SCIENCE NEWS 2000 December 16, 2000
Vol. 158 No. 25 p. 389

Antibiotics, vitamins stall stomach cancer

In the 1970s, when he worked as a pathologist in the Colombian city of Cali, Pelayo Correa noticed that migrants from the state of Nariño in the country's southwest seemed prone to stomach cancer. Later studies showed that these people indeed are five times as likely to get the disease as other Colombians are.

Now at Louisiana State University (LSU) in New Orleans, Correa has come up with a way to derail incipient stomach cancer as it marches through its predictable stages of aberrant cell growth in the stomach lining.

Correa and his colleagues in Colombia and at LSU report in the Dec. 6 JOURNAL OF THE NATIONAL CANCER INSTITUTE that antibiotics, vitamin C, or beta-carotene—a precursor of vitamin A—can reverse precancerous stomach conditions.

In 1992, the researchers began taking stomach biopsies of more than 1,200 Nariño adults. They then selected volunteers who had aberrant cell growth, which falls into one of three successive premalignant stages—multifocal nonmetaplastic atrophy, intestinal metaplasia, and dysplasia. Of those volunteers, 97 percent had stomach infections caused by *Helicobacter pylori*, a bacterium that can cause ulcers and lead to stomach cancer.

Participants received either a placebo pill, a vitamin C or beta-carotene supplement, or antibiotics against *H. pylori*. Some other volunteers received a combination of drugs and supplements. The vitamins were included in the test because other research had suggested that they can thwart cancer. Neither researchers nor volunteers knew which participants had been assigned each treatment.

The scientists took stomach biopsies of 631 patients after 3 and 6 years of treatment. Volunteers with atrophy who were getting one or both of the supplements or the antibiotics were roughly five times as likely to experience regression of this premalignant cell growth as those getting a placebo were. Among those with metaplasia, the volunteers who were taking supplements or drugs were three times as likely to improve as those getting placebos were.

The volunteers with dysplasia, the last stage of stomach disease before cancer, didn't improve significantly with any of the treatments. "The earlier in the process [that we intervened] the better the chance of regression," Correa says.

Over the 6 years, the antibiotics cleared up *H. pylori* in three-fourths of those who received them. Among people with atrophy who were cured of the infection, the precancerous condition regressed nearly nine times as often as it did among those getting placebos, Correa says.

The new study is "very encouraging" because it is the first to show that treating *H. pylori* in people produces clear benefits against precancerous conditions, says Lisa Ganjhu of St. Luke's-Roosevelt Hospital in New York.

—N. Seppa