

The unexpected sleep apnea syndrome is highly prevalent and associated with the alteration of the autonomic nervous system activity in a general 65 years old population. The PROOF study

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Aim

Up to 5% of adults in Western countries are likely to have undiagnosed obstructive sleep apnea syndrome (OSAS). OSAS had been found to be particularly highly prevalent in people older than age 65 years. The identification of OSAS as a risk factor for increased morbidity and mortality is needed in such older population since they should become candidates for treatment. The autonomic nervous system (ANS) activity, a recognized marker of cardiovascular and all cause mortality in a general population, is precociously altered in OSAS: the degree of autonomic imbalance appears correlated with sleep fragmentation, inspiratory efforts and hypoxia.

Methods

We thus evaluated in a large cohort (n=1011) of 65±0.4 years old men (40%) and women (60%) free of cardiovascular or cerebrovascular event or of diagnoses Sleep Related Breathing Disorders, the prevalence of unexpected OSAS and its relationship with ambulatory blood pressure, spontaneous cardiac baroflex sensitivity and basal cardiac autonomic activity.

Results

According to the presence of nocturnal cyclical heart rate variability quantified using validated algorithm calculating the Very Low Frequency component of the Interbeat Interval Increment (VLFi, Roche et al. PACE 2002), the probability of OSAS was retained in 40% and 14% of this population with a VLFi threshold corresponding to, respectively 10 and 30 brady/tachycardia cycles per hour of sleep.

Using logistic regression analysis, the severity of OSAS was highly correlated with spontaneous baroflex sensitivity (p<0.01), and heart rate variability parameters (parasympathetic indicators, p<0.0001). Neither BMI, nor ambulatory blood pressure were significantly associated with OSAS.

Conclusion

Thus, the presence of OSAS and the alteration of ANS appears highly in a general 65 years old population. The follow-up of this parameter to determine the clinical implications of such findings in the occurrence of cardiovascular events is now proposed.

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