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## Rheohaemapheresis in the treatment of dry form of age-related macular degeneration: Importance of booster therapy

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**Purpose:** According to the literature and our experience with treatment of 69 patients with late-stage age-related macular degeneration (AMD) using rheohaemapheresis (RHF), the positive therapeutic effect on both functional and morphological finding persist over many months, but it may also diminish. We described a statistically significant difference in visual acuity between patients and controls within two years, but no difference after longer periods. Positive functional changes in the electroretinogram were also detected initially and were insignificant after 36-42 months. Therefore we decided to use booster therapy in patients at 2 years after standard RHF therapy.

**Methods:** We treated 69 patients, average age of 68.3 years, with RHF and 59 patients, average age of 72.5 years, comprising the control group. The indication for treatment or randomization into the control group was presence of soft drusen, confluent soft drusen and/or drusenoid pigment epithelium detachment (DPED). Eyes of patients with wet form of AMD or geographic RPE-atrophy were excluded from evaluation. Each treated patient has received standard therapy, i.e. series of 8 RHF of 1.5 plasma volume within 10 weeks as a standard therapy. In this study, we evaluated a group of 20 patients (11 men, 9 women) who have received a booster therapy consisting of 2 RHF procedures during one week at 2 years after the standard therapy. The results of 35 eyes (5 eyes had wet form of AMD from beginning and were excluded) were assessed. We evaluated rheological parameters and measured size of soft drusen area, size of drusenoid pigment epithelium detachment (DPED), best-corrected visual acuity (BCVA), electroretinography (ERG) at baseline and every 6 months up to 2 years after booster therapy were compared.

**Results:** Booster therapy caused immediate pulsed reduction of plasma and whole blood viscosity with supposed improvement of retinal and choroidal microcirculation. The procedures were well tolerated in older patients without severe side-effects. The baseline mean/median BCVA of our patients was 74.0/76.5 letters (38-85 letters) of ETDRS optotypes followed by a slight, insignificant improvement to 77.5/81.5 letters (39-85 letters) at 1 year follow-up and thereafter a slight decrease to final 74.0/79.2 letters (35-85 letters) after 2 years. We have found improvement of the morphological findings (decrease of the area of soft drusen or size of DPED) in 85.7% (30/35 eyes) of treated patients. The ocular finding has stabilized in 8.6% (3/35 eyes). Slight worsening with development of smaller area of central RPE-atrophy was detected in 2/35 eyes (5.7%). The progression to the third stage of the disease (wet form or geographic atrophy) was noted in no patient after booster therapy. We have found stabilization of the activity of ganglion cells, cone system and central retinal region with eccentricity between 1.8° and 30° has stabilized as well in all treated patients.

**Conclusion:** Primary improvement of visual acuity and especially morphological findings after standard rheohaemapheresis persist over long period, booster therapy will be probably a suitable and safe method of prolongation of this phase.

### Biography

Hana pursued her General Medicine at the Charles University Medical Faculty of Hradec Králové and working since 1995 up to today: at Charles University, Faculty of Medicine in Hradec Králové, Dept. of Ophthalmology

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