

# Diabetes medication may protect against a common cause of blindness

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Researchers from Taiwan have shown that people with type 2 diabetes who took a common diabetes medication, metformin, had a significantly lower rate of age-related macular degeneration (AMD). The study suggests that the anti-inflammatory and anti-oxidative effects of metformin can protect against AMD while it controls diabetes. The research will be presented today at AAO 2018, the 122nd Annual Meeting of the American Academy of Ophthalmology.

Inflammation and [oxidative stress](#) have long been known to play a key role in the [development](#) of both [diabetes](#) and AMD. Because [metformin](#) suppresses inflammation and oxidative stress, researchers in Taiwan theorized that perhaps the diabetes drug may also protect against AMD, one of the leading causes of blindness in Americans over age 50, affecting about 2.1 million people nationwide.

Using the Taiwan National Health Insurance Research Database, they collected data on all [patients](#) recently diagnosed with type 2 diabetes from January 2001 to December 2013, dividing them into two groups: Those who took metformin (45,524 patients) and those who did not (22,681 patients). After following both groups for 13 years, the researchers found that patients in the metformin group had a significantly lower risk of developing AMD. Half as many patients in the metformin group had AMD compared to the control group.

"Our study is the first to reveal the protective effect of metformin on the development of AMD," said lead investigator, Yu-Yen Chen, M.D.

"While more study is required to determine just how metformin protects against the development of AMD, this is an exciting development for patients at risk."

AMD is a degenerative disease that happens when part of the retina called the macula is damaged. It's the part of the eye that delivers sharp, central vision needed to see objects straight ahead. Over time, the loss of central vision can interfere with everyday activities, such as the ability to drive, read, and see faces clearly.

It's a complex disease that involves, genetics, environment, lifestyle factors such as smoking and diet, and systemic diseases like heart disease. How the disease develops is not fully understood, but researchers have shown that oxidative stress and inflammation play a critical role in the development and progression of AMD. Drusen formation, the earliest clinical finding, has been shown to result from a localized inflammatory response.

Provided by American Academy of Ophthalmology

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