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ORIGINAL ARTICLE

Impact of upper airway abnormalities on the success and adherence to mandibular advancement device treatment in patients with Obstructive Sleep Apnea Syndrome☆,☆☆

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KEYWORDS
Obstructive sleep apnea;
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Nose

Abstract
Introduction: The mandibular advancement device (MAD) is a option to treat patients with Obstructive Sleep Apnea Syndrome (OSAS).
Objective: To assess the influence of upper airway abnormalities on the success of and adherence to MAD in patients with OSAS.
Methods: Prospective study with 30 patients with mild to moderate OSAS and indications for MAD. The protocol included questionnaires addressing sleep and nasal complaints, polysomnography, and upper airway assessment. The analyzed parameters of patients who showed therapeutic success and failure and those who exhibited good and poor treatment adherence were compared.
Results: 28 patients completed the protocol; 64.3% responded successfully to treatment with MAD, and 60.7% exhibited good adherence to treatment. Factors associated with greater success rates were younger age ($p = 0.02$), smaller cervical circumference ($p = 0.05$), and lower AHI at baseline ($p = 0.05$). There was a predominance of patients without nasal abnormalities among patients treated successfully compared to those with treatment failure ($p = 0.04$), which was

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not observed in relation to adherence. Neither pharyngeal nor facial skeletal abnormalities were significantly associated with either therapeutic success or adherence.
Conclusion: MAD treatment success was significantly lower among patients with nasal abnormalities; however, treatment adherence was not influenced by the presence of upper airway or facial skeletal abnormalities.

PALAVRAS-CHAVE
Apneia do sono tipo obstrutiva;
Aparelhos ortodônticos removíveis;
Exame físico;
Nariz

O impacto das alterações da via aérea superior na adesão e sucesso do tratamento com aparelho intraoral na Síndrome da Apneia Obstrutiva do Sono

Resumo
Introdução: O Aparelho Intraoral (AIO) é uma opção para tratamento da Síndrome da Apneia Obstrutiva do Sono (SAOS).
Objetivos: Avaliar a influência das alterações da VAS e esqueléticas faciais através de uma avaliação clinica sistematizada no sucesso e adesão ao (AIO) em pacientes com (SAOS).
Método: Estudo prospectivo em que foram avaliados 30 pacientes com SAOS leve a moderada e indicação de AIO. Protocolo incluiu questionários de sono e queixas nasais; polissonografia e avaliação da VAS por rinoscopia anterior e oroscopia. Os parâmetros analisados foram comparados entre pacientes com sucesso e insucesso, e com boa e má adesão à terapia.
Resultados: Completaram o protocolo 28 pacientes. O sucesso ao tratamento foi de 64,3% e a adesão 60,7%. Os fatores associados ao sucesso foram menor idade, menor circunferência cervical e menor IAH basal. Quanto à presença de alterações nasais, houve predomínio de pacientes sem alteração nasal entre os pacientes com sucesso comparados àqueles com insucesso ($p = 0,04$); o que não foi observado em relação à adesão. Quanto às alterações faríngeas e alterações esqueléticas faciais, não houve significância.
Conclusão: O sucesso do tratamento com AIO foi significativamente menor nos pacientes com alterações nasais, porém a adesão não foi influenciada pela presença de alterações de VAS ou esqueléticas faciais.

Introduction

The treatment of choice for Obstructive Sleep Apnea Syndrome (OSAS) is the use of continuous positive airway pressure (CPAP), especially in severe cases.[1] In mild to moderate and primary snoring cases, other treatments can be used, such as the mandibular advancement device (MAD).[1,2]

It is estimated that nasal obstruction is present in approximately 64% of patients with OSAS and most of these patients have associated anatomical alterations, such as deviated septum and inferior turbinate hypertrophy.[3] Although there have been studies demonstrating the presence or absence of an association between nasal alterations and their treatment with CPAP adherence,[3–5] no studies have demonstrated whether the nasal and upper airway (UA) alterations might or might not interfere with successful treatment by or adherence to MAD.

Zeng et al. obtained data suggesting that increased nasal resistance can negatively influence MAD treatment outcomes; it represents, to date, the only study in literature that performed nasal assessment through rhinomanometry in patients with MAD.[6]

The scarcity of studies that have assessed the presence of UA and facial skeleton alterations using otorhinolaryngological physical examination in patients with OSAS referred for treatment with MAD, and have also evaluated the association of these alterations with treatment success and adherence, were the reasons that prompted this research. Thus, this study aimed to evaluate the influence of UA and facial skeletal alterations through a systematic and standardized clinical assessment of the success and adherence to treatment of OSAS with MAD.

Methods

Sample

A total of 30 adult patients from the outpatient clinic specialized in treating sleep-related disorders during 2006 and 2007, who had polysomnography-confirmed mild to moderate OSAS according to the diagnostic criteria of the International Classification of Sleep Disorders, 2005,[7] with indication for MAD were included in this study. The protocol