Medical Xpress

Eating resistant starch may help reduce red meat-related colorectal cancer risk

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Consumption of a type of starch that acts like fiber may help reduce colorectal cancer risk associated with a high red meat diet, according to a study published in *Cancer Prevention Research*, a journal of the American Association for Cancer Research.

"Red meat and resistant starch have opposite effects on the colorectal cancer-promoting miRNAs, the miR-17-92 cluster," said Karen J. Humphreys, PhD, a research associate at the Flinders Center for Innovation in Cancer at Flinders University in Adelaide, Australia. "This finding supports consumption of resistant starch as a means of reducing the risk associated with a high red meat diet."

"Total meat consumption in the USA, European Union, and the developed world has continued to increase from the 1960s, and in some cases has nearly doubled," added Humphreys.

Unlike most starches, resistant starch escapes digestion in the stomach and small intestine, and passes through to the colon (large bowel) where it has similar properties to fiber, Humphreys explained. Resistant starch is readily fermented by gut microbes to produce beneficial molecules called short-chain fatty acids, such as butyrate, she added.

"Good examples of natural sources of resistant starch include bananas that are still slightly green, cooked and cooled potatoes [such as potato salad], whole grains, beans, chickpeas, and lentils. Scientists have also been working to modify grains such as maize so they contain higher

levels of resistant starch," said Humphreys.

After eating 300 g of lean red meat per day for four weeks, study participants had a 30 percent increase in the levels of certain genetic molecules called miR-17-92 in their rectal tissue, and an associated increase in cell proliferation. Consuming 40 g of butyrated resistant starch per day along with red meat for four weeks brought miR-17-92 levels down to baseline levels.

The study involved 23 healthy volunteers, 17 male and six female, ages 50 to 75. Participants either ate the red meat diet or the red meat plus butyrated resistant starch diet for four weeks, and after a four-week washout period switched to the other diet for another four weeks.

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