

CPAP treatment linked to lower mortality in stroke patients with OSA

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Stroke patients with obstructive sleep apnea (OSA) who undergo treatment with continuous positive airway pressure (CPAP) following their stroke may substantially reduce their risk of death, according to Spanish research to be published in the July 1 issue of the *American Journal of Respiratory and Critical Care Medicine*.

"Our results suggest that patients with ischemic [stroke](#) and moderate to severe OSA showed an increased mortality risk," wrote lead author, Miguel Angel Martínez-García, M.D., of Requena General Hospital in Valencia, Spain. "CPAP treatment, although tolerated by only a small percentage of patients, is associated with a reduction in this excess risk and achieves a mortality [rate] similar to patients without OSA or with mild disease."

The study identified and recruited 166 consecutive patients from Requena General Hospital who had had an [ischemic stroke](#) and subsequently were diagnosed with sleep apnea in sleep study tests. The mean age was 73.3. CPAP treatment was offered to the 96 patients who scored above 20 on the apnea-hypopnea index, indicating moderate-to-severe OSA. Each patient was followed for five years, reporting to the outpatient clinic and one, three and six months, then at six month intervals until the conclusion of the study. They were evaluated for general status, new cardiovascular events, CPAP adherence and death.

At the conclusion of the five year follow-up period, nearly half (48.8 percent) the original study group had died and only 28 of the original 96

were considered to be fully compliant with CPAP treatment. After adjusting for 13 potentially confounding variables, including age, gender, co-morbidities and current smoking, the researchers found that those with moderate to severe OSA who had not complied with CPAP treatment had nearly 1.6 times the risk of death compared to patients who tolerated CPAP, whereas those with moderate-to-severe disease who had tolerated CPAP had similar risk of death than patients without sleep apnea or mild disease.

"Our results suggest that moderate to severe OSA in patients with stroke has an unfavorable effect on long-term mortality. CPAP treatment is associated with a reduction in this excess risk," concluded Dr. Martínez-García in the article.

However, while the researchers controlled for the measurable variables they anticipated as potentially contributing to the link between CPAP compliance and risk of death following stroke, they acknowledge that certain variables were impossible to adequately anticipate or measure. "Patients who did not tolerate CPAP might have a special profile; [they] may have poor adherence to other types of treatment, including treatment of cardiovascular prevention, which would carry with it a higher risk of stroke," said Dr. Martínez-García. "However, the variables that measure the adherence of all the treatments in these patients are very difficult to analyze because patients often take many medications. This is a limitation of our study."

Further research in the form of a long-term, multi-center study with enough statistical power to verify the effect of CPAP on mortality in these patients is necessary before drawing any direct causal link between CPAP treatment and risk of death after stroke, said Dr. Martínez-García.

Other important goals should be immediately improving CPAP

compliance within the elderly stroke population, he suggested. "One of the most important objectives is to increase CPAP adherence to treatment in stroke patients. This is a very difficult objective because of the special characteristics of stroke [patients](#), who tend to be elderly, may have neurological damages, and whose symptoms related to [sleep apnea](#) are less likely to rapidly improve with CPAP," said Dr. Martínez-García. "Spending time to explain the benefits of treatment in terms of cardiovascular prognosis, being in direct contact with them, educational programs, offering them the possibility of sleep lab assessments if they have problems with CPAP treatment and improvements in the comfort of the devices would be the activities could do to improve the adherence to CPAP treatment."

Source: American Thoracic Society ([news](#) : [web](#))

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