

Diet Appears to Influence Colon Cancer OUTCOMES

A provocative study suggests what many have suspected — an unhealthy diet affects colon cancer outcomes. Reporting in the August 15, 2007, issue of the *Journal of the American Medical Association*, researchers show that patients with the highest intake of a Western-pattern diet, characterized by high intakes of red meat, sugar desserts, high fat, and refined grains, have a 3-fold increase in cancer recurrences and mortality.

"Colon cancer patients often ask their oncologists, 'What should I be eating?' And this is the first study to begin to answer that question," lead author Jeffrey A. Meyerhardt, MD, MPH, from the Dana-Farber Cancer Institute in Boston, Massachusetts, told Medscape. "The challenge will be what best to advise patients," he noted.

In contrast to the link between an unhealthy diet and colon cancer outcomes, the researchers did not observe an association between prudent eating and survival outcomes after curative resection of stage III colon cancer.

"What we found was an avoidance of a certain dietary pattern, rather than a recommendation to increase certain foods," Dr. Meyerhardt said. "However, this is still important to be able to advise avoiding certain foods that may worsen outcome. I think clinicians will likely need to work with their nutritionists to help patients."

May Affect Recurrence and Survival

Previous research has shown that diet and other lifestyle factors have a significant influence on the risk of developing colon cancer, the researchers explain.

However, the influence of diet and other lifestyle factors on the outcome of patients with established colon cancer is largely unknown. And few studies have assessed the influence of diet on colon cancer recurrence and survival.

To study this question, Dr. Meyerhardt and his team conducted a prospective observational study of 1009 patients with stage III colon cancer who had surgical resection. Patients were enrolled in a National Cancer Institute–sponsored randomized adjuvant chemotherapy trial known as Cancer and Leukemia Group B (CALGB 89803).

The trial compared therapy with weekly fluorouracil and leucovorin vs therapy with weekly irinotecan, fluorouracil, and leucovorin.

As part of the trial presented in this latest issue of the *Journal of the American Medical Association*, patients reported on dietary intake using a semiquantitative food frequency questionnaire during and 6 months after adjuvant chemotherapy. "We identified 2 major dietary patterns," the investigators explain, "prudent and Western pattern." The prudent diet was characterized by high intake of fruits and vegetables, poultry, and fish.

During a median follow-up of 5.3 years for the overall cohort, 324 patients had cancer recurrence. A total of 223 patients died after recurrence, and 28 died without documented recurrence.

A higher intake of a Western-pattern diet after cancer diagnosis was associated with a significantly worse disease-free survival, including colon cancer recurrences or death.

Compared with patients in the lowest quintile of Western diet, those in the highest quintile had an adjusted hazard ratio (HR) for disease-free survival of 3.25 (95% confidence interval [CI], 2.04 - 5.19; P for trend < .001). Comparing highest to lowest quintiles, the Western diet was associated with a similar recurrence-free survival (adjusted HR, 2.85; 95% CI, 1.75 - 4.63) and overall survival (adjusted HR, 2.32; 95% CI, 1.36 - 3.96; P for trend for both < .001).

Cause Cannot Be Determined From These Data

"This is the first study, to our knowledge, in a potentially cured population of colon cancer survivors to address the effect of diet," the researchers explain. "Because this was an observational study, causality cannot and should not be drawn from these data. Nonetheless, the data suggest that a diet characterized by higher intakes of red and processed meats, sweets and desserts, french fries, and refined grains increases the risk of cancer recurrence and decreases survival."

The investigators point out the reduction in disease-free survival with a Western diet was not significantly affected by sex, age, nodal stage, body mass index, physical activity level, baseline performance status, or treatment group. In contrast, the prudent dietary pattern was not significantly associated with cancer recurrence or mortality.

"There are several advantages to this cohort of stage III colon cancer patients treated within a NCI [National Cancer Institute]–sponsored clinical trial," they add. "First, all patients had lymph node–positive cancer, reducing the impact of heterogeneity by disease stage. Second, treatment and follow-up care were standardized, and the date and nature of recurrence were prospectively recorded.

Detailed information on other prognostic variables was all routinely collected at study entry." And finally, the investigators updated dietary data to reflect changes in diet that may occur after patients completed adjuvant therapy and have recovered from treatment effects.

"The data are observational and this is the first study of its kind," Dr. Meyerhardt told Medscape. "Clearly, more observational and possibly randomized studies will be important to study such dietary patterns."

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