

Blood Test May Offer Early Warning of Liver Cancer Recurrence After Liver Transplant

Circulating tumor DNA test detects tiny fragments of cancer genetic material in the bloodstream.

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A personalized blood test known as circulating tumor DNA (ctDNA) test—which detects tiny fragments of cancer DNA circulating in the bloodstream—may help identify liver cancer recurrence earlier in transplant recipients and reduce the need for invasive procedures, according to a new study from Houston Methodist.

Published in the Journal of Gastrointestinal Oncology, the [study](#) was led by Dr. Maen Abdelrahim, director of the Cockrell Center for Advanced Therapeutics – Phase I program at the Houston Methodist Research Institute.

Thirty-eight liver transplant recipients underwent ctDNA testing alongside standard cancer testing methods, including imaging and conventional tumor markers.

The study is the largest to date in the United States to investigate whether a personalized blood test can help detect the recurrence of liver cancer in patients after liver transplant, with over 720 samples collected and analyzed by the researchers.

“Detecting cancer recurrence early can change everything, especially amongst the post-transplant population,” said Abdelrahim, chief of GI Medical Oncology at Houston Methodist. “That means we can act sooner and monitor patients more closely. For liver cancer, where recurrence is common and outcomes are poor when the cancer comes back, this research is a big step toward giving patients a better chance of survival.”

Cancer recurrence was detected by imaging in six patients during the study period. Of those, three had a corresponding positive ctDNA test, while three had ctDNA results that were either negative or insufficient to process. Overall, among patients with adequate ctDNA testing,

the test demonstrated 100% specificity, meaning no false-positive ctDNA results were observed.

According to the American Cancer Society, more than 800,000 people are diagnosed with liver cancer each year with more than 700,000 deaths annually, making the disease a leading cause of cancer deaths worldwide.

As the first prospective investigation of its kind in this area, the researchers highlighted the need for additional studies by other scientists to bolster knowledge on ctDNA tests before clinical adoption.

Abdelrahim's collaborators in the study were Ashton Connor, Abdullah Esmail, Souha Farhat, Sudha Kodali, David Victor III, Elizabeth Brombosz, Ashish Saharia, Linda Moore and Mark Ghobrial.

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