

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.

The first paper to be discussed in this podcast is entitled, "Symptoms of Aerophagia Are Common in Patients on Continuous Positive Airway Pressure Therapy and Are Related to the Presence of Nighttime Gastroesophageal Reflux," by Dr. Kelly Shepherd and colleagues from the West Australian Sleep Disorders Research Institute, Department of Pulmonary Physiology and Sleep Medicine, Sir Charles Gairdner Hospital, Nedlands, Australia and the School of Anatomy and Human Biology, University of Western Australia, Crawley, Australia. Continuous positive airway pressure, or CPAP, is the primary treatment for individuals with obstructive sleep apnea. CPAP pressurizes the upper airway to prevent its collapse during inspiration, and thus prevents the occurrence of obstructive sleep apnea. However, one consequence of pressurizing the airway is increased air entering the stomach, producing symptoms of aerophagia. The symptoms include abdominal bloating, belching, diminished appetite, flatulence, and abdominal noise. Gastric distention from aerophagia may predispose individuals to gastroesophageal reflux. In this study, the association between aerophagia symptoms and symptoms of gastroesophageal reflux were studied in a large number of patients being treated with CPAP for their obstructive sleep apnea.

The study involved surveying 477 consecutive patients undergoing in-laboratory polysomnography and CPAP titration over an 18 month period. There were 259 individuals with complete polysomnographic data and completed questionnaires regarding gastroesophageal reflux symptoms. The mean apnea-hypopnea index of the study group was 44 events per hour. The mean pressure for this group of individuals was 11 cm of water. 50.2%, or 130 individuals, reported aerophagia. Comparing individuals with aerophagia to those without aerophagia, the prevalence of gastroesophageal reflux as well as nocturnal gastroesophageal reflux was significantly greater in the aerophagia group. For example, approximately 30% of those with aerophagia had symptoms of gastroesophageal reflux versus approximately 10% of those without aerophagia. Similarly, approximately 10% of those with aerophagia had frequent episodes of nocturnal gastroesophageal reflux versus only 2% those without aerophagia. Conversely, those with gastroesopha-

geal reflux were approximately two to three times more likely to have symptoms of aerophagia. The authors conclude that aerophagia symptoms are very common in those with obstructive sleep apnea being treated with CPAP and conversely aerophagia may precipitate gastroesophageal reflux.

In a companion editorial, Dr. Susan Harding from the University of Alabama at Birmingham, Birmingham, AL, indicates that better methods to quantify and define aerophagia occurring during CPAP are needed. In addition, there needs to be additional investigations concerning the mechanisms by which CPAP-related aerophagia causes gastroesophageal reflux. She also points out that there are no data to suggest how to best manage CPAP-induced aerophagia.

The next paper to be summarized in this podcast is entitled, "REM-Sleep Behavior Disorder in Parkinson's Disease: A Questionnaire-Based Survey," by Dr. Rositsa Poryazova and colleagues from the Department of Neurology, University Hospital, Zurich, Switzerland and the Department of Neurology, Incelspital, Bern, Switzerland. First described in 1986, REM-sleep behavior disorder is characterized by the loss of muscle atonia during REM sleep, leading to phasic motor activity and dream enactment behavior. Although the prevalence of REM-sleep behavior disorder is rare in the general population, it is significantly higher in patients with synucleinopathies, such as Parkinson's disease and multiple system atrophy. In such populations, a prevalence of approximately 50% has been reported. Recently, a screening questionnaire for REM-sleep behavior disorder has been developed and validated in Germany. However, it has not been tested in an unselected sample of Parkinson's disease patients. In this study, the frequency of REM-sleep behavior disorder was assessed using this questionnaire in patients with Parkinson's disease.

A total of 6,000 questionnaires were sent to members of the National Parkinson's Disease Patients Organization in Switzerland. In addition to REM sleep-behavior disorder, the questionnaire also contained questions that screened for obstructive sleep apnea, daytime sleepiness, parasomnias and other sleep disorders. 417 questionnaires were returned. In 61% of the surveys, a caregiver assisted in completion of the questionnaire. 13 surveys were not completed sufficiently and were excluded from further analysis. Of the remaining 404 surveys, 42.6% had a REM-sleep behavior disorder survey score of greater than equal to six, indicative of probable REM-sleep behavior disorder. Those individuals who had a score greater than or equal to six had a longer disease duration, more frequent night time awakenings and a higher prevalence of visual hallucinations. In

addition, they were more likely to be taking anti-depressants, as well as cholinesterase inhibitors. The authors conclude that REM-sleep behavior disorder could be detected using a validated questionnaire in approximately 43% of patients, which is higher than PSG and history based studies.

The final paper to be discussed in this podcast is entitled, "Ethnic Differences in the Prevalence and Predictors of Restless Legs Syndrome between Hispanics of Mexican Descent and Non-Hispanic Whites in San Diego County: A Population-Based Study," by Dr. Kittisak Sawanyawisuth and colleagues from Khon Kaen University in Khon Kaen, Thailand, the University of Southern California, Los Angeles, CA, and the University of California - San Diego, San Diego, CA. Hispanics are the fastest growing minority group in the United States, and the majority of this ethnic group are of Mexican descent. However, there have been relatively few studies pertaining to the prevalence of various sleep disorders among this population. In this study, the prevalence and determinants of restless leg syndrome was assessed in Hispanics of Mexican descent in comparison to non-Hispanic whites living in San Diego County.

The data for this study was obtained from the Sleep, Health & Knowledge in U.S. Hispanics Project, which was a large population-based survey conducted in San Diego County from January, 2007, through September, 2009. The survey was done by telephone in either English or Spanish. The survey instrument consisted of background demographic and medical information, four diagnostic questions for restless legs syndrome, and questionnaires including the Epworth Sleepiness Scale and the Sleep Habits Questionnaire from the Sleep Heart Health Study. Acculturation was assessed using the Short Acculturation Scale for Hispanics.

The prevalence of restless legs in the entire sample was 16.5% but was significantly lower in Hispanics, 14.4%, versus non-Hispanic whites, 18.3%. There also was a higher prevalence of restless legs in the Hispanic group with high acculturation, 17.4% versus 12.8% in those with low acculturation. The prevalence of restless legs in the high acculturation Hispanic group was not significantly different than that found in non-Hispanic whites. When factors associated with RLS were examined, it was observed that female gender, trouble falling asleep, higher Epworth Sleepiness Scale score, smoking and high acculturation were independently associated with restless legs syndrome. For non-Hispanic whites, increasing age, trouble falling asleep and higher Epworth Sleepiness Scale scores were the significant factors associated with restless legs syndrome. The authors conclude that there are significant differences in prevalence rates and risk factors for restless legs syndrome for Hispanics of Mexican descent in comparison to non-Hispanic whites.

This issue of the *Journal* also includes an interesting pro-con debate regarding the effectiveness of portable sleep testing at home for the diagnosis of obstructive sleep apnea, as well as a review article on the role of sleep duration in the regulation of energy balance and a special article on sleep-stage scoring in the American Academy of Sleep Medicine's inter-scorer reliability program. The listener is encouraged to read these papers.

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*.