

Blindness in the elderly: Finally a treatment in the near future?

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The macula accounts for sharp vision and reading but it is affected in many elderly. Age related macular degeneration is the most important cause of blindness in persons over 65 years of age, and almost 30% of people over 75 years is affected. Unfortunately, no treatment has been proven effective for this blinding condition. Research at Ghent University is going on now for a treatment with eyedrops tackling the root of this blinding disease.

Glycated proteins under the retina

Glycated proteins accumulate in the whole body when growing older. These glycated proteins cause a local inflammation, damaging vessels and neurons. In age related macular [degeneration](#), glycated proteins accumulate under the retina, and patients have reading difficulties because they see black spots or distortions. Ophthalmologists easily recognize this condition by yellowish spots on color pictures or as autofluorescent spots on a scan.

In later stages these dots will confluence and the patient has "dry" age related macular degeneration. The patient has gone partly blind now and cannot read anymore. Up to now, patients and ophthalmologists were powerless as no treatment was available for this blinding disease.

Eyedrops as a treatment for age related macular degeneration

Ghent University researchers tested eyedrops containing the [protein](#) Fructosamine-3-kinase (FN3K), which was developed at VIB Ghent. FN3K is natural protein controlling glycation of proteins throughout the body. The researchers treated the eyes of mice with this protein and noted that the spots under the retina were completely absent in contrast with the sham treated contralateral eyes.

Future perspectives

196 billion people over the world are now affected by age related macular degeneration, and 288 billion people are expected to be affected by 2040. The researchers of Ghent University hope to treat these people already at an early stage and clinical studies are planned.

More information: Sander De Bruyne et al. Fructosamine-3-Kinase as a Potential Treatment Option for Age-Related Macular Degeneration,

Journal of Clinical Medicine (2020). [DOI: 10.3390/jcm9092869](https://doi.org/10.3390/jcm9092869)

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