Dietary Protection Against Colon Cancer

Colorectal cancer is one of the most common malignancies of Western society, and one of the types of cancer whose development is strongly affected by what we eat.

Epidemiological studies have found that the dietary factors associated with the risk of cancer in general are basically the same as those associated with the risk of colon cancer. To be specific, a diet that is relatively low in protein and fat (especially animal fat), and relatively high in complex carbohydrates and dietary fiber, is associated with reduced risk. Consumption of whole grains is strongly protective.

A vegetarian diet usually has these characteristics, so it is not surprising that vegetarian groups often have a reduced risk of colon cancer. In one study, for example, over 7000 men underwent colonoscopy or sigmoidoscopy. Two years later, the diets of the men who had developed a sigmoid or rectal adenoma (a risk factor for cancer) were compared to the rest of the group. Men with the highest intakes of saturated fat, beef, pork and lamb were found to have an increased risk, while a high intake of vegetables, fruits, and dietary fiber was associated with reduced risk independent of saturated fat intake.

Other dietary factors associated with increased risk of colon cancer are the consumption of sugar, salt, and alcohol. The presence of obesity also increases the risk.

Results of experimental studies have generally suggested that these dietary factors are not only associated with colon cancer, but promote its development. For example, when patients with a history of resected colon or rectal cancer consumed extra wheat bran, there were significant reductions in rectal epithelial cell proliferation. Moreover, when normal subjects consumed 120 grams of sugar in addition to their baseline diet, oral-anal transit time decreased, while fecal bile acid concentrations and bacterial fermentation activity increased—changes which increase the risk of colon cancer. There is even evidence that caloric restriction reduces rectal cell proliferation in obese people.

A simple hypothesis is that the modern “Western” diet is a major contributor to colon cancer risk. In Western countries the rates of the disease are up to 10 times those of many Far Eastern and developing nations. Further evidence to support this hypothesis comes from a study which found that Chinese-Americans in San Francisco, California had a four-fold higher risk of colorectal cancer than Chinese of similar ages living in the People’s Republic of China. Moreover, the Westernized Chinese had objective findings that would fit with increased colorectal cancer risk: high levels of cholesterol and bile acids in the stool and laboratory evidence that they were consuming peroxidized fats.

There appear to be two mechanisms that account for most of the known relationships between diet and colon cancer risk. The first is the development of insulin resistance which is associated with increased circulating levels of insulin, triglycerides, and non-esterified fatty acids. These substances subject colonic epithelial cells to a proliferative stimulus and expose them to reactive oxygen intermediates. The other mechanism is a local failure in the epithelial barrier resulting in a focal inflammatory response.

Doctor Werbach cautions that the nutritional treatment of illness should be supervised by physicians or practitioners whose training prepares them to recognize serious illness and to integrate nutritional interventions safely into the treatment plan.

References


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More information on the influence of nutrition on cancer can be found in the second edition of Dr. Werbach’s classic SourceBook, Nutritional Influences on Illness. A free brochure on his books is available from Third Line Press Inc., 4751 Viviana Drive, Tarzana, CA 91356, USA. (Phone: 818-996-0076; Fax: 818-774-1575; e-mail: tlp@third-line.com).