Reviewer's report

**Title:** Heart rate variability in non-apneic snorers and controls before and after continuous positive airway pressure

**Version:** 1  **Date:** 26 May 2005

**Reviewer:** Frederic Lofaso

**Reviewer’s report:**

This study evaluated cardiac inter-beat interval during sleep with and without CPAP in 11 non-apneic and non-hypertensive snorers and 12 control subjects. The authors observed that their results were in favour of an increase of sympathetic activity in snorers but only when snoring was eliminated by CPAP. Conversely, during the snoring period SNSA was similar as in normals. The authors suggest that a long-lasting alteration in the autonomic nervous system may exist in snoring subjects considered as normal.

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**Major Compulsory Revisions:**

1) This study showed very few information concerning the subjects characteristics, concerning the age, BMI. A table is necessary including this information as well as the blood pressure at different periods of the daytime.

The authors tell us that snorers were matched to control groups (Page 3), but how is it possible when the number of patients and the subjects are not the same ? what were they matched for? Were the ages similar between snorers and non-snorers ? This is very important, considering that autonomic nervous system adaptation depends on age (Am J Physiol, 260: H1121-H1127, 1991). Therefore, both populations should be matched according to age and sex. Is it the case ?

It is commonly admitted that sleep apnea patients (idem for snorers) who were normotensive in the daytime can be considered to have the same cardiovascular risks as hypertensive patients when they presented a higher nocturnal blood pressure than during the daytime. Therefore, if the authors want to show that a very early phenomenon may occur with snoring in a population without any arterial pressure abnormalities, they should check at first, in their normal snorers, that the dipping of the nocturnal pressure exists in a 24h ambulatory pressure. We can also regret that a head up tilt test was not performed in all subjects.

2) I completely disagree with the discussion and the conclusion of the authors. It could be considered that in fact, these results showed an adaptive physiological phenomenon in order to maintain a normal PNSA/SNSA ratio during sleep rather an alteration of the autonomic nervous system and in conclusion there is no risk for these snorers who could be considered to have normal PNSA/SNSA activity.

To my point of view, the discussion and the conclusion should be modified and rewritten according to this point of view.

3) The second comment is strengthened by the fact that the mechanism generally proposed to explain hypertension in snorers, is the occurrence of repeated abrupt increases of SNSA with transient elevations of systemic arterial blood pressure, when arousals related to abnormal respiratory efforts occurred. In other words, it is generally well accepted that snorers who risk to develop hypertension are the patients with upper airway resistance syndrome. This discussion has been completely omitted. Therefore, the study presented here is not well positioned in the literature and therefore not well discussed.
Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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

**Quality of written English:** Acceptable

**Statistical review:** No