

Sleep Apnea and Hypertension Are There Sex Differences? The Vitoria Sleep Cohort

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BACKGROUND: Evidence from longitudinal studies has reported contradictory results regarding the association between OSA and hypertension. In a previous analysis of the Vitoria Sleep Cohort, the relationship between OSA and the risk of developing hypertension was evaluated and no independent association after adjustment for confounding factors was found. In the present study, a post hoc analysis to assess the association between OSA and incident stage 2 hypertension (systolic BP \geq 160 mm Hg and/or diastolic BP \geq 100 mm Hg) was made on the basis of sex differences.

METHODS: A prospective study was performed over 7.5 ± 0.8 years on a middle-aged general population, which included 1,155 normotensive subjects (43.7% men) who completed the follow-up. BP measurements (at baseline and follow-up) and polygraphy at baseline were performed. Logistic regression models were used to determine the association between the respiratory disturbance index (RDI) and stage 2 hypertension and a recursive partitioning method was used to determine the variables related to the incidence of stage 2 hypertension. The RDI was divided into subgroups (0-2.9, 3-6.9, 7-13.9, and \geq 14), using the first subgroup as reference.

RESULTS: For men, an RDI \geq 14 was associated with a significantly increased OR for stage 2 hypertension (OR, 2.54 [95% CI, 1.09-5.95], $P = .032$). This association was not statistically significant among women ($P = .371$).

CONCLUSIONS: The results suggest an association between moderate and severe OSA, and the incidence of more severe forms of hypertension occurring in men but not in women. However, because this is a community-based study, the women's population characteristics may differ from women usually seen in sleep-disorders clinics.