Journal of Sleep Disorders & Therapy
ISSN: 2167-0277

Nigam, J Sleep Disord Ther 2015, 4:6
DOI: 10.4172/2167-0277.1000e132

Editorial Open Access

"Unmasking" Oral Pressure Therapy for Treatment of Obstructive Sleep Apnea

Gaurav Nigam*

Department of Sleep Medicine, Clay County Hospital, 911 Stacy Burk Drive, Flora, IL 62839, USA

***Corresponding author:** Gaurav Nigam, Department of Sleep Medicine, Clay County Hospital, 911 Stacy Burk Drive, Flora, IL 62839, USA, Tel: 6186622131; E-mail: dr.nigam@claycountyhospital.org

Received date: Oct 26, 2015, **Accepted date:** Oct 27, 2015, **Published date:** Oct 31, 2015

Editorial

Oral pressure therapy (OPT) has emerged as a novel option for treatment of obstructive sleep apnea (OSA) in the past few years. Currently, no recommendation ("standard", "guideline" or "option") exists in the American Academy of Sleep Medicine (AASM) practice parameters to highlight its role in the treatment of OSA. A recent systematic review has attempted to amalgamate the existing data on its efficacy and possible mechanism of action. This review demonstrated that the successful treatment of OSA (as defined by at least 50 % reduction from the baseline apnea-hypopnea index [AHI] along with the post-treatment residual AHI being less than or equal to 10 events per hour) can be attained in 25-37% of patients using OPT, regardless of the baseline severity of the disease [1]. These findings come with the disclosure that the research investigations on successful use of OPT were funded by industries with vested interests and were conducted by a limited number of experts in the field in a select few sleep-disorders centers.

So what factors determine the chances of successful treatment with OPT? As observed with hypoglossal nerve stimulation therapy (conducted on OSA patients during drug induced sleep endoscopy), in OPT the location and pattern of upper airway collapse could be pivotal in determining the treatment success rates [2]. The effectiveness of OPT is the outcome of two concurrent but counteracting mechanisms of action in terms of maintaining patency of upper airways, when the negative pressure is applied. OPT when applied with vacuum mitigates retro-palatal collapse but tends to exacerbate retro-glossal collapse [3]. More than two-thirds of patients with OSA demonstrate a multilevel collapse; coincidentally the most common anatomic combination involves the retro-palatal and retro-glossal regions [4]. Therefore, the propensity for collapse at one anatomic location versus the other could influence the rates of successful treatment with OPT.

The appeal of OPT lies in its ability to eradicate the need for a face/nasal mask and positive pressure, both of which inevitably pose a unique set of problems for continuous positive airway pressure (CPAP) device users. The CPAP interface could lead to claustrophobia, skin abrasion, dermatitis and conjunctivitis while the positive pressure blowing through the airways could lead to pressure intolerance, mouth leaks, mask leaks and aerophagia [5]. OPT could be perceived as a promising alternative for patients facing above problems, in carefully selected patients. However, precise selection of patients who would respond optimally to OPT is a clinical challenge. Ideally, delineation of treatment responders from non-responders would require use of drug induced sleep endoscopy or MRI evaluation of upper airways under sedation. These procedures are expensive, labor intensive, time consuming and may be declined by patients based on inconvenience. Also, patients with predominantly retro-glossal collapse could clinically worsen with use of OPT. A perceived worsening of symptoms in such patients, could in the future, compromise the credibility and acceptance towards another treatment modality such as positive airway pressure therapy.

Many questions remain unanswered with regards to use of OPT. Are there specific anthropometric and polysomnographic characteristics that could predict treatment success rates with use of OPT? What is the long-term success rate in treatment responders? How often are side effects such as dry mouth, dental caries, tongue discomfort, encountered with use of these devices? Can use of OPT lead to treatment emergent central apneas? Monitoring of residual AHI is yet another issue. Current devices can only provide data on duration of use but cannot delineate the residual AHI while the device is being used. Extensive research investigations on OPT will be needed in the future to "unmask" answers to these questions.

Conflict of Interest

I certify that there is no actual or potential conflict of interest in relation to this article.

References

1. Nigam G, Pathak C, Riaz M (2015) Effectiveness of oral pressure therapy in obstructive sleep apnea: a systematic analysis. See comment in PubMed Commons below Sleep Breath .
2. Vanderveken OM, Maurer JT, Hohenhorst W, Hamans E, Lin HS, et al. (2013) Evaluation of drug-induced sleep endoscopy as a patient selection tool for implanted upper airway stimulation for obstructive sleep apnea. See comment in PubMed Commons below J Clin Sleep Med 9: 433-438.
3. Schwab RJ, Kim C, Siegel L, Keenan BT, Black J3, et al. (2014) Examining the mechanism of action of a new device using oral pressure therapy for the treatment of obstructive sleep apnea. See comment in PubMed Commons below Sleep 37: 1237-1247.
4. Vroegop AV, Vanderveken OM, Boudewyns AN, Scholman J, Saldien V, et al. (2014) Drug-induced sleep endoscopy in sleep-disordered breathing: report on 1,249 cases. See comment in PubMed Commons below Laryngoscope 124: 797-802.
5. Gay P, Weaver T, Loube D, Iber C; Positive Airway Pressure Task Force; Standards of Practice Committee; American Academy of Sleep Medicine (2006) Evaluation of positive airway pressure treatment for sleep related breathing disorders in adults. See comment in PubMed Commons below Sleep 29: 381-401.