

HIV infection appears associated with increased heart attack risk

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A study that analyzed data from more than 82,000 veterans suggests that infection with the human immunodeficiency virus (HIV) was associated with an increased risk of acute myocardial infarction (AMI, heart attack) beyond what is explained by recognized risk factors, according to a report published Online First by *JAMA Internal Medicine*, a JAMA Network publication.

Due to the successful [antiretroviral therapy](#) (ART), people infected with HIV are living longer and are at risk for heart disease, authors wrote in the study background.

Matthew S. Freiberg, M.D., M.Sc., of the University of Pittsburgh School of Medicine, and colleagues examined whether HIV infection was associated with an increased risk of AMI after adjusting for standard Framingham [risk factors](#) in a large group of HIV-positive veterans and a similar group of uninfected veterans.

Researchers, who analyzed data from 82,459 [study participants](#), found that during a median follow-up of 5.9 years there were 871 AMI events.

"Across three decades of age, the mean ... AMI events per 1,000 person-years was consistently and significantly higher for HIV-positive compared with uninfected veterans," according to the study results.

The results indicate that for veterans ages 40 to 49 years, the events per 1,000 person-years were 2.0 for HIV-positive veterans vs. 1.5 for

uninfected veterans; for those ages 50 to 59 years, 3.9 vs. 2.2; and for those ages 60 to 69 years, 5.0 vs. 3.3. After adjusting for Framingham risk factors, co-existing illnesses and substance use, HIV-positive veterans had an increased risk of incident AMI compared with uninfected veterans (hazard ratio, 1.48), according to the results.

The study also notes that an "excess risk" remained among those achieving an HIV-1 RNA level less than 500 copies/mL compared with uninfected veterans (hazard ratio, 1.39).

Researchers comment that the study's findings may not be generalizable to women because the group of patients studied was overwhelmingly male.

"In conclusion, [HIV infection](#) is independently associated with AMI after adjustment for Framingham risk, comorbidities and substance use. Unsuppressed HIV viremia, low CD4 cell count, Framingham risk factors, hepatitis C virus, renal disease and anemia are also associated with AMI," the study concludes.

In a related commentary, Patrick W.G. Mallon, M.B., B.Ch., Ph.D., F.R.A.C.P., F.R.C.P.I., of the University College Dublin, Ireland, writes: "Although the cohort studied was almost exclusively male (>97 percent), the results demonstrate a clear and consistent excess risk of MI [[myocardial infarction](#)] (approximately 50 percent increase) in HIV-positive people across a range of age groups, with the association between HIV status and MI remaining significant when controlled for a number of covariates including traditional cardiovascular risk factors, such as lipids, blood pressure, and smoking status."

"That the HIV-positive cohort in the study by Freiberg et al experienced a 50 percent increased risk of MI highlights the need for further research in women, research into the underlying mechanisms of the increased

risk, and the development of specific interventions to reduce the risk of MI in HIV-positive populations," Mallon concludes.

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