

New treatment for age-related macular degeneration within sight

With 8 million people at high risk for advanced age-related macular degeneration, researchers from Harvard and Japan discovered that the experimental drug, endostatin, may be the cure. A research report published in the December 2007 issue of The FASEB Journal, describes how giving endostatin to mice significantly reduced or eliminated abnormal blood vessel growth within the eye, which is ultimately why the disease causes blindness.

“Our study provides intriguing findings that may lead to a better treatment of age-related macular degeneration,” said Alexander Marneros, the first author of the report, “but clinical studies in patients with age-related macular degeneration are still necessary.”

In this study, researchers describe testing the effects of endostatin on mice lacking this naturally occurring substance. The mice without endostatin were about three times more likely to develop advanced age-related macular degeneration (AMD) than normal mice. Then the researchers administered endostatin to both sets of mice. In the mice lacking endostatin, the number of abnormal blood vessels that cause AMD were reduced to normal levels. In control mice with normal levels of endostatin, the number of abnormal blood vessels were practically undetectable.

“With Baby Boomers reaching advanced ages, new treatments are desperately needed to keep age-related macular degeneration from becoming a national epidemic,” said Gerald Weissmann, MD, Editor-in-Chief of The FASEB Journal. “This research provides hope for those at risk for blindness, and it gives everyone another glimpse of how investments in molecular biology will ultimately pay off in terms of new treatments and cures.”

AMD is a progressive disease that affects the part of the eye that allows people to see fine details. The disease gradually destroys sharp, central vision, and in advanced stages ultimately leads to total blindness. Abnormal blood vessel growth, also known as angiogenesis, is a hallmark of advanced AMD. These faulty blood vessels leak fluids and blood, causing catastrophic vision loss. As the name implies, risk for age-related macular degeneration increases with age, and 8 million people are considered to be at high risk for the disease. Of these individuals, approximately 1 to 1.3 million will develop advanced AMD within the next five years. Endostatin is an experimental drug, which is currently being tested to stop cancer in people by restricting the formation of abnormal blood vessels supply blood to tumors. Endostatin is a protein in collagen, and while collagen is used in a range of products for skin care to gelatin desserts, consumption or use of these products does not have any effect on tumors or AMD.

Weissmann added, “This research proves once and for all that endostatin functions as the body’s own natural inhibitor of new blood vessel growth as Judah Folkman of Harvard predicted.”

Source: Federation of American Societies for Experimental Biology

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