Heavy Drinking, Hep C Boost Inflammation, Immune Activation in Those With HIV

Chronic inflammation is associated with numerous harms.

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People with HIV have higher rates of potentially harmful inflammation and immune activation if they drink heavily, an effect that is even stronger among those with hepatitis C virus (HCV).

Publishing their findings in Alcoholism: Clinical and Experimental Research, researchers recruited 75 people with HIV, including 15 people with HIV/HCV coinfection, as well as 34 HIV-negative controls who were matched for alcohol use, smoking and other drug use.

The participants provided data on their substance use as well as plasma samples during three visits made over a five-year period. The investigators used the Timeline Followback Interview to assess participants' recent alcohol use.

ELISA tests examined the levels of certain biomarkers in the participants' samples, including one associated with microbial translocation (lipopolysaccharide, or LPS), which refers to inflammation-causing bacteria seeping through the gut and into the body, and several linked to immune activation (lipopolysaccharide binding protein, or LBP; soluble CD14 and sCD14; and soluble CD163 and sCD163).

Among the HIV-positive participants, alcohol use was associated with a higher level of sCD163 but not the other biomarkers. Among those with HCV/HIV coinfection, hep C was associated with a higher level of all the biomarkers. Those who had both viruses and who drank heavily had a higher level of sCD163, which indicates activation of macrophage immune cells, compared with those with HIV/HCV-coinfection who did not drink alcohol and with those with only HIV at all levels of drinking. Additionally, sCD14, which indicates monocyte immune cell activation, was higher in those with HIV/HCV coinfection who drank moderately compared with coinfected nondrinkers.

To read the study abstract, click here.