CPAP decreases cardiovascular mortality in elderly patients

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Continuous positive airway pressure (CPAP) effectively decreases the risk of cardiovascular death in elderly patients who suffer from obstructive sleep apnea (OSA), according to a study conducted by researchers in Spain. The study is the first large-scale study to assess the impact of OSA and the effectiveness of CPAP treatment in cardiovascular mortality in the elderly.

The findings will be presented at the ATS 2011 International Conference in Denver.

"Our study offers two key conclusions," said Miguel Angel Martinez-Garcia, MD, study lead author pneumonologist at the Hospital General de Requena in Valencia, Spain."First, with younger patients, elderly patients with severe, untreated sleep apnea have a higher cardiovascular mortality than those with mild to moderate disease or those without sleep apnea; and second, treatment with CPAP can reduce cardiovascular mortality in elderly OSA patients to levels similar to those found in patients without disease or with mild to moderate sleep apnea."

Millions of people worldwide suffer from sleep apnea, which has been associated with cardiovascular health risks and poorer quality of life. Most studies, however, have been conducted in younger populations, Dr. Martínez-García noted.

"CPAP has been shown to be a very effective treatment for severe and symptomatic forms of sleep apnea," he said. "However, virtually all

studies on the effectiveness of CPAP to date have been conducted in middle-aged individuals, despite the fact that a growing percentage of the patients we see in our sleep units are elderly and are treated with CPAP.

"This is a very important issue considering the gradual increase in longevity worldwide," he added.

Patients with severe OSA typically experience regular interruptions in their sleep when breathing temporarily stops. In these patients, normal airflow is blocked as the soft tissue of the airway collapse and sag into the throat, preventing normal respiration. In CPAP, pressurized air is delivered continuously through a mask worn over the nose or nose and mouth to help keep the soft tissues of the airway from collapsing.

For their study, Dr. Martínez-García and colleagues enrolled 939 elderly patients referred with suspected sleep apnea between 1999 and 2007, and followed these patients through 2009. Patients were divided into four groups: a control group without OSA; mild to moderate OSA patients without CPAP treatment; patients with severe OSA without CPAP treatment; and patients with any degree of OSA who received CPAP treatment. Complete health histories, including cardiovascular and respiratory data, were obtained from all patients at enrolment and mortality causes were obtained from death certificates. Fatal cardiovascular events included sudden death, stroke, heart failure (HF), cardiac arrhythmias and ischemic heart disease (IHD). Median follow-up time was 69 months.

The researchers found that untreated severe OSA (but not untreated mild-moderate OSA) was independently associated with all-cause and cardiovascular mortality, as well as stroke and HF mortality, but not with IHD mortality. In addition, they found that CPAP treatment reduced these increased risks of mortality in OSA patients.

Dr. Martínez-García said the results were not entirely unexpected, since anecdotal evidence and several smaller studies have indicated CPAP offers improved outcomes in certain patients, notably patients at risk for stroke.

"Our study provides an excellent scientific basisfor further studies in this area given a lack of scientific evidence on the impact of sleep apnea and the role of CPAP treatment in elderly patients," Dr. Martínez-García said. "These findings clearly support the fact that treatment with CPAP is effective in elderly people and therefore, within logical limits, it must be a treatment that is offered to patients with severe or symptomatic OSA regardless of their age.

"The next step is to assess the effect of CPAP treatment in elderly OSA patients in large, randomized clinical trials," he added. "These studies should explore not only cardiovascular outcomes, but other outcomes such as neurocognitive dysfunction."

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