Rheopheresis - Dry AMD

Rheopheresis is still an unproven therapy for dry macular degeneration.

Rheopheresis is a form of therapeutic plasmapheresis designed to remove species circulating in the blood that are larger than 25 nm (about 500 kilodaltons) using a doublestaged membrane filtration system.

The intended targets include immune complexes, immunoglobulin M, beta 2-macroglobulin, fibrinogen, von Willebrand factor, low density lipoprotein cholesterol, and others[(79)].

“This procedure has been proposed as a possible treatment to prevent the progression of dry AMD by improving the retinal and choroidal microcirculation.

The largest study performed to assess the effectiveness of rheopheresis in dry AMD is the Multicenter Investigation of Rheopheresis for Age-related macular degeneration (MIRA-1) trial.

Study patients had at least 10 soft drusen within 2 disc diameters from the foveal center and/or GA. Interpretation of the results from the MIRA-1 trial has been controversial.

The sole outcome measure was LogMAR VA. At 1 year, the treated group had a LogMAR VA of 0.02 ±0.213, and the placebo patients had a VA of 0.02 ±0.20 (P=.977).

This may have implied that the treatment was not effective in improving VA.

However, a post hoc analysis showed that a large proportion of the subjects (37% of treated and 29% of placebo) were mistakenly included in the trial and that a number of the subjects did not receive the required number of rheopheresis treatments.

When reanalyzed, the treatment arm of this “modified per protocol” group of subjects did have a statistically significant improvement in visual acuity (treated improved 0.08 ±0.166, placebo decreased 0.01 ±0.164, P=.001).

Furthermore, a larger proportion of treated subjects experienced an adverse event requiring intervention (24.0%) compared to those receiving placebo (5.8%)[(80)].

The Occulogix (Waltham, MA) phase II study was suspended.“[(82-83)]

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