Researchers Show Common Parkinson’s Drug May Help Prevent AMD

Drug could be repurposed to save the sight of millions

Macular Degeneration Research grantees are opening new frontiers in vision research.

Macular Degeneration Research (MDR) continues to be at the forefront of scientific discovery. We recently announced a major discovery that suggested that L-DOPA, commonly used to treat Parkinson’s disease, might delay or prevent age-related macular degeneration (AMD).

"We asked: Are people who take L-DOPA protected from AMD? The answer was yes!"

Brian McKay, PhD, whose study started with a grant from MDR.

Scientists funded by MDR discovered a biological connection between darker pigmented eyes, that are known to be resistant to AMD, and increased levels of a chemical called L-DOPA in those eyes.

“We just asked a very simple question: Are people who take L-DOPA protected from AMD?” said lead investigator Brian McKay, PhD, of the University of Arizona. “The answer was yes! L-DOPA both prevented and delayed the onset of AMD.”

A variety of resources are available for people living with macular degeneration. To receive a copy of our Resource List, which includes information about agencies that offer counseling, training, and other special services, please call Macular Degeneration Research at 855-345-6637 or visit our website at www.brightfocus.org/MDRresources.
The results, published in the American Journal of Medicine, were based on an analysis of the medical records of 37,000 patients. They showed that those who received L-DOPA were much less likely to get AMD, and when they did, its onset was significantly delayed. The researchers were able to track patterns because the average age of a person given L-DOPA is 67, while the average age of AMD diagnosis is 71.

Their findings were then further supported by reviewing the medical records of 87 million Americans, which showed that L-DOPA also delayed or prevented AMD from progressing to its most devastating “wet” form.

“This exciting breakthrough shows the power of scientific discovery and gives hope to millions of people,” said Stacy Pagos Haller, president of BrightFocus Foundation, of which MDR is a program.

“These simple findings were translated through the benefit of ‘big data’ and allow us to point to yet another opportunity to help AMD patients,” she added. “This would not have been possible without our donors’ support.”

“I’m showing the way forward to actually stop this disease. But we have more work to do,” said McKay in an interview with U.S. News & World Report. The researchers’ next step is to launch a clinical trial to test L-DOPA’s ability to prevent AMD. To learn more, visit www.brightfocus.org/LDOPA.
Fovista: A Promising New Treatment for Wet AMD

People with wet AMD are often helped by drugs such as bevacizumab (Avastin™), ranibizumab (Lucentis™), or aflibercept (Eylea™). They target vascular endothelial growth factor (VEGF) and block the growth and leakage of abnormal blood vessels at the back of the eye.

However, not all patients benefit from these treatments. Abnormal blood vessels can survive and leak again later or even develop damaging scar tissue.

That’s why scientists are developing new drugs with different targets. One of these, pegpleranib sodium (Fovista™), acts on platelet-derived growth factor (PDGF). Since anti-PDGF drugs like this bind to cells on the outer lining of blood vessels, while anti-VEGF drugs bind to cells on the inner lining of blood vessels, treatment that combines both types of drugs may be more effective than treatment with the latter alone.

In one study, patients treated with both Fovista and Lucentis had significantly greater improvement in visual acuity at 24 weeks than those who received only Lucentis. Fovista may also promote blood-vessel regression and reduce scarring.

These results are encouraging. Currently, several Phase 3 studies are under way to determine if Fovista is safe and effective over a longer period. Only then could it be approved by the U.S. Food and Drug Administration and become available to patients outside clinical trials.

MDR has funded key thought leaders, Xuri Li, PhD, and Chengua Gu, DVM, PhD, who have contributed to knowledge that has led to the development of promising new treatments such as Fovista.

Scientists are developing new drugs that target different parts of the eye, which may provide more effective treatment than a single drug.
Injections for Wet AMD: What to Expect

For people with wet AMD, treatment can make the difference between stabilizing vision and irreversibly losing it. However, new patients are often nervous about the prospect of getting eye injections, so knowing what to expect may help.

