include significant involvement of partners in the treatment of OSA (e.g., reminders and ordering supplies). Couples felt that this program would have been helpful when they were beginning CPAP treatment. They provided suggestions for the format of a couples-based treatment in MCI including shorter sessions with more pictures and simplified content so that it could be better understood by the patient and partner.

Conclusion: Data from these interviews demonstrate the critical role of the partner in adherence to CPAP treatment among patients with MCI. While interviews are currently ongoing, both patients and partners view couples-based sleep apnea treatment as feasible and adaptations will be made for this population. Couples-based treatments may be a promising intervention for increasing CPAP adherence in OSA patients with MCI, and further slowing cognitive decline.

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0785

CARDIOVASCULAR OUTCOMES FOR OBSTRUCTIVE SLEEP APNEA WITH HGNS THERAPY

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Introduction: Obstructive sleep apnea (OSA) is linked to cardiovascular disease, particularly when left untreated. Hypoglossal nerve stimulation (HGNS) is a novel and promising PAP alternative as it is well-tolerated and reduces OSA severity; however, its effect on mitigating cardiovascular risk secondary to OSA is unknown. The aim of this study is to evaluate the effect of HGNS on sympathetic and vascular function. Our hypothesis is mean 24-hour systolic blood pressures (SBP) will be improved at "active" levels of HGNS.

Methods: This study is a double-blinded, sham-controlled, randomized controlled therapy crossover trial. Subjects are randomized for four weeks in each arm to either "active" HGNS or "sham" HGNS, with "sham" HGNS being defined as the lowest voltage at which HGNS was sensed by the patient and/or visualized by the principal investigator. Included patients had already been implanted with the Inspire® device. Patients were excluded for active PAP therapy use, recent automobile accidents, a minimum difference (<30%) between "active" and "sham" voltages, and pregnancy.

Results: 53 patients met all inclusion criteria. Overall, the study cohort was older (mean [SD] age 66.8 [10.2]), overweight (BMI 28.8 [4.36]), 60% male, and predominantly of white race. There was no significant difference in mean 24-hour SBP between "active" and "sham" HGNS (122.4 mmHg [12.2] vs. 122.4 mmHg [11.2], respectively). Further, there was no significant difference in mean SBP during sleep between "active" and "sham" HGNS (115.0 mmHg [15.2] vs. 115.2 mmHg [14.4], respectively).

Conclusion: This is a randomized controlled trial evaluating cardiovascular outcomes in patients with OSA using HGNS therapy. The HGNS system permits a unique investigation of the therapy "on/off" effect on measures of the sympathetic nervous system and vascular health. "Active" HGNS levels, compared to "sham" HGNS levels, do not appear to reduce mean systolic blood pressure during wake or sleep periods.

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0786

ASSESSING THE ADEQUACY OF AUTO TITRATING POSITIVE AIRWAY PRESSURE TREATMENT IN PATIENTS WITH SEVERE OBSTRUCTIVE SLEEP APNEA DIAGNOSED ON HOME SLEEP TESTING

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Introduction: Auto titrating positive airway pressure (Auto-PAP) therapy has been increasingly prescribed to treat obstructive sleep apnea (OSA) without reliance on in-laboratory PAP titration studies. Given the current pandemic and the limited use of in laboratory titrations, Auto-PAPs have been prescribed increasingly. The ability to achieve optimal control of obstructive events with Auto-PAP for patients with severe OSA (respiratory disturbance index (RDI) >30/hour of recording) on home sleep apnea testing (HSAT) has not been systematically investigated. Our study looks at the success of treatment on Auto-PAP in patients diagnosed with severe OSA on HSAT.

Methods: We retrospectively reviewed charts of patients who were diagnosed with severe OSA on HSAT and were prescribed an Auto-PAP at the Memorial Hermann – Texas Medical Center Sleep Disorders Center between September 2019 and May 2020. The usage data, residual AHI and adherence was assessed. Successful treatment was determined as a residual AHI (rAHI) <15. We excluded patients those who were non-adherent to PAP therapy. This study was conducted as a quality improvement initiative at our institution.

