

Thin colorectal cancer patients have shorter survival than obese patients

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Median overall survival for patients with Stage 4 colorectal cancer				
BMI	Under 25 (normal weight)	25-29 (overweight)	30-35 (obese)	More than 35 (obese)
Months of survival	21.1	23.5	24	23.7

A Duke Medicine study found that thinner Stage 4 colorectal cancer patients lived an average of two-and-a-half months less than obese patients. Credit: Duke Medicine

Although being overweight with a high body-mass index (BMI) has long been associated with a higher risk for colorectal cancer, thinner patients might not fare as well after treatment for advanced cancer, according to a new study from Duke Medicine.

The study, which was presented today at the European Society for Medical Oncology World Congress on Gastrointestinal Cancer, found

that patients with a low to healthy body weight lived an average of two-and-a-half months less than overweight and obese patients.

The results surprised researchers, who expected obese patients to respond more poorly to treatments for Stage 4 colorectal cancer due to their increased risk of developing the disease and having it come back. There is some evidence that many obese patients also receive less-than-optimal dosages of cancer drugs, or have other health problems that complicate recovery.

"Contrary to our hypothesis, patients who had the lowest BMI were at risk for having the shortest survival," said lead author Yousuf Zafar, M.D., associate professor of medicine at Duke. "In this case, patients with the lowest body weight—people who had metastatic colon cancer and a BMI of less than 25—were at the highest risk."

According to guidelines, a healthy adult's BMI ranges from 18.5 to 24, while a BMI below 18.5 is considered underweight. The study authors examined data pooled from 6,128 patients who had previously been untreated for their metastatic colorectal cancer and who were included in four different registry studies in the U.S. and Europe. Their average BMI at the start of cancer treatment was 25.3, considered slightly overweight.

All received bevacizumab with chemotherapy in their treatment. Bevacizumab, also known by the brand name Avastin, is used in patients with metastatic cancer to slow the growth of new blood vessels.

The prospective observational analysis divided patients into four BMI ranges, and measured overall survival rates, as well as the length of time that patients' tumors stopped growing, which was measured as progression-free survival.

Patients with the lowest BMI from 20 to 24.9, which would be considered a healthy weight by BMI guidelines, survived an average of 21.1 months after starting treatment.

Patients with a BMI of 25 to 29, considered overweight, survived an average of 23.5 months, the study found. By comparison, patients with BMIs of 30 to 35, obese by the standards, survived an average of 24 months. Patients with BMIs of 35.1 and higher survived an average of 23.7 months.

Although the study found significant differences in how long a patient lived based on their BMI ranges, patients of all weights saw similar rates of progression-free survival, or a halt in their tumor growth. Patients whose tumors stopped growing went an average of 10 months without progression, but the stoppage in tumor growth does not necessarily improve chances of survival.

The study does not indicate that being overweight is in any way protective for patients undergoing cancer treatment, Zafar said. Instead, the results suggest that there could be an aspect of biology that could put thinner patients at a higher risk for poor outcomes, he said.

"There may be a relationship between having a lower BMI and how much treatment patients can tolerate," Zafar said "I would hypothesize that the lowest weight patients in our analysis received or tolerated less treatment, or received adequate treatment at first, but became too sick to receive additional therapy. That may be where we can focus more attention on improving their outcomes."

More information: Abstract LBA-01 'Survival outcomes according to body mass index (BMI): results from a pooled analysis of 5 observational or phase IV studies of bevacizumab in metastatic colorectal cancer (mCRC)' will be presented by Yousuf Zafar during Session I: Opening,

Selected Abstracts, and Keynote Lecture on Wednesday 1 July, 14:15.

Provided by Duke University Medical Center

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