1) Most doctors will give you numbing eye drops. They’ll clean your eye, and perhaps eyelid, with a yellow iodine solution, which may sting.

2) They will position an eyelid holder so you can’t blink at the wrong time and numb the eye with drops, gel, a medicated Q-tip, or a superficial injection of anesthetic.

3) Many will measure the position of the injection. It’s often placed in the lower outer white part of your eye, toward your ear. They’ll ask you to look up and then inject the medicine through a very tiny needle. You may feel nothing, a little pressure, or a few seconds of moderate discomfort. Some people see a web of lines as the medicine mixes with the fluids in the eye.

4) The doctor will examine your eye with a light and clean around it. Most will ask you to use antibiotic eye drops for a few days.

Your eye may be sore and your vision foggy for a day or two. Over-the-counter pain-relievers such as acetaminophen or ibuprofen can often relieve discomfort, as can a cool, clean washcloth held gently on the closed eye (for no more than 10 minutes every half hour).

Sometimes the injection breaks a blood vessel on the eye’s surface, causing the white part to look red for up to two weeks. If there’s no pain and your vision is good, this is probably harmless.

Two rare but serious complications can occur. Retinal detachment is one. Symptoms are an arc of flashing light in your peripheral vision, floating lines or spots that move with your eye, or a “curtain” blocking part of your vision. Eye infection is another complication. Symptoms are blurry vision and pain lasting more than just overnight after the injection. If you have symptoms of either, call your doctor right away.

After their first treatment, many patients say, “Oh, it wasn’t as bad as I thought it would be,” says retinal specialist Albert Edwards, MD, PhD. And the benefits are immeasurable. “It’s the difference between stability and an average of one or two lines of improvement on the eye chart,” he says, “versus a very high risk… of progressing to legal blindness.”
Special Services Help People with Vision Loss

AMD can rob people of their central vision and leave them unable to drive a car or even read a book. Fortunately, there are services to help.

Transportation
The Independent Transportation Network (ITN) is a 24/7 car service that picks you up from your home, work, doctor’s office, or anywhere else. It takes you wherever you want to go and back again. It has affiliates in 20 states, with 2 more starting soon.

By joining the ITN, you set up a prepaid “personal transportation account.” You call to schedule a ride and someone picks you up. ITN provides arm-through-arm, door-to-door service to make sure that people with vision problems reach their destination safely.

You can learn more at www.ITNAmerica.org or 207-591-6939. If there is no ITN in your area, contact ITN’s call center, Rides in Sight, at 855-607-4337, and they will help you find whatever transportation is available in your area.

Reading material
The National Library Service (NLS) for the Blind and Physically Handicapped is a free service for people who can’t read standardized print. They provide audio versions of virtually any book published in the U.S., thousands of talking magazines, and braille books and magazines.

NLS provides both the books and the specialized players needed to listen to them. You can also download their books onto your iPhone, iPad, or Android device through their BARD mobile service.

Specialized advisers in your area can help you review the catalog and find things you like to read. The catalog is also available online. The goal of NLS is to give you everything you’d get in your own public library, in a format you can read. To learn more, visit www.LOC.gov/thatallmayread or call 888-NLS-READ (888-657-7323).
Feel Good About Your Gift

Planned giving can help fight AMD

Through thoughtful planned giving, you may help with our search for a cure for AMD. At the same time, it will help you meet your personal planning and philanthropic goals to create a more meaningful legacy.

When you include MDR in your estate plans, your gifts will put you front and center in the fight to discover treatments that will benefit millions. You may also be able to reduce your estate taxes and leave a larger inheritance for your loved ones.

For additional information or to discuss the many giving options available, please contact Barbara S. Spitzer, Senior Planned Giving Officer, at 855-345-6637 or bspitzer@brightfocus.org.

Thank you for thinking of MDR!