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COMPARISON OF A DISPOSABLE HOME SLEEP APNEA TEST TO POLYSOMNOGRAPHY IN PATIENTS REFERRED FOR OBSTRUCTIVE SLEEP APNEA INVESTIGATION.

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Introduction: In an effort to decrease cost and improve healthcare efficiency for the diagnosis of OSA, home sleep apnea tests (HSAT) continue to be developed and improved to enhance diagnostic accuracy. A disposable FDA cleared HSAT capable for multi-night evaluations, that uses peripheral arterial tonometry (PAT) to assess for sleep apnea. The form factor and care pathway have a strong appeal for a patient's experience of the diagnostic journey. The data obtained from the study informs the strengths, weaknesses, and reliability of new HSAT technology in the clinical management of sleep apnea.
Methods: A prospective, open-label, single group study was conducted in a certified PSG sleep lab. Patients underwent a single overnight PSG study with concurrent disposable HSAT (NightOwl Mini, Ectosense) testing. The patient population were adults referred to a sleep lab for investigation of OSA. PSG recorded sleep time of ≥4hrs was required to be evaluable. The primary endpoint was clinical decision agreement for treatment, based on AHI threshold ≥15 events/hour. Pairwise comparisons were performed against PSG, and agreement was assessed using Cohen's Kappa statistic.
Results: A total of 50 participants completed the study. There were 42 participants included in the analysis. The disposable HSAT had a Kappa value of 0.667 (95% CI 0.448, 0.886) for the clinical decision for treatment compared to PSG, which represents substantial agreement. The sensitivity and specificity were 0.769 and 0.938, respectively. For AHI, the disposable HSAT had a Spearman rank correlation of 0.903 with PSG. OSA severity categorization (based on AASM definitions), was also assessed, with disposable HSAT showing a weighted Kappa value of 0.646 (95% CI 0.501, 0.792). A limitation of this study was the single night use since the HSAT recommends multiple nights for a more accurate assessment.
Conclusion: A disposable HSAT was found to have substantial agreement with PSG's clinical decision for treatment based on AHI values, despite the assessment being from a single night as opposed to multiple night usage. The performance and form factor make it an attractive HSAT to assess for sleep apnea and facilitate OSA diagnosis.
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THE APPLICATION OF A QTC RISK SCORE IN PATIENTS WITH OBSTRUCTIVE SLEEP APNEA

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Introduction: Evidence suggests that patients with obstructive sleep apnea (OSA) are at risk for QTc prolongation which, is a known risk factor for arrhythmias, sudden cardiac death and all cause mortality. QTc risk scores have been implemented widely to help physicians identify patients at risk for mortality however, these risk scores have not been routinely implemented in patients undergoing sleep studies or those diagnosed with OSA. The goal of this study was to evaluate the distribution of pro-QTc risk scores for patients with and without OSA diagnosed at our facility and its relationship to mortality.
Methods: Medical records of all patients undergoing a sleep study at our sleep center from 2/2012 through 8/2020 were analyzed. Patients were identified with or without OSA based on polysomnography or Type III home sleep study. The pro-QTc risk score was calculated with 1 point assigned for: female sex, QT-prolonging diagnoses and conditions, QT-prolonging electrolyte abnormalities, and QT-prolonging medications defined as medications with known and possible risk of torsades de Pointes based on the CredibleMeds website. Mortality was determined if a death date was noted in the electronic medical record.
Results: A total of 2,834 patient records (54% male, age 58 ± 16 years, n=106 dead) were evaluated. A total of 2,265 patients (age 58 ±15, 54% male, 89 dead) were identified as having OSA and 428 patients (age 54 ± 18, 41% male, 17 dead) did not have OSA. The remaining patients (n=141) had either central sleep apnea or a combination of both obstructive and central sleep apnea. A higher pro-QTc score was associated with greater mortality regardless of presence of OSA (HR 1.3, $p<0.0001$, 95% CI 1.12 -1.46) after adjusting for age. The association of pro-QTc with mortality was not increased in the moderate or severe OSA groups compared to those without OSA or mild OSA ($p=0.36$).
Conclusion: Increased pro-QTc scores were associated with greater mortality in all patients undergoing sleep studies. OSA status did not affect this association.
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IMPROVING DETECTION OF OBSTRUCTIVE SLEEP APNEA IN PREGNANT WOMEN USING A SIX-POINT SCREENING TOOL

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Introduction: Pregnant patients with obstructive sleep apnea (OSA) are at higher risk for adverse outcomes. There are currently no established screening tools for pregnant women. OSA in pregnancy continues to be underdiagnosed resulting in missed opportunities to prevent possible adverse outcomes.
Methods: A screening pilot program was implemented at our general obstetrics and maternal fetal medicine (MFM) clinic to improve diagnosis of OSA among pregnant women. Patients were screened by a nurse for snoring/apneas, BMI > 35, essential hypertension, glucose disorders, neck size > 36 cm, and symptoms of excessive daytime sleepiness. If a patient scored 3/6 or greater, a home sleep apnea test (HSAT), and in some cases an in-lab sleep study (PSG), was recommended to test for OSA after discussion of risks and benefits with an obstetrician.
Results: Since the initiation of the screening program, 302 women screened positive for OSA based on our 6-point screening tool. Average gestational age at the time of screening was 14.34 +/- 7.97 weeks. Of the women who scored ≥3 on the