

# Long-term HIV treatment may reduce risk for atherosclerosis

August 4 2008

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Antiretroviral drugs for HIV do not increase the risk for coronary atherosclerosis, a central risk factor for heart disease, according to a study led by the University of Pittsburgh Graduate School of Public Health to be published in the Aug. 8 issue of the journal *AIDS* and available online today. The results further suggest that antiretroviral therapy may offer men with HIV some protection against atherosclerosis – hardening of the arteries, caused in part by high levels of cholesterol, smoking and other lifestyle factors.

The study, part of the Multicenter AIDS Cohort Study (MACS) initiated in 1983, measured levels of coronary artery calcification (CAC) in nearly 950 HIV-positive and HIV-negative men by CT scanning completed between 2004 and 2006. Controlling for traditional atherosclerosis risk factors such as age, family history, smoking and blood pressure, the study team found that CAC scores were almost 60 percent lower in HIV-positive men who received highly active antiretroviral therapy (HAART) for more than eight years compared to HIV-negative men.

HAART, a course of treatment that involves the combination of three or more antiretrovirals, has been associated with an increase in cholesterol and other factors associated with atherosclerosis, leading some to question whether long-term use increases the risk of heart attack.

"When we first prescribed highly active antiretroviral therapy for HIV in 1995, we were concerned about how these drugs changed lipid levels in

patients and whether they would increase atherosclerosis and ultimately lead to serious heart disease," said Lawrence Kingsley, Ph.D., study lead author and associate professor, Departments of Infectious Diseases and Microbiology and Epidemiology, University of Pittsburgh Graduate School of Public Health. "While some studies have found an association between these antiretroviral treatments and increased risk of cardiovascular disease, we believe our findings should reassure clinicians that using antiretroviral therapy over time does not appear to put patients at greater risk for coronary atherosclerosis and may, in fact, be more beneficial than we had initially thought."

The study also found that for both HIV-positive and HIV-negative men, older age was most strongly associated with the presence of coronary atherosclerosis. Smoking, lipid abnormalities and family history also played a role.

"This was not surprising since these are the major risk factors for atherosclerosis in the general population," said Dr. Kingsley. "The purpose of our study, however, was to investigate whether long-term HAART usage was a major risk factor."

"These results could be due, in part, to lower lipid values of HIV infected men prior to beginning antiretroviral therapy and high use of lipid-lowering drugs. The key is that controlling risk factors for atherosclerosis should be a priority," added Lewis Kuller, M.D., Dr.P.H., study co-author and professor of epidemiology, University of Pittsburgh Graduate School of Public Health.

Dr. Kingsley concluded, "What remains to be determined is whether use of the newest antiretroviral therapies confers an even better outcome and whether lipid-lowering therapies will further improve cardiovascular risk in the HIV-infected population. Our future research will address these questions."

Source: University of Pittsburgh

Citation: Long-term HIV treatment may reduce risk for atherosclerosis (2008, August 4)  
retrieved 1 May 2024 from

<https://medicalxpress.com/news/2008-08-long-term-hiv-treatment-atherosclerosis.html>

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