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## RSNA Press Release

### People With Sleep Apnea at Higher Risk for Aggressive Heart Disease

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CHICAGO — People with obstructive sleep apnea (OSA), a sleep disorder associated with obesity, have more non-calcified or "bad" plaque in their coronary arteries, according to a study presented today at the annual meeting of the Radiological Society of North America (RSNA).

"Our study reveals that individuals with obstructive sleep apnea are prone to developing an aggressive form of atherosclerosis that puts them at risk for impaired blood flow and cardiovascular events," said U. Joseph Schoepf, M.D., professor of radiology and medicine and director of cardiovascular imaging at the Medical University of South Carolina in Charleston, S.C.

OSA is caused by obstruction of the upper airway during sleep and is characterized by periodic pauses in breathing, which last for 10 or more seconds. OSA is also commonly associated with snoring.

According to the National Heart, Lung and Blood Institute, millions of Americans have OSA, and approximately half of them are overweight.

In the study, 49 obese patients, mean age 61, with OSA and a mean body mass index (BMI) of 33, and 46 obese patients without the disorder (mean age of 60 and mean BMI of 30) underwent coronary CT angiography (cCTA), which provides detailed pictures and information on plaque buildup and narrowing in the vessels. The OSA group included 26 men and 23 women, and the matched control group included 22 men and 24 women.

The imaging revealed that the amount of calcified plaque in the coronary arteries was not significantly different between the two groups, but the overall composition of vessel plaque

#### At A Glance

- People with obstructive sleep apnea (OSA) are prone to developing an aggressive form of atherosclerosis.
- Coronary CT angiography shows that obese people with OSA may have a higher burden of non-calcified or "bad" plaque and more narrowing of blood vessels, compared to obese people without OSA.
- Millions of Americans have OSA, and approximately half of them are overweight.

was notably different.

"Compared to the non-OSA group, the patients with OSA had a significantly higher prevalence of non-calcified and mixed plaque," Dr. Schoepf said.

Non-calcified plaque is considered bad plaque, because it is more vulnerable to rupturing and causing a blood clot, which could lead to a heart attack or other cardiovascular event.

Patients with OSA also had a significantly higher prevalence of vessel narrowing and more extensive vessel involvement. Eighty-eight percent of OSA patients had narrowing in at least one vessel, compared to 59 percent of non-OSA patients. One-third of OSA patients had narrowing in four vessels.

"Coronary CT angiography is an effective way to noninvasively diagnose non-calcified and mixed plaque," Dr. Schoepf said. "With technological advancements that are lowering the radiation dose required for cCTA, this exam could become a screening tool for obese individuals at increased risk for cardiovascular disease."

Coauthors are Garrett Rowe, B.S., Andrew Armstrong, B.Sc., Joseph Abro, M.A., Adrian Parker, B.A., and Sunil Sharma, M.D.

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Note: Copies of RSNA 2010 news releases and electronic images will be available online at [RSNA.org/press10](http://RSNA.org/press10) beginning Monday, Nov. 29.

RSNA is an association of more than 44,000 radiologists, radiation oncologists, medical physicists and related scientists committed to excellence in patient care through education and research. The Society is based in Oak Brook, Ill. ([RSNA.org](http://RSNA.org))

Editor's note: The data in these releases may differ from those in the printed abstract and those actually presented at the meeting, as researchers continue to update their data right up until the meeting. To ensure you are using the most up-to-date information, please call the RSNA Newsroom at 1-312-949-3233.

For patient-friendly information on CT angiography, visit [RadiologyInfo.org](http://RadiologyInfo.org).