Cytometry flow analysis on vitreous samples from patients with Rhegmatogenous Retinal Detachment

**Purpose:** Measurement of various inflammatory mediators with cytometry flow analysis, in vitreous samples from patients with rhegmatogenous retinal detachment (RRD) and investigation of potential association with proliferative vitreoretinopathy (PVR).

**Materials and Methods:** Vitreous samples from 34 patients (24 with RRD and 10 controls) were collected and analyzed with cytometry flow. In the control group control 2 had vitreomacular traction syndrome (VMT) (n=2), 6 had idiopathic epiretinal membrane (iERM) (n=6) and 2 had full thickness macular hole (FTMH) (n=2). Moreover in the RRD group other clinical characteristics, such as PVR level, lens status, symptoms' duration and quadrants of involvement, were assessed. Statistical analysis was performed.

**Results:** The levels of IL6, IL8, ICAM-1, VCAM, MCP-1 and LCN2 were significantly higher in RRD group as compared to controls. Significantly elevated concentrations of IL8, VCAM and LCN2 were noticed in the PVR B and C group as compared to the PVR A and no PVR group. High expression of VCAM and LCN2 was noticed in pseudophakic as compared to phakic RRD patients. There was also a significant association between quadrants of involvement and IL6, IL8, MCP-1, VCAM as well as LCN2. Duration of symptoms seems to be correlated mostly with the levels of IL8, ICAM-1, VCAM and LCN2. Regarding LCN2, after multivariate linear regression analysis, only PVR was independently related with LCN2 concentration (coefficient b=2.97, 95% confidence interval = 1.89 to 4.67, p<0.001).

**Conclusion:** This study provides a better insight into the pathophysiology of rhegmatogenous retinal detachment. Larger studies could confirm these results indicating new therapeutic targets for PVR such as LCN2.

**Publications**

- Traumatic Aniridia and Aphakia Management with Iris Reconstruction Lens Using Gore-Tex Sutures, an Ab-Externo Approach
- Vitrectomy for the removal of idiopathic epiretinal membrane with or without internal limiting membrane peeling: a meta-analysis
- The Effect of Eplerenone in Chronic Central Serous Chorioretinopathy Refractory to Photodynamic Therapy
- Is the age a prognostic factor for the outcome after treatment of myopic CNV?

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