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IP Indian Journal of Orthodontics and Dentofacial Research

Journal homepage: <https://www.ijodr.com/>

Editorial

Orthodontics & obstructive sleep apnea

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ARTICLE INFO

Article history:

Received 09-11-2022

Accepted 28-11-2022

Available online 29-12-2022

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Obstructive Sleep Apnea (OSA) is a condition that results due to partial or complete obstruction of the airway when the patient assumes a supine position and goes to sleep. OSA is characterized by episodes of apnea-hypopnea during sleep associated with various signs and symptoms, the most important being loud audible snoring and excessive daytime sleepiness. An increase in neck circumference and obesity among patients has been related to OSA and an imbalance of the upper airway anatomy is noticed in these patients. There can be several short-term and long-term adverse effects of OSA affecting the quality of life of an individual.^{1,2} Craniomaxillofacial abnormality is a well-recognized risk factor for patients with OSA, if untreated they are at risk of association with cardiovascular disorders and high blood pressure.^{3,4} Overnight Polysomnography (PSG) is the gold standard for diagnosis of OSA, however, the assessment of craniofacial risk factors includes upper airway assessment using lateral cephalogram, Acoustic Pharyngometry (AP), and Cone beam computed tomography (CBCT).⁵

Assessment of the upper airway in individuals with OSA is essential, as they have reportedly smaller upper airways than individuals without OSA.⁶ Furthermore, evaluation of the upper airway is essential due to the reported increase in the frequency of airway collapse in individuals with narrower and longer airways.⁷

The treatment of OSA involves conservative management, nonsurgical and surgical management. The nonsurgical management of OSA involves the usage of continuous positive airway pressure (CPAP) and oral appliances. In the last few years, mandibular advancement devices (MAD) have been extensively used in the treatment of mild to moderate OSA. MADs move the mandible forward to improve airway patency. The theory and concept of moving and placing the tongue as well as jaw forward to correct a compromised airway have been effectively used for many decades previously in the field of anaesthesiology and now orthodontics is routinely using it in the treatment of mild to moderate cases of OSA, in the form of oral appliance therapy (OAT).⁸ The Wisconsin cohort study, analyzing the life expectancy of 1552 subjects, found that subjects with severe OSA were 35% less likely to be alive 18 years later, compared to those with normal AHI values.⁹ To conclude, OSA, in most cases, is a chronic condition. The most effective treatment plans are comprehensive and multidisciplinary because OSA is a complex multifactorial condition.

Conflict of Interest

None.


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Cite this article: Kamboj A. Orthodontics & obstructive sleep apnea. *IP Indian J Orthod Dentofacial Res* 2022;8(4):218-219.