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Cephalometric characteristics of nonobese patients with severe OSA

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ABSTRACT

The purpose of this study was to determine the facial characteristics of nonobese patients with obstructive sleep apnea (OSA). Observational data on a cohort of patients was analyzed retrospectively. The subjects were classified into four groups: nonobese mild, obese mild, nonobese severe, and obese severe. The nonobese mild group included patients with a body mass index (BMI = kilogram / meter^2) <25 and an apnea-hypopnea index (AHI) >5 and <15; the obese mild patients had a BMI >35 and an AHI >5 and <15; the nonobese severe patients had a BMI <25 and an AHI >40; the obese severe group had a BMI >35 and AHI >40. Thirty-three male patients referred for overnight polysomnography and lateral cephalometry who met the selection criteria were included. Between-group differences were examined pairwise by analysis of variance (ANOVA) with Bonferroni correction. Only two variables—lower facial height and overbite—were significantly different at $p<0.05$ between the nonobese severe group and the obese mild group. A discriminant analysis on the cephalometric measurements revealed that patients in the nonobese severe group could be distinguished from patients in other groups by their facial characteristics. OSA patients do not have a homogenous bony structure of the face. In particular, OSA severity in nonobese severe patients may be associated with a vertical skeletal disharmony.

KEY WORDS: Cephalometry, Lower facial height, OSA, Overbite, Upper airway.

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