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**IMMUNE-MEDIATED MECHANISMS AND GENOTYPE CHARACTERIZATION OF PATIENTS WITH RETINITIS PIGMENTOSA-ASSOCIATED CYSTOID MACULAR EDEMA**

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**Purpose:** To investigate the potential immune-mediated mechanisms related to retinitis pigmentosa-associated cystoid macular edema by analyzing small molecules markers of inflammation and autoimmunity. **Methods:** The study will recruit 20 patients with retinitis pigmentosa-associated cystoid macular edema, 20 patients with retinitis pigmentosa without cystoid macular edema and 15 healthy control volunteers. All patients will be recruited at CEI-OHSU and will be between 20 and 60 years of age. Upon recruitment of a patient, the clinical chart will be reviewed, OCT and microperimetry results will be recorded. Serum, aqueous fluid and vitreous fluid will be collected for antiretinal antibodies and cytokines analysis. Serum will be used for genetic test. The study will screen for the presence of Th1, Th2, and Th17 cell pathways, as well as cytokines related with microglia/macrophage activation. It will quantifies concentrations of interleukin IL-1 alpha and beta, IL-2, IL-4, IL-5, IL-6,, IL8, IL-10, IL-12p70, IL-13, IFN-gamma, macrophage MIP-1 alpha and beta, TGF-beta1, TNF-alpha, GM-CSF, GRO alpha/beta/gamma, MCP-1, MMP-9, RANTES and VEGF-A. For ARAb testing, serum will be run against cadaver retina using Western blotting and immunohistochemistry, with appropriate positive and negative controls. **Results:** The study characterization of retinitis pigmentosa-associated cystoid macular edema with levels of proinflammatory small molecules will improve the understanding of this disease and hopefully pave the way for developing strategies for novel therapies in future studies. **Financial Disclosure:** "Funding for this research was supported by the Global Ophthalmology Awards Program (GOAP), a Bayer-sponsored initiative committed to supporting ophthalmic research across the world"