

# HIV infection appears to increase the risk of heart attack

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Researchers from Massachusetts General Hospital (MGH) have found that infection with HIV, the virus that causes AIDS, is also associated with increased risk of myocardial infarction or heart attack. While rates of several cardiovascular risk factors were also increased in study participants infected with HIV, the increased incidence of heart attack was beyond what could be explained by risk factor differences. The report will be published in the *Journal of Clinical Endocrinology and Metabolism* and has been released online.

"Our study shows a higher incidence of myocardial infarction and major cardiovascular risk factors in HIV-infected patients, compared with noninfected patients," says Steven Grinspoon, MD, of the MGH Program in Nutritional Metabolism and Neuroendocrine Unit, the report's senior author. "Those findings indicate that those infected with HIV should be assessed for cardiovascular risk factors and that we urgently need to develop strategies to modify those risks."

It has been recognized that many HIV-infected individuals have metabolic abnormalities – including altered levels of blood lipids such as cholesterol, insulin resistance, type 2 diabetes, and changes in fat distribution in the body. Researchers have reported that patients taking antiretroviral medications may have increased risk of heart attacks, but few studies have directly examined whether HIV-infected patients in general have more heart attacks than non-infected individuals do.

The researchers took advantage of the Research Patient Data Registry, a

database of demographic and diagnostic information on more than 1.7 million patients treated at MGH and Brigham and Women's Hospital since 1993. They compared information on almost 4,000 HIV-infected patients with data from more than one million patients without HIV. Study participants were aged 18 to 84 and were seen at least twice during the study period of almost eight years. Any patient whose initial visit was for a heart attack was excluded from the study group.

Across all age groups included, the risk of myocardial infarction occurring after the initial hospital visit was markedly higher for those infected with HIV. Although traditional cardiovascular risk factors – such as elevated lipid levels, diabetes and hypertension – also were more common among the HIV-infected patients and did account for some increased risk, the increased risk for heart attack associated with HIV remained significant even when adjusted for those risk factors. Overall, the risk of heart attack was almost doubled in all those with HIV and was almost tripled among women.

"Followup studies are needed to better determine why myocardial infarction rates are higher in HIV patients, which risk factors drive this risk most, and how smoking – which we weren't able to completely evaluate in this study – affects this risk," Grinspoon says. "We also need to analyze the relationship of antiretroviral medications to cardiovascular risk. HIV medications save lives, and patients should continue taking them as prescribed; but we want physicians to be aware of these increased heart attack rates, watch risk factors carefully and appropriately target their treatment." Grinspoon is an associate professor of Medicine at Harvard Medical School.

Source: Massachusetts General Hospital

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