

Mitotropic compounds for the treatment of age-related macular degeneration. The metabolic approach and a pilot study

[Feher J](#), [Papale A](#), [Mannino G](#), [Gualdi L](#), [Balacco Gabrieli C](#). *Ophthalmologica*. 2003 Sep-Oct; 217(5):351-7.

Ophthalmic Neuroscience Program, Institute of Ophthalmology, University of Rome La Sapienza, Rome, Italy. j.feher@agora.it

Recent histopathologic studies have shown that mitochondria and peroxisomes of the retinal pigment epithelium may play a central role in the pathophysiology of age-related macular degeneration (AMD). We supposed that compounds which improve mitochondrial functions (mitotropic compounds) may show beneficial effects in preventing AMD. Fourteen patients affected by early AMD were treated with a mixture containing acetyl-L-carnitine (ALC), polyunsaturated fatty acids (PUFAs), coenzyme Q10 (CoQ10) and vitamin E, while an equal number of age- and sex-matched patients affected by early AMD were treated with vitamin E only. Recovery time after macular photostress, foveal sensitivity and mean defect in the visual field as well as blood lipid levels were recorded at the beginning and after 3, 6, 9, 12 and 24 months of follow-up. In the treated group, all the visual functions showed slight improvement which was evident after 3 months of treatment and remained nearly stationary by the end of 24 months. The same tests in the control group showed slow worsening. The divergence between treated and control groups became more marked with time, but the difference was not significant at any time of the follow-up. These findings suggest that the blend of ALC, PUFA, CoQ10 and vitamin E may improve retinal functions in early AMD. Copyright 2003 S. Karger AG, Basel

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