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CHANGES IN MARKERS OF VENTRICULAR REPOLARIZATION AND POSITIVE AIRWAY PRESSURE THERAPY: A PILOT STUDY

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Introduction: Positive airway pressure (PAP) therapy is the mainstay treatment for obstructive sleep apnea (OSA). Continuous PAP (CPAP) therapy has been shown to decrease QTc length in electrocardiograms in patients with OSA in small studies. The impact of higher pressures of CPAP and Bilevel PAP (BPAP) on ventricular repolarization—QTc length and QT variability in OSA is unknown. The goal of this pilot study is to explore this relationship.

Methods: 10 consecutive patients who underwent polysomnography during which they had a diagnostic, CPAP titration, and BPAP titration portion were included for analysis. Bazett's heart rate correction was used to calculate QTc. QT variability was measured as short-term interval QT variability (STVQT) and normalized QT interval variance (QTVN). All variables were analyzed for the entire duration of the diagnostic period, on the highest CPAP pressure and highest BPAP pressure delivered.

Results: The patients were 49 ± 15 years of age and 60% women. Median CPAP pressure was 14.5 cm H₂O (mean 13.5 ± 5 cm H₂O). For BPAP, the median inspiratory PAP was 21.5 cm H₂O (mean 20.5 ± 5 cm H₂O) and EPAP median was 16 cm H₂O (mean 15.9 ± 4 cm H₂O). Mean QTc for the diagnostic portion, highest CPAP pressure and highest BPAP pressure were 430 ± 17 ms, 445 ± 15 ms and 441 ± 21 ms, respectively (p=0.141). Mean QTVN for the diagnostic portion, highest CPAP pressure and highest BPAP pressure settings were 0.0011 ± 0.0008 dimensionless units (du), 0.0012 ± 0.0008 du and 0.002 ± 0.0012 du, respectively (p=0.127). STVQT for the diagnostic portion, highest CPAP pressure and highest BPAP pressure settings were 6.62 ± 4.13 ms, 9.12 ± 4.7271 ms and 12.62 ± 4.99 ms, respectively (P=0.041). Post-hoc pairwise comparisons between BPAP and diagnostic portions of the study were significant for STVQT (P=0.034).

Conclusion: Short-term QT variability, STVQT, was significantly increased on BPAP when compared to the diagnostic portion of the study.

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COMPLIANCE WITH FOLLOW-UP POLYSOMNOGRAM IN PATIENTS PRESCRIBED ORAL APPLIANCE THERAPY FOR TREATMENT OF OBSTRUCTIVE SLEEP APNEA.

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Introduction: Literature supports Oral Appliance Therapy (OAT) for mild-to-moderate obstructive sleep apnea (OSA) with evidence showing clinical benefits. The long-term ease of follow makes these devices attractive options for many though requires upfront provider and patient coordination. After

prescription of OAT, a dental professional qualified in fabrication must evaluate the patient, the device must be fabricated and a follow-up polysomnogram (PSG) with the device in place should be obtained to determine treatment efficacy. If this guideline is followed in clinical practice is unknown with limited research. Our study evaluates the frequency of follow-up PSG in patients referred for OAT for treatment of OSA in a combined sleep and dental clinic.

Methods: A retrospective chart review was performed to determine if OSA patients who elected to pursue OAT subsequently underwent a follow up PSG after obtaining their device. Patients who did not have their diagnostic study at our institution were excluded. Patients prescribed OAT for primary snoring were also excluded.

Results: We identified 104 patients who were referred for OAT for treatment of OSA; 90 (86.5%) of which followed up with the dental clinic, 84 (80.8%) of which obtained devices, and 14 (13.5%) of which completed a PSG after obtaining their device. Additional review of the original 104 patients demonstrated: 88 (84.6%) were male, mean BMI was 27.6, mean AHI 15.1/hr, and mean age 38.9 years. Review of the 14 patients who obtained follow up PSGs with OAT showed: all were male, mean BMI 27.0, mean AHI 13.8/hr and mean age 38.6 years. Total sleep time (TST) in patients who had a follow up PSG with OAT (mean = 344.2 min) was significantly less than on their diagnostic PSG (mean = 367.2 min, p= 0.043).

Conclusion: Although the AASM CPG for treatment of OSA with OAT recommends follow-up sleep testing to confirm efficacy, the follow-up PSG rate of 13.5% in a single-center closed system indicates poor patient adherence. Increased communication between the dental providers and sleep clinic is encouraged for proper follow up. Further research will need to be done to elucidate the individual and systemic barriers to appropriate follow-up.

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COUPLES-BASED TREATMENT FOR OBSTRUCTIVE SLEEP APNEA: PERSPECTIVES FROM PATIENTS WITH MILD COGNITIVE IMPAIRMENT AND THEIR PARTNERS

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Introduction: Patients with Mild Cognitive Impairment (MCI) have an increased risk of Obstructive Sleep Apnea (OSA) which may have implications for their cognitive function. Sleeping is often a shared behavior among couples, and for couples with MCI, partners often assume the role of caregiver. The goal of this study is to examine the role of bedpartners in adherence to treatment for OSA and to determine the feasibility for couples-based adherence interventions in individuals with MCI and their partners.

Methods: This study is ongoing and will include semi-structured interviews with 10 couples. Interviews will be conducted remotely over Zoom, then transcribed and coded using Dedoose software to identify common themes among transcripts. Interviews discussed the impact of OSA and MCI on the couple with regard to CPAP treatment, interdependence of sleep, and feasibility of a couples-based CPAP intervention.

Results: Currently, three out of 10 couples have been interviewed. The participants included three men and three women (mean age= 74 years). Themes from the interviews