

# Response to “Effect of APAP and heated humidification with a heated breathing tube on adherence, quality of life, and nasopharyngeal complaints”

Georg Nilius<sup>1</sup>

Received: 18 September 2015 / Accepted: 5 October 2015 / Published online: 17 October 2015  
© Springer-Verlag Berlin Heidelberg 2015

Dear Editor,

First of all, I would like to thank you for the interest and the important remarks of Ugurlu and Esquinas to our study.

All of our enrolled patients were admitted to a sleep lab with health complaints, and also the patients with lower AHI showed sleepiness symptoms.

We enrolled the patients with an AHI of >10, taking into account the work of Massie et al. [1] who included patients with RDI of >10. That study was conducted in Auckland, New Zealand, under different climatic circumstances compared to northern Europe. Until now, the climatic conditions (temperature, humidification, air conditioning) were not considered in studies in this field. It is also remarkable that the group Massie included suffered from a high level of nasopharyngeal complaints (NPC), but in that study, the level of complaints was not unambiguously determined.

As far as we know, there are no studies existing that compare the prevalence of NPC in different climatic settings. To our experience in northern Europe, approximately half of the OSA patients are likely to suffer from NPC. Future studies should focus on the influence of different climatic conditions on NPC prevalence.

The dropout rate in both arms of our study was low, but there were some difference between the groups. We have rechecked our data, and the reasons were not associated to the heated humidification, but due to other medical problems.

Our absolute adherence difference in average using time per night in the at-risk group was 49.3 min and thus higher than that in Massie’s data (35 min). Yet Massie’s study was designed cross-over, and the difference was statistically different ( $p < 0.05$ ). Our randomized cohort study results showed despite a higher absolute difference, there was no statistically significant effect. Therefore, we agree on the remarks concerning the study design.

Yet our study followed a randomization process. The study groups were greatly matched in terms of baseline anthropometric data and questionnaires, only the baseline AHI showed a small difference, which we rated as not relevant with the given high standard deviation in mind. We do not believe that this has any effect on the results.

Every medical treatment has to consider the effect on hard data like mortality and in the case of CPAP average using time. But from the patient’s point of view, also the subjective parameters like quality of life and nasopharyngeal complaints or sleepiness during the day are very important. We found significant improvements in those items (FOSQ, ESS, NPC) due to humidification in the high-risk group. For this reason, we totally agree with the comments. In the future, these aspects need to be considered to a greater extent in the field of sleep medicine.

---

✉ Georg Nilius  
georg.nilius@helios-kliniken.de

<sup>1</sup> Helios Klinik Hagen-Ambrock, Hagen, Germany

## Reference

1. Massie CA, Hart RW, Peralez K, Richards GN (1999) Effects of humidification on nasal symptoms and compliance in sleep apnea patients using continuous positive airway pressure. *Chest* 116(2): 403–408