

Annual Congress on **EYE AND VISION**International Conference on **EURO OPHTHALMOLOGY AND EYE SURGERY**

May 13, 2021 | Webinar

The role of oral antioxidant supplementation in diabetic retinopathy. A systematic review**Raquel Burggraaf-Sánchez de las Matas**
Spain

DR is the only eye disease that had risen in terms of crude global prevalence since 1990: DR-blindness increased by 7.7% and DR moderate-to-severe vision impairment increased by 28.6% in 2015. From a metabolic perspective, an exacerbated oxidative stress environment has been found to be a crucial factor in the development of DR, interacting as a link between other glucose-mediated biochemical processes. The current management of DR begins once the DR has reached advanced stages, that is why oral supplementation with antioxidants has been postulated as an early treatment of DR. A systematic review of the use of nutraceuticals in diabetic retinopathy is presented. The profile of the patients included T1 or T2DM subjects presenting mild-to-moderate NPDR without CSME, or with DME but without the thickening of the retina in the OCT. Clinical changes were only observed after the longest follow-up periods, in terms of delaying the onset or reducing the progression of DR in T2DM. No impact on BCVA or DME regression in the mid-term could be observed. Nevertheless, antioxidants did show an early influence on retinal function parameters after short follow-up periods, ranging from six to fourteen months. These findings suggest that antioxidants are a valid prophylactic adjuvant therapy in the early stages of DR, in which anatomical damage is not excessive and there is no thickening of the central macula, with a IIb level of evidence. In order to establish protocolled recommendations, larger sample sizes and longer follow-up periods should be accomplished in future clinical trials to determine the best antioxidant and the profile of candidates who will benefit from the adjuvant oral therapy in the mid- and long-term.

Biography

Dr. Raquel Burggraaf-Sánchez de las Matas completed her Bachelor in Medicine and Surgery in the University of Salamanca (Spain). She started her specialization in the field of Ophthalmology, initiating her Doctoral studies at the University of Valencia, in the field of the implication of oxidation pathways in diabetic retinopathy. Her works start reviewing the use of nutraceuticals in DR to date, publishing the first work of the team in the International Journal of Molecular Science in April 2021.

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