Ozempic Cuts Risk of Chronic Kidney Disease Complications, Study Finds

A major clinical trial showed such promising results that the drug's maker halted it early.



By Dani Blum
Dani Blum has reported on Ozempic and similar drugs since 2022.

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Semaglutide, the compound in the blockbuster drugs Ozempic and Wegovy, dramatically reduced the risk of kidney complications, heart issues and death in people with Type 2 diabetes and chronic kidney disease in a major clinical trial, the results of which were published on Friday. The findings could transform how doctors treat some of the sickest patients with chronic kidney disease, which affects more than one in seven adults in the United States but has no cure.

"Those of us who really care about kidney patients spent our whole careers wanting something better," said Dr. Katherine Tuttle, a professor of medicine at the University of Washington School of Medicine and an author of the study. "And this is as good as it gets." The research was presented at a European Renal Association meeting in Stockholm on Friday and simultaneously published in The New England Journal of Medicine.

The trial, funded by Ozempic maker Novo Nordisk, was so successful that the company stopped it early. Dr. Martin Holst Lange, Novo Nordisk's executive vice president of development, said that the company would ask the Food and Drug Administration to update Ozempic's label to say it can also be used to reduce the progression of chronic kidney disease or complications in people with Type 2 diabetes.

Diabetes is a leading cause of chronic kidney disease, which occurs when the kidneys don't function as well as they should. In advanced stages, the kidneys are so damaged that they cannot properly filter blood. This can cause fluid and waste to build up in the blood, which can exacerbate high blood pressure and raise the risk of heart disease and stroke, said Dr. Subramaniam Pennathur, the chief of the nephrology division at Michigan Medicine.

The study included 3,533 people with kidney disease and Type 2 diabetes, about half of whom took a weekly injection of semaglutide, and half of whom took a weekly placebo shot.

Researchers followed up with participants after a median period of around three and a half years and found that those who took semaglutide had a 24 percent lower likelihood of having a major kidney disease event, like losing at least half of their kidney function, or needing dialysis or a kidney transplant. There were 331 such events among the semaglutide group, compared with 410 in the placebo group.

People who received semaglutide were much less likely to die from cardiovascular issues, or from any cause at all, and had slower rates of kidney decline.

Kidney damage often occurs gradually, and people typically do not show symptoms until the disease is in advanced stages. Doctors try to slow the decline of kidney function with existing medications and lifestyle modifications, said Dr. Melanie Hoenig, a nephrologist at Beth Israel Deaconess Medical Center who was not involved with the study. But even with treatment, the disease can progress to the point that patients need dialysis, a treatment that removes waste and excess fluids from the blood, or kidney transplants.

The participants in the study were extremely sick — the severe complications seen in some study participants are more likely to occur in people the later stages of chronic kidney disease, said Dr. George Bakris, a professor of medicine at the University of Chicago Medicine and an author of the study. Most participants in the trial were already taking medication for chronic kidney disease.

For people with advanced kidney disease, in particular, the findings are promising. “We can help people live longer,” said Dr. Vlado Perkovic, a nephrologist and renal researcher at the University of New South Wales, Sydney, and another author of the study.

While the data shows clear benefits, even the researchers studying drugs like Ozempic aren’t sure how, exactly, they help the kidneys. One leading theory is that semaglutide may reduce inflammation, which exacerbates kidney disease.

And the results come with several caveats: Roughly two-thirds of the participants were men and around two-thirds were white — a limitation of the study, the authors noted, because chronic kidney disease disproportionately affects Black and Indigenous patients. The trial participants taking semaglutide were more likely to stop the drug because of gastrointestinal issues, which are common side effects of Ozempic.

Doctors said they wanted to know whether the drug might benefit patients who have kidney disease but not diabetes, and some also had questions about the potential long-term risks of taking semaglutide.

Still, the results are the latest data to show that semaglutide can do more than treat diabetes or drive weight loss. In March, the F.D.A. authorized Wegovy for reducing the risk of cardiovascular issues in some patients. And scientists are examining semaglutide and tirzepatide, the compound in the rival drugs Mounjaro and Zepbound, for a range of other conditions, including sleep apnea and liver disease.

If the F.D.A. approves the new use, it could drive even more demand for Ozempic, which has faced recurrent shortages.

“I think it’s a game changer,” Dr. Hoenig said, “if I can get it for my patients.”

Dani Blum is a health reporter for The Times. More about Dani Blum