

Omega-3 Diets Reduce Vision Loss in Retinitis Pigmentosa

High amounts of omega-3 fatty acids consumed with vitamin A preserve central vision in retinitis pigmentosa.

Mindy Nash, OD

April 13, 2018- In patients with retinitis pigmentosa, a high-omega-3 fatty acid diet (≥ 0.20 g/d) combined with vitamin A supplementation (15 000 IU/d) reduced the progressive loss of central visual acuity to a greater extent than a low-omega-3 diet (< 0.20 g/d) combined with vitamin A supplements in a cohort study.

Eliot L. Berson, MD, with Berman-Gund Laboratory for the Study of Retinal Degenerations, Harvard Medical School, at the Massachusetts Eye and Ear Infirmary in Boston, Massachusetts, and colleagues reported the results of the study in the February 13, 2012 online publication of the *Archives of Ophthalmology*.

A previous report determined that omega-3 intake of at least 0.20 g/d with vitamin A supplements in patients with retinitis pigmentosa improved the visual field sensitivity of the patients. The report included 3 clinical trials. The current study analyzed the same 3 clinical trials, but studied the effect of omega-3 consumption on the visual acuity of the patients with retinitis pigmentosa.

The analysis included 357 adult patients with retinitis pigmentosa who consumed vitamin A as retinyl palmitate (15 000 IU/d) and long-chain omega-3 fatty acids. Patients completed initial and subsequent food frequency questionnaires at each visit. The researchers calculated omega-3 consumption from the questionnaires.

Distance acuity was measured at each visit by the Early Treatment Diabetic Retinopathy Study (ETDRS) chart, and Snellen retinal acuity was measured post-dilation by a retinal potential acuity meter. Techniques were used to lessen letter memorization by the patients. An areal quantification of posterior subcapsular cataracts was performed with a slit-lamp examination, and the fundus was observed with an ophthalmoscope. From the questionnaires, the patients were divided into 2 groups, high (≥ 0.20 g/d) or low (< 0.20 g/d) omega-3 consumption. Age differences were statistically controlled.

Patients with high omega-3 consumption had a 0.59 letter per year ($P = 0.001$) distance acuity loss on the ETDRS testing compared with 1.00 letter per year with low omega-3 consumption. They also had a 1.5% per year ($P = 0.03$) declined retinal acuity rate on the Snellen testing compared with a 2.8% per year with low omega-3 consumption. Peripheral acuity testing by full-field cone electroretinograms was not statistically significant between the 2 groups of patients. The size of posterior subcapsular cataracts was similar between the high and low groups.

No adverse effects were reported.

“Those with a diet high in long-chain omega-3 fatty acids (≥ 0.20 g/d) had a 40% slower mean annual rate of decline in distance visual acuity than those with a diet low in these fatty acids,” concluded Dr. Berson and colleagues. Therefore, a specialized diet “make[s] it possible for many patients with typical retinitis pigmentosa to retain both visual acuity and central visual field for most of their lives,” they added.

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