

Cholesterol and diabetes drugs may lessen risk of degenerative eye disease associated with aging

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Picture of the back of the eye showing intermediate age-related macular degeneration. Credit: National Eye Institute

Regular use of drugs to lower cholesterol and control type 2 diabetes may lessen the risk of the degenerative eye disease associated with aging, known as AMD, finds a pooled data analysis of the available evidence, published online in the *British Journal of Ophthalmology*.

These common drugs are linked to lower prevalence of AMD (age related macular degeneration) in European populations, the results show.

AMD is the leading cause of severe visual impairment among [older people](#) in high-income countries. In Europe alone, 67 million people currently have the condition, with new cases projected to soar over the next few decades as populations age.

AMD affects central vision and the ability to see fine detail. Various genetic and environmental factors associated with aging are thought to trigger AMD, but it's still not clear how best to prevent it or slow its progression.

Previously published research suggests that drugs to lower cholesterol, control diabetes, and tamp down inflammation may help to lessen the risk of developing AMD, but these findings were partly contradictory and based on small numbers of participants.

In a bid to get around these issues, the researchers pooled the results of 14 population-based and hospital-based studies, involving 38,694 people from France, Germany, Greece, Ireland, Italy, Norway, Portugal, Russia and the UK.

The studies were part of the European Eye Epidemiology (E3) consortium, a collaborative pan-European network, the principal aim of

which is to develop and analyze large pooled datasets to further the understanding of eye disease and sight loss.

Participants were all over the age of 50 and taking at least one type of [drug](#) to lower cholesterol, including [statins](#); control diabetes, including [insulin](#); tamp down inflammation, excluding steroids; and treat movement disorders caused by neurodegenerative disease, including Levodopa.

The prevalence of AMD ranged from 12% to 64.5% across the included studies—9332 cases in total—while the prevalence of advanced (late) AMD ranged from 0.5% to 35.5%—951 cases in total.

The pooled data analysis showed that drugs to lower cholesterol or control diabetes were associated with (respectively) 15% and 22% lower prevalence of any type of AMD, after accounting for potentially influential factors.

No such associations were found for any of the other types of drug or for advanced AMD, in particular, although there were only a relatively small number of such cases, note the researchers.

Theirs is the first large pooled data analysis of its kind to use individual level data from various population-based and hospital-based studies, highlight the researchers.

"Yet, further longitudinal data are needed to confirm our findings, which are inherently limited by using cross-sectional data only and cannot infer causality," they caution.

But the findings point to a likely key role for [metabolic processes](#) in the development of AMD, which may offer potential new avenues for treatment and have implications for public health messaging, they

suggest.

"Our study suggests that regular intake of [lipid lowering] and [antidiabetic drugs](#) is associated with reduced prevalence of AMD in the general population. Given a potential interference of these drugs with pathophysiological pathways relevant in AMD, this may contribute to a better understanding of AMD etiology," they conclude.

More information: Association of lipid-lowering drugs and antidiabetic drugs with age-related macular degeneration: a meta-analysis in Europeans, *British Journal of Ophthalmology* (2022). [DOI: 10.1136/bjo-2022-321985](https://doi.org/10.1136/bjo-2022-321985)

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