OSA Assessments Fall Short in Diabetes Patients

BY SUSAN LONDON

SEATTLE — Questionnaires commonly used to assess sleep symptoms were ineffective for identifying obstructive sleep apnea among obese patients with diabetes, according to a study reported at the annual meeting of the Associated Professional Sleep Societies.

The study—Sleep AHEAD (Action for Health in Diabetes)—was a substudy of Look AHEAD, a multicenter clinical trial testing interventions among overweight and obese adults with type 2 diabetes, explained Dr. Samuel T. Kuna, a sleep medicine specialist at the University of Pennsylvania Medical Center in Philadelphia, and the study's lead author.

Adult patients were eligible for the parent study if they were 45-76 years old and had physician-diagnosed diabetes, a body mass index of at least 25 kg/m^2 (or at least 27 kg/m^2 if they were taking insulin), a hemoglobin A_{1c} value of less than 11%, and blood pressure less than 160/100 mm Hg.

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DR. KUNA

To be eligible for the sleep substudy, patients could not be receiving any therapy for OSA and could not have had surgery for the disorder.

The Sleep AHEAD participants underwent home unattended polysomnography. On the basis of their apnea-hypopnea index, they were classified as having no OSA (index less than 5) or as having OSA that was mild (5-14), moderate (15-29), or severe (30 or greater).

In addition, the participants completed two questionnaires used to assess sleep symptomatology: the Epworth Sleepiness Scale (ESS) and the Functional Outcomes of Sleep Questionnaire (FOSQ).

Analyses were based on 305 participants who had a mean age of 61 years, Dr. Kuna reported. A total of 60% were women, and 73% were white. On average, they had a body mass index of 36.5 kg/m^2 and an HbA_{1c} level of 7.2%.

Polysomnography results showed that the mean apnea-hypopnea index was 20.5, the mean oxygen saturation nadir was 81%, and 16% of participants spent more than 10% of sleep time below an oxygen saturation of 90%. A mere 13% percent of this population did not have OSA, while 33% had mild OSA, 31% had moderate OSA, and 23% had severe OSA.

The mean total ESS score ranged from 7.5 to 8.1 points across the four OSA groups. After adjustment for sex and study center, there was no significant difference across groups.

The fairly low ESS scores were somewhat surprising, Dr. Kuna commented, but could indicate that perhaps these people are not able to recognize their daytime sleepiness. The mean total FOSQ score ranged from 17.5 to 18.0 points across OSA groups. Again, after adjustment, there was no significant difference across groups.

Of all the characteristics studied, only waist circumference predicted the presence of OSA. Dr. Kuna noted that with each 1-cm increase, the patients' odds of having the disorder rose by about 10%.

"The ESS and FOSQ do not predict the presence or severity of OSA in obese patients with type 2 diabetes," he said.

"Given the high prevalence and severity of OSA in obese patients with type 2 diabetes, the decision to perform sleep testing in these patients should not be based solely on symptom-related questionnaires," Dr. Kuna recommended.

As a side note, he observed that, in a follow-up of the Sleep AHEAD population, fewer than 5% of the participants diagnosed with OSA were using continuous positive-airway pressure therapy 1 year later, even though they and their primary care physicians had been sent letters detailing the polysomnography results.

This highlights people's misunderstanding of the seriousness of sleep apnea.

Dr. Kuna reported that he had no conflicts of interest. ■