Sleepiness and nocturnal hypoxemia in Peruvian men with obstructive sleep apnea

Abstract

Purpose

To evaluate the intensity of nocturnal hypoxemia associated with sleepiness in Peruvian men with a diagnosis of obstructive sleep apnea (OSA).

Methods

We carried out a secondary data analysis based on a study which includes patients with OSA who were seen in a private hospital in Lima, Peru from 2006 to 2012. We included male adults who had polysomnographic recordings and who answered the Epworth sleepiness scale (ESE). The intensity of nocturnal hypoxemia (oxygen saturation $\leq 90\%$) was classified in four new categories: 0, $<1$, 1 to 10 and $>10\%$ total sleep time with nocturnal hypoxemia (NH). When the ESE score was higher than 10, we used the definitions presence or absence of sleepiness. We used Poisson regression models with robust variance to estimate crude and adjusted prevalence ratios (PR) for association between sleepiness and NH.

Results

518 male patients with OSA were evaluated. Four hundred and fifty-two (87\%) patients had NH and 262 (51\%) had sleepiness. Of the 142 (27.4\%) patients who had $>10\%$ total sleep time with NH, 98 (69.0\%) showed sleepiness and had a greater probability of sleepiness prevalence, with a crude PR of 1.82 (95\% CI 1.31–2.53). This association persisted in the multivariate models.

Conclusions

We found an association between NH and sleepiness. Only patients with the major intensity of NH (over 10\% of the total sleep time) had a greater probability of sleepiness. This suggests that sleepiness probably occurs after a chronic process and after overwhelming compensatory mechanisms.

Keywords