

Glaucoma drug may have potential to treat Alzheimer's disease

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Credit: University College London

A drug which is used to treat the common eye disease glaucoma may have potential as a treatment for Alzheimer's disease, according to scientists at UCL.

In trials on rats, the drug brimonidine, which is routinely used to lower eye pressure in glaucoma patients, has been found to reduce the formation of [amyloid proteins](#) in the retina, which are believed to be linked to Alzheimer's. The research was reported in the journal *Cell Death and Disease*.

Amyloid plaques can be seen in the retinas of people with Alzheimer's, so the researchers say the retina can be viewed as an extension of the brain that provides an opportunity to diagnose and track progression of Alzheimer's.

Scientists found that brimonidine reduces neurodegeneration of cells in the retina by cutting the levels of beta amyloid in the eye. This was achieved by using the drug to stimulate the production of an alternative non-toxic protein which does not kill [nerve cells](#).

The researchers hope that the drug will have a similar effect on the brain, although this was not tested in the current study.

"The findings of our study could not have come at a more significant and important moment, given the increased prevalence of Alzheimer's disease. As we live longer, there will be increasing demand for therapies that can help challenge this extremely damaging [disease](#) and we believe that our findings can make a major contribution," said Professor Francesca Cordeiro (UCL Institute of Ophthalmology) who led the study.

More information: Shereen Nizari et al. Non-amyloidogenic effects of $\alpha 2$ adrenergic agonists: implications for brimonidine-mediated neuroprotection, *Cell Death and Disease* (2016). [DOI: 10.1038/cddis.2016.397](#)

Provided by University College London

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