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Vitamin Supplements Prevent Age-Related Blindness

BREAKTHROUGH

Supplemental nutrients are effective at preventing blindness due to age-related macular degeneration (AMD).

BACKGROUND

Antioxidant vitamins and minerals, such as zinc, vitamin C, vitamin E and beta-carotene, can aid in the destruction of chemical radicals and are considered protective of the macula against photo-oxidative damage.

SCOPE OF THE PROBLEM

AMD, a progressive and degenerative disorder of the macula, the central region of the retina in the eye, is the leading cause of blindness among Caucasians over the age of 65 in the US. An estimated 1.75 million Americans have an advanced form of the disease, which results in irreversible blindness.¹ As the U.S. population ages, this number is expected to increase to 3 million by 2020, and to 6.3 million by 2030. An estimated 8 million Americans have early stage AMD, which is asymptomatic but detectable by an eye exam, and are at risk of progressing to an advanced stage. It is extremely important to identify nutritional preventive solutions for this problem, since treatment options are limited once the disease is established.

ECONOMIC BURDEN

In 2004, the total financial cost of AMD to the U.S. was \$575 million, a cost expected to rise to \$845 million over the next 15 years. Persons with AMD often require assistance with daily living, and an analysis showed that use of paid and unpaid help significantly increased as visual acuity decreased.² The most significant indirect cost of AMD is reflected in the loss of quality of life (QOL). Moderate AMD is associated with a 40 percent decrease in QOL; and very severe AMD is associated with a 63 percent decline in QOL, similar to that associated with advanced prostate cancer with uncontrollable pain, or a severe stroke.

LANDMARK STUDY

In 2001, the Age-Related Eye Disease Study (AREDS), funded by the National Eye Institute, was published in *Archives of Ophthalmology*.³ It showed that an intervention involving high-dose nutritional supplements (zinc along with antioxidant nutrients such as vitamin C, vitamin E and beta-carotene) reduced the risk of advanced AMD by 25 percent and its associated vision loss by 19 percent in patients with early stages of the disease.

PUBLIC HEALTH AND EDUCATION APPLICATION

An estimated 8 million persons aged 55 and older in the U.S. suffer from intermediate AMD in one or both eyes, or advanced AMD in one eye⁴. They are considered to be at high risk for advanced AMD and are those for whom the AREDS formulation should be considered. Of these people, 1.3 million would develop advanced AMD if no treatment were given to reduce their risk. If all of these people at risk received supplements such as those used in AREDS, more than 300,000 of them would avoid advanced AMD and any associated vision loss during the next 5 years [4].

REFERENCES

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