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PODCAST TRANSCRIPT

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 lead article of the December 15, 2007, issue of the Journal is entitled, "Short Sleep Times Predict Obesity in Internal Medicine Clinic Patients", by Drs. Delores Buscemi, Ashwani Kumar, Rebecca Nugent, and Kenneth Nugent from the Department of Medicine, Texas Tech University Health Sciences Center in Lubbuck, TX and the Department of Statistics at Carnegie-Mellon University in Pittsburgh, PA. Recently, there have been a number of studies that have associated short sleep times with obesity. However, most of these studies have been performed in general population cohorts and not in patients being seen in the clinic. In this study, the authors recruited 200 patients attending the resident continuity clinics of Texas Tech University Health Sciences Center to complete a survey regarding sleep habits, lifestyle characteristics and medical diagnoses. In addition, height and weight were measured by clinic personnel, and medical records were reviewed. The authors found that patients who had sleep times less than seven hours had an increased likelihood of having obesity defined by body mass index greater than or equal to 30 kg/m2 when compared to a reference group of patients sleeping eight to nine hours. In multivariate modeling, factors associated with obesity included female gender, younger age, some lifestyle characteristics and medical diagnoses. Some of the lifestyle characteristics and medical diagnoses associated with obesity of particular interest were smoking, alcohol use, diabetes, a history of dieting and sleep apnea. Additional analyses, stratified by gender and age, indicated that long sleep time (>9 hr) was also associated with obesity in women but not in men. The authors suggest several explanations for their findings. They postulate that patients with shorter sleep periods are awake for longer periods during the day and have greater opportunity to eat or that alternatively short sleep periods are associated with greater amounts of inactivity, leading to diminished energy expenditures. In addition, as has been demonstrated in other studies, these findings may be related to reduced leptin and elevated ghrelin levels caused by sleep deprivation. The authors suggest that achievement of optimal sleep time may be one factor in promoting weight loss.

Another provocative article in this issue of the Journal is an editorial perspective entitled, "Who Should Sponsor Sleep Disorders Pharmaceutical Trials?" by Dr. Daniel F. Kripke from the Department of Psychiatry at the University of California, San Diego. In this paper, Dr. Kripke points out that most clinical trials of drugs having potential use in sleep medicine are sponsored by the pharmaceutical industry. In addition, he reviews data suggesting that the papers resulting from these trials tend to be more favorable for their industry sponsor than clinical trials which were not industry sponsored. Thus, there should be a concern that there is inadvertent bias in the reporting of the results from these trials. In addition, he also notes that industry-sponsored trials generally compare the drug being tested with placebo and not against other drugs or other therapies. Thus, in most cases there is no data to determine whether a particular drug is as good as or better than other treatment alternatives. Finally, he notes that many industry-sponsored studies with unfavorable outcomes are often not published. This creates a bias in the literature toward positive outcomes. Dr. Kripke opines that hypnotic trials in particular are often characterized by study designs in which there is a lack of counter balancing. He points out that there are a percentage of insomnia patients with spontaneous remission, and consequently it may be difficult to determine how much of the improvement seen with the drug is related to the effect of the agent versus spontaneous improvement. Other concerns regarding a number of hypnotic trials are the failure of the study design to document objective improvement in performance on the day after taking the agent, as well as a general lack of emphasis on reporting of adverse effects. Dr. Kripke notes that neither the government (National Institutes of Health [NIH] or Department of Veterans Affairs [VA]) nor private foundations have taken the initiative to study hypnotics. Nevertheless, he argues that getting accurate and unbiased information would be quite useful for the public health, and that the NIH and the VA should take leadership positions in studying sleep-related pharmaceuticals, especially hypnotics.

Another article of potential interest to readers is entitled, "Filters Reduce Bacteria Transmission Risk from Contaminated Heated Humidifiers Used with Continuous Positive Airway Pressure for Obstructive Sleep Apnea," by Drs. Girolamo Ortolano, Jeffrey Shaffer, Morvan McAlister, Elias Stanchfield, Elizabeth Hill, Liliana Vandenburgh, Michelle Lewis, Shirnett John, Francis Canonica and Joseph Cervia from the Pall Corporation in East Hills, NY. In this study, the authors point out that although heated humidifiers may improve compliance with nasal CPAP, there is potential for bacterial contamination. The authors studied recovery of bacteria after simulated CPAP use for up to one week. They found that bacteria were recovered frequently from the con-

necting tubes of CPAP devices fitted with heated humidifiers. No organisms were recovered when a hydrophobic breathing circuit filter was positioned between the humidifier and the face mask. They suggest that commonly used heated humidifiers may result in aersolization of bacteria into inhaled gas during CPAP use but that a filter placed in the circuit may prevent this. However, it remains to be demonstrated that hydrophobic breathing circuit filter are practical and/or economically feasible for clinical use.

The final paper reviewed in this Podcast is entitled, "Assessment of Sleep and Breathing in Adult Prader-Willi Subjects: A Case Control Series", by Drs. Brendon Yee, Peter Buchanan, Sri Mahadev, Dev Banerjee, Peter Liu, Craig Phillips, Georgina Loughnan, Kate Steinbeck and Ronald Grunstein from the University of Sydney in Sydney Australia. Prader-Willi syndrome is a genetic disorder linked to chromosome 15Q11-13 and is characterized by hypotonia, developmental delay, hyperphagia, obesity, hypersomnia, abnormal sleep, and behavior problems. These individuals are at risk for obstructive sleep apnea. This study compared sleep and breathing in older Prader-Willi syndrome patients with age, sex and BMI controlled subjects to determine specific features associated with sleep and breathing abnormalities in Prader-Willi syndrome patients. The investigators studied 19 Prader-Willi syndrome patients with polysomnography and collected arterial blood gases and venous blood for leptin and insulin. They found that all but one of their Prader-Willi syndrome patients had evidence of obstructive sleep apnea, with an RDI greater than 5 events/hr. In addition, in comparison to the control group, REM sleep RDI was higher and nocturnal oxyhemoglobin saturations were lower in the Prader-Willi patients. Furthermore, nine of eighteen Prader-Willi subjects fulfilled the definition of obesity hypoventilation syndrome, with elevations in the arterial PCO2. In addition, although the Prader-Willi syndrome patients had normal levels of fasting glucose, their insulin and leptin levels were above normal. The authors concluded that Prader-Willi syndrome patients have a high probability of having sleep hypoventilation as evidenced by their daytime hypercapnia, and that they also had evidence of worse hypoxemia. The authors speculate that a genetic central hypothalamic dysfunction is a likely cause of these findings.

This concludes the regular Podcasts of the December 15, 2007, 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.