Smoking Harms the Immune System in People With HIV

May 30, 2014

Smoking is detrimental to the immune systems of HIV-positive people taking antiretroviral (ARV) therapy, Digital Journal reports. Publishing their findings in PLOS ONE, researchers conducted a comprehensive analysis of the cumulative effect of HIV and smoking on the immune systems of smokers living with HIV who were taking ARVs and had a fully suppressed viral load.

The study was divided into four groups, including: 25 HIV-positive smokers, 25 HIV-negative smokers, 15 HIV-positive nonsmokers and 15 HIV-negative nonsmokers. The participants filled out questionnaires about drug, tobacco and alcohol use and underwent physical and lab testing.

When compared with the nonsmokers, all the smokers had significantly elevated levels of CD4 and CD8 immune activation, with a particularly higher level in those smokers with HIV. Immune activation has been tied to accelerated suppression of the immune system in people with HIV. When compared with HIV-negative nonsmokers, those who smoked had higher levels of microbial translocation, which is a key factor implicated in the development of immune activation. The smokers also had higher indicators of immune exhaustion.

The researchers concluded that smoking by HIV-positive people causes greater immune activation, microbial translocation and impairment of CD4 cell functions, which may in turn fuel the progression of HIV disease.

To read the Digital Journal article, click here.

To read the study, click here.