

Large prospective study finds long-term obesity is associated with poorer pancreatic cancer survival

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New results from a prospective study published in the *Journal of Clinical Oncology* show that patients with a body mass index (BMI) in the obese range live on average two to three months less after a pancreatic cancer diagnosis, compared with healthy weight patients, even after adjusting for factors that are known to predict survival for patients with this disease, such as age and disease stage. This association was statistically strongest for people who were overweight two decades before their diagnosis.

Pancreatic cancer is the fourth leading cause of cancer-related death in the United States. Most patients with pancreatic adenocarcinoma, which accounts for more than 90% of new cases, survive less than a year after their diagnosis.

Obesity is a major public health problem in the United States and many other countries around the world. While it is well known that obesity is a risk factor for heart disease and diabetes, it is becoming increasingly clear that it is also associated with cancer risk and outcomes. In fact, scientists predict that obesity will become the leading preventable cause of cancer in the near future.

Several prior studies have shown that elevated BMI increases the risk of developing [pancreatic cancer](#), but thus far there has been little research on whether BMI affects the aggressiveness of the disease or survival after diagnosis.

"This study adds to mounting evidence for the role of weight control in improving outcomes for patients with cancer. It also reinforces the importance of maintaining a healthy weight throughout your life, which may lead to better outcomes after diagnosis and help prevent pancreatic cancer from developing," said senior

study author Brian M. Wolpin, MD, MPH, an assistant professor of medicine at Dana-Farber Cancer Institute and Harvard Medical School in Boston, MA. "While our findings will not affect the way we treat patients today, they provide new leads for investigating the molecular pathways that may be responsible for the survival difference between obese and healthy-weight patients. Hopefully, in the future, that research will bring new approaches for treatment of pancreatic cancer."

Researchers evaluated the association between patients' BMI in 1986 and survival after diagnosis of pancreatic cancer among participants from two large prospective cohort studies – the Nurses' Health Study and the Health Professionals Follow-Up Study. Participants of those studies were surveyed on medical history, health behaviors, and lifestyle choices. The present study assessed 902 cases of [pancreatic adenocarcinoma](#) that were diagnosed during a 24-year period.

Overall, the median length of survival after diagnosis for those patients was five months. According to Dr. Wolpin, on average, healthy weight patients (BMI less than 25 kg/m²) lived 2 to 3 months longer than [obese patients](#) (BMI greater than or equal to 35 kg/m²). The association between higher prediagnostic BMI and shorter survival persisted after adjusting for differences in age, gender, race/ethnicity, smoking status, and disease stage. Obese patients were also more likely to be diagnosed with advanced disease – 72% of obese patients had metastatic disease at diagnosis compared to 59% of healthy-weight patients.

The association between BMI and survival was even stronger among the 202 [patients](#) with high BMI assessed 18-20 years before diagnosis. Assuming that most people remain overweight

once they gain weight, according to Dr. Wolpin, this finding suggests that being overweight for a prolonged period of time leads to worse outcomes. This study also suggests further avenues of research on the link between obesity and cancer. For example, it is not yet clear if the same changes that promote tumor development in obese people also affect the aggressiveness of the tumor. Several ongoing studies are already exploring metabolic (energy and nutrient processing) pathways and genomic changes in relation to obesity and cancer. This work might reveal whether tumors that develop in obese people are susceptible to different treatments than tumors that develop in [healthy-weight](#) people.

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More information: jco.ascopubs.org/content/early.../013.51.7532.abstract

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