

Nutritional Supplement Reduces Risk of Advanced AMD

The Age-Related Eye Disease Study (AREDS) — a landmark investigation conducted by the National Eye Institute (NEI) — determined that antioxidant supplementation can slow the progression of AMD. The AREDS formulation is an over-the-counter antioxidant supplement recommended for people who are at risk of developing advanced forms of either dry or wet AMD. The formulation includes the antioxidants beta carotene, vitamin E, and vitamin C, as well as the nutrients zinc and copper.

The NEI recently completed a second AREDS study (AREDS2) to evaluate the potential benefits of the antioxidants lutein and zeaxanthin and the omega-3 fatty acids docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA). The results of AREDS2 showed that DHA and EPA did not confer additional benefit in reducing AMD risk. The researchers from AREDS2 did recommend that beta carotene in the original formula be replaced with lutein, because beta carotene can increase lung cancer risk in current and former smokers. For more information on the AREDS2 study, visit www.areds2.org.

Lucentis™ Preserves Vision in People with Wet AMD

Developed by Genentech, Lucentis is effective in reducing the risk of losing vision from the abnormal blood vessel

growth under the retina associated with wet AMD. The drug was FDA approved in 2006. A two-year study showed that 95 percent of people with wet AMD who received monthly injections of Lucentis experienced no significant loss in visual acuity. Genentech also reported moderate visual improvement in 24.8 percent of participants treated with a 0.3 mg dose of Lucentis and 33.8 percent of participants treated with a 0.5 mg dose.

Genentech is reporting progress in the development of a device aimed at reducing the number of Lucentis injections required to inhibit wet AMD. The company is conducting a Phase II clinical trial for a sustained delivery device known as a port delivery system (PDS) is showing positive results for safety and the diffusion of Lucentis to affected areas of the retina. Investigators believe that the PDS can provide four months of therapy before needing to be refilled.

Avastin® Used Off-Label to Treat Wet AMD

A colorectal-cancer drug called Avastin® — a drug similar to Lucentis — has been used “off-label” by some ophthalmologists to treat wet AMD. The National Eye Institute conducted a clinical study of Avastin for the treatment of wet AMD to better determine the drug’s long-term safety and effectiveness. In the study, Avastin was compared to Lucentis. The two-year study

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showed that the drugs were similar in safety and efficacy.

EYLEA™ Preserves Vision in Wet AMD with Fewer Injections

Regeneron's wet AMD treatment, Eylea, blocks the development of unhealthy blood vessels that lead to vision loss. Regeneron reports that in clinical trials, Eylea treated wet AMD as effectively as Lucentis, but with fewer eye injections. Genentech, maker of Lucentis, recommends monthly injections of their treatment. Regeneron, maker of Eylea, reports that their therapy can be injected every eight weeks after monthly dosing for the first 12 weeks of treatment. Eylea was approved by the FDA in November 2011.

Vision Improvements Reported in Early Stem Cell Trial for Wet AMD

Two patients with advanced wet age-related macular degeneration (AMD) in a Phase I clinical trial demonstrated improved visual acuity sustained for one year after a sheet of retinal pigment epithelial (RPE) cells derived from embryonic stem cells was transplanted under their retinas. Each patient had one eye treated. Vision improvement for one patient was 29 letters or about 6 lines on an eye chart. The other had a gain of 21 letters or about 4 lines. Known as the London Project, the human study is taking place at Moorfields Eye Hospital in the UK.

Retinal Patch Performs Promisingly in Clinical Trial for Dry AMD

Regenerative Patch Technologies, a company developing stem-cell-derived treatments for people with retinal diseases, has reported encouraging results for the first five patients with advanced, dry age-related macular degeneration (AMD) participating in a Phase 1/2a clinical trial for its therapy – a patch comprised of a layer of retinal pigment epithelial (RPE) cells on a synthetic scaffold. One patient in the trial had visual acuity improvement of 17 letters (about 3 lines on an eye chart) in her treated eye. Three patients had vision maintained in their treated eyes. Two had improved fixation. No evidence of safety issues with the treatment was observed.

Implantable Miniature Telescope Improves Central Vision

The FDA has approved the use of an implantable miniature telescope (IMT) for enhancing the central vision of people with end-stage, untreatable age-related macular degeneration (AMD). The IMT provides improved central and detailed vision by focusing and magnifying images onto the functional, outer regions of the recipient's retina. People with advanced AMD usually experience degeneration of the macula or central region of the retina. The IMT was developed by VisionCare Ophthalmic Technologies.