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For Immediate Release

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Scientists find potential target for dry-AMD

Results may lead to first drug targeting the blinding condition

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