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Heavy snoring as a cause of carotid artery atherosclerosis.

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Abstract

STUDY OBJECTIVES: Previous studies have suggested that snoring and obstructive sleep apnea hypopnea syndrome may be important risk factors for the development of carotid atherosclerosis and stroke. However, it is not clear if snoring per se is independently related to the risk of developing carotid atherosclerotic plaque.

DESIGN: Observational cohort study.

SETTING: Volunteer sample examined in a sleep laboratory.

PARTICIPANTS: One hundred ten volunteers (snorers and nonsnorers with only mild, nonhypoxic obstructive sleep apnea hypopnea syndrome) underwent polysomnography with quantification of snoring, bilateral carotid and femoral artery ultrasound with quantification of atherosclerosis, and cardiovascular risk factor assessment. Subjects were categorized into 3 snoring groups: mild (0%-25% night snoring), moderate (> 25%-50% night snoring), and heavy (> 50% night snoring).

INTERVENTIONS: N/A.

MEASUREMENTS AND RESULTS: The prevalence of carotid atherosclerosis was 20% with mild snoring, 32% with moderate snoring, and 64% with heavy snoring ($P < 0.04$, X^2). Logistic regression analysis was used to determine the independent effect of snoring on the prevalence of carotid and femoral atherosclerosis. After adjustment for age, sex, smoking history, and hypertension, heavy snoring was significantly associated with carotid atherosclerosis (odds ratio 10.5; 95% confidence interval 2.1-51.8; $P = 0.004$) but not with femoral atherosclerosis.

CONCLUSIONS: Heavy snoring significantly increases the risk of carotid atherosclerosis, and the increase is independent of other risk factors, including measures of nocturnal hypoxia and obstructive sleep apnea severity. Considering the high prevalence of snoring in the community, these findings have substantial public health implications for the management of carotid atherosclerosis and the prevention of stroke.

Comment in

Not so good vibrations. Commentary on Lee et al. Heavy snoring as a cause of carotid artery atherosclerosis. SLEEP 2008;31(9):1207-1213.

Snoring and carotid artery atherosclerosis.