Weight-Loss Meds Reduce Risk of Obesity-Related Cancers

People who used GLP-1 receptor agonists like Ozempic had a modestly lower risk for obesity-related malignancies, especially colon and rectal cancer.

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Use of popular weight-loss medications, such as semaglutide and tirzepatide, was associated with a moderately lower risk for obesity-related cancers, especially colon and rectal cancer, and reduced overall mortality compared with another widely used class of diabetes drugs, according to a study presented at the 2025 American Society of Clinical Oncology (ASCO) Annual Meeting taking place this week in Chicago.

"Although obesity is now recognized as an increasingly important cause of cancer in the United States and worldwide, no medications have been proven to lower the cancer risk associated with obesity," said lead investigator Lucas Mavromatis, ScB, a medical student at the New York University Grossman School of Medicine, in an ASCO news release. "Our study begins to fill that gap by evaluating GLP-1 receptor agonists, a relatively new but widely prescribed medication that treats diabetes, obesity and related conditions. Our results suggest they may modestly cut the chance of developing certain cancers—especially cancers of the colon and rectum—and reduce rates of death due to all causes."

GLP-1 (glucagon-like peptide-1) receptor agonists and related medications mimic natural hormones called incretins that suppress appetite, regulate insulin and blood sugar and slow emptying of the stomach; they also appear to have anti-inflammatory activity. Originally developed to treat type 2 diabetes, liraglutide (sold as Victoza and Saxenda), semaglutide (Ozempic, Wegovy and Rybelsus) and tirzepatide (Mounjaro and Zepbound) were later approved for weight loss. Drugs in this class have been shown to lower the risk of cardiovascular disease and kidney disease and improve fatty liver disease, sleep apnea and arthritis pain. What's more, ongoing research suggests additional benefits, including better cognitive function and reduced alcohol consumption.

Mavromatis and colleagues looked at medical records for more than 170,000 adults from 43 U.S. health systems with a diagnosis of diabetes and obesity (body mass index of 30 or higher). About half were women, more than 70% were white and the mean age was approximately 57 years.

Between 2013 and 2023, half of the participants started treatment with GLP-1 receptor agonists

and half started dipeptidyl peptidase-4 (DPP-4) inhibitors, such as sitagliptin (Januvia) or saxagliptin (Onglyza). Liraglutide (Victoza), approved in 2010, was the most commonly used GLP-1 agonist; semaglutide and tirzepatide were approved in 2017 and 2022, respectively. While GLP-1 agonists mimic a natural hormone, DPP-4 inhibitors block an enzyme that rapidly degrades incretin hormones, allowing them to last longer in the body. While these meds help regulate blood glucose, they generally do not lead to weight loss.

The researchers compared rates of 14 obesity-related malignancies—including breast, colorectal, endometrial, esophageal, gallbladder, kidney, liver, pancreatic, ovarian, stomach and thyroid cancers—as well as mortality due to any cause in the two treatment groups. The mean follow-up period was about four years.

Overall, people who used GLP-1 agonists had a 7% lower risk of developing obesity-related cancers than those who used DPP-4 inhibitors. The effect was more pronounced for women, who had an 8% lower risk of obesity-related cancers, while the difference was not statistically significant for men. Risk reduction was greatest for colon cancer (16%) and rectal cancer (28%), but rates were similar or lower for all 14 obesity-related cancers—none showed an increase in the GLP-1 agonist group. This includes thyroid cancer, which was linked to GLP-1 agonists in some early studies, though recent larger studies have not seen this association.

What's more, people who used GLP-1 agonists had an 8% lower risk of death from any cause compared with DPP-4 inhibitor recipients. This was largely driven by women, who had 20% lower all-cause mortality, while the difference again was not significant for men.

Mavromatis noted that the absolute cancer risk reduction was small, so the number of patients who would need to be treated with GLP-1 agonists to see a drop in cancer cases would be large, though the effect might become greater with longer follow-up. While using these drugs specifically to prevent cancer is unlikely to be cost-effective, the growing number of people who use them for other indications may see a reduced risk of cancer as an extra benefit.

This study was limited to people with diabetes, who have been using GLP-1 receptor agonists longer than those who use them for weight management alone, and most participants used older, less effective drugs in this class. The researchers now plan to look at the link between GLP-1 agonists and cancer risk among people without diabetes.

"This trial raises an intriguing hypothesis: that the increasingly popular GLP-1 medications used to treat diabetes and obesity might offer some benefit in reducing the risk of developing cancer," said outgoing ASCO president Robin Zon, MD. "Though this trial does not establish causation, it hints that these drugs might have a preventative effect. Future research is needed to validate these findings, including in patients who do not have diabetes."

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