Reviewer's report

Title: Effects of CPAP on nitrate and norepinephrine in severe and mild/moderate sleep apnea

Version: 1 Date: 30 May 2011

Reviewer: Evangelia Nena

Reviewer's report:

This is a study comparing the effect of CPAP treatment between patients with severe and mild/moderate OSA, in plasma nitrate, urinary norepinephrine, and blood pressure levels. The authors conclude that only in severe OSA patients, one-month of CPAP treatment results in an increase of nitrate and a decrease of blood pressure and urinary norepinephrine levels.

MAJOR COMPULSORY REVISIONS

1. Interestingly, no significant difference was observed between groups, regarding mean ESS score. The authors should provide the percentages of patients with excessive daytime sleepiness (ESS score>10) in both groups and the comparison between them, before and after CPAP treatment.

2. Likewise, the authors should provide the percentage of hypertensive patients in both groups, and whether this was modified after CPAP treatment.

3. The reported adherence to CPAP treatment was impressively high, especially in the mild/moderate OSA group. I would like to see a comment on that in the Discussion

4. In the Discussion, the authors should mention the proposed mechanisms regarding reduced nitrate production in OSA and its reverse after CPAP treatment in severe OSA patients

5. Table 1 needs a better format, (at least, as I have received it) in order to be easier to read and interpret the displayed results.

MINOR ESSENTIAL REVISIONS

1. In the Results, the authors duplicate in parentheses the data that are also displayed in Table 1. It would be more preferable to either display them only in Table 1 or only in the manuscript. Alternatively, they could provide the values in Table 1 and leave in the manuscript only the exact p-values between the described comparisons.

2. In the Results, the first sentence of the "AFTER CPAP" section should be transferred to the Methods section.

3. The authors should emphasize more in the Discussion (as a limitation) that the follow-up period lasted only 1 month, and probably the results would be different after a longer follow-up period.

4. A linguistic improvement is necessary for the paper to stand for publication.
For example, the phrase 'severe patients' should be replaced by 'patients with severe OSA'. Additionally, instead of 'Haentjens meta-analysis' or 'Martinez-Garcia study' it would be more preferable to say 'In the meta-analysis by Haentjens et al' or 'in the study by Martinez-Garcia et al' respectively.

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

**Declaration of competing interests:**

I declare that I have no competing interests