Memory Improves With Sleep Apnea

NOVEMBER 30, 2006

DENVER — Patients with obstructive sleep apnea can improve their memory by using continuous positive airway pressure, according to a research team led by Mark Aloia, PhD, Associate Professor of Medicine at National Jewish Medical and Research Center. The more patients use the CPAP, the more likely they are to restore their memory. The research will be published in the December issue of the journal CHEST.

“Memory problems are one of the most disturbing side effects of sleep apnea for some patients,” said Dr. Aloia. “Our research demonstrates for the first time a relationship between the amount of CPAP use and memory improvement. Patients who used their CPAP as little as two hours per night showed some improvement in memory, and those using it six or more hours enjoyed the greatest benefit.”

Obstructive sleep apnea (OSA) is a condition in which breathing is temporarily blocked during sleep by the tongue and other soft tissues of the throat. This can lead to loud snoring and lapses in breathing that can occur hundreds of times a night. The hallmark of sleep apnea is daytime sleepiness. Memory impairments, such as frequently forgetting phone numbers, grocery lists, or where you put your keys, also commonly plague sleep apnea patients. Memory often grows worse as people age, but OSA makes these memory lapses even more frequent and severe. Untreated severe OSA is also associated with a higher risk for heart disease, heart attack, high blood pressure and stroke.

OSA is commonly treated with continuous positive airway pressure, which uses compressed air, delivered through a mask that fits over the nose, to hold the airway open. This allows breathing to become more regular. Snoring stops, and restful sleep is restored.

However, many patients dislike sleeping with a CPAP mask, and adherence to CPAP is commonly poor. Doctors have debated for some time the amount of CPAP needed to improve memory problems. Dr. Aloia’s study, done while he was at Brown University , helps settle that debate.

Dr. Aloia and his colleagues recruited 58 OSA patients who demonstrated memory impairments when asked to memorize lists of words. Before the study these patients scored at least one standard deviation below what is considered normal for their age. The patients were divided into three groups based upon their CPAP use after three months: poor users, who used CPAP two hour or less per night; moderate users, who average two to six hours of CPAP per night; and optimal users, who used CPAP six or more hours per night.

Twenty-one percent of poor users, 44% of moderate users, and 68% of optimal users demonstrated normal performance on memory tests. Optimal users were 7.9 times as likely to demonstrate normalized memory as poor users. Overall, the average score on memory tests improved one standard deviation for all users.

“This study provides us with valuable data about the benefits of CPAP and gives patients a target for their CPAP use,” said Dr. Aloia. “Previous studies have shown that at least six hours of CPAP use is associated with reduced sleepiness and improved five-year mortality rates. Now we can say that patients will have the best chances of restoring their memory as well if they use CPAP for six hours per night.”

National Jewish Health is the leading respiratory hospital in the nation. Founded 124 years ago as a nonprofit hospital, National Jewish Health today is the only facility in the world dedicated exclusively to groundbreaking medical research and treatment of patients with respiratory, cardiac, immune and related disorders. Patients and families come to National Jewish Health from around the world to receive cutting-edge, comprehensive, coordinated care. To learn more, visit the media resources page.

Media Contacts

Our team is available to arrange interviews, discuss events and story ideas.

Jessica Berry
303.398.1082
berryj@njhealth.org