Researchers test 'holy grail' tech that could end chemo for some cancer patients

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People with colorectal cancer, the fourth most common cancer in the U.S., are often prescribed unnecessary chemotherapy after their cancer is completely gone.

The hope is that some patients can be spared after clinical trials of high-technology treatments end and are evaluated in a few years.

For decades, doctors have removed people's colorectal tumors and decided whether their patients needed subsequent chemotherapy by considering several risk factors. This method was imprecise and sometimes people who didn't need chemotherapy got it anyway.

There is now a potential path forward. New genetic sequencing technology can detect previously undetectable levels of cancer from just a blood draw. If a patient doesn't have any circulating cancer DNA, they may not need chemo post-surgery, suggested recent research from Australia.

"What we knew is that a lot of those patients were cured with surgery alone. We just didn't have a way to know which ones had microscopic cancer left in the blood, who needed chemo and who did not," said Dr. Mohamedtaki Tejani, medical oncologist and director of the Gastrointestinal Oncology program at the AdventHealth Cancer Institute and the AdventHealth Research Institute.

In 2019, 10,496 Floridians were diagnosed with colorectal cancer according to the Centers for Disease Control and Prevention. That number has likely been bolstered by people who delayed colonoscopies during the pandemic.

Many end up getting chemo, which uses powerful chemicals to kill cancer cells and costs thousands of dollars even with insurance. Out-of-pocket costs for the uninsured can reach six figures. Normal, healthy cells are often killed by the treatment, too, and though they can bounce back, their absence causes symptoms like nausea and vomiting, hair loss, exhaustion, and fever.

Infertility, lung disease, other cancers, heart problems, hearing loss, nerve damage, memory issues or early menopause can all pop up years after the treatment ends, according to Mayo Clinic.

Tejani is leading the AdventHealth site of two National Cancer Institute clinical trials of this sequencing technology, named SIGNATERA, developed by the DNA-testing company Natera.

One clinical trial involves patients with stage III colon cancer, which is when the disease has spread to surrounding tissue or lymph nodes.

These patients are traditionally prescribed chemotherapy after surgery, even though around 50% of stage III colon cancer patients are cured by surgery alone, some estimates say.

The study will randomly give or withhold chemotherapy to stage III patients who have tested negative for circulating tumor DNA, then track their outcomes long term, Tejani said. It began in March 2022 and will conclude around March 2030. Tejani's AdventHealth site is currently enrolling participants.

Another clinical trial of stage IIA colon cancer patients has been going on since 2019 and aims to finish up in 2027.

Some researchers have reservations, however.

In a study of Canadian medical professionals released in May, they called this technology's potential applications a "holy grail" for detecting hereditary cancers. But they also worried about the impact of false-negative tests.

These could motivate patients to delay regular screenings, one anonymous medical professional said.

Several practitioners, whose identities were removed, said in the survey they were also concerned about how a patient's mental health could be affected if they did receive a positive result.

"If you have nothing that you can do beyond what you're already doing you're just going to have an anxious patient," wrote an anonymous practitioner.

To critics, Tejani points to another study AdventHealth is involved in which will track the blood test's impact on patients' quality of life, conducted by the company that created it. It has a 2025 end date.

In the future, Tejani hopes this test can also be used to screen for signs of colon cancer in those who haven't yet been diagnosed, and for it to extend beyond colon cancer to improve care for other cancers, such as gynecologic or pancreatic cancers.

"I think there'll be a day where all of us will be tested, and we'll be able to see whether we're predisposed in our life to have any particular cancer," Tejani said. "I, unfortunately, meet people who already have it and try to help them live as long as possible."