

Sleep-related breathing disorders, loud snoring and excessive daytime sleepiness in obese subjects.

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OBJECTIVE: To investigate the prevalence of sleep breathing disorders, loud snoring and excessive daytime sleepiness in a group of obese subjects, and to identify the predictors of obstructive sleep apnea (OSA) severity in these patients. **SUBJECTS:** A total of 161 consecutive obese patients (body mass index (BMI) ≥ 30.0 kg/m²), ranging between 30.0 and 67.3, represented by 57 men and 104 women, aged 16-75 y. Forty (15 men and 25 women) age-matched (20-70 y) nonobese (BMI < 27 kg/m²) volunteers were also recruited for the study. **MEASUREMENTS:** Respiratory function parameters, nocturnal sleep quality (evaluated by a specific questionnaire), nocturnal hypoventilation and OSA (evaluated by night polysomnography) were examined in all subjects. Anthropometric parameters (neck circumference, waist circumference, waist-to-hip ratio) were also investigated. **RESULTS:** Eighty-three obese patients (51.5% of the obese group) had a respiratory disturbance index (RDI) ≥ 10 , corresponding to a moderate or severe sleep apnea. In particular, 24.8% (40/161), ie a quarter of all obese patients, were affected by severe OSA and this alteration was present in 42.1% of obese men (24/57) and in 15.4% (16/104) of obese women. When a stepwise multiple regression analysis was performed, neck circumference in men and BMI in women were shown to be the strongest predictors of sleep apnea. Twenty-nine percent of all obese subjects (40.3% of men and 23.1% of women) showed nocturnal hypoventilation; however, it was present as a unique breathing alteration in only 5% of the obese population. The percentage of patients having excessive daytime sleepiness was significantly higher than in nonobese subjects, even when only nonapneic obese patients were considered ($P < 0.001$). **CONCLUSION:** This study shows that OSA is present in more than 50% of a population of obese patients with a mean BMI higher than 40.0, this percentage being much higher than that commonly reported in previous studies, particularly in women. Neck circumference in men and BMI in women seem to be the strongest predictors of the severity of OSA in obese patients. Nocturnal hypoventilation seems to be present in more than 29% of a severe obese population. Moreover, this study indicates that morbid obesity can be associated with excessive daytime sleepiness even in the absence of sleep apnea.

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