

Age-related macular degeneration and diabetic retinopathy: a new hypothesis on neurological aging failures

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Abstract

It is known that the retina is part of the central nervous system (CNS) and the retina is an authentic steroidogenic structure of the CNS. Steroids such as pregnenolone, DHEA, progesterone, testosterone and estrogens are neurosteroids. It has been shown in different studies that steroids may prevent neuronal cell death. Decreased levels of most steroids during aging make neurons more vulnerable to damage. A new hypothesis has been proposed that acquired errors of physiology, including steroidopenia, are the root cause of age-related macular degeneration (AMD). We hypothesized that the macula tries to increase the production of steroid hormones by increasing absorption of cholesterol, but it cannot, due to aging enzymatic failure. This leads to drusen formation and macular degeneration. Low hormones down regulate stem cell function, leading to an inability of stem cells to maintain optimal macular function and structure. Also, drusen development is possibly the body's attempt to repair micro-breaks in retinal pigment epithelium or Bruch's membrane. We analysed 53 patients with the dry form of AMD (26 male and 27 female). Our study showed that profound deficiencies existed in DHEA and pregnenolone in males and females, estrogens and progesterone in females and a moderate deficiency of testosterone in men and women and progesterone in men. All patients were treated by a multimodal program which included: hormonorestorative therapy with bio-identical hormones, vitamins, minerals and supplements. Our preliminary results showed an improvement in dark adaptation and stability of the macula, which we suspect is a direct stimulatory effect on the retinal pigment epithelium. We believe that AMD and diabetic retinopathy caused by severe aging, deterioration of neurological structures of the eyes and physiology optimization with the correction of steroidopenia may help to stop the

progression of both conditions through direct effect on retina and through potentiation of stem cells function.

Biography

SergeyA Dzugan is the Co-Founder and Chief Scientific Officer of the Dzugan Institute of Restorative Medicine, Deerfield Beach, FL. He is a Former Heart Surgeon. He was awarded with International Academy of Creative Endeavors (Russia). He received the honorary title of Academician for his outstanding contribution to the development of new methods of hypercholesterolemia and migraine treatment. He has presented multiple times at the prestigious International Congress on Anti- Aging Medicine and other medical conferences. He is the author of 163 publications in medical journals, author of seven books, holder of three patents and the author of numerous articles (23) in health related magazines. He is a Member of the Editorial Board of the Neuroendocrinology letters and a Member of the Medical Advisory Board at Life Extension Magazine. He is the Co-Founder and President of iPOMS (International Physiology Optimization Medical Society).