

Dietary Intake of Omega-3 Fatty Acids and Risk of Glaucoma: Good News for a Diet with Seafood

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We read with enthusiasm the article by Wang, *et al.* [1] analysing the association between glaucoma and daily dietary intake of polyunsaturated fatty acid (PUFAs), including omega-3 fatty acids (O3FAs), in the US [1]. The authors demonstrated that increased daily dietary consumption levels of eicosapentaenoic acid and docosahexaenoic acid were associated with a lower likelihood of glaucomatous optic neuropathy [1].

Whether daily O3F intake is protective against glaucoma or not is unsolved [1]. However, the study results may assure the population that fish consumption is a very important source of energy, high-quality proteins, vitamins (D, A, E and B12), fat (mainly O3FAs) and minerals (Se, Mn and Cu), whose beneficial effects in health promotion and disease prevention are widely known [2]. Interestingly, it has been proposed that human brain cannot develop normally without a reliable supply with several micronutrients, notably O3FAs, iodine and iron [3]. In this sense, brain-selective nutrients and energy-rich food (including fish) may have provided the essential metabolic and nutritional support needed to gradually expand the cerebral cortex and gray matter, a key step in human brain evolution [3].

In this respect, we have to remember that human body cannot synthesize O3FAs; hence one must obtain it from food. Thus, seafood is the only food that provides major quantities of O3FAs [2,4,5]. Experts and health organizations have recommended specific fish species for consumption, with regard to the concentration of O3FAs and the burden with environmental pollutants (e.g. heavy metals, polycyclic aromatic hydrocarbons, polychlorinated biphenyls (PCB), polybrominated diphenyl ethers, dioxins, furans and chlorinated pesticides). These species include anchovies, Atlantic herring, salmon, trout, and sardines [2,4,5]. Humans who want a diet with safe levels of chemical pollutants but would like to enjoy the benefits of O3FA can use fish oil supplements, walnuts, or oils (flax, canola and soybean) [4,5].

Open questions that remain are the following: are results in humans associating O3FAs and eye diseases still insufficient? Is there a need for larger multi-center randomized trials? Is the use of O3FAs to prevent glaucoma evidence-based?

Although consumer vigilance is necessary among regular fish consumers (especially for those residing in fishing areas, for pregnant and breastfeeding women, and for very young children) [2], we must remind that eating fish is healthy, with no side effect, and of low cost. Regular fish intake may influence neurodevelopment (visual system) and may prevent chronic diseases [2,5]. Until further results are available, we propose that ophthalmologists recommend fish eating to their clients

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Disclosure

The authors report no conflicts of interest.

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