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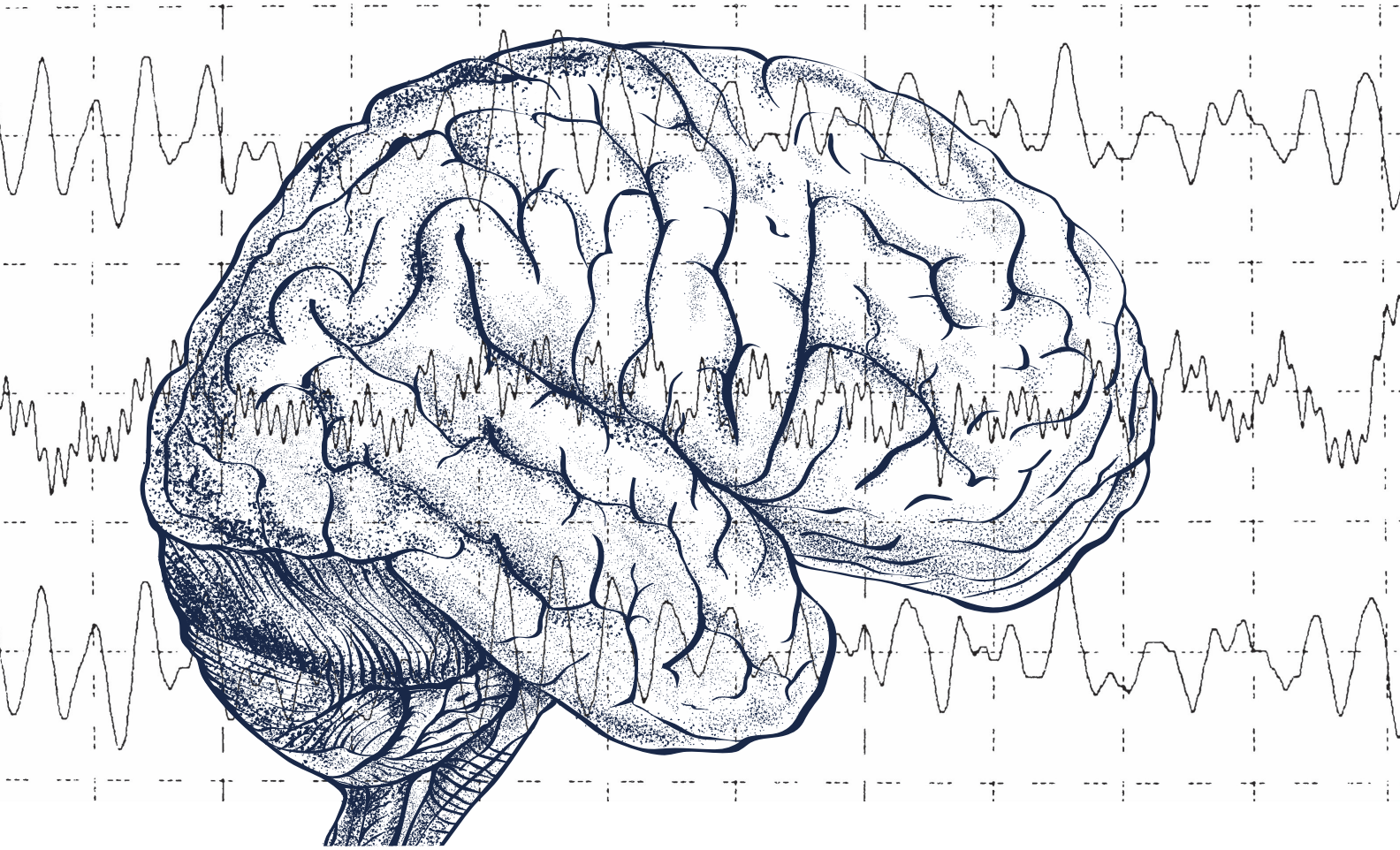

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modality that triggered oxygen delivery via the cylinder was the nasal mask with oxygen port closest to the mask, only in the setting of low CPAP pressure (4-6cwp) and only with intentional supranormal tidal volumes (&gt1L).Only hyperpnea or tachypnea was sufficient to trigger oxygen cylinder to deliver oxygen and despite triggering it, there was no measurable change in SpO2 in the subject.
Conclusion: Typical breaths with physiologic tidal volumes are inadequate to trigger oxygen delivery from the pulsed oxygen system while wearing PAP, regardless of modality and at various pressures.This is concerning for patients who require supplemental oxygen and rely on pulsed oxygen systems while traveling.
Support (If Any):

0545

THE USE OF ORAL APPLIANCES IN OBSTRUCTIVE SLEEP APNEA: A RETROSPECTIVE COHORT STUDY SPANNING 14 YEARS OF PRIVATE PRACTICE EXPERIENCE

