Reviewer's report

Title: Lack of association between the mutations of the gene encoding mitochondrial D310 (displacement loop) mononucleotide repeat and oxidative stress in chronic dialysis patients in Taiwan

Version: 1 Date: 19 August 2009

Reviewer number: 1

Reviewer's report:

- Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)

I think that some improvements are required in different sections of the manuscript before publishing:

Background:
- It is too shallow in their statements, some of which are not supported by citations (such as “Chronic kidney disease is characterized by a state of increased oxidative stress”).
- Last sentence comments what the authors want to do, but not explain the purpose of this study or the potential interest of their results.

Results:
- Table 1: nothing is told about normal or not distribution of parameters in Dialysis and control groups before applying statistical tests.
- Table 2: nothing is told about normal or not distribution of parameters in Dialysis and control groups before applying the statistical test. Apparently, the authors have applied a T-Student test and obtained significant differences between both groups in different parameters. Why this is not commented in the text? This point must be cleared up as well as the comment * All post hoc analysis in same group, either dialysis or control, were all not significant. Please explain exactly what do you mean.
- Figure 1: it’s confused. After observe the figure bars, I suspect that could be statistical differences if appropriate statistical tests were applied. Why do not apply a #2- test between dialysis and control groups? And between hemodialysis and peritoneal dialysis? And among C repetitions? And between C repetitions (as a whole) and T to C transition etc. I suggest that a biostatistician revises and analyses the results.

Discussion:
- It is very shallow as well.
- The mtDNA copy number in leukocytes is a figure very lower as it is compared
with other figures reported for different authors. Why this is not comment and justified?

-The higher ROS production determined a decrease of mtDNA copy number as it has been well established in different tissues. Since the authors have found an increase of this figure, they must discuss and justify by means of mitochondrial biogenesis their results.

- Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

- Table and Figure legends should include a more extensive explanation since it is not extensively commented in the text.

- Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)

- I suggest that Figure 1 was split in some other figures, as it has been previously commented.

**Level of interest:** An article of limited interest

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

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