Genes may determine aspirin's effect on advanced colon cancer

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Study finds taking it appears to slow tumor growth in patients with a particular genetic mutation.

(HealthDay)—For patients suffering from advanced colorectal cancer, aspirin may prolong their lives if their tumor has a certain gene mutation, a new study finds.

"Aspirin appears to work to increase survival of colorectal cancer patients if the tumor has PIK3CA mutation, but does not work if the tumor does not have PIK3CA mutation," said lead researcher Dr. Shuji Ogino, an associate professor in the department of epidemiology at the Harvard School of Public Health.

About 20 percent of colorectal cancers have PIK3CA mutations, according to the study.

"PIK3CA can be potentially tested as a predictive genetic marker for colorectal cancer patients," Ogino said.

"Doctors may be able to make a decision to treat or not to treat with aspirin, based on a PIK3CA test result," he added. "So a PIK3CA test can potentially make a difference to patients."

Ogino cautioned, however, that the findings need to be confirmed.

"An independent validation study is needed before PIK3CA testing can be a part of routine clinical work-up," he said.

For the study, which was published in the Oct. 25 issue of the New England Journal of Medicine, Ogino's team collected data on more than 900 patients with colorectal cancer who were part of the Nurses' Health Study and the Health Professionals Follow-up Study.

The data included their use of aspirin, and whether they had the PIK3CA gene mutation.

The researchers found that 97 percent of the patients with the mutation who were taking aspirin were alive five years after being diagnosed, compared with 74 percent of similar patients who weren't taking aspirin.

Aspirin, however, had no effect on prolonging life among patients who didn't have the PIK3CA gene mutation, the study showed.

Earlier research suggested aspirin could block an enzyme that slows tumor growth in patients with this particular gene mutation, Ogino said, which is why they decided to do the study.

The optimal aspirin dose is unknown, Ogino said. "Baby aspirin may work, but we need more studies about dose," he noted.

Dr. Boris Pasche, director of hematology/oncology at the University of Alabama at Birmingham, said, "While several new drugs have demonstrated efficacy in metastatic colorectal cancer in the past decade, only one of them (oxaliplatin) has proven useful in warding off tumor recurrence in patients with locally advanced disease.

Aspirin has benefits in preventing colorectal cancer, but its role in the treatment of established colorectal cancer is yet to be defined, he said.

"If validated in additional studies, aspirin could become a new drug to be added to the regimen, which is currently the worldwide standard of care for patients with stage III colorectal cancer," Pasche said. "It would significantly improve the outcome of patients with stage III colorectal cancer that carry mutations of the PIK3CA gene."

For Pasche, who wrote an accompanying journal editorial, the bottom line is, "an old drug may become a 21st century targeted therapy ushering [in] a tangible personalized medicine application in colorectal cancer."

Although the researchers found an association between taking aspirin and longer life among colorectal cancer patients, a cause-and-effect relationship was not proven.

More information: For more information on colon cancer, visit the American Cancer Society.