

GLP-1 Use Linked to Lower Breast Cancer Incidence in Large Cohort Study

The Penn Medicine study sets the stage for a multi-site clinical trial to determine whether GLP-1 drugs are associated with a lower risk of developing breast cancer.

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A retrospective analysis of more than 110,000 women between the ages of 45 and 80 found that those who took GLP-1 medications were about 30% less likely to develop breast cancer than those who did not take GLP-1 medications, according to research presented today at the [2026 American Society of Clinical Oncology \(ASCO\) Annual Meeting \(Abstract 10506\)](#) by [Elizabeth McDonald, MD, PhD](#), a professor of Radiology in the University of Pennsylvania Perelman School of Medicine and a practicing breast radiologist at Penn's [Abramson Cancer Center](#). The findings were also published today in [JCO Oncology Practice](#).

“While our study was observational and does not definitively confirm an association between GLP-1 medications and reduced breast cancer incidence, it does add to the growing body of evidence suggesting that it’s worth investigating these weight-loss drugs as potential cancer prevention tools,” McDonald said.

GLP-1 medications are a class of drugs that mimic a natural hormone in the body called glucagon-like peptide-1, which helps regulate blood sugar and appetite. Originally used to treat type 2 diabetes, GLP-1 medications are now also widely used for weight management. A handful of recent observational studies have linked GLP-1s to lower cancer risks and/or improved outcomes in cancer survivors, but prospective data—the gold standard in clinical research—is lacking. Now, McDonald and collaborators are actively working to stand up a multisite clinical trial to assess whether GLP-1 medications can lower breast cancer incidence among women at high-risk, including those with a history of breast cancer.

“GLP-1 medications are intriguing from a cancer research perspective because they weren’t designed for cancer therapy, but they do affect many different targets and pathways associated with cancer development, so we’re eager to study them in this context,” McDonald said.

Statistically significant reduced incidence seen across multiple large cohorts

For this analysis, the researchers looked at health records from 111,646 women ages 45 to 80 with a body mass index (BMI) of 25 or above (the “overweight” threshold) who had breast imaging and

a documented outcome in the Penn Medicine EHR between January 2022 and June 2025. Of those women, 15,264 (13.7%) had documented GLP-1 medication prescriptions, and 96,382 (86.3%) had no documented exposure to GLP-1 medications.

The researchers then looked at whether women were diagnosed with a new breast cancer in two different cohorts: the full group of 111,646 women and a smaller cohort of 30,528 women, including one-to-one controls for each of the 15,264 GLP-1 cases, matched across age, race, ethnicity, BMI, breast density, and diabetes status to limit bias and potential confounding. The lower incidence of breast cancer was seen across both cohorts: 35.1% lower odds in the full analysis and 30.5% lower odds in the matched cohort.

The study did not account for type of GLP-1 medication or length of use, genetic risk factors, or cancer stage or type at diagnosis. Further analyses are planned to address some of these variables.

The need for better breast cancer prevention strategies

GLP-1 medications are highly effective at helping people lose weight, and maintaining a healthy weight has long been recommended as part of breast cancer prevention strategies because being overweight or obese, particularly after menopause, is a known risk factor for breast cancer. Researchers have also long suspected that low-grade inflammation may play a role in breast cancer development. GLP-1s reduce systemic inflammation through several different pathways and have other metabolic and epigenetic effects that could inhibit tumor growth. The researchers currently hypothesize that these multiple effects of GLP-1 medications inhibit breast cancer development.

Beyond breast cancer screening via mammography or MRI, medical or surgical interventions to reduce breast cancer risk are limited and potentially life-altering. Prophylactic mastectomy is recommended for some people with genetic mutations that significantly raise the lifetime risk of breast cancer. And while tamoxifen is highly effective at reducing breast cancer incidence in high-risk patients, uptake among eligible patients is limited, due to the drug's known side effects. Meanwhile, GLP-1 medications are widely used by millions of Americans.

"Ultimately, we want to find better options to prevent breast cancer," McDonald said. "It's been encouraging to see the survival rates for breast cancer improve over recent decades, and we'd love to see the same gains in prevention."

The study was supported by the American College of Radiology Center for Research and Innovation, the Pennsylvania Breast Cancer Coalition, and the Abramson Cancer Center.

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