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Teeth Grinding Linked To Sleep Apnea; Bruxism Prevalent In Caucasians With Sleep Disorders

ScienceDaily (Nov. 5, 2009) — There is a high prevalence of nocturnal teeth grinding, or bruxism, in patients with obstructive sleep apnea (OSA), particularly in Caucasians.

New research presented at CHEST 2009, the 75th annual international scientific assembly of the American College of Chest Physicians (ACCP), found that nearly 1 in 4 patients with OSA suffers from nighttime teeth grinding; this seems to be especially more prevalent in men and in Caucasians compared with other ethnic groups.

It is estimated that 8 percent of the general US population suffers from bruxism, a condition frequently associated with a preexisting dental or jaw disorders, as well as stress.

"The relationship between obstructive sleep apnea and sleep bruxism is usually related to an arousal response. The ending of an apneic event may be accompanied by a number of mouth phenomena, such as snoring, gasps, mumbles, and teeth grinding," said Shyam Subramanian, MD, FCCP, Baylor College of Medicine, Houston, TX. "Men typically have more severe sleep apnea, and perhaps may have more arousal responses, which may explain the higher prevalence of teeth grinding in men. Besides, men characteristically tend to report more symptoms of sleep apnea than women, such as snoring, loud grunting, and witnessed apneas."

Other factors that might help explain the relationship between sleep apnea and teeth grinding include anxiety and caffeine use.

"High levels of anxiety can lead to bruxism, and untreated sleep apnea is known to cause mood disturbances including depression and anxiety," said Dr. Subramanian. "Daytime sleepiness from sleep apnea may cause a person to ingest caffeine, and this has also been associated with a high risk of bruxism."

Through a retrospective chart review, Dr. Subramanian and his colleagues, from the Baylor College of Medicine, Houston, TX, assessed the prevalence of bruxism and gastroesophageal reflux (GERD) in 150 men and 150 women with OSA. Each group consisted of 50 Caucasians, 50 African-Americans, and 50 Hispanics. Results showed that 25.6 percent of patients suffered from teeth grinding, while 35 percent of all patients with OSA complained of nocturnal heartburn and GERD symptoms.

The researchers also examined the influence of gender and ethnicity on OSA, GERD, and bruxism. They found that bruxism was higher in men than in women -- 43 percent vs. 31 percent. Caucasians had the highest rate of bruxism compared to other ethnic groups -- 35 percent vs. 19 percent in Hispanics. African-Americans have the highest prevalence of GERD -- 40 percent vs. 31 percent in the Hispanic population and 34 percent in Caucasians. Overall, no correlation was observed between the presence of self-reported GERD and bruxism.

Untreated bruxism can lead to excessive tooth wear and decay, periodontal tissue damage, jaw pain, and temporomandibular joint or TMJ pain, headaches, and sleep disturbances for patients and their bed partners.

"Bruxism can be both a daytime syndrome as well as a nighttime syndrome, but it is bruxism during sleep, including short naps, that causes the majority of health issues," said Dr. Subramanian. "Studies do suggest that when sleep bruxism is related to OSA, certain therapies, including continuous positive airway pressure, may eliminate bruxism during sleep."

"Sleep disorders such as sleep apnea can lead to many secondary health conditions," said Kalpalatha Guntupalli, MD, FCCP, President of the American College of Chest Physicians. "When treating sleep apnea, clinicians must also recognize and address secondary health conditions, such as bruxism, in order to fully manage a patient's sleep disorder."

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