Blood Test Boasts High Accuracy in ID'ing Gastrointestinal Cancers

Many people with GI cancers are diagnosed only after the disease has spread through the body, so this test could aid in early detection.

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An experimental blood test correctly identified a selection of gastrointestinal (GI) cancers at a rate above 80% with a false positive rate of only 1%, according to a study presented at the American Society for Clinical Oncology (ASCO) Gastrointestinal Cancers Symposium last week in San Francisco.

"The potential of this test is to diagnose cancer earlier, when it's more treatable," lead investigator Brian M. Wolpin, MD, MPH, of the Hale Family Center for Pancreatic Cancer Research at Dana-Farber Cancer Institute in Boston, said in an ASCO press release. "Many of the cancer types that this test detects don't currently have screening tests that allow earlier cancer detection before the cancers cause symptoms."

The results came from the gastrointestinal cohort of the Circulating Cell-free Genome Atlas (CCGA) study, which is a multicenter observational trial of people with cancer. The GI cohort involved 447 people, including 174 people with colorectal tumors, 25 with stomach tumors, 71 with esophageal tumors, 123 with pancreatic tumors, 14 with gallbladder tumors and 40 with tumors of the liver or biliary duct.

The test under investigation was a targeted methylation-based assay of cell-free DNA fragments circulating in the blood.

The study authors found that the test correctly identified the presence of a malignancy 82% of the time with a training set and 81% of the time with a validation set of people with GI cancers; this is known as a test's sensitivity. The test correctly identified the absence of GI cancer more than 99% of the time in cancer-free control groups; this is known as a test's specificity

The test's detection rate was greater in people with more advanced stages of GI cancer: just below 50% for Stage I cases, 70% to 85% for Stage II or III cases and nearly 100% for Stage IV cases. Overall, the detection rate for Stages I through III was 73%.

The test correctly predicted the tissue of origin, or the location where the cancer arose, 91% of the

time in the training set and 89% of the time in the validation set.

Given the fact that about over half of people with pancreatic, biliary or gallbladder cancers are diagnosed when they have metastatic disease, meaning the cancer has spread elsewhere in the body, a blood test such as the one analyzed in this study could help diagnose such cancer much earlier and improve individuals' prognoses.

"Blood tests that can identify cancer in asymptomatic individuals, particularly GI cancers that can be difficult to detect in early stages, could change cancer diagnostics by making it easier to accurately screen for and identify these cancers earlier," said ASCO expert Muhammad Shaalan Beg, MD, of the University of Texas Southwestern Medical Center. "The preliminary results seen in this study, however, will need to be validated by screening large populations of asymptomatic individuals."

A third phase of the CCGA study has been planned to further validate these findings. The STRIVE study has enrolled nearly 100,000 women who receive screening mammograms, while the SUMMIT study is enrolling 50,000 men and women without a known cancer diagnosis.

To read the conference abstract, click here.
