

GLP-1 Receptor Agonists Improve Lung Cancer Outcomes

Study finds that drugs commonly used for weight loss and diabetes management may boost the efficacy of immunotherapy.

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Buffalo, N.Y. — Lung cancer patients who take medications called GLP-1 receptor agonists — commonly prescribed for weight loss and diabetes management — fare better than those who don't, according to research led by [Sai Yendamuri, MD, MBA, FACS](#), Chair of Thoracic Surgery at Roswell Park Comprehensive Cancer Center, and [Joseph Barbi, PhD](#), Assistant Professor, Department of Immunology. Results of the study, which involved investigators from both Roswell Park and the Columbia University Irving Medical Center, [appear in JCI Insight](#).

Amid growing evidence that people who take GLP-1 receptor agonists, also known as GLP-1RAs or GLP 1 inhibitors, have a lower incidence of several different types of cancer, Dr. Yendamuri, senior author of the study, and his colleagues explored the medications' effects on patients diagnosed with non-small cell lung cancer (NSCLC). They conducted two retrospective analyses of overweight or obese patients with NSCLC. One dataset included 1,177 patients treated with surgical resection, of whom 71 took a GLP-1RA drug. The second comprised 300 patients treated with a type of immunotherapy called an immune checkpoint inhibitor; of those, 10 also took a GLP-1RA drug.

The team's data revealed that GLP-1RA use was associated with longer recurrence-free survival in the surgical group, while in the second group, concurrent use of GLP-1RA and immune checkpoint inhibitors was associated with improved overall and progression-free survival. In the same study, GLP-1RA in preclinical models of lung cancer reduced the tumor burden in obese but not normal-weight subjects. Drug-induced changes in the tumor microenvironment that coincided with those effects suggest that the benefits of GLP-1RAs may stem from their ability to favorably reprogram anti-tumor immunity.

It's estimated that more than 4% of the U.S. population now use GLP-1RAs, which are FDA-approved and marketed under several brand names, including Ozempic [semaglutide for diabetes], Wegovy [semaglutide for obesity], Zepbound [tirzepatide for obesity] and Mounjaro [tirzepatide for diabetes]. This class of medications may therefore present a fast-track opportunity to improve the effectiveness of promising immunotherapies and expand the treatment options available for NSCLC, but more research is needed.

[Bailey Fitzgerald, MD](#), Assistant Professor of Oncology in Roswell Park's Department of Medicine, and Akhil Goud Pachimatla, MD, former postdoctoral student in Thoracic Surgery, are co-first authors of the study.

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