Results: We identified 24 patients diagnosed with severe OSA on HSAT and prescribed Auto-PAP. Nine patients were excluded due to non-adherence to Auto-PAP (37%). Of the remaining 15 patients, 80% were male, the average age was 53.7 years (range 36-69) and the average RDI on HSAT was 51.4 events/hour (SD 17.1). The average usage >4 hours was 76% in the adherent patients. The median pressure on Auto-PAP was 9 cm H2O (range 5.3-16.3). The average rAHI of 1.8 events/hour (range 0.3- 6.1). Usage data revealed only 1 patient with rAHI>5 and central apnea index of 3.9, who was then referred for an in-lab PAP titration study.

Conclusion: Sensors in the airway circuit of PAP devices measure airflow, vibration, and flattening of the airflow profile. Auto-adjusting PAP devices use this feedback to make online adjustments in pressure to maintain upper airway patency. Our study suggests that Auto-PAP is an effective initial therapy even for severe OSA, permitting both timely and adequate control of OSA especially when in laboratory titrations are limited. Close monitoring is however recommended to ensure adherence, and also to assess the potential emergence of central events.

Support (If Any):

0787

HEALTHCARE UTILIZATION IN INITIATION OF ORAL APPLIANCE VS POSITIVE AIRWAY PRESSURE THERAPY FOR SLEEP APNEA

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Introduction: The COVID-19 pandemic and related supply chain issues have created shortages in integral components of Positive Airway Pressure (PAP) devices, the gold standard treatment for sleep apnea. Concurrently, patients have delayed care and are

returning in increasing numbers. With these overlapping pressures, alternative treatments are needed. Custom-fabricated Oral Appliances (OA) are uniquely poised as a solution. However, it is unknown if initiation and treatment cost and healthcare utilization are similar to PAP or will create further disruptions at scale.
Methods: Patients who initiated PAP or OA therapy 2018-2020 were included. Matched visits 2017-2021 were referenced. Patients with multiple treatment initiations were excluded. Healthcare utilization quantified number visits, stratified by provider type (Physician, Physician Assistant (PA), American Board of Dental Sleep Medicine (ABDSM) Accredited Dentist, or Registered Polysomnographic Technologist (RPSGT)). Contractual amounts for CPT codes were averaged to estimate cost.
Results: 5172 patients, 374 received OA (7.2%). Prior to initiation, OA therapy utilized more visits on average than PAP (4.5±1.7(±SD) vs 3.5±1.9, p<0.0001). Following initiation, OA therapy utilized fewer visits than PAP (4.1±3.9 vs 5.5±4.6, p<0.0001). Specialized provider visits, i.e. dentist for OA, were lower compared to RPSGT for PAP therapy, both before and after initiation (1.4±0.8 vs 2.0±1.4 before, 1.9±1.2 vs 2.6±1.8 after, both p<0.0001). Further, prior to initiation, Physician and PA utilization was similar between OA and PAP therapies (1.4±0.8 vs 1.5±1.0 Physician, 1.1±0.8 vs 1.2±0.8 PA, both p>0.057). However, following initiation, OA therapy utilized fewer Physician visits than PAP (1.7±1.1 vs 2.1±1.7, p<0.0001) but similar PA visits (1.9±1.5 vs 2.1±1.4, p>0.5). Together, with OA dental visits estimated to be the least expensive associated visit, this analysis estimates that the provider cost of initiation of OA therapy is lower than that of PAP.
Conclusion: Overall, OA therapy requires less healthcare utilization, especially of providers with highest reimbursement rates. While OA requires more initial appointments, PAP therapy requires more follow up visits with specialized providers and physicians, thereby increasing cost for patients. Additional cost burden of these visits could impact patient willingness to initiate treatment. This analysis provides supportive evidence for OA as an alternative to PAP with lower treatment cost and healthcare utilization, which may provide an advantage for the already over-burdened healthcare system.
Support (If Any):

