

Integration of SOT cranial therapy with an occlusal splint for the treatment of obstructive sleep apnea: A case report.

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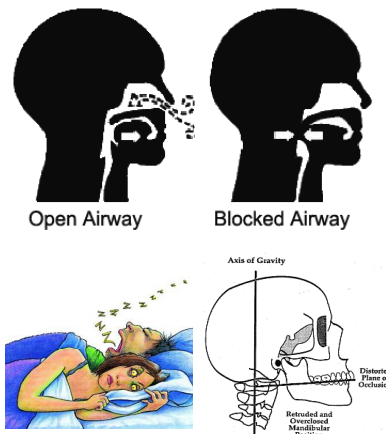
Purpose and Background

Obstructive sleep apnea (OSA) relates to an obstruction to the continuum of airway expressed as sleep-disordered breathing associated with multiple co-morbidities and societal implications^{1,2}.

With untreated sleep apnea patient the risk of automobile accidents are approximately 8-times more likely than that of a normal sleeper and in the work arena likewise productivity and safety suffer¹.

Common treatments for OSA usually start with a continuous positive airway pressure (CPAP) machine and can progress to surgery to facilitate airway expansion and/or increase function. Surgery is costly and invasive and patient compliance with CPAP machines is estimated at only 40%².

A 56-year-old female patient presented for chiropractic and dental care with persistent symptoms of sleep apnea, excessive daytime sleepiness, short-term memory loss, foggy-headedness, temporomandibular joint (TMJ) pain, chronic myofascial neck and shoulder pain, fatigue, and vertigo.



Results

Following the 6-office visits the patient reported significant reduction of all symptoms. Follow-up polysomnogram was performed one-month following prior study and with the dental appliance in her mouth. RDI and AHI were both reduced to 2.9 and lowest SaO₂ was 92% during sleep. The patient had significantly reduced TMJ pain and the chronic myofascial neck and shoulder pain had gradually resolved over the 3-4 weeks of care. Due to her increased ability to sleep and increased oxygenation, she had less daytime fatigue and greater function.

Discussion

The combination of SOT cranial therapy with a flat plane mandibular occlusal splint appeared to help resolve this patient's apnea and accompanied symptoms. This intervention was minimally invasive, less costly than a CPAP, and only required a 3-4 week treatment program. Splint type therapy has been found to be helpful for OSA patients and one prospective randomized study found "that a dental appliance could be an alternative treatment for some patients with severe OSA⁵."

Ascending and descending kinematic postural influences have been found between posture and occlusion, condylar position, and airway space -- suggesting that the treatment of TMJ disorders and sleep apnea may be an opportunity for dental and chiropractic collaboration⁶⁻⁸. Clinically, chiropractors and dentists are realizing a relationship between posture and the OSA, supporting the need for interdisciplinary efforts⁸.

Methods

Cranial-dental exam revealed a dental class II, narrow arches and premature anterior contacts with evidence of clenching and bruxism. The sleep study revealed a Respiratory Disturbance Index (RDI) of 17.1 and Apnea Hypopnea Index (AHI) of 16.3, with the lowest oxyhemoglobin saturation (SaO₂) of 89% during sleep. Six-treatments over a 3-4 week period of time consisted of sacro-occipital technique (SOT) care³, cranial-dental treatments incorporating SOT intra-oral cranial adjustments⁴, and sphenomaxillary cranial care. Dental care was provided in conjunction utilizing occlusal balancing by a mandibular flat plane dental splint.

Conclusion

The persistent nature of the patient's apnea, the pre and post-sleep study objective findings, and the patient's significant reduction in pain and improved function are compelling features of this case. Greater study is needed to identify the subset of apnea patients that could benefit from this approach.

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