Podcast of the *Journal of Clinical Sleep Medicine*

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Welcome to the regular podcast of the *Journal of Clinical Sleep Medicine*. I am Dr. Stuart Quan, editor of the *Journal*. These podcasts are a regular feature of each issue of the *Journal* and can be downloaded at the *Journal*'s website. Each podcast features summaries of important articles published in the current issue of the *Journal*, as well as occasional interviews with authors of these papers.

In this issue of the *Journal,* there are two papers which are on the topic of identifying and treating sleep disordered breathing in hospitalized patients. The first paper is entitled, "Diagnosis and Treatment of Sleep Disordered Breathing in Hospitalized Cardiac Patients: A Reduction in 30-Day Admission Rates," by Dr. Shilpa R. Kauta and colleagues from the Center For Sleep & Circadian Neurobiology and the Department of Cardiology, University of Pennsylvania, Philadelphia, PA. It is now commonly recognized that sleep disordered breathing or obstructive sleep apnea is associated with an increase risk of cardiovascular disease. It is commonly observed in the setting of congestive heart failure and also with cardiac arrhythmias. There is the growing sense that patients who are hospitalized with cardiac problems often have evidence of sleep disordered breathing or obstructive sleep apnea, but the diagnosis of the sleep disordered breathing is not made commonly in the hospital setting. The current study is an attempt to evaluate a clinical paradigm in which patients with cardiac disease are evaluated with an unattended sleep study and then treated with positive airway pressure in order to determine whether this would decrease readmission rates. The patients were 106 consecutive patients with cardiac disease who were hospitalized for heart failure, arrhythmias, or myocardial infarction and who also had symptoms consistent with sleep disordered breathing. They underwent a type 3 portable sleep study. 78% of these patients had a diagnosis of sleep disordered breathing as evidenced by an apnea-hypopnea index greater than or equal to five events per hour. 80% of these patients had predominantly obstructive sleep apnea and the remainder had predominantly central sleep apnea. Of the 81 patients who were diagnosed as having sleep disordered breathing, 50 were discharged on positive airway pressure. In 42 of these patients, 30-day compliance data were available and full compliance was noted in 19. Of those who were fully compliant with positive airway pressure, none were readmitted within 30 days of hospital discharge. In comparison, those who were not compliant with CPAP or who did not use CPAP had readmission rates of 30% and 29% respectively. Although this is not a randomized, controlled study, these data suggest that individuals hospitalized with cardiac issues who are found to have sleep disordered breathing or sleep apnea and who are compliant with CPAP therapy will have reduced readmission rates in comparison to those individuals who are untreated or who do not comply with treatment. Obviously, a randomized, controlled study will be necessary to verify these findings.

The second paper dealing with sleep apnea in a hospital setting is entitled, "Risk of Sleep Apnea in Hospitalized Older Patients," by Talia C. Sheer and colleagues from the Department of Medicine and the Sleep, Metabolism & Health Center, University of Chicago, Pritzker School of Medicine, Chicago, IL. As noted previously, there is increasing recognition that hospitalized patients are at high risk for having obstructive sleep apnea. This may be particularly true in older patients. In this study, 424 hospitalized, adult patients without a previous diagnosis of a sleep disorder were administered the Berlin questionnaire to determine their risk of having obstructive sleep apnea. The mean age of this cohort was 65 years with 57% being female and 72% being African-American. The investigators found that 39.5% of the cohort were at high risk for having obstructive sleep apnea. Using wrist actigraphy, it was determined that the mean in-hospital sleep duration was estimated to be approximately five hours with a mean sleep-efficiency index of 70%. These data indicate that in the elderly population, there is a high prevalence of obstructive sleep apnea in hospitalized patients who also sleep poorly. This suggests that there is an opportunity for identification of hospitalized patients at high risk for obstructive sleep apnea and for referring them for treatment.

In an editorial accompanying both these papers, Dr. Sunil Sharma from Jefferson Sleep Disorders Center, Thomas Jefferson University & Hospitals in Philadelphia, PA, opines that further exploration is required for identifying patients at high risk for obstructive sleep apnea in the hospital setting and determining whether implementation of treatment will decrease morbidity and mortality. He writes that we cannot no longer ignore the "elephant in the room" or the issue of unidentified and untreated sleep apnea in hospitalized patients.

The final paper to be discussed in this podcast is entitled, "Trauma Associated Sleep Disorder: A Proposed Parasomnia Encompassing Disruptive Nocturnal Behaviors, Nightmares and REM without Atonia in Trauma Survivors," by Vincent Mysliwiec and colleagues from Brian Allgood Army Community Hospital, South Korea, Madigan Army Medical Center, Tacoma, WA, and Departments of Psychiatry & Psychology, University of Pittsburgh School of Medicine, Pittsburgh, PA.

Disruptive nocturnal behaviors, such as excessive movements, autonomic hyperarousal and nocturnal vocalizations and nightmares, are frequently reported in combat veterans and trauma survivors. The authors suggest that despite the frequent occurrence of these events in such patients, there is no established diagnosis that accurately describes these sleep disturbances. In this paper, the authors report four cases of trauma-associated sleep disturbance in young, active-duty, U.S. Army soldiers with disruptive nocturnal behavior, nightmares and also characteristic polysomnographic findings. The disruptive nocturnal behavior ranged from nocturnal vocalizations, somnambulism as well as combative behaviors that injured bed partners. The nightmares were replays of patients' traumatic experiences. All patients had REM sleep without atonia during polysomnography. In one patient, the nocturnal behavior and a nightmare were captured during REM sleep. The use of Prazosin improved the disruptive nocturnal behavior and nightmares in all these patients. In the discussion portion of their paper, the authors propose diagnostic criteria for trauma-associated sleep disorder. These criteria are: 1. Onset after combat or other traumatic experience; 2. A history of altered dream mentation that is related to prior traumatic experience; 3. Self or witnessed reports of disruptive nocturnal behaviors to include one of the following: a) abnormal vocalizations or, b) abnormal motor behaviors in sleep; 4. Symptoms of autonomic hyperarousal or PSG monitoring demonstrating tachycardia, tachypnea or diaphoresis; 5. REM sleep without atonia present on polysomnography; and finally, 6. Absence of EEG epileptiform activity on polysomnography. Whether these diagnostic criteria are eventually accepted as a novel sleep disorder remain to be determined. Further investigation and additional reports will be required.

This concludes the regular podcast of the *Journal of Clinical Sleep Medicine*. The listener is encouraged to read the contents of the *Journal* for additional information regarding each of the articles summarized in this podcast, as well as other papers published in this issue of the *Journal*.