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FILE: ▪ Ginkgo (*Ginkgo biloba*)
▪ Glaucoma
▪ Improved Vision

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RE: Ginkgo Extract Improves Visual Acuity in Glaucoma Patient

Dorairaj S, Ritch R, Liebmann JM. Visual improvement in a patient taking *Ginkgo biloba* extract: a case study. *Explore*. July/August 2007;3(4):391-395.

Many factors can contribute to the development of glaucoma, a progressive optic neuropathy. Although elevated intraocular pressure (IOP) is the most important risk factor for glaucoma, other factors have been associated with the disease: cardiovascular disease, vasospasm, autoimmune disease, cerebral microvascular ischemia, low blood pressure, orthostatic hypotension, migraine, and Raynaud's phenomenon. Because glaucoma can develop and progress despite lowering the IOP to normal levels, alternative treatments (rather than traditional IOP-lowering drugs, laser, and operative therapies) are being considered. Ginkgo (*Ginkgo biloba*) extract has been suggested as a treatment for normal-tension glaucoma because of its effects on peripheral and cerebral blood flow and its neuroprotective properties. The authors present a case report of a patient whose glaucoma damage progressed, even though he had stable IOP on medication. The patient was started on ginkgo extract and experienced improved visual acuity. The ginkgo extract used in this case study is not described in the article; however, a ginkgo extract (standardized to 24% ginkgo flavonol glycosides and 6% terpene trilactones) from Vitamin Research Products in Carson City, Nevada was given to the patient (personal communication from Dr. Robert Ritch to Lori Glenn; September 10, 2007).

The 75-year-old man with primary open-angle glaucoma complained of deterioration of visual field and acuity. In July 1997, his IOPs ranged between 15 and 23 mm Hg on maximally tolerated medical therapy. After examination, the patient was diagnosed with possible ischemic optic neuropathy of the right eye and open-angle glaucoma with visual field loss of the left eye. In addition to his regular glaucoma medication, the patient was instructed to take pentoxifylline (a drug that reduces blood viscosity, increases microcirculatory blood flow, and is used to treat intermittent claudication resulting from occlusive arterial disease) and 120 mg ginkgo extract daily.

Eleven months later in February 2000, the patient's visual acuity improved from counting fingers at 1 foot occulus dexter (OD) to 20/80 OD, and from 20/50 occulus sinister (OS) to 20/40 OS. At 30 months, those measurements were 20/40 OD and 20/30 OS.

The authors report that topographic change analysis and Moorfields' regression analysis were stable during the 11 months. Subsequent visual field evaluation with Humphrey visual field and Goldmann visual field tests showed no signs of deterioration.

Although the patient's visual field did not improve with the ginkgo extract, his visual acuity improved dramatically and the stereometric parameters demonstrated a tendency of improvement in both eyes. The authors suggest that the effects of the ginkgo extract that are likely to contribute to improved visual acuity are either neuroprotective or through the improvement of ocular blood flow.

—*Shari Henson*

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