Acute Anterior Uveitis

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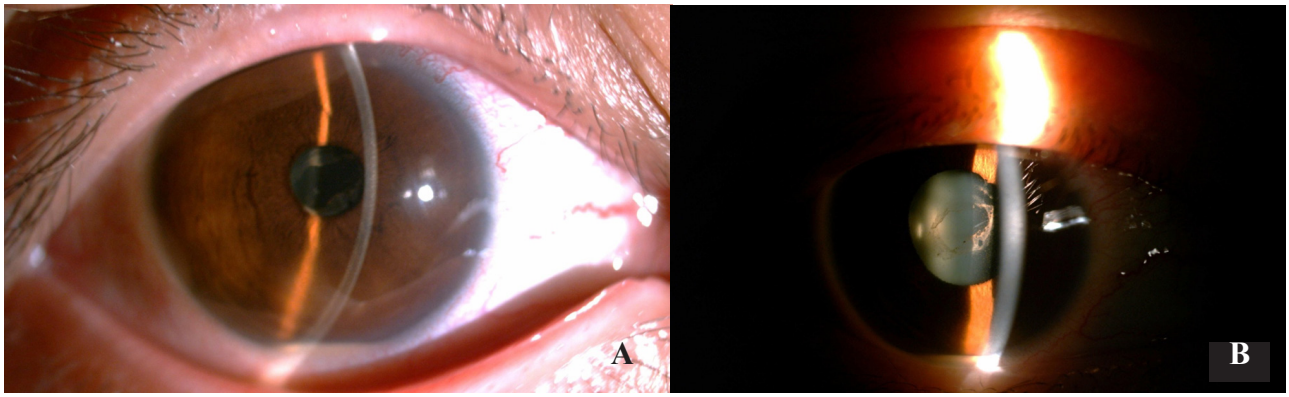

A 36-year old female presents with acute (recurrent) anterior uveitis in the right eye, HLA-B27 positive. She has a history of bilateral recurrent non-granulomatous uveitis attacks since 2011, but she has no extraocular manifestation of autoimmune disease. She has typical signs of acute anterior uveitis (the ciliary conjunctival injection, hypopyon level and fibrin reaction at pupillary area as in Fig. A.). Fig. B shows signs of previous uveitic attack in the same eye as Fig. A (residual fibrin on the anterior lens surface is visible on slit lamp examination after pupillary dilatation). This case requires treatment of combined periocular steroids injection and topical steroids plus cycloplegics to control the inflammation.

Acute anterior uveitis is the most common form of uveitis which can be a manifestation of different disease processes such as an infection, an autoimmune process or inflammatory diseases. Uveitis can be serious and leading to permanent visual loss. The inflammation may affect one or both eyes. The onset of uveitis may be sudden or gradual in nature and the inflammatory process may completely resolve with treatment (acute or acute recurrent) in some cases but the inflammation may turn chronic in the others in which the patients require continuous anti-inflammatory treatment. The anterior uveitic inflammation can be granulomatous or non- granulomatous in nature. Among all these subtypes of uveitis, the most common presentation of non- granulomatous anterior uveitis is acute anterior uveitis.

Acute anterior uveitis may occur as an isolated problem without any association with inflammation in other tissue(s) or occur as a part of an autoimmune problem that affects multiple parts of the body. In a half to two thirds of acute anterior uveitis cases, the inflammation is associated with the human leucocyte antigen (HLA)-B27 allele. However, only 1% of subjects who carry the HLA-B27 allele develop acute anterior uveitis.[1]

HLA-B27 is an antigen or peptide attached to the surface of every single white blood cell. HLA-B27 positive status increases the risk of developing an autoimmune disease. The immune system of these subjects destroys their own tissues and results in a group of common diseases associated with HLA-B27 positive, but the most common problem associated with the acute anterior uveitis is ankylosing spondylitis. All HLA-B27 positive uveitic patients should undergo full investigations in order to exclude other possible causes of uveitis together with additional tests to find the associated inflammation in other organs, particularly arthritis and vasculitis.

From the study of Nadia K.Waheed.,[2] 70% to 80% of all HLA-B27 positive subjects show no clinical manifestation of autoimmune disease. Barisani-Asenbauer T, et al.,[3] reviewed 2,619 uveitis cases and found that 19.5% were HLA-B27 positive. The prevalence of uveitis in the US is 38 cases in 100,000 population and the incidence of uveitis is higher in females (51.1%) as compared to those in males (48.2%) with two thirds of the cases found between the ages of 17 and 60.[4] The prevalence of uveitis is lower in Asian populations.[5]

HLA-B27 screening is useful in treatment planning and is one of the key prognostic factors in uveitis patients. Screening for the HLA-B27 gene is recommended in every uveitis patient from the first attack onwards as a positive result will help the ophthalmologist in terms of considering a more aggressive therapy in order to prevent potential sight threatening consequences in these HLA-B27 positive cases in which the inflammation is usually more difficult to control as compared to those who are HLA-B27 negative.

Management

Topical steroids with or without additional oral steroids and cycloplegics are the initial treatment of choice. Periocular steroids injection is indicated in patients with severe inflammation or who respond poorly to topical and systemic steroids in order to get a more effective control of the intraocular inflammation and to treat residual cystoid macular edema in HLA-B27 positive uveitis. Non alkylating immunosuppressive agents are the adjunctive drugs in cases where the first line agents fail to control the diseases. Metrotrexate and Azathioprine show good efficacy in these patients.

Prognosis

The relationship between HLA-B27 positive status and autoimmune uveitis is complicated. From studies conducted by several centers it was found that there was more severe inflammation, a higher rate of recurrence, higher complication rates and worse visual outcomes in the HLA-B27 positive uveitis group when compared to those in the idiopathic uveitis. Complications of the uveitis include extensive, persistent synechiae, intractable glaucoma, vitritis, papillitis and cystoid macular edema. HLA-B27 positive uveitis patients usually require more systemic therapy for inflammatory control.[6]

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