Researchers find CDT biomarker ineffective for identifying unhealthy alcohol use

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Researchers from Boston University School of Medicine (BUSM) have found that among HIV-infected adults with alcohol problems, measuring their carbohydrate-deficient transferrin (CDT) biomarker was a poor and inaccurate method for detecting unhealthy drinking. These findings currently appear on-line in *AIDS Care*.

Unhealthy alcohol use is common in HIV-infected persons. It can interfere with HIV medication adherence, may lower CD4 cell count and can cause hepatic injury. Furthermore, HIV co-infection with viral hepatitis is common and both HIV and viral hepatitis are adversely impacted by alcohol. For these reasons, detection of unhealthy alcohol use is important in the clinical care of HIV-infected individuals.

Some clinicians are interested in having a laboratory test that can detect unhealthy alcohol use. Although CDT, often measured as %CDT, can detect very heavy drinking, whether it does so in people with HIV in a clinically useful manner has yet to be established. The researchers evaluated the ability of %CDT and gamma glutamyltransferase to detect three levels of unhealthy alcohol consumption: "at-risk", "heavy" and "frequent heavy" drinking as determined by the reference standard Timeline Followback questionnaire.

Of the 300 subjects, 103 reported current consumption at "at-risk" amounts, and 47 reported "heavy" amounts. For "at-risk" drinking, sensitivity of %CDT was 28 percent, meaning the test detected only 28 percent of those with unhealthy alcohol use.

For "heavy" drinking, sensitivity was 36 percent. According to the researchers, these findings suggest that %CDT is not sufficiently sensitive for use in screening for unhealthy alcohol use by people with HIV infection.

"There is evidence that early intervention for unhealthy alcohol use can be effective but early clinical signs are often missed and unhealthy alcohol use often goes undiagnosed by HIV healthcare providers," explained principal investigator Jeffrey Samet, MD, MA, MPH, a professor of medicine at BUSM. "Unfortunately among HIV-infected adults with alcohol problems, %CDT had poor overall accuracy for detecting unhealthy drinking," he added.

Samet and his colleagues believe the next steps for research might include testing other biomarkers for this purpose. "Numerous self-report questionnaires have been validated for detecting unhealthy alcohol use. In the mean time, these will likely remain the least expensive, most accurate and most easily implemented tools for screening patients with HIV for unhealthy alcohol use," said senior author Richard Saitz, MD, MPH, FACP, FASAM, a professor of medicine at BUSM.

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