

## Podcast of the Journal of Clinical Sleep Medicine

Stuart F. Quan, M.D.

*Division of Sleep Medicine, Harvard Medical School, Boston, MA  
Editor, JCSM Journal of Clinical Sleep Medicine*

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.

This issue of the Journal features two "first in-kind" papers related to sleep medicine. In addition, there is an interesting pro-con debate on complex sleep apnea, as well as clinical guidelines related to the evaluation and management of chronic insomnia in adults.

The lead article in this issue of the Journal is entitled, "Associations of Dietary Intake and Physical Activity With Sleep-Disordered Breathing In the Apnea Positive Pressure Long-term Efficacy Study (APPLES)." The authors of this paper are Monica Vasquez, James Goodwin, Amy Drescher, Terry Smith and Stuart Quan from the University of Arizona and Harvard Medical School. This paper is the first study using results from the multi-center APPLES study. In an ancillary investigation in the APPLES study, 320 adults from the Tucson, AZ and Walla Walla, WA sites of APPLES were randomized to completion of detailed food frequency and physical activity questionnaires at baseline before randomization and then subsequently four months after initiation of the study. This paper is a report of the dietary intake and physical activity of these 320 adults at baseline before randomization. The authors found that increasing severity of sleep apnea was associated with progressively higher intakes of cholesterol, protein, and trans-fatty acids with a significant trend towards increased intakes of total fat and total saturated fats. In addition, percent of energy expenditure from recreational activities was progressively reduced with increasing sleep-disordered breathing. After adjusting for body-mass index, age and daytime sleepiness, it was found that subjects with very severe and extremely severe sleep apnea ( $RDI \geq 50$ ) consumed a diet that was higher in cholesterol, protein, total fat and total saturated fats. In addition, these findings were most evident in women. With respect to physical activity, the decrease in percent participation in recreational activities was attenuated and non-significant after adjusting for body-mass index suggesting that this finding was a function of increasing obesity. The authors further found that, in comparison to recommended daily allowances, those persons with a  $RDI \geq 50$  consumed a lower percent of their total calories in carbohydrates and a sig-

nificantly higher percent in total fat and saturated fat. These results are the first data obtained related to diet and physical activity in persons with sleep apnea. They suggest that those with severe and very severe sleep apnea ingest a diet that is atherogenic and thus their dietary intake may be one mechanism why sleep apnea is a risk factor for cardiovascular disease.

The second "first in-kind" paper that I would like to highlight is entitled, "Aerophagia and Gastroesophageal Reflux Disease In Patients Using Continuous Positive Airway Pressure: A Preliminary Observation." The authors of this paper were Nathaniel Watson and Sue Mystkowski from the Departments of Neurology and Medicine at the University of Washington in Seattle. In this paper, 22 subjects with aerophagia and 22 controls who were matched for age, gender and body-mass index and who were also being treated with CPAP for sleep apnea were compared with respect to symptoms of gastroesophageal reflux, severity of sleep apnea and CPAP pressures. The authors found that symptoms of gastroesophageal reflux were more common in those with aerophagia (77.3% v. 36.4%) and not surprisingly the same group had a greater use of reflux medications (45.5% v. 18.2%). Decreases in saturation was mildly lower in the aerophagia group (95% v. 96.5%). However, there were no other differences found on polysomnography. The only other difference between the groups was no tobacco use in the aerophagia group v. 27.3% use of tobacco in the control group. It should be noted especially that these CPAP pressures were not different between the two groups. These preliminary findings suggest that there is a relationship between aerophagia and gastroesophageal reflux. It is also the first paper to systematically evaluate causes of aerophagia in patients using CPAP for sleep apnea. In an accompanying editorial, Dr. William Orr from Oklahoma City provides a number of comments regarding the possible mechanisms underlying these findings and discusses additional interesting aspects of the physiology of gastroesophageal reflux and their implications for sleep apnea and CPAP therapy. Obviously, given that aerophagia is a known symptom of CPAP usage in some patients with sleep apnea, hopefully this paper will stimulate further research into this area.

Another feature of this issue of the Journal is a pro-con debate with the pro argument entitled, "Complex Sleep Apnea: It Really Is A Disease" and the con half of the debate entitled, "Complex Sleep Apnea: It Isn't Really A Disease." Arguing the pro side was Peter Gay from the Mayo College of Medicine in Rochester, MN. Dr. Gay argues that complex sleep apnea

or sleep-disordered breathing is now a recognized phenomenon with definitions used both scientifically and by the Centers for Medicare and Medicaid Services. He also argues that there are plausible physiologic mechanisms which help explain the “disease” and that such patients have symptoms attributable to this unique disease process. Furthermore, he also points out that there are specific treatments, such as adaptive servoventilation which may be specific therapy for the problem. Arguing against Dr. Gay were Drs. Atul Malhotra, Suzie Bertisch and Andrew Wellman from Brigham and Women’s Hospital and Harvard Medical School. These authors argue that complex sleep apnea is actually a conglomeration of a number of different distinct entities, each of which have different treatment strategies. In a table accompanying their arguments, they indicate that the phenomenon of complex sleep apnea can be seen as a result of inadequate CPAP titration, over titration of CPAP, large mask leaks during CPAP, narcotic induced central apneas, as well as other causes. They argue that it would be more reasonable to identify each of these individual factors and treat them specifically rather than to lump all of these into one condition. They also point out that data demonstrating the utility of new devices and strategies, such as adaptive servoventilation are quite sparse and additional clinical trials are needed.

This issue of the Journal also includes a special article entitled, “Clinical Guideline For the Evaluation and Management of Chronic Insomnia In Adults.” The authors of the guideline are Drs. Sharon Schutte-Rodin, Lauren Broch, Daniel Buysse, Cynthia Dorsey, and Michael Sateia from Penn Sleep Center in Philadelphia, Good Samaritan Hospital in Suffern, New York, University of Pittsburgh, Sleep Health Centers in Bedford, MA

and Dartmouth Hitchcock Medical Center in Lebanon, NH. The authors represent a task force commissioned by the American Academy of Sleep Medicine. Highlights of the guideline are that insomnia is primarily diagnosed by a clinical evaluation, including a thorough sleep history and detailed medical, substance and psychiatric history. Useful instruments to aide in the diagnosis include self-administered questionnaires, home sleep logs, symptom checklists, psychological screen tests and bed partner interviews. Polysomnography and multiple-sleep latency testing are not indicated in the routine evaluation of chronic insomnia but if there is a reasonable suspicion of sleep-disordered breathing or movement disorders, such testing can be ordered. The guideline also indicates that actigraphy maybe a method used to characterize circadian rhythm patterns or sleep disturbances in those with insomnia and other laboratory testing is not indicated unless there is some suspicion of other co-morbid disorders. The guideline reviews the respective roles of psychological, behavioral and pharmacologic therapy. In addition, evaluation and treatment algorithms are provided in figures. The guideline is recommended for any practitioner who evaluates and treats patients with insomnia.

This issue of the Journal also includes a systematic review of cognitive behavioral treatment for nightmares, the results of a trial using ramelteon to cause circadian phase shifting, as well as an interesting Sleep Medicine Pearl and Board Review case.

This concludes the regular Podcast of the October 15, 2008, issue of the Journal of Clinical Sleep Medicine. The listener is encouraged to read the articles summarized in their entirety, as well as other papers published in this issue of the Journal.