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Introduction: Introduction: AASM has stated oral appliances are indicated for use in patients with mild to moderate sleep apnea who prefer them to CPAP , who do not respond to, are not appropriate candidates for, or who fail treatment attempts with CPAP. Only six studies with more than 100 participants support this conclusion. These studies have assessed the effectiveness of mandibular advancement devices in specific groups (military populations, academic institutions or a hospital). No large study conducted in a fee for service private practice where the majority of patients receive MAD for OSA has been published. The purpose of this study is to report outcomes of a board certified dental sleep practitioner managing mild, moderate, and severe OSA using customized titratable MADs. It is hypothesized that patients will demonstrate a significant reduction in apnea-hypopnea index scores after adjusting their customized titratable MADs.
Methods: Methods: This is a 14-year retrospective study design with pre- and post-treatment sleep studies. Treatment success was based on AHI < 10. This study was performed by a single private practitioner.
Results: Results: Of 2419 patient records analyzed, 544 (22%) had pre- and post-treatment sleep studies (89% polysomnograms). Of 510 patients with complete data, 459 (90%) had decrease in AHI score below 10. Treatment was performed by a single private practitioner. Only 51 (10%) of these patients had a final AHI greater than 10 and were considered treatment failures. Among the patients who lacked post treatment somnograms, and therefore adding their number to the patients with complete sleep study data, the total treatment failures were 117/576 or 20%. Of the treatment successes, OSA was categorized by AHI at baseline as mild in 170 (34%), moderate in 181 (36%), and severe in 138 (28%).
Conclusion: Conclusions: In patients with evaluable data, there was an 80% success rate for treatment of OSA using a custom-fabricated adjustable MAD including substantial numbers of patients with moderate and severe disease.
Support (If Any): NA

0546

A NOVEL EPAP DEVICE FOR THE TREATMENT OF MILD-TO-MODERATE OBSTRUCTIVE SLEEP APNEA

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Introduction: PAP therapy has long been first-line treatment for obstructive sleep apnea (OSA). However, long-term compliance continues to range from 30 to 70%, diminishing response to therapy. Options for OSA treatment include oral appliances, surgery and nasal expiratory positive airway pressure (EPAP). The aim of this study was to evaluate the efficacy and safety of the Bongo Rx, a novel nasal EPAP device for treatment of mild-to-moderate OSA.
Methods: This was a prospective, non-randomized, open label study. Subjects had a diagnosis of mild-to-moderate OSA (AHI ≥5 and ≤30) determined by a diagnostic PSG within 12 months of screening. Subjects were currently using CPAP successfully or were non-compliant with their prescribed therapy. Full face mask users, mouth breathers and subjects with nasal congestion were excluded. Qualifiers were fitted with the device consisting of a conjoined set of soft nasal EPAP valves inserted in the nares. Subjects were evaluated with PSG while wearing the device, wore the device at home for two weeks and returned for a follow-up PSG.
Results: Ten subjects completed the two-week trial. Two additional subjects qualified but subsequently withdrew, for an initial acceptance rate of 83%. The baseline diagnostic PSG apnea-hypopnea index (AHI) was compared to the AHI after two weeks of home use. Three subjects had unusable data at the two-week PSG, so their initial treatment PSG was used for analysis. Results show the mean baseline AHI (15.7 ± 6.4) was reduced to a mean AHI (7.1 ± 4.2) at the treatment PSG with the EPAP device (p=0.0093), a reduction of 45%. There were two mild adverse events possibly related to the device and no serious adverse events during the study.
Conclusion: The results show that this EPAP device has considerable promise for the treatment of mild-to-moderate OSA. The device was efficacious, safe and well-tolerated although the small N limits generalizability to larger populations. Additional study is needed to evaluate longer term patient acceptance and satisfaction. This EPAP device presents a potential viable alternative to PAP therapy for mild-to-moderate OSA.
Support (If Any): AirAvant Medical

0547

EFFECT OF VARYING DIET INTENSITIES ON WEIGHT LOSS INTERVENTION FOR OBSTRUCTIVE SLEEP APNEA

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Introduction: One of the greatest risk factors for OSA is excess body weight. Both the prevalence and severity of OSA rise in parallel with body mass index. Weight loss has been advocated as a primary treatment option but few randomized clinic trials have been conducted.
Methods: Randomized controlled trial of 40 participants using 3:3:2 allocation to low calorie diet (LCD), very low calorie diet (VLCD) and usual care (UC). LCD 12001500 kcal per day, VLCD 500-800 kcal per day and UC was simply told of risk associated with obesity and OSA then encouraged to lose weight. Weekly group sessions and group based conference calls. Physical activity gradually progressed to 300 minutes per week. Vitals, food diaries, accelerometer, questionnaires, blood testing and home sleep test performed at baseline, 3 and 9 months.
Results: Average weight loss was 4.9 lbs in UC, 21.1 lbs in the LCD and 38.6 lbs in the VLCD groups. Baseline AHI was 19, 31.9 and 27.2 in the UC, LCD and VLCD groups respectively. Three month AHI was 15.7, 17 and 6.3 in the UC, LCD and VLCD groups respectively. The change in AHI was not significant compared to