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Usual suspects rounded up in colon cancer recurrence

Meat, fat, refined grains and desserts have again once been implicated in perpetrating disease--this time, in colon cancer recurrence.

In research published in the August 15, 2007 issue of the *Journal of the American Medical Association*, Jeffrey A. Meyerhardt, MD, MPH, of the Dana-Farber Cancer Institute, Boston and colleagues evaluated the effect of two dietary patterns on disease recurrence in 1,009 men and women with stage III colon cancer treated with surgery and drugs. The prudent dietary pattern consisted of high intake of fruit, vegetables, poultry and fish, while the Western pattern was characterized by meat, fat, refined grains and desserts. Dietary adherence scores were calculated via responses to questionnaires completed by the subjects during and six months following chemotherapy. Over the median 5.3 year follow up period, 324 subjects experienced recurrence of their disease and of these, 223 died. An additional 28 deaths without cancer recurrence were documented.

High intake of the Western dietary pattern was associated with a significant increase in cancer recurrence risk or death over follow up. Men and women whose adherence to the Western diet was in the top 20 percent had 3.25 times the risk of their cancer returning, or dying from any cause than participants in the lowest 20 percent of Western diet intake. Adjustment for age, body mass and other factors failed to modify the association. There was no relationship found between cancer recurrence or death and the prudent dietary pattern.

The authors suggest that increased insulin and insulin-like growth factor levels resulting from greater intake of the Western pattern could be the mechanism behind the increase in cancer recurrence. These factors have been associated in previous research with increased tumor growth and formation.

"We know from previous research that diet and lifestyle influence people's risk of developing colon cancer," Dr Meyerhardt observed. "This is the first large observation study to focus on the role of diet in recurrence of the disease. Our results suggest that people treated for locally advanced colon cancer can actively improve their odds of survival by their dietary choices."

Health Concern

Colorectal cancer

In industrialized Western societies, both polyps and colon cancer occur more frequently due in part to diets low in fruits, vegetables, vegetable protein, and fiber (Satia-Aboutaj J et al 2003). Fecal mutagens are produced by certain diets such as those containing overcooked or burnt meat or fish. Increased intake of fiber, on the other hand, shortens the intestinal transit time, which in turn reduces the exposure of the colorectal lining to mutagens within the stool (Johansson G et al 1997).

Fat intake. A diet high in saturated animal fat, particularly dairy products and red meat (Jones et al R 2003), increases colorectal cancer risk (Pierre F et al 2003; Stadler J et al 1988). The digestion of fats requires the activity of normal bile acids that irritate and damage cells lining the colon. Consequently, bile acids activate factors associated with abnormal growth of these cells, resulting in an increased risk of colorectal cancer (Glinghammar B et al 1999; Suzuki K et al 1986). The ratio between the secondary bile acid deoxycholic acid and cholic acid may be an indicator of colorectal cancer risk (Kamano T et al 1999). Ingesting a sensible amount of calories and maintaining a desirable weight also play important roles in preventing colorectal cancer (Mason JB 2002).

Red meat intake. The heterocyclic amines when meat is cooked at high temperatures (e.g., by frying) are strongly associated with death from colorectal cancer (Bingham SA et al 1996; Armstrong B et al 1975). People who eat fried, well-cooked red meat more than once weekly are 2.2 times more likely to develop colorectal adenomas than are those who eat lightly browned red meat once a week or less frequently. Dietary beef induces, and rye bran prevents, formation of intestinal polyps (Mutanen M et al 2000).

Folate. Low folate intake, especially when combined with alcohol consumption and a low-protein diet, increases colorectal cancer risk (Kato I et al 1999). Dietary folate influences DNA methylation, synthesis, and repair. Abnormalities in these DNA processes enhance cancer development, particularly in rapidly growing tissues such as the colorectal mucosa (Lengauer C et al 1997; Feinberg AP et al 1983). Higher folate intake from either dietary sources or supplements may protect against the initiation of colorectal cancer (Giovannucci E 2002, 1998).

Selenium. Low levels of selenium correlate with the presence of adenomas (benign tumors), whereas increased levels of selenium are associated with reduced risk of adenomas. Intervention trials have found a beneficial effect of selenium supplementation (Russo MW et al 1997).

http://www.lef.org/protocols/cancer/colorectal_01.htm

Featured Products

PectaSol® Modified Citrus Pectin

Pectin is a highly complex branched polysaccharide fiber present in all plant cell walls. In its original form, citrus pectin has a limited solubility in water. In its modified form after hydrolysis, PectaSol® becomes a unique water-soluble fiber that has been shown to bind to the important galectin molecules on the surface of cells. It is postulated this adherence of the modified citrus pectin, specifically to the galectin-3 molecule, is responsible for its beneficial action.

<http://www.lef.org/newshop/items/item00342.html>



Super Selenium Capsules

As an essential cofactor of glutathione peroxidase, selenium is an important antioxidant. It is also involved with iodine metabolism, DNA repair, immune function, and the detoxification of heavy metals.

<http://www.lef.org/newshop/items/item00578.html>



What's Hot

Type of fat important in reducing colorectal cancer risk

Although high intake of fat has been associated with an increase in cancer risk, a case-control study published in the July 15,

2007 issue of the *American Journal of Epidemiology* concluded that a greater intake of omega-3 polyunsaturated fatty acids may be protective against colorectal cancer.

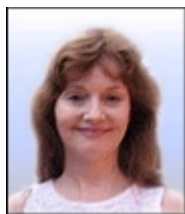
Professor Harry Campbell of the College of Medicine and Vet Medicine at the University of Edinburgh in Scotland, and his associates paired 1,455 men and women diagnosed with colorectal cancer with an equal number of healthy control subjects matched for age, gender and region of residence. Lifestyle and food frequency questionnaires regarding the year prior to diagnosis or recruitment to the study were completed by all participants in the current analysis. Total fatty acid, as well as saturated fatty acid, monounsaturated fatty acid, omega-6 polyunsaturated fatty acid, omega-3 polyunsaturated fatty acid, trans-fatty acid, and trans-monounsaturated fatty acid intake was determined. Intake levels of individual fatty acids, such as eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), were also calculated.

Participants without colorectal cancer reported significantly lower daily calorie intake than those diagnosed with the disease. Although total and trans-monounsaturated fatty acid intake were associated with increased colorectal cancer risk, adjustment for calorie intake negated this effect. Greater intake of omega-3 fatty acids, EPA, and DHA were dose-dependently associated with reduced colorectal cancer risk.

<http://www.lef.org/whatshot/index.html#tofi>

If you have questions or comments concerning this issue or past issues of *Life Extension Update*, send them to ddye@lifeextension.com or call 954 202 7716.

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