



Cardiovascular Disease Indicators Not Higher Among HIV-Positive People on Long-Term Treatment

By Barbara Jungwirth

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No difference was found between the calcium scores of HIV-positive people on long-term antiretroviral therapy and those of the general population, according to a study presented at ICAAC 2014 in Washington, D.C.

[The study](#), conducted by Vishal Dahya, M.D., and colleagues at Florida State University College of Medicine, examined calcium scores, which quantify the buildup of calcium in plaques in the coronary arteries, a sign of coronary artery disease (CAD).

Prior studies on the subject had found that the rate of CAD in HIV-positive people is about twice that of the general population, but determined that this increased risk of CAD was secondary to other factors, such as smoking or a family history of heart problems. The subjects of these studies were also older, mostly white men.

By contrast, the mean age of patients examined in this study was about 45 years, around 40% were women and a little over 60% were white. Specifically, the researchers administered coronary computed tomography (CT) scans and took blood for cardiovascular risk panels from 38 HIV-positive patients (24 men and 14 women) and 40 HIV-negative patients (24 men and 16 women) from the same community. Study participants were matched by race and gender, had to be between 35 and 50 years old, and had no prior history of CAD or heart surgery. People in the HIV-positive group had to have been on antiretroviral therapy for at least 5 years.

Half of participants in the HIV-positive group were taking at least one non-nucleoside reverse transcriptase inhibitor (NNRTI) at the time, 36.8% were taking a protease inhibitor and 31.6% an integrase inhibitor. Median duration of HIV was 15.7 years and median time on antiretroviral therapy was 13.6 years.

Other CAD risk factors were fairly well matched between the two groups, with 47% of study participants suffering from hypertension, and a little over one-third currently on statin treatment. The HIV-positive group, however, had a lower body mass index (26.9 average in HIV positive, 32 in HIV negative) and lower incidence of diabetes mellitus (18.4% HIV positive, 22.5% HIV negative). On the other hand, the HIV-positive patients in this study were more likely to smoke (50% current smokers among HIV positive versus 40% among HIV negative).

Neither the CT scans nor the cardiovascular risk panels revealed significant differences in calcium scores between the two groups (-1.014 HIV positive versus 1.382 HIV negative). However, being a man (2.695 for men, 0.229 for women) and having diabetes (0.387 no diabetes versus 2.859 diabetes) were good predictors of higher calcium scores, and hence indicators of coronary artery disease.

The study authors conceded that it was unclear whether this small sample size was sufficient for drawing broader conclusions and called for additional studies:

Multicenter studies are needed to determine the rate of progression as well as the implication of antiretrovirals in the development and progress of CAD. Additional studies are also needed to determine the prior inflammatory and immune activation effects of HIV on the coronary vasculature.

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