



News Release

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FOR MORE INFORMATION, CONTACT:

Nathaniel Dunford or Rory Williams

ndunford@thoracic.org or rwilliams@thoracic.org

ATS Office 212-315-8620 or 212-315-8631 (until May 12)

Session D99: Building the Evidence: Cardiovascular System Outcomes of Sleep Disorders

Wednesday, May 20, 2015, 1:30 p.m. – 3:30 p.m.

Location: Colorado Convention Center

Sleep Apnea Common Among Patients Undergoing Heart Procedure

ATS 2015, DENVER— Patients undergoing percutaneous coronary intervention (PCI), a coronary artery widening procedure used to treat heart disease, are at high risk for obstructive sleep apnea (OSA), according to new research presented at the 2015 American Thoracic Society International Conference.

“Our findings, in a large, multicenter sample of patients, reinforce the known association between OSA and cardiovascular disease,” said researcher Luciano Drager, MD, PhD, of the University of São Paulo School of Medicine in Brazil. “Nearly half of the patients in our study, who were treated with PCI for either myocardial infarctions or angina, had OSA.”

The study included 1,305 mostly male patients from Singapore, China and Hong Kong, India, Myanmar, and Brazil who had undergone successful PCI. Overnight sleep studies were performed in all subjects.

The overall prevalence of OSA was 45%, and 21.8% of the study subjects had severe OSA, as assessed with the apnea-hypopnea index (AHI), which indicates OSA severity based on the number of apneas (complete cessation of airflow) and hypopneas (partial cessation of airflow) per hour of sleep.

Excessive daytime sleepiness, measured with the Epworth Sleepiness Scale, was observed in only a quarter of the patients with OSA. Similarly, only half of the patients with OSA were categorized as being at high risk for OSA on the Berlin Questionnaire, a sleep apnea screening tool, suggesting that these validated tools in the general population may not be useful for patients with cardiovascular diseases.

“Earlier studies have shown strong relationships between sleep apnea and a number of cardiovascular conditions, including high blood pressure, arrhythmia, stroke and heart failure,” said Dr. Drager. “Our study supports this strong association between OSA and heart disease and also suggests that the methods used to screen for OSA in patients with cardiovascular disease need to be improved.”

The ongoing study will evaluate whether OSA contributes to the risk of cardiovascular events in patients who have undergone successful PCI.

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** 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.*

Abstract 67001

High Prevalence of Obstructive Sleep Apnea in Patients Treated with Percutaneous Coronary Intervention: A Multicenter Observational Study

Type:

Scientific Abstract

Category:

16.01 - Sleep Disordered Breathing: Cardiovascular Outcomes (SRN)

Authors:

S.F. Furlan¹, C.H.G. Uchoa², L. Germaine³, J.-J.Zhang⁴, R. Senthil⁵, R. Li⁶, H. Hee-Hwa⁷, T. Hein⁸, J. Man Hong⁹, C.-H. Lee¹⁰, L.F. Drager²; ¹University of São Paulo School of Medicine - Sao Paulo/BR, ²University of São Paulo School of Medicine - São Paulo - Sp/BR, ³National University Heart Centre - Singapore/SG, ⁴Nanjing First Hospital - Nanjing/CN, ⁵King George's Medical University - Lucknow/IN, ⁶Shanghai Chest Hospital - Shanghai/CN, ⁷Tan Tock Seng Hospital - Cingapura/SG, ⁸Defence Services General Hospital - Myanmar/SG, ⁹Hospital Authority Staff - Pok Fu Lam/CN, ¹⁰National Heart Centre Singapore - Singapore/SG

Abstract Body

Background: Obstructive Sleep Apnea (OSA) is a common condition in the general population. Most of the evidence exploring prevalence of OSA on cardiovascular diseases is based on single-center studies with a small sample size.

Methods: The Sleep and Stent Study was a multicenter observational study investigating the relationships between OSA and cardiovascular outcomes in patients treated with percutaneous coronary intervention (PCI). Eight centers in 5 countries (Singapore, China and Hong Kong, India, Myanmar, and Brazil) participated in the study. Adult patients age 18 to 80 years who have undergone successful PCI were eligible. Recruited patients underwent an overnight sleep study using a level-3 portable diagnostic device before hospital discharge. The sleep tracings were analyzed by a sleep physician who was blinded to other study data. The patients were

divided into 2 groups based on apnea-hypopnea index (AHI): OSA (AHI ≥ 15) and non-OSA (AHI < 15) groups.

Results: We recruited 1815 patients. Of them, 28.1% were excluded due to several reasons including refusal to perform sleep studies and sleep study failure. A total of 1305 patients were included in this analysis (84% men, mean age 58 ± 10 years, BMI: 25.7 ± 3.8 kg/m²). The indications for PCI were ST segment elevation myocardial infarction (32.8%), non-ST segment elevation myocardial infarction (19.9%), unstable angina (16.2%) and stable angina (31%). The prevalence of OSA was 45% (21.8% presented severe OSA, AHI ≥ 30 events/ hour). Excessive daytime sleepiness (Epworth sleepiness scale > 10) was found in 24.5% of OSA patients. High-risk for OSA by Berlin questionnaire was found in 54.3% of the patients with OSA, suggesting that both sleep questionnaires may not be useful for screening OSA in these patients.

Conclusions: OSA is common in patients treated with percutaneous coronary intervention in all 5 countries analyzed in this multicentric study. Consistently with other studies exploring OSA in patients with cardiovascular diseases, most of these patients did not have excessive daytime sleepiness. Moreover, only half of them had positive Berlin Questionnaire. These results suggest that non-sleep related predictors of OSA should be investigated.