

Simple “Swish-and-Spit” Oral Rinse Could Provide Early Screening for Gastric Cancer

Researchers found distinct differences between the oral microbiomes of healthy people and cancerous and pre-cancerous patients.

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A simple oral rinse could provide early detection of gastric cancer, the fourth-leading cause of cancer deaths worldwide, according to a study scheduled for presentation at [Digestive Disease Week \(DDW\) 2024](#).

“In the cancer world, if you find patients after they’ve developed cancer, it’s a little too late,” said Shruthi Reddy Perati, MD, author and general surgery resident at Rutgers Robert Wood Johnson School of Medicine. “The ideal time to try to prevent cancer is when it’s just about to turn into cancer. We were able to identify people who had pre-cancerous conditions. As a screening and prevention tool, this has enormous potential.”

Researchers analyzed bacteria samples from the mouths of 98 patients scheduled for endoscopy, including 30 known to have gastric cancer, 30 with premalignant gastric conditions and 38 healthy controls. They found distinct differences between the oral microbiomes of the healthy group compared to the cancerous and pre-cancerous patients. They also found very little difference between the samples from pre-malignant patients and those with cancer, suggesting that the changes in the microbiome may occur as soon as the stomach environment starts to undergo changes that can eventually turn into cancer.

“We see that the oral microbiome and the stomach microbiome are connected, and knowing what bugs are in your mouth tells us what the stomach environment is like,” Perati said. “That has a huge implication that could lead to some practice-changing tests and guidelines.”

The findings suggest that oral bacteria alone could be biomarkers for gastric cancer risk. Based on their findings, the authors developed a model of the 13 bacterial genera representing the most significant differences between controls and the cancer and pre-cancer patients.

“No formal screening guidelines for gastric cancer are available in the United States, and more than half of patients with gastric cancer receive a diagnosis when the cancer is already at an

advanced stage,” Perati said.

Researchers plan to conduct larger studies in multiple institutions to ensure findings are generalizable to a wider population.

“Even with a small cohort, we were able to see some stark differences and believe the findings are very promising,” Perati said.

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