

Rise of the cancer-causing bugs: Researchers say dental PLAQUE could be behind mystery rise of aggressive colon tumors - as separate study links strep throat to stomach cancers

- Normally harmless bacteria help tumors grow and make them harder to treat
- Researchers believe targeting bacteria will help them clear out tumor cells
- READ MORE: [Does this explain](#) epidemic of colorectal cancers in young people?

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A mystery rise in aggressive colon and stomach cancers may be partly fueled by bacteria, according to two new studies.

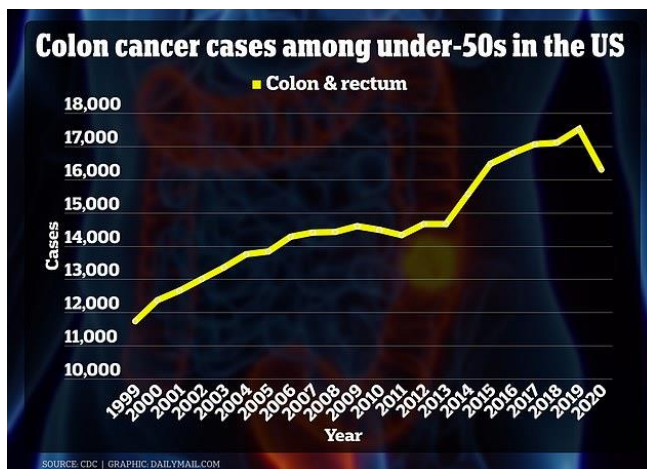
Experts have been baffled by the startling rise in tumors in the colon and rectum in past two decades, which are [increasingly affecting young people](#).

Theories for the rise include the increase in the number of people with diets rich in junk food and climbing obesity rates. But now, researchers at the Fred Hutchinson [Cancer](#) Center in Seattle have found that the *Fusobacterium nucleatum*, which lives in dental plaque, could explain why some colon tumors are so hard to treat.

Half of all CRC tumors - the most aggressive and deadly kind - contained the bacteria, which can travel from the mouth to the gut through swallowing.

Meanwhile, Chinese and Singaporean scientists showed in a study this week that bacteria normally found in the throat, mouth, and vagina called *Streptococcus anginosus*, can encourage the growth of stomach cancers

S. anginosus colonizes mucus membranes in the nose and mouth and can cause abscesses, tissue infections such as flesh eating disease, infections in the inner lining of the heart, and joint infections.



The above graph shows colon cancer cases among under 50s by year. There is a drop in 2020 because the Covid pandemic led to fewer people coming forward for screenings



Bowel cancer can cause you to have blood in your poo, a change in bowel habit, a lump inside your bowel which can cause an obstructions. Some people also suffer with weight loss a s a result of these symptoms

The researchers hope that their discoveries will lead to improved cancer treatments that target the bacteria microbiome in the gut and clear out the stealthy bacteria.

Researchers at the cancer center conducted laboratory investigations to see how the bacteria, *Fusobacterium nucleatum* influences the environment that allows tumor cells to grow.

They isolated the strains of bacteria from patients with cancer culled from North America and Europe. They also studied the genetic makeup of the bacteria in closer detail.

Samples from patients with cancer were analyzed to determine the presence of the bacteria, which involved extracting DNA from tissue samples and using genetic sequencing techniques to identify the species.

They then analyzed the abundance of the bacteria in stool samples in people with and without colon cancer to assess any potential link between the bacteria colonizing in the body and spurring the disease.

Researchers found that a specific subtype of the bacteria was present in tumor tissue in about 50 percent of the cancer cases, though the researchers did not specify how advanced the stages of those cancers were.

They found this microbe in higher numbers within stool samples of colorectal cancer patients compared with stool samples from healthy people.

They discovered that cancer treatments that target both the bacteria in the body and the tumor cells could improve the patient's outcomes.

The researchers said the bacteria could be driving the increase in cancers among young people, though they can't say for sure, given many of their study subjects were over 50.

But co-lead author Dr Susan Bullman said the findings raise 'the question as to whether there are elevated levels of this bacterium in young onset colorectal cancer which is on the rise globally for unknown reasons.'



Actor Chadwick Boseman died in 2020 after a four-year battle with colorectal cancer

Meanwhile in Asia, researchers reported that another common and usually harmless bacteria play a significant role in the cause of stomach cancer, *S. anginosus*, which is part of the normal flora of the mouth, nose, throat, gut, and vagina.

The bacteria can lead to abscesses, pneumonia, heart infections, UTIs, and tissue infections.

In studies in mice, they determined that when the body's immune system is weakened, the bacteria can spread to other parts of the body and cause an inflammatory response that can cause acute damage to the stomach lining, an infection called gastritis.

This can trigger cancer growth, in some cases doubling the size of tumors. Another type of bacteria, *Helicobacter pylori*, has also been known to cause stomach ulcers, which increase a person's risk of developing gastric cancer, the fifth most common type in the world.

Professor Joseph Sung Jao-yiu from the Chinese University of Hong Kong and co-author of the study said: 'This lays important groundwork for further studies in humans that will help clinicians better treat and prevent gastric cancer driven by bacteria.'

Tumors get a lot of help from the bacteria that live in our mouths, throats, and guts. These bacteria are typically harmless apart from causing the occasional treatable illness.



As pictured above, having no energy, unintentionally losing weight, constant indigestion, difficulty swallowing, feeling sick and a lump at the top of your tummy are all warning signs and symptoms of stomach cancer

Colorectal cancer (CRC) rates in young age groups are seeing a historic rise 50 percent among adults under 50 years old in the US since 1999 — which is considered 'early-onset' cancer or when cancer occurs between the ages of 18 and 49 years.

It kills roughly 52,000 people annually.

Studies suggest globally cases have risen 80 percent in the age group in three decades, to 3.26million cases a year in 2019 from 1.82million in 1990.

The F. nucleatum bacteria lurks in the mouth and makes the cancer much more difficult to treat by acting as a protective cloak around tumor cells, shielding them from targeted medicine.

In their study published in the journal [Nature](#), The Hutch Center cancer researchers looked at levels of the bacterium in color tumor tissues taken from 200 CRC patients.

Dr Susan Bullman, Fred Hutch cancer researcher, said: 'We've consistently seen that patients with colorectal tumors containing Fusobacterium nucleatum have poor survival and poorer prognosis compared with patients without the microbe.

'Now we're finding that a specific subtype of this microbe is responsible for tumor growth. It suggests therapeutics and screening that target this subgroup within the microbiota would help people who are at a higher risk for more aggressive colorectal cancer.'

Actor Chadwick Boseman, famous for his roles in the films Black Panther and Get on Up, died of early-onset CRC when he was 43.

Stomach cancer kills around 11,000 Americans every year. Sixty-two percent of people with stomach cancer are diagnosed after the cancer has already spread, either regionally or distantly, beyond the location it began. This makes it incredibly difficult to treat.

Prof Sung, who co-lead the Asian study said: "Our results suggest that long-term S. anginosus infection causes intensive chronic gastritis that is comparable to H. pylori infection.

'In fact, these two pathogens might act collaboratively to promote gastric inflammation and, eventually, gastric cancer. This could change how we approach prevention and treatment of the disease.'

Their research was published in the journal [Cell](#).

<https://www.dailymail.co.uk/health/article-13224821/Rise-cancer-causing-bugs-Researchers-say-dental-PLAQUE-mystery-rise-aggressive-colon-tumors-separate-study-links-strep-throat-stomach-cancers.html>