And although not powered for this, have the authors noticed a difference in these levels based on BMI? The reported BMI of subjects was 25.1±5, which suggests that some subjects were obese and some were lean?

2. The time duration between TPE sessions was 25±5 hours. Did the authors notice a difference for the longer intervals compared to the shorter ones? The authors need to mention this as a limitation as ideally the TPE sessions should have been done with the same interval if it was a clinical trial, but as the authors mention, it was performed as part of their clinical care.

3. The sample size is small and should be mentioned in the limitations section of the paper. Also, is there enough power to detect differences between gender, given that the total sample size is already quite limited?

4. The eBiosciences FlowCytomix Human Obesity 9 plex kit was used to analyse the plasma samples. Have the authors validated these measurements compared to single plex assays, or are the authors aware of any such validations in the literature or done by the manufacturer? Often, multiplex assays will measure some of the proteins accurately and other proteins less accurately and this would influence results, especially in small sample sizes like in this study. Please reference.

5. Have the authors considered the effect of molecular weight on why some adipokine levels reduced with TPE while others did not? Please include in
discussion. Or did the authors feel it was a different factor like solubility/charge/affinity etc? And why did the authors choose to measure sTNFR instead of the more commonly measured inflammatory markers TNFalpha or IL-6?

Minor comments:
There are a large number of spelling and grammatical errors, please revise.
In line 60, the authors use the word ‘apprehended’. What does this mean here?
In line 112-114, please revise the second sentence of the statistical analysis section as it is not clear what the authors are trying to say.
Please revise conclusion as it is not clear what the key points of the study are.

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

Quality of written English: Needs some language corrections before being published

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'