Reviewer's report

Title: Renal function, uraemia and early arteriovenous fistula failure

Version: 2 Date: 22 August 2014

Reviewer: Ronak Soni

Reviewer's report:

The author has conducted an important study to assess the effect of renal function related parameters like GFR, uremia and hemodialysis on viability of AVF. The interesting part is that the result of in vivo study is supported by in vitro experiment. However, I have the following concerns:

# Major Compulsory Revisions:

1: Like the authors have mentioned, there are various risk factors known to cause early AVF failure which includes Sex, Age and Diabetes. These factors have to be controlled for before concluding that Uremia is an independent predictor of early AVF failures. I suggest that authors add a table which compares baseline characteristics of patients who had early AVF failure vs. who did not have early AVF failure. This table should show distribution these confounders between these groups including the p-value. In next step, multivariate regression analysis (logistic or proportional hazard depending upon nature of the data) also needs to be done which includes all the confounders and uremia as a predictors. In this model, if the uremia still comes out as a significant predictor of early AVF failure then only it can be considered independent predictor of early AVF failure.

2: There are no A & B parts of figure 1 in the pdf document (page 18 is blank). Please ensure completeness of the manuscript before uploading.

3: Statistical analysis section needs to be expanded. Was the distribution of continuous variables assessed (normal vs. non-normal) before deciding which test should be used? Were there missing values in the data? If yes, how were they handled?

4: Authors can also use STROBE checklist to ensure that all the relevant parts of manuscript are included and organized in appropriate manner.

# Minor essential revisions:

1: In Table 3: Units of measurements (mean +/- SD ?) should be clearly stated within the table.

2: In Figure 1 showing Kaplan-Meier curves, the p value of log-rank test should be included within the figure.

3: In general, all the tables and figures should be self sustaining. It should explain the reader what it is trying to show, without need to refer to the text.
Level of interest: An article of importance in its field

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

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

Declaration of competing interests:

I declare that I have no competing interests.