Trends in GLP-1 receptor agonist use among men with prostate cancer

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Background: Obesity and type 2 diabetes (T2D) are common comorbid conditions among men with prostate cancer that increase risk of both prostate cancer-specific and overall mortality. Although initially developed for glycemic control, glucagon-like peptide-1 (GLP-1) receptor agonists have been shown to have broad metabolic effects, including on obesity and cardiovascular health. We sought to characterize trends in use of GLP-1 medications among men with newly-diagnosed prostate cancer in a multi-institutional clinical database from 2015 to 2024.

Methods: The TriNetX Linked Network database contains electronic health record and insurance claims data from patients at 39 U.S. academic and non-academic healthcare organizations. Within TriNetX, we identified men with biopsy-confirmed non-metastatic prostate cancer diagnosed from January 1, 2015 through December 31, 2024. Use of GLP-1 receptor agonists (any of albiglutide, dulaglutide, exenatide, liraglutide, lixisenatide, semaglutide, or tirzepatide) was ascertained through RxNorm codes. Presence of comorbid conditions was evaluated at time of prostate cancer diagnosis. The prevalence of GLP-1 receptor agonist usage among men with prostate cancer was evaluated over time and the proportion of men still using a GLP-1 medication at 12- and 24-months post-diagnosis was estimated among current users at diagnosis.

Results: 46,740 men with an incident non-metastatic prostate cancer diagnosis were identified, of whom 1,410 (3.0%) were currently using or had a history of GLP-1 receptor agonist use at time of diagnosis. The prevalence of current GLP-1 medication use increased from 0.5% in 2015 to 2.7% to 2024. 4.8% of men were former GLP-1 medication users at time of cancer diagnosis in 2024. Current GLP-1 medication users had higher mean body mass index (32.4 vs 28.5 kg/m^2) than never users and were more likely to have T2D (50.3% vs. 13.0%). Mean age at diagnosis did not differ between current GLP-1 medication users and never users (63.0 years) and the proportion with commercial health insurance was similar (54.6% vs. 51.8%). Among current users at diagnosis, the proportion with T2D decreased from 94.4% to 33.8% over the study period, indicating increased usage among non-diabetic individuals. Prescriptions of GLP-1 medications with approval for anti-obesity use (liraglutide, semaglutide, and tirzepatide) comprised 83.1% of all prescriptions in 2024. Among current users at diagnosis, 45.6% and 21.2% continued use at 12- and 24-months post-diagnosis, respectively.

Conclusion: The prevalence of GLP-1 receptor agonist use has rapidly grown among men with prostate cancer over the prior decade, particularly among men without T2D, and many men continue to use these medications during receipt of their initial prostate cancer therapy. Given the broad metabolic effects of these medications and the rapid uptake in their usage, further studies are needed to understand their effects on prostate cancer risk and how they may modulate the effects of prostate cancer therapies.

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