Micronutritional supplementation in ARMD
Los suplementos micronutricionales en la DMAE

We have read the letter by Dr. Díaz Llopis (Letters to the Editor. Arch Soc Esp Oftalmol 2007; 82: 195-196) entitled Should we prescribe antioxidants to patients with ARMD? The purpose of said letter was to clarify whether the treatment objectives for age-related macular degeneration (ARMD) are achieved with marketed medication. Having analyzed the various points of this letter we should like to clarify the following arguments in favor of micronutritional supplementation in ARMD:

1. The age-related eye disease study (AREDS) (1,2) is relevant, but not the only scientifically valuable one with regard to ARMD. Previously, the «Beaver Dam Eye Study» funded by the National Eye Institute (NIH, USA), examined since 1987 a population of 6,000 subjects aged 43-84, analyzing the prevalence and incidence of ARMD with relation to health, quality of life, environment and medical and paramedic treatments. Results appeared in over 100 scientific papers, endorsed by groups worldwide, such as the «Blue Mountains Eye Study» in Australia, the «Rotterdam» study, the «Los Angeles Latino Eye Study», as well as the French POLA «Pathologies Oculaires Liees à l’Âge», the AREDS itself and the more recent LAST «Lutein and antioxidants study trial», just to mention a few. They all conclude that control of nutrition and health in general, together with the elimination of risk factors, have a positive effect on age-related eye health.

2. AREDS (1,2) did achieve positive outcomes on the effects of supplementation with micronutrients in ARMD, demonstrating that after 5 years the serum levels of antioxidants (AOX) and Zn were higher in patients who had received supplements. After 6 years they concluded that these supplements and the serum concentrations achieved were beneficial in the initial forms with multiple large soft drusen and in the intermediate and advanced forms of ARMD, delaying its progression. In our opinion, these are interesting results, but we must remember they are not definitive, either way. The protocol included certain micronutrients, in some cases in excessive concentrations and deficient in others, with a notable absence of vitamins and oligoelements with proven efficacy in relation to aging (e.g. it has recently been published that vitamin D has antiproliferative and antitumor properties, regulating the expression of genes highly relevant to aging) (3). The inclusion/exclusion criteria are also questionable, as are some sections of the statistical processing of AREDS. In this sense, we agree with other authors who have previously mentioned these failings (García Layana, A; Arch Soc Esp Oftalmol 2002; 77: 57-58). We assume this study reflects the global interest on the nutritional status of patients with ARMD, overcoming nutritional diversification across cultures and continents. Nonetheless, we would like to emphasize that a scientific study, even if highly outstanding, shows nothing definitive by itself, as it requires reproduction by various authors in different areas of the world in order to become a biomedical research benchmark. And the last word on antioxidants and eye disease is yet to be said.

3. If we consider ARMD a multifactorial process with a scientifically recognized oxidative basis, we assume the function of free radicals and antioxidant defenses in its onset and progression (4). And here we must remember and pay tribute to Denham Harman (5) who in 1954 described the theory of free radicals and aging. In a recent interview the octogenarian professor was asked what supplements he took to enjoy such good health, to which he replied that his personal formula included a daily dose of 400 IU of vitamin E, 2000 mg of vitamin C, 100 mcg of Se and 30 mg of coenzyme Q10, and he added «before I used to take more, but I would tire out». Professor Harman explained that an excess of AOX causes fatigue and muscle weakness. And he was adamant in this regard «although bodies decrease their metabolic efficiency with age, the need for micronutrients also increase with aging». Therefore it seems reasonable to consume supplements with antioxidants in smaller concentrations for a longer period, rather than occasionally abusing of megadoses. The best method and time for nutritional action is still to be determined, but its importance should not be underestimated. Based on our own personal experience, we believe the most appropriate way of approaching the problem in relation to ARMD is preventive micronutritional supplementation (in subjects at risk: hypertensive patients, smokers, with dyslipidemia, heart disease and/or a family history of the condition) and in early stages of the disease, and highlighting that we never pres-
cribe them expecting a cure. We recommend, in line with the AREDS data, other similar papers and our personal experience, conducting plasma determinations of oxidative and antioxidant activity in order to provide individual guidelines whenever possible for micronutritional supplementation. We suggest that one of the options for prescribing antioxidant supplements is to prescribe them based on the general oxidative and antioxidant status of the subjects, determining their plasmatic concentration through standardized and easily accessible biochemical methods. Thus, going back to Harman, we can prevent an overdose, unnecessary administration or side effects resulting from questionable prescription guidelines.

4. And with regard to the last paragraph in which the authors conclude that «all of the drugs currently marketed for our ARMD patients lack minimum scientific rigor to recommend their continuous administration», with all due respect we inform that our patients with ARMD are prescribed antioxidant supplements (not drugs) based on scientific laboratory tests and furthermore we recommend that they take the products marketed by the pharmaceutical companies in our country. Micronutritional supplements should be recommended preventively and as adjuvants of other scientific-medical measures. This type of products is prescribed for long terms with occasional rest periods. We do not rule out actions aimed at improving general health. If you question antioxidants, fear their side effects and are concerned about their cost, you may also question other invasive ophthalmological actions that are very costly and risky, with endless lists of complications that at times achieve minimal results. And yet, we all use and value them. Micronutritional supplements marketed by the pharmaceutical industry are backed by Spanish Laws and their formulation is the result of applying recommended daily amounts (RDA) of each micronutrient, based on the resolution of expert committees and in accordance with applicable legislation. In our country, the most outstanding in ophthalmological research related to this topic and in alphabetical order are Alcón, Esteve, Farma-Lepori, Novartis and Thea, which given their experience in this specialty deserve our trust.

We state all of the above with no intention of debating or arguing with Dr. Díaz Llopis, but merely to express opinions which differ from his, and would like to thank you for allowing us to share our ideas in this forum.

REFERENCES


