

Scientists find potential target for dry AMD

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Scientists have good news for patients who suffer from currently untreatable dry age-related macular degeneration (dry AMD). In a new study, researchers identified a potential target for future therapies to slow the progression of the blinding condition. Published in *Investigative Ophthalmology & Visual Science (IOVS)*, the findings indicate that treatments currently used for other conditions could also work for dry AMD.

The paper, "Protective Effects of Anti-Placental Growth Factor Antibody Against Light-Induced Retinal Damage in Mice," brings to light the effect of a known protein, placental growth factor (PlGF), on the development of [dry](#) AMD. PlGF had previously been implicated in the progression of a related disease known as wet AMD.

"Currently, blocking PlGF in wet AMD has a therapeutic effect," says author Hideaki Hara, PhD, of Gifu Pharmaceutical University, Department of Biofunctional Evaluation. "In our study, we wanted to learn if PlGF could be a useful therapeutic target for dry AMD."

Earlier in vitro studies by the authors showed that injecting PlGF into retinal cells—the cells at the back of the eye responsible for sight—reduced light-induced damage. In this work, the authors evaluated how mice retina responded to injection of PlGF before and after exposure to intense light, a procedure that produces dry AMD-like conditions. Surprisingly, the new in vivo mouse studies contradicted the previous results.

"In the present study, we thought that treatment with PlGF would show a protective effect against light-induced retinal degeneration," explains Hara. "Instead, PlGF aggravated the degeneration."

With PlGF seeming to make things worse, the authors then tested anti-PlGF, an antibody that binds PlGF and prevents it from acting. "Anti-PlGF antibody treatment protected against retinal degeneration induced by light exposure. Therefore, our results indicate that an anti-PlGF antibody can

become a therapeutic agent in minimizing light-induced degeneration," says Hara.

Fortunately, an existing treatment for wet AMD known as aflibercept already acts as an anti-PlGF antibody. Hara and his team "think there is a very great likelihood that aflibercept shows efficacy in dry AMD." Using an existing drug in clinical trials could shave years off the time needed to determine if an anti-PlGF treatment could address dry AMD, an encouraging prospect for those suffering from the slow, currently untreatable vision loss resulting from the condition.

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