OSA May Be Independent Diabetes Risk Factor

BY SUSAN LONDON

SEATTLE — The risk of type 2 diabetes increased with the severity of obstructive sleep apnea, even after obesity was taken into account, researchers reported at the annual meeting of the Associated Professional Sleep Societies.

"Few studies have shown a relationship between OSA and type 2 diabetes," said Dr. Sonia Togeiro, the study's lead author. Moreover, the role of obesity in this association is not yet clear, she noted.

Dr. Togeiro and her colleagues conducted a population-based study of OSA and diabetes among 1,042 men and women aged 20-80 years living in São Paulo, Brazil. All study participants underwent full-night polysomnography and were classified according to their apnea-hypopnea index as having no OSA (index less than 5), mild OSA (5-15), or moderate or severe OSA (greater than 15).

Participants were defined as having type 2 diabetes if they had a fasting plasma glucose level of 126 mg/dL or higher, took antidiabetic medication, or reported a previous diagnosis of the disease.

Study results indicated that 62% of participants did not have OSA, 21% had mild OSA, and 17% had moderate or severe OSA, reported Dr. Togeiro, an endocrinologist at Federal University of São Paulo. A total of 7% overall had diabetes. In addition, 38% were overweight, and 21% were obese.

Compared with their counterparts who did not have OSA, participants with mild OSA and those with moderate or severe OSA were older (mean age 37 years vs. 48 years and 53 years, respectively), had a higher body mass index (25 vs. 28 and 30 kg/m^2), and were more likely to have diabetes (3% vs. 9% and 21%).

The presence and severity of OSA were also associated with a more unfavorable metabolic profile, Dr. Togeiro noted. Both OSA groups had higher levels of total cholesterol, triglycerides, fasting glucose, and fasting insulin, and a higher homeostasis model assessment index, compared with the unaffected group.

More severe obstructive sleep apnea was associated with a more unfavorable metabolic profile.

DR. TOGEIRO

In a multivariate analysis adjusted for age, sex, and BMI, participants with mild OSA had a nonsignificant increase in the risk of diabetes relative to their counterparts who did not have OSA (odds ratio 1.07), and participants with moderate or severe OSA had a significant near doubling of risk (OR 1.97).

Conversely, OSA was much more prevalent in participants with diabetes, she said. A total of 73% of individuals with diabetes had the condition, compared with 36% of those without diabetes.

"The severity of OSA was a highly significant predictor of type 2 diabetes in this population-based survey of São Paulo residents, independent of obesity, age, and gender," Dr. Togeiro said.

Discussing the findings and possible explanations, Dr. Togeiro noted that laboratory research suggests that the severity of hypoxemia (as opposed to the frequency of arousals) appears to be the component of the apnea-hypopnea index linking OSA to type 2 diabetes.

"Our data suggest that clinicians should be attentive for OSA among diabetic patients and vice versa," she concluded.

She reported that she had no conflicts of interest related to the study. ■