

The role of malocclusion in non-obese patients with obstructive sleep apnea syndrome.

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Abstract

OBJECTIVE:

The maxillofacial characteristics of patients with obstructive sleep apnea syndrome (OSAS) have previously been analyzed using standard cephalometric analysis. Malocclusion influences the occurrence of sleep apnea, but the pathology of malocclusion in OSAS has not yet been fully investigated. Therefore, we investigated malocclusion in patients with OSAS using cephalometric and dental analysis.

METHODS:

Cephalometric and dental analyses were performed to evaluate malocclusion in 97 male patients with OSAS (49.7±11.7 years). The number of apnea and hypopnea episodes per hour (apnea-hypopnea index: AHI) was determined by standard polysomnography.

RESULTS:

The overall prevalence of severe overjet (the horizontal distance between the upper and lower incisors of ≥ 6 mm) was 43.3%. AHI was significantly correlated with body mass index (BMI) in obese OSAS patients ($r=0.385$, $p=0.010$), whereas it was significantly correlated with overjet in non-obese OSAS patients ($BMI < 25$ kg/m²) ($r=0.313$, $p=0.022$). Multiple regression analysis revealed that BMI was the significant factor contributing to increased AHI in all patients, and overjet was in non-obese OSAS patients. There were no significant differences between non-obese and obese OSAS patients in the angle of protrusion of the superior alveolar base (SNA) or in the angle of protrusion between the superior and inferior alveolar bases (ANB). The angle of protrusion of the inferior alveolar base (SNB) was significantly smaller in non-obese than in obese OSAS patients.

CONCLUSION:

We have shown that overjet was associated with the severity of OSAS in non-obese patients. Our findings suggest that malocclusion may play an important role in the development of sleep apnea/hypopnea.

MeSH terms: Adult, Cohort Studies, Humans, Male, Malocclusion, Angle Class II/complications*, Middle Aged, Polysomnography, Sleep Apnea, Obstructive/etiology*
LinkOut - more resources

Full Text Sources

J-STAGE, Japan Science and Technology Information Aggregator, Electronic
<http://joi.jlc.jst.go.jp/JST.JSTAGE/internalmedicine/47.0717?from=PubMed>

Medical
Sleep Apnea - Genetic Alliance