Oral antioxidant supplementation in primary open-angle glaucoma

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Introduction
Glaucoma is a group of diseases that damage the eye’s optic nerve and can result in vision loss and blindness. The most common kind of glaucoma is primary open-angle glaucoma. The main cause of developing POAG is alteration in the outflow tissues of the anterior chamber, involved in intraocular pressure (IOP) regulation. This alteration results in aqueous humor outflow impairment and ocular hypertension. Recent studies suggest that nutritional factors may play a role in the pathogenic mechanisms of glaucoma including modifications in trabecular meshwork and optic atrophy(1). Otherwise, oral antioxidant supplementation (OAS) has been shown to be beneficial in other ocular diseases such as age-related macular degeneration(2), diabetic retinopathy(3) or uveitis(4).

In this study we evaluate whether OAS could be useful as coadjuvant treatment in POAG.

Methods
102 patients (204 eyes) with POAG and intraocular pressure under control with topical antiglaucoma medications were recruited and randomly divided into 3 subgroups according to the supplementation: OAS with (ICAPS R® -Alcon- n=25) ω-3 fatty acids, and control group without antioxidant supplementation (n=25) and without (OFTAN MACULAR® -Laboratorios Esteve- n=25) without antioxidant supplementation (n=52). The supplementation consisted on the ingestion after the breakfast of one tablet of the corresponding compound every working day during 2 years. All of them had visual field (VF) tests ( Humphrey 24-2) and scans using a Fourier Domain-OCT device (RTVue-100) considering macular and peripapillary parameters at the beginning of the study and 2 years later.

Results
VF global indices (Mean deviation –MD- and Pattern standard deviation -PSD-), average macular ganglion cell complex thickness (avgGCC) and average peripapillary retinal nerve fiber layer thickness (avgRNFL) showed no differences among the subgroups at the beginning of the study (p>0.05, pairwise comparisons of differences with ANOVA using the Tukey Adjustment for Multiple Comparisons).

Conclusion
OAS with or without ω-3 fatty acids does not seem to be useful as coadjuvant treatment in the medium-term treatment of POAG.

References

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