



News Release

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ATS Press Room: 504-670-6926 (May 15 to 20)

Poster session time: 1:30-4:00pm. May 19

Location: CC-Room 267-268 (Second Level), Morial Convention Center

CPAP Use Reduces Incidence of Cardiovascular Events and Hypertension in OSA Patients

ATS 2010, NEW ORLEANS— In non-sleepy patients with obstructive sleep apnea (OSA), treatment with continuous positive airway pressure (CPAP) can reduce the incidence of cardiovascular events and hypertension, according to researchers from Spain.

The research will be presented at the ATS 2010 International Conference in New Orleans.

“Our study showed that even in non-sleepy OSA patients, CPAP usage could reduce the incidence of cardiovascular events and hypertension,” said Ferran Barbé Illa, M.D., of the Hospital Arnau de Vilanova in Lleida, Spain. “We found a statistically significant decrease for those subjects that use CPAP for at least four hours a night.”

Obstructive sleep apnea is a common condition characterized by repeated episodes of upper airway obstruction during sleep, nocturnal hypoxemia and excessive daytime sleepiness. OSA is also known to be associated with cardiovascular disease and stroke.

CPAP is the current standard of treatment for patients with symptomatic OSA. CPAP improves daytime sleepiness, and quality of life in patients with OSA. Although daytime sleepiness is one of the main symptoms of sleep apnea, not all patients with OSA complain of it. Therefore, CPAP usage for OSA subjects without sleepiness is unclear.

To determine whether CPAP would reduce cardiovascular risks in OSA patients without daytime sleepiness, Dr. Barbé Illa and colleagues recruited 724 patients with moderate to severe sleep apnea (AHI>20) and Epworth sleep scores of less than 10, indicating minimal daytime sleepiness despite significant OSA. The patients were randomized to be treated with CPAP or conservative treatment (in which their doctors provided advice on weight control and sleep) and followed for four years.

At the end of four years, Dr. Barbé Illa and colleagues found that the risk of a having cardiovascular event—such as stroke, angor pectoris, cardiac arrhythmia or peripheral ischemia—or developing hypertension among patients who used CPAP for at least four hours a night was reduced by 25 percent compared to those who did not use CPAP. Among those who had baseline hypertension and used CPAP for four or more hours a night, the risk of a cardiovascular event declined to nearly half of those who did not use CPAP.

“The positive effects of CPAP on cardiovascular incidence are not observed across the entire range of patients with OSA,” said Dr. Barbé Illa. “This study aimed to determine the effects of CPAP treatment on OSA patients to improve clinical guidelines for OSA treatment. It is plausible that long-term and adequate treatment with CPAP may decrease the development of cardiovascular events in non-sleepy patients and, therefore, also in these patients is recommended to indicate the treatment with CPAP, despite the lack of daytime symptoms.”

More research is necessary for a better understanding of OSA physiopathology and to determine the CPAP treatment effects are evident in the entire range of OSA patients.

“This and future studies will contribute to better understanding of CPAP treatment effects in non-sleepy patients, and consequently to adapt clinical guidelines of OSA treatment. In fact, it is the first randomized study that shows a positive effect of CPAP on cardiovascular diseases in patients with OSA,” said Dr. Barbé Illa.

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“Effect of CPAP Treatment on the Incidence of Cardiovascular Events and Hypertension in Non Sleepy OSAS Patients. A Long-Term RCT” (Session D29, Wednesday, May 19, 8:15- 10:45 a.m., CC-Room 267-268 (Second Level), Morial Convention Center; Abstract 2793)

**Please note that numbers in this release may differ slightly from those in the abstract. Many of these investigations are ongoing; the release represents the most up-to-date data available at press time.*

Effect of CPAP treatment on the incidence of cardiovascular events and hypertension in non-sleepy OSAS patients. A long-term RCT

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Aim: To evaluate the effect of CPAP treatment on the incidence of cardiovascular events (CVE) or hypertension, in a cohort of non-sleepy patients with obstructive sleep apnea (OSA).

Methods: We have included 724 consecutive patients with an apnea-hypopnea index (AHI) $> 20 \text{ h}^{-1}$ and Epworth sleep scale (ESS) < 10 from 14 university hospitals in Spain. Subjects with hypertension at baseline were not excluded (n= 374). Patients were randomized to CPAP (n=358, 87% males, 52 ± 11 yrs, ESS 6.5 ± 2 , AHI $46 \pm 21 \text{ h}^{-1}$) or to conservative treatment (n=366, 83% males, 52 ± 11 yrs, ESS 6.5 ± 2 , AHI $39 \pm 18 \text{ h}^{-1}$). Patients were followed during a median of 4 years and the composite outcome was CVE or new diagnosis of hypertension.

Results: We registered 58 CVE and 148 new cases of hypertension. The ratio of incidence density (IDR) of CPAP group vs. conservative treatment was 0.83; 95% CI (0.63, 1.1) p=0.195. In the subgroup of patients with hypertension at baseline, the corresponding IDR was 0.63; 95% CI (0.33, 1.19) p=0.158. Mean CPAP compliance was 4 ± 2 h/night. In the sample of patients that used CPAP > 4 h/night the IDR vs. conservative treatment was 0.72; 95% CI (0.52, 0.98) p= 0.039 while in patients with hypertension at baseline the corresponding IDR for CVE was 0.52; 95% CI (0.25,1.1) p=0.089.

Conclusions: In non-sleepy patients with OSA, CPAP treatment reduce the incidence of CVE and hypertension, with a statistical significant decrease for those subjects that use CPAP for at least 4 hours/night.

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