



called NAION (non-arteritic anterior ischemic optic neuropathy) than similar patients who had not been prescribed these drugs.

Notably, the study found people with diabetes who had been prescribed semaglutide by their physician and then filled the prescription were more than four times more likely to be diagnosed with NAION. Those who were overweight or had obesity and prescribed this [drug](#) were more than seven times more likely to get the diagnosis.

The study, which was led by Joseph Rizzo, MD, director of the Neuro-Ophthalmology Service at Mass Eye and Ear and the Simmons Lessell Professor of Ophthalmology at Harvard Medical School, published July 3 in [JAMA Ophthalmology](#).

"The use of these drugs has exploded throughout industrialized countries and they have provided very significant benefits in many ways, but future discussions between a patient and their physician should include NAION as a potential risk," said Rizzo, the study's corresponding author. "It is important to appreciate, however, that the increased risk relates to a disorder that is relatively uncommon."

NAION is relatively rare, occurring up to 10 out of 100,000 people in the general population. NAION is the second-leading cause of optic nerve blindness (second only to glaucoma) and it is the most common cause of sudden optic nerve blindness.

NAION is thought to be caused by reduced blood flow to the optic nerve head, with the consequence of permanent visual loss in one eye.

According to Rizzo, the visual loss caused by NAION is painless and may progress over many days before stabilizing, and there is relatively little potential for improvement. There are currently no effective treatments for NAION.

The impetus for the study occurred in the late summer of 2023 when Rizzo, a resident (study co-author Seyedeh Maryam Zekavat, MD, Ph.D.) and other Mass Eye and Ear neuro-ophthalmologists noticed a disturbing trend—three patients in their practice had been diagnosed with vision loss from this relatively uncommon optic nerve disease in just one week. The physicians observed all three were taking semaglutide.

This anecdotal recognition led the Mass Eye and Ear research team to run a backward-looking analysis of their patient population to see if they could identify a link between this disease and these drugs, which had been surging in popularity.

Semaglutide was developed to treat type 2 diabetes. The drug encourages [weight loss](#), and its use has snowballed since its launch as Ozempic for diabetes in 2017. The drug was also approved for weight management, branded as Wegovy, and released in 2021.

The researchers analyzed the records of more than 17,000 Mass Eye and Ear patients treated over the six years since Ozempic was released and divided the patients in those who were diagnosed with either diabetes or overweight/ obesity.

The researchers compared patients who had received prescriptions for semaglutide compared to those taking other diabetes or weight loss drugs. Then, they analyzed the rate of NAION diagnoses in the groups, which revealed the significant risk increases.

There are several limitations to the study. Mass Eye and Ear sees an unusually high number of people with rare eye diseases, the study population is majority white, and the number of NAION cases seen over the six-year study period is relatively small.

With small case numbers, statistics can change quickly, Rizzo noted. The researchers also couldn't determine if the patients actually took their medication or if they started and then stopped taking semaglutide at some point and how this might have impacted their risk.

Importantly, the study does not prove causality, and the researchers don't know why or how this association exists, and why there was a difference reported in diabetic and overweight groups.

"Our findings should be viewed as being significant but tentative, as future studies are needed to examine these questions in a much larger and more diverse population," Rizzo said.

"This is information we did not have before and it should be included in discussions between patients and their doctors, especially if patients have other known optic nerve problems like glaucoma or if there is preexisting significant visual loss from other causes."

**More information:** Risk of Nonarteritic Anterior Ischemic Optic Neuropathy in Patients Prescribed Semaglutide, *JAMA Ophthalmology* (2024). [DOI: 10.1001/jamaophthalmol.2024.2296](https://doi.org/10.1001/jamaophthalmol.2024.2296)

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