Glatiramer Acetate: T helper 2 inducer -Dry AMD Subcutaneous

Another proposed new treatment of dry AMD is a subcutaneous injection of glatiramer acetate (Copaxone, Teva Pharmaceutical Industries).

Glatiramer acetate has been shown to reduce cognitive decline, eliminate plaque formation, and induce neuron survival and neurogenesis in a mouse model for Alzheimer's disease (AD).

Drusen formation in age-related macular degeneration (AMD) shares some similarities with Alzheimer's disease (AD), which is associated with amyloid deposits.

Aggregated beta-amyloid induces microglia to become cytotoxic and block neurogenesis.

This medication, increases the proportion of T helper 2 lymphocytes (these T cells are anti-inflammatory in nature).

It seems that these glatiramer–acetate-specific T helper 2 cells would produce cytokines such as interleukin (IL)-4 and reduce amyloid-induced retinal microglial cytotoxicity in AMD[(60)].

Copaxone® is administered as a subcutaneous injection.

Two double blind, randomized clinical trials at the New York Eye & Ear Infirmary and the Kaplan Medical Center, Rehovot, Israel, have been initiated in 2006 and 2007 respectively, and are enrolling up to 60 patients combined.

The primary outcome tested in these trials is the reduction in the total area of drusen [(61,62)]. Results have not been published yet.

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