

Uveitis in Rheumatologic Practice: A Window to Systemic Autoimmune Disease and Collaborative Care

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Every attack of uveitis represents not only inflammation of the eyes but can possibly be the first sign of the existence of a systemic autoimmune disease in the body. For rheumatologists and ophthalmologists alike, uveitis is the point at which timely recognition and collaboration can help prevent irreversible blindness and improve long-term patient outcomes.¹ Therefore, the eye cannot be considered simply another organ impacted by disease; rather, it is an indication of diseases of the immune system. There have been major changes in the connection between rheumatology and ocular inflammation during the last few decades. The presence of uveitis is now known to be one of the main extra-articular manifestations in several rheumatic diseases such as spondyloarthritis, juvenile idiopathic arthritis (JIA), Behçet disease, sarcoidosis, inflammatory bowel disease-associated arthritis and systemic vasculitides.^{2,3} In a number of patients, the presence of ocular inflammation can be an early sign of systemic disease, placing ophthalmologists in a unique position to identify patients who require rheumatologic evaluation. Conversely, rheumatologists must recognize that ocular symptoms can represent an urgent manifestation requiring immediate ophthalmic assessment.

Among the rheumatic diseases, spondyloarthritis continues to be one of the most common associations of uveitis. Acute anterior uveitis, associated with HLA-B27, is commonly characterized by sudden-onset acute pain, red eyes, photophobia and blurring of vision.⁴ The recurrence of episodes may lead to chronic damage to the eyes if not well managed. Similarly, uveitis in JIA is a major cause of visual morbidity in children.⁵ One of the problems facing clinicians who deal with rheumatic diseases is the fact that chronic anterior uveitis may not have any symptoms at all; a state where there may be an extensive inflammation but only very few symptoms, if any, thus highlighting the need for eye examination

among children with inflammatory arthritis.⁵ Another situation which illustrates the link between rheumatology and ophthalmology is Behçet's disease. Inflammation of the eye, especially posterior uveitis and retinal vasculitis, is a serious condition since it is an indication of systemic vascular inflammation.⁶ Early use of the immunosuppressive therapy will make a lot of difference in the course of the disease. The same can be said with other diseases like sarcoidosis and systemic vasculitides, where ocular inflammation indicates active systemic disease which requires prompt investigation and treatment.^{2,3}

In rheumatology practice, it has become increasingly vital to integrate eye examination as part of routine practice. A few simple inquiries about redness, pain, sensitivity to light, blurring vision and the presence of floating objects help detect individuals who need immediate ophthalmologist referral. A painful red eye with photophobia should never be considered a minor complaint in a patient with inflammatory arthritis. No eye condition should be taken lightly in a patient suffering from rheumatic disease; failure to refer may lead to complications such as cataracts, glaucoma, macular edema, synechiae formation and even blindness.

The management of uveitis has seen enormous revolution with the development of immunomodulatory therapy. While corticosteroids are very potent in suppressing the inflammatory response quickly, their prolonged use is restricted by the presence of side effects both locally within the eye and systemically.^{1,7} Modern treatment philosophy incorporates the concept of steroid-sparing strategies and tailoring treatment according to the individual case based on disease severity, anatomical location, recurrence pattern and associated systemic disease. The conventional disease-modifying anti-rheumatic drugs (cDMARDs) such as azathioprine, cyclosporine, methotrexate and mycophenolate mofetil remain valuable in treating chronic inflammation.^{2,5}

Moreover, the emergence of biological disease-modifying anti-rheumatic drugs (bDMARDs) has also opened possibilities for treatment. These include the anti-tumