

## Successful lung cancer surgery not enough to break nicotine dependence in many smokers

December 11 2006

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A new study has found that close to half of 154 smokers who had surgery to remove early stage lung cancer picked up a cigarette again within 12 months of their potentially curative operation, and more than one-third were smoking at the one year mark. Sixty percent of patients who started smoking again did so within two months of surgery.

The study, led by researchers at Washington University School of Medicine and published in the December issue of *Cancer Epidemiology Biomarkers & Prevention*, is the first to look at smoking relapse among people who were "forced" to quit due to impending surgery.

"These patients are all addicted, so you cannot assume they will easily change their behavior simply because they have dodged this particular bullet," said the study's lead author, Mark S. Walker, Ph.D., a clinical psychologist and Assistant Professor of Medicine at Washington University. "Their choices are driven by insidious cravings for nicotine."

The investigators found that those smokers who were the last to give up their cigarettes - some on the same day as their operation - and who saw smoking as a pleasurable activity they would have difficulty giving up, were also the first to resume the habit. And they concluded that patients who were able to hold out the longest before they took up a cigarette after surgery were the ones who were most likely not to be smoking in a year's time.

"The results suggest that patients who wait until cancer surgery to quit

smoking need assistance from the medical community to help them stay away from cigarettes, and that this intervention should begin as soon as possible after treatment," Walker said. No such programs are currently offered to lung cancer surgery patients, he added.

At least seven studies of non-small cell lung cancer patients have shown that many of these patients continue smoking despite the risk, but the rate of relapse ranged from a low of 13 percent to about 60 percent. This study was unique in that it sought to include patients believed to be highly dependent on nicotine - so it included only patients who smoked within three months of their diagnosis - and it attempted to use saliva samples as well as questionnaires to gauge whether patients were smoking 3, 6, and 12 months after surgery.

Investigators at Washington University and at the University of Texas M.D. Anderson Cancer Center enrolled 154 patients being treated for early stage lung cancer at their centers. These patients were lucky, Walker said. "Their cancer was discovered largely by accident when they were being examined for other medical conditions, and so was potentially curable by surgery," he said. "More than two-thirds of lung cancer is diagnosed at later stages in people with symptoms, and treatment is much less successful."

The researchers found that 43 percent of patients smoked at some point after surgery and 37 percent were smoking 12 months after their operation.

Consistent with previous research, the investigators hypothesized that greater nicotine dependence, a younger age, lower income, and a lower level of education would be associated with a greater likelihood of smoking post surgery.

But that is not what they saw on two of the four variables. Instead,

researchers found no link between the quantity of smoking and the ability to quit, and they also were surprised to discover that higher education was associated with a greater likelihood of smoking after surgery. "It wasn't the number of cigarettes smoked daily that determined who couldn't quit, but how long they continued to smoke before surgery. About half of the patients studied smoked within two weeks of their operation," Walker says. "We are not certain what to make of the finding about education, because no other study about smoking cessation has reached that conclusion."

How long patients quit before surgery may have been influenced by their "self efficacy" for quitting, he says. "The thing that really drove whether or not people relapsed is whether they saw smoking as pleasurable and rewarding to the point that they can't do without cigarettes, and they don't believe they are able to quit."

Patients who were able to quit by the one year mark waited longer to attempt to smoke again, or never began again. In fact, more than one in four patients who smoked after surgery were nonsmokers at the 12-month follow-up, he said. "Perhaps for these patients, lung cancer surgery was a wake-up call to quit, but many others need intervention to help them fight nicotine."

Source: American Association for Cancer Research

Citation: Successful lung cancer surgery not enough to break nicotine dependence in many smokers (2006, December 11) retrieved 15 July 2023 from <https://medicalxpress.com/news/2006-12-successful-lung-cancer-surgery-nicotine.html>

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