

Aspirin may protect some against colorectal cancer

The link between taking aspirin, non-steroidal anti-inflammatory drugs, or NSAIDS, and colorectal cancer prevention is well established, but the mechanisms behind the protective effect have not been understood. A new study, co-led by investigators at Fred Hutchinson Cancer Research Center and published March 17 in JAMA, suggests this protection differs according to variations in DNA.

“We’ve known for a very long time that aspirin, ibuprofen and other NSAIDs are protective for colorectal cancer, but they can’t be used as a preventive agent because of the uncertainty of the risk-benefit ratio—longtime use can lead to gastrointestinal bleeding and other side effects,” said Ulrike “Riki” Peters, Ph.D., M.P.H., co-senior author of the paper. “We wanted to investigate if genetic variation determined who is responding particularly well with aspirin — for whom aspirin and NSAID use has particular benefit and for whom it doesn’t.”

While regular use of aspirin and NSAIDS was associated with an overall reduced risk of colorectal cancer, the researchers found no such protective effect among about 9 percent of the study participants who had genetic variations on chromosome 15. What’s more, about 4 percent of the participants who carried two even rarer genotypes on chromosome 12 had an increased risk of colorectal cancer.

Understanding the interplay between such genetic variations and the use of aspirin and NSAIDs, also known as “gene-by-environment interactions,” eventually may help identify those who could benefit most from these medications for cancer prevention as well as those who should steer clear of them.

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