

HIV infection may be a risk factor for heart failure

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Patients with HIV infection without a prior history of coronary heart disease may be at a higher risk of developing heart failure, according to a report in the April 25 issue of *Archives of Internal Medicine*.

Previous studies have suggested that "class of antiretroviral drugs (particularly protease inhibitors), [Human immunodeficiency virus 1](#) (HIV-1) RNA levels, and low CD4+ lymphocyte counts are each associated with an increased risk of cardiovascular disease events, an important risk factor for heart failure," according to background information in the article. "Heavy alcohol consumption, which is more prevalent among HIV-infected people, is also an established risk factor for heart failure," the authors write. "Other important risk factors for heart failure in the general population include increasing age, hypertension, diabetes mellitus, and obesity, factors that are being seen with increasing frequency among the HIV-infected population," because of improved survival among individuals with the infection.

Adeel A. Butt, M.D. M.S., from the University of Pittsburgh School of Medicine, Pittsburgh and Pittsburgh Healthcare System, and colleagues analyzed data from HIV-infected and HIV-uninfected veterans enrolled in the Veterans Aging Cohort Study Virtual Cohort and the 1999 Large Health Study of Veteran Enrollees from January 1, 2000 to July 31, 2007. The objective of the study was to determine whether [HIV infection](#) was independently associated with an increase risk of heart failure (HF).

A total of 8,486 patients were included in the analysis, of whom 2,391 (28.2 percent) were HIV infected and 6,095 (71.8 percent) were HIV uninfected. During the median (midpoint) 7.3 years of follow-up, there were 286 new heart failure events and 1,096 deaths. "Participants with HIV infection were more likely to have [hepatitis C](#) virus co-infection (30.5 percent vs. 11.4 percent) and cocaine abuse or dependence (21.9 percent vs. 15.7 percent) and higher reported rate of current smoking (55 percent vs. 45.3 percent), but were less likely to have hypertension (18.7 percent vs. 28.8 percent) or diabetes (16.7 percent vs. 24.8 percent)," the authors report.

Compared with HIV-uninfected veterans, those who were HIV-infected had an increased risk of HF, and this association was also present among veterans who did not have a [coronary heart disease](#) event or a diagnosis related to alcohol abuse or dependence before the incident HF event. In addition, the authors report that "Compared with patients without HIV infection, those with HIV infection who had baseline HIV-1 RNA levels of 500 or more copies/mL had a significantly higher risk of HF." Those patients with HIV infection, who had baseline and HIV-1 RNA levels less than 500 copies/mL, did not have an increased risk of heart failure. The authors suggest there could be several mechanisms at work in this relationship between HIV and heart failure, including direct effects of the infection, heavy [alcohol consumption](#), antiretroviral therapy leading to an increased risk of coronary heart disease, nutritional deficiencies, and immunologic damage to the myocardium (heart muscle).

"In conclusion, HIV infection is associated with an increased risk of heart failure after adjusting for traditional risk factors for heart failure. This association persisted even after exclusion of patients with a baseline history of coronary heart disease, heart failure and angina, as well as a coronary heart disease event in the follow-up period prior to the diagnosis of heart failure and a history of alcohol abuse or dependence diagnosis. Ongoing viral replication is associated with a higher risk of

[heart failure.](#)"

More information: *Arch Intern Med.* 2011; 171[8]: 737-743.

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