Could Glaucoma Be An Autoimmune Disease?

New findings show the body's own immune response destroys retinal cells in the eye.

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Glaucoma, the degenerative eye disease that's the leading cause of blindness, affects nearly 70 million people worldwide. Now, new research published in Nature Communications reveals that this condition may occur when the body's immune system attacks healthy cells in the retina of the eye. If so, this means that blocking this autoimmune response may help in the development of new treatments for glaucoma , reports MIT News.

After a study with mice, researchers discovered that T cells in the rodents' immune system caused the retinal damage that results in glaucoma. In addition, researchers learned that these T cell attacks on the retina are spurred by the white blood cells' previous interactions with bacteria normally found in the body.

"This opens a new approach to prevent and treat glaucoma," said Jianzhu Chu, PhD, an MIT professor of biology, a member of MIT's Koch Institute for Integrative Cancer Research, and one of the study's senior authors.

Currently, standard treatments for the disease involve lowering the pressure in the eyes. But in many people affected by the illness, even after pressure normalizes, glaucoma worsens. Scientists noticed the same result in mice. (Note: Findings in animal studies don't always produce identical outcomes in humans.)

Additional inquiries will seek to determine whether other immune system functions play a part in the autoimmune process that drives the development of glaucoma.

Scientists hope the insights they gathered from this inquiry might also eventually help generate new ways of diagnosing and treating other neurodegenerative disorders, including brain diseases.

Click here to learn how drinking a cup of tea daily could lower the risk of glaucoma.