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Large Study Finds No Link between Marijuana and Lung Cancer

By David Biello

The smoke from burning marijuana leaves contains several known carcinogens and the tar it creates contains 50 percent more of some of the chemicals linked to lung cancer than tobacco smoke. A marijuana cigarette also deposits four times as much of that tar as an equivalent tobacco one. Scientists were therefore surprised to learn that a study of more than 2,000 people found no increase in the risk of developing lung cancer for marijuana smokers.

"We expected that we would find that a history of heavy marijuana use--more than 500 to 1,000 uses--would increase the risk of cancer from several years to decades after exposure to marijuana," explains physician Donald Tashkin of the University of California, Los Angeles, and lead researcher on the project. But looking at residents of Los Angeles County, the scientists found that even those who smoked more than 20,000 joints in their life did not have an increased risk of lung cancer.

The researchers interviewed 611 lung cancer patients and 1,040 healthy controls as well as 601 patients with cancer in the head or neck region under the age of 60 to create the statistical analysis. They found that 80 percent of those with lung cancer and 70 percent of those with other cancers had smoked tobacco while only roughly half of both groups had smoked marijuana. The more tobacco a person smoked, the greater the risk of developing cancer, as other studies have shown.

But after controlling for tobacco, alcohol and other drug use as well as matching patients and controls by age, gender and neighborhood, marijuana did not seem to have an effect, despite its unhealthy aspects. "Marijuana is packed more loosely than tobacco, so there's less filtration through the rod of the cigarette, so more particles will be inhaled," Tashkin says. "And marijuana smokers typically smoke differently than tobacco smokers; they hold their breath about four times longer allowing more time for extra fine particles to deposit in the lungs."

The study does not reveal how marijuana avoids causing cancer. Tashkin speculates that perhaps the THC chemical in marijuana smoke prompts aging cells to die before becoming cancerous. Tashkin and his colleagues presented the findings yesterday at a meeting of the American Thoracic Society in San Diego.