

Sleep apnea associated with higher mortality from cancer: study

May 20 2012

Sleep-disordered breathing (SDB), commonly known as sleep apnea, is associated with an increased risk of cancer mortality, according to a new study.

While previous studies have associated SDB with increased risks of [hypertension](#), [cardiovascular disease](#), [depression](#), and early death, this is the first human study to link apnea with higher rate of [cancer mortality](#). Lead author Dr. F. Javier Nieto, chair of the department of population health sciences at the UW School of Medicine and [Public Health](#), says the study showed a nearly five times higher incidence of cancer deaths in patients with severe SDB compared to those without the disorder, a result that echoes previous findings in animal studies.

"Clearly, there is a correlation, and we are a long way from proving that [sleep apnea](#) causes cancer or contributes to its growth," says Nieto, an expert in sleep epidemiology. "But animal studies have shown that the [intermittent hypoxia](#) (an inadequate supply of [oxygen](#)) that characterizes sleep apnea promotes angiogenesis—increased vascular growth—and tumor growth. Our results suggest that SDB is also associated with an increased risk of cancer mortality in humans."

Dr. Nieto will present his study May 20 at the American Thoracic Society 2012 International Conference in San Francisco. It will be published in *American Journal of Respiratory and Critical Care Medicine*.

The team of University of Wisconsin-Madison investigators led by Nieto

conducted this research in collaboration with Dr. Ramon Farré, professor of physiology at University of Barcelona, Spain. In a separate study also presented at the ATS conference, Dr. Farré's group showed that the effect of intermittent hypoxia on cancer growth is considerably stronger in lean mice than in obese mice.

The Wisconsin researchers examined 22-year mortality data on 1,522 subjects from the Wisconsin Sleep Cohort. This cohort is a longitudinal, community-based [epidemiology](#) study of sleep apnea and other sleep problems that began in 1989 under the leadership of Dr. Terry Young, also a member of the UW population health sciences faculty. The cohort began was a random sample of Wisconsin state employees.

The participants undergo overnight sleep studies that include polysomnography – an all-night recording of sleep and breathing – and many other tests at four-year intervals. The studies are conducted in a specially designed unit at the federally funded UW Institute for Clinical and Transitional Research Center (ICTR).

After adjustment for age, sex, body mass index, and smoking, Nieto's study found that both all-cause and cancer mortality were associated with the presence and severity of SDB in a dose-response fashion. People with severe SDB died of cancer at a rate 4.8 times higher than people with no sleep breathing problems.

These associations were similar after excluding the 126 subjects who had used continuous positive airway pressure and were stronger among non-obese subjects than obese subjects.

"In our large population-based sample, SDB was associated with an elevated risk of cancer mortality," concluded Dr. Nieto. "Additional studies are needed to replicate these results. If the relationship between SDB and cancer mortality is validated in further studies, the diagnosis

and treatment of SDB in patients with cancer might be indicated to prolong survival."

Provided by University of Wisconsin-Madison

Citation: Sleep apnea associated with higher mortality from cancer: study (2012, May 20)
retrieved 6 May 2024 from

<https://medicalxpress.com/news/2012-05-apnea-higher-mortality-cancer.html>

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