Heavy Drinking Tied to Harmful Immune Response in People With HIV

Researchers analyzed the association between heavy drinking and immune function in those with untreated HIV.

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People with HIV who drink heavily—at least three drinks a day for women and four for men—have higher levels of three key biomarkers that are signals of harmful immune activity.

Publishing their findings in PLOS ONE, researchers led by a team at Boston University School of Medicine (BUSM) studied 350 people with HIV in Russia who had not yet taken antiretrovirals upon entering the study. The participants were assessed at the study's outset and again 12 months later (when 21% had started antiretrovirals) and 24 months later (when 35% had started ARVs).

Seventy-one percent of the cohort was male and the average age was 34 years old. Eighty-seven percent reported they were coinfected with hepatitis C virus (HCV), 86% said they currently smoked and about 40% said they had used illicit drugs in the past 30 days. The average viral load was 20,000.

To determine whether participants were heavy drinkers, the researchers relied both on self-report and on a blood test that looks at a marker called Peth, which can detect alcohol consumption over the previous three weeks or so.

The researchers also assessed the biomarkers of specific immune functions, including systemic inflammation, monocyte activation and altered coagulation, or blood clotting. Previous research has indicated that higher levels of these markers are associated with a greater risk of death.

After adjusting the data to account for differences among the participants in various factors that may affect the biomarkers, the researchers found that heavy alcohol use was associated with higher levels of all three biomarkers.

"Since these biomarkers are associated with mortality, interventions to mitigate effects of heavy drinking on these immune processes merit consideration," the study authors concluded.

The investigators also stressed that these higher biomarkers were seen in a population of relatively young people who had a low rate of chronic inflammatory diseases associated with

aging, such as diabetes, obesity or kidney disease.

“Further, we observed that the relationship between alcohol consumption and some of these biomarkers was not linear, suggesting a complex relationship between alcohol use and biomarkers of systemic inflammation and monocyte activation,” the study’s corresponding author, Kaku So-Armah, PhD, an assistant professor of medicine at BUSM, said in a press release.

Of note: Untreated HIV itself is associated with chronic inflammation, and this report did not indicate whether participants who started antiretroviral therapy saw a reduction in biomarker levels. The World Health Organization recommends that all people with HIV start treatment for the virus soon after diagnosis.

To read the press release about the study, click here.

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