

# Treat Sleep Apnea to Prevent Recurrent Atrial Fib

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SNOWMASS, COLO. — The association between obstructive sleep apnea and atrial fibrillation is now so firmly supported that prevention of recurrent atrial fibrillation can be added to the list of indications for treatment of the sleep disorder, Dr. Bernard J. Gersh said at a conference sponsored by the Society for Cardiovascular Angiography and Interventions.

"The correlation between obstructive sleep apnea and atrial fibrillation is so strong that, before I consider patients for pulmonary vein isolation and ablation, I make sure that they don't have sleep apnea," added Dr. Gersh, professor of medicine at the Mayo Clinic, Rochester, Minn. He was a coinvestigator in a Mayo Clinic study that showed the risk of recurrence of atrial fibrillation in the

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year following direct current cardioversion of the arrhythmia in patients with obstructive sleep apnea (OSA) was cut in half by continuous positive airway pressure (CPAP) therapy (*Circulation* 2003;107:2589-94).

What has been unclear until recently is how much of the association between OSA and atrial fibrillation is caused by the OSA and how much is a consequence of the obesity, hypertension, diabetes, and other comorbid conditions that are common in patients with OSA.

An answer finally was provided by a recent retrospective cohort study of 3,542 Olmsted County, Minn., adults free of a history of atrial fibrillation when referred for diagnostic polysomnography. During a mean 4.7-year follow-up, the incidence of new-onset atrial fibrillation was 14%. Obesity and OSA proved to be independent risk factors for atrial fibrillation in persons aged 65 years or less. For each 0.5-U log decrease in nocturnal oxygen saturation at baseline—an important measure of OSA severity—the risk of developing atrial fibrillation climbed 3.3-fold. And for each 5-kg/m<sup>2</sup> increase in body mass index above normal weight, the risk of new-onset atrial fibrillation rose by 15% (*J. Am. Coll. Cardiol.* 2007;49:565-71).

Other independent predictors of new-onset atrial fibrillation in this Mayo Clinic study were male gender and the presence of coronary artery disease.

At least 25 million Americans have OSA; 60%-80% of them remain undiagnosed. Atrial fibrillation is already the most common sustained cardiac arrhythmia, and the worsening obesity epidemic combined with the large number of individuals with undiagnosed and untreated OSA and the graying of the general population portends a dramatic increase in the atrial fibrillation problem, the cardiologist observed at the conference, cosponsored

by the American College of Cardiology.

A few years ago when Dr. Gersh cochaired a National Heart, Lung, and Blood Institute workshop on the cardiovascular consequences of sleep-disordered breathing (*Circulation* 2004;109:951-7), a major unresolved issue was whether OSA is a cause of acute MI, stroke, and other cardiovascular events or simply a surrogate marker for the traditional cardiovascular risk factors. He cited two studies that have since provided convincing evidence that OSA is

an independent cardiovascular risk factor.

In one observational cohort study involving 1,022 consecutive patients who underwent polysomnography, investigators at Yale University, New Haven, demonstrated that OSA at baseline was independently associated with a twofold increased risk of subsequent stroke or death from any cause after adjusting for numerous potential confounders, including hypertension, smoking and alcohol-consumption status, age, gender, atrial fibrillation, dia-

betes, BMI and hyperlipidemia (*N. Engl. J. Med.* 2005;353:2034-41).

In the other key study, physicians at University Hospital, Zaragoza (Spain), followed more than 1,000 men with CPAP-treated or untreated OSA, 377 simple snorers, and 264 healthy men. During a mean 10.1-year follow-up, men with untreated severe OSA had roughly threefold greater risks of both fatal and nonfatal cardiovascular events than did the healthy controls (*Lancet* 2005;365:1046-53). ■

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References: 1. Gross L. Metaxalone: a review of clinical experience. *J Neurol Orthop Med Surg.* 1998;18(1):76-79. 2. Dent RW Jr, Ervin DK. A study of metaxalone (Skelaxin) vs. placebo in acute musculoskeletal disorders: a cooperative study. *Curr Ther Res Clin Exp.* 1975;18(3):433-440.