

## History of Recurrent Mucosal Infections and Immune System Disorders Is Related to Complications of Non-infectious Anterior Uveitis

**Authors :** Barbara Torres Rives

**Abstract :** Uveitis. Non-infectious anterior uveitis is a polygenic inflammatory eye disease, and it is suggested that mediated processes by the immune system (autoimmune or not) are the main mechanisms proposed in the pathogenesis of this type of uveitis. A relationship between infectious processes, digestive disorders, and a dysbiosis of the microbiome was recently described. In addition, alterations in the immune response associated with the initiation and progression of the disease have been described. Objective: The aim of this study was to identify factors related to the immune system associated with complicated non-infectious anterior uveitis. Methods: A cross-sectional observational analytical study was carried out. The universe consisted of all patients attending the ocular inflammation service of the Cuban Institute of Ophthalmology Ramón Pando Ferrer. The sample consisted of 213 patients diagnosed with non-infectious anterior uveitis. Results: Of the 213 patients with non-infectious anterior uveitis, the development of ophthalmologic complications predominated 56.3% ( $p=0.0094$ ). In patients with complications was more frequent the presence of human leukocyte antigen-B27 allele (49.2%) ( $p<0.0001$ ), decreased immunoglobulin G (24.2%,  $p=0.0124$ ), increased immunoglobulin A (14.2%,  $p=0.0024$ ), history of recurrent sepsis (59.2%,  $p=0.0018$ ), recurrent respiratory infections (44.2%,  $p=0.0003$ ), digestive alterations (40%,  $p=0.0013$ ) and spondyloarthropathies (30%,  $p=0.0314$ ). By logistic regression, it was observed that, for each completed year, the elevated risk for developing complicated non-infectious anterior uveitis in human leukocyte antigen-B27 allele positive patients (OR: 4.22,  $p=0.000$ ), Conclusions: The control of recurrent sepsis at mucosal level and immunomodulation could prevent complications in non-infectious anterior uveitis. Therefore, the microbiome becomes the target of treatment and prevention of complications in non-infectious anterior uveitis.

**Keywords :** non-infectious anterior uveitis, immune system disorders, recurrent mucosal infections, microbiome

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