Cancer diet studies: Veggies get another rave, while red meat’s busted again

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A pair of new studies offers more evidence for the value of vegetables and the risk of red meat on the cancer prevention front. Researchers report that high consumption of vegetables – especially lettuce, legumes, and cruciferous varieties – appears to lower the risk of liver cancer/liver disease. A separate team suggests that high consumption of red meat, organ meats, and processed meats boosts the risk of gastric cancer.

The findings of the latter study “reinforce the idea that avoidance of red meat and processed meat is probably good beyond [the prevention of] colorectal cancer,” said corresponding author and epidemiologist Paolo Boffetta, MD, MPH, of Stony Brook University Cancer Center, New York, in an interview. “The possible carcinogenic effect may extend beyond the colon.”

Both studies were released at the annual meeting of the American Association for Cancer Research.

For the red meat study, researchers examined statistics from the Golestan cohort study, which is prospectively tracking 50,045 people aged 40-75 from northeastern Iran. The study focuses on esophageal cancer due to the region's high rate of the disease.

Red meat consumption is fairly rare in the region, where residents typically prefer chicken, said study lead author Giulia Collatuzzo, MD, a resident physician in occupational medicine at the University of Bologna, Italy, in an interview. On average, participants reported eating 18.4 grams daily of red meat and 72.1 grams daily of white meat.

The researchers tracked study participants for a median 12-year follow-up, during which 369 developed esophageal cancer and 368 developed gastric cancer. Red meat was only linked to more esophageal cancer in women (hazard ratio, 1.13, 95% confidence interval, 1.00-1.18, for each quintile increase in consumption).

Overall red meat consumption (including red meat, organ meat, and processed meat) was linked to higher rates of gastric cancer (HR, 1.08, 95% CI, 1.00-1.17) for each quartile increase in consumption, as was consumption of the red meat subtype alone (HR, 1.09, 95% CI, 1.00-1.18).

According to Dr. Collatuzzo, the findings suggest that those in the highest quartile of overall red meat consumption may have around a 25% increase in risk, compared with the lowest quartile.

Overall, she said, the study findings aren't surprising. The lack of a connection between red meat consumption and esophageal cancer may be

due to the fact that meat only temporarily transits through the esophagus, she said.

For the liver cancer/liver disease study, researchers examined the medical records of 470,653 subjects in the NIH-AARP Diet and Health Study. They were recruited in 1995-1996 when they were 50-71 years old. Over a median follow-up of 15.5 years, 899 developed liver cancer, and 934 died of chronic liver disease.

The median intakes of vegetables in quintile 5 (highest) and quintile 1 (lowest) were 3.7 cups daily and 1.0 cups daily, respectively, said study lead author Long-Gang Zhao, MS, a graduate student at Harvard University.

After adjusting for possible cofounders, those in the highest quintile of vegetable consumption were a third less likely to develop liver cancer, compared with the lowest quintile (HR, 0.66, 95% CI, 0.53-0.82, $P < 0.01$). Several types of vegetables appeared to be the strongest cancer fighters: cruciferous (broccoli, cauliflower), lettuce, legumes, and carrots. These kinds of vegetables were also linked to lower rates of chronic liver disease mortality (all $P < 0.01$), as was total vegetable intake for the top quintile versus the lowest quintile (HR, 0.60, 95% CI, 0.49-0.74, $P = < 0.01$).

"A one-cup increase (8 oz or 225 g) in vegetable intake was associated with about 20% decreased risk of liver cancer incidence and chronic liver mortality," Zhao said.

There was no statistically significant link between fruit consumption and liver cancer or chronic liver disease mortality.

The findings provide more insight into diet and liver disease, Zhao said. “Chronic liver disease, which predisposes to liver cancer, is the tenth cause of death worldwide, causing two million deaths each year. It shares some etiological processes with liver cancer. Therefore, examining both chronic liver disease mortality and liver cancer incidence in our study may provide a more general picture for the prevention of liver diseases.”

As for limitations, both studies are based on self-reports about food consumption, which can be unreliable, and the subjects in the fruit/vegetable analysis were mainly of European origin.

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