0788

THE EFFECT OF CPAP ON QUALITY OF LIFE IN FEMALES WITH MILD OSA: POST HOC ANALYSIS FROM THE MERGE RANDOMISED TRIAL

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Introduction: The MERGE trial was a multi-centre, randomised, parallel study that showed the beneficial effect of continuous positive airway pressure (CPAP) on quality-of-life in patients with mild obstructive sleep apnea (OSA) (Wimms et al. 2019); findings that have extended the new NICE guidance [Obstructive sleep apnoea/ hypopnoea syndrome and obesity hypoventilation syndrome in over 16s (NG202)].This post-hoc analysis aimed to determine whether differences between the sexes in symptoms and treatment response exist at the mild end of the OSA disease spectrum.
Methods: Patients were recruited (Nov 2016 - Feb 2019) to receive either CPAP plus standard care, or standard care alone. Mild OSA was defined as: apnea-hypopnea index (AHI) >5 to ≤15 events/hr. Symptoms and quality-of-life were measured by a range of generic and disease specific questionnaires at baseline and 3 months post CPAP commencement.
Results: 233 participants (30% female) were included in this analysis. Females were on average older (mean ± SD) (51.9±10.4 vs 49.8±12.2 years) with higher BMI (32.2±5.0 vs 29.4±3.7 kg/m2) and had a lower AHI than males (median(IQR)) (9.60(6.50 -12.40) vs 10.30(7.10-13.20) events/hour).Females were sleepier (Epworth Sleepiness Score (ESS) (mean ± SD) (11.0±4.2 vs 9.5±4.4)), more fatigued (Fatigue Severity Score (FSS) (42±12.8 vs. 34.4±13.5)) and reported higher levels of anxiety, depression and insomnia. Reported quality-of-life was lower in the SF- 36 mental (41.8±13 vs. 47.3±10.9) and physical components (43.0±11.2 vs. 49.7±9.1), as well as in all individual domains. Females also reported worse scores in the Euroqol 5 Dimensions (EQ-5D) and Functional Outcomes of Sleep Questionnaire (FOSQ), compared to males. All symptoms improved with CPAP use for both sexes, however female patients had larger improvements in the ESS (mean difference(95%CI)) (-5.2 (-6.7, -3.6) vs (-2.0 (-3.0, -1.0)) p=0.0035, and SF-36 vitality (11.7 (7.9, 15.5) vs 5.6 (3.1, 8.1)) p=0.0092.
Conclusion: In mild OSA, female patients were more symptomatic and reported worse quality-of-life than males, despite having lower AHIs; all were improved with CPAP treatment.
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0789

MASK MAGNETS MAY INTERACT WITH PACEMAKERS AND IMPLANTABLE CARDIOVERTER-DEFIBRILLATORS

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Introduction: Placing a magnet over a Permanent Pacemaker (PPM) or Implanted Cardioverter-Defibrillator (ICD) may cause the device to pace asynchronously or inhibit tachyarrhythmia detection, respectively, potentially preventing delivery of electrical shocks. Manufacturers for masks used with positive airway pressure devices have started using magnets in place of more traditional headgear clips to connect the headgear to mask. Mask manufactures do not list presence of a PPM/ICD as a contraindication to use of a mask with magnet but do recommend keeping the mask some distance away from PPM/ICD. A published case series describes two patients with magnet response events captured during PPM/ICD interrogation that correlated with nightly use of CPAP. The authors were able to replicate the response by placing the mask with magnet directly over the patient's pulse generate site. Although we advise all patients with implanted device to avoid use of masks with magnets, select patients refuse to stop using mask with magnets regardless of our policy. We, therefore, started offering these patients referral for PPM/ICD interrogation to evaluate for an interaction between mask with magnet and PPM/ICD as next best alternative.
Methods: We retrospectively reviewed all patients (n=10) referred for routine PPM/ICD interrogation to test whether the mask with magnet interacted with PPM/ICD when mask on face as during