Immune-Based Systemic Therapy with Copaxone for Dry Age-Related Macular Degeneration

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Purpose:

To investigate whether the effect of Copaxone on drusen in dry Dry Age-related Macular Degeneration (AMD) is similar to that on deposits of other age-related chronic neurodegenerative diseases such as Alzheimer's disease (AD). Beta-amyloid is the main protein present both in drusen and in deposits of AD. Its presence induces destructive activity of the local immune cells (cytotoxic microglia), resulting in self-perpetuating effect on deposits and on tissue function. The immunomodulatory effect of Copaxone, have been shown to alter the phenotype of the resident microglia/macrophages from cytotoxic phenotype to a phenotype which is beneficial in fighting off deposits and halting tissue loss. The aim of this study was to evaluate the effect of Copaxone on drusen in patients with dry AMD.

Methods

A prospective, pilot ,randomized, double masked, sham-controlled, comparative trial.

Patients over 50 years of age with intermediate dry AMD in both eyes. Patients were randomized to receive Copaxone or sham injections. Patients were treated weekly either with subcutaneous

injections of Copaxone (20 mg) or sham injections for a period of 12 weeks.

Visual acuity and contrast sensitivity examinations, along with fundus photography, fluorescein angiography and ocular coherent tomography were performed at baseline, 6 and 12 week visits. The patients were followed up to one year

The change in total drusen area was calculated using Image-Pro software.

Results

Twenty eyes received Copaxsone for 12 weeks and 8 eyes did not. At the end of treatment period ,

at 12 weeks, of the Copaxsone treated eyes the total drusen area remained stable in size in 70%, decreased in 25% and increased in 5%. As compared to 62.5% stable, 12.5% decrease and 25% increase in size in the non-treated eyes.

Conclusions

These preliminary results show that Copaxone might have a potential affect on drusen size.