MEDIA RELEASE

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New blood test to aid liver disease treatment

A new study by the Centenary Institute and the Sydney Local Health District has found that a specialised blood test can detect alcohol use in people with liver disease far more accurately than commonly used biomarker tests or patient self-reports. The breakthrough could help clinicians make better treatment decisions and guide eligibility for liver transplants.

Liver disease is one of Australia's fastest growing health issues, affecting around one in three people. While excessive alcohol use is a significant contributor, many cases are also driven by factors such as obesity, viral hepatitis and autoimmune conditions.

Published in the journal *Alcohol: Clinical and Experimental Research*, the study assessed the effectiveness of a test measuring phosphatidylethanol (PEth), a compound formed only when alcohol is consumed.

The research involved 183 people, including those with alcohol-associated liver disease, individuals with alcohol use disorder and healthy volunteers. Participants reported their alcohol intake, which was compared against PEth levels and other established alcohol biomarkers.

PEth testing detected alcohol use with 95 per cent accuracy, outperforming the other tests. It also distinguished between levels of consumption, with concentrations of 300 micrograms per litre indicating heavy drinking and 600 micrograms per litre indicating very heavy drinking.

Crucially, more than one-third of patients who reported not drinking still had PEth levels showing recent alcohol use.

Clinical Professor Devanshi Seth, senior author of the study and researcher at both the Centre for Healthy Ageing at the Centenary Institute and Edith Collins Centre at the Sydney Local Health District, said that PEth remains detectable for longer than many other tests.

"It's a biochemical signature of alcohol use," Clinical Professor Seth said. "PEth can be detected for up to five weeks after drinking and unlike self-reports or some other biomarker tests, it is both highly sensitive and very accurate. This makes it ideal for monitoring changes in alcohol consumption behaviour over time."

Dr Anastasia Volovets, Specialist in the Liver Transplant Team at the Sydney Local Health District, said the results have important implications for patient care, especially for those being considered for a liver transplant.

“Accurate alcohol detection is vital in transplant settings as it allows us to support patients with an alcohol use disorder. Patients may unintentionally under-report their drinking or feel pressured not to disclose it. PEth testing gives us a much clearer picture so we can make the best decisions for transplant eligibility and post-transplant relapse prevention,” Dr Volovets said.

The researchers say PEth testing could become a valuable tool for improving care in liver clinics and transplant programs more broadly, where precise information on alcohol use is critical for achieving the best patient health outcomes. The PEth test is already being introduced at the Royal Prince Alfred Hospital’s Liver Transplant Unit.

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Images:
Clinical Professor Devanshi Seth
https://drive.google.com/file/d/1SNQACFbpKp3zlKcuYzzqQMvvp3l6Egrs/view?usp=sharing

Publication:
Validation of blood phosphatidylethanol as an alcohol consumption biomarker in patients with alcohol use disorder and liver disease at a liver transplant centre.
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