HIV Associated With Marked Declines in Lung Function

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Middle-aged people living with HIV experience declines in pulmonary function comparable to those typically seen in elderly HIV-negative individuals with a long history of smoking, according to a new study reported Sunday, May 17, at the 105th International Conference of the American Thoracic Society (ATS) in San Diego. According to Syed Kadri, a medical student at Ohio State University Medical Center in Columbus and the primary author of the study, these data suggest that HIV-positive people who smoke face a much higher risk of chronic obstructive pulmonary disease (COPD) earlier in life than their HIV-negative peers.

Studies have documented that HIV-positive people are twice as likely to smoke cigarettes as HIV-negative people and, as a result, more likely to experience lung disease as they age, notably emphysema and other forms of COPD. It has not been clear, however, if people living with HIV—whether or not they smoke—experience more rapid loss of pulmonary function compared with HIV-negative individuals.

The ongoing study presented by Kadri is evaluating declines in lung function among 275 HIV-positive individuals. The tests conducted by Kadri's group include two standard pulmonary function evaluations: the elasticity of the lungs (forced expiratory volume in one second, or FEV1) and the ability of oxygen to pass from the air sacs of the lungs into the blood (carbon monoxide diffusing capacity, or DLCO).

Kadri's group reported data involving the first 65 HIV-positive individuals to complete two years of follow-up in the study. Most are men, averaging 46 years old at the time of study entry. About 51 percent were smokers, averaging a 20 pack-years smoking history (a pack a day for 20 years).

Marked declines in lung function were noted. At the start of the study, the FEV1 was 88 percent of what it should have been compared with age-matched men and women. Two years later, the FEV1 dropped to 83.2 percent of the predicted value. The DLCO dropped from 77.6 to 70.0 during the first two years of the study.

"This is the type of decline you might expect to see in elderly individuals who have a long history of smoking," said Kadri in a statement prepared by the ATS. "These results indicate that HIV-positive patients are more susceptible to lung-related problems than HIV-negative individuals."

Neither the ATS conference abstract nor the ATS press statement reported pulmonary function

testing in HIV-positive smokers compared with HIV-positive people who have never smoked or those who have quit. But according to Kadri, these results suggest that “HIV-positive smokers are even more susceptible to developing early emphysema.”

Kadri and his colleagues have begun a new leg of the study, to analyze the effects of smoking cessation in the same cohort as those in the current study. “We hope this next phase will show us whether lung function improves with smoking cessation in HIV-positive individuals and what factors are associated with successful cessation,” Kadri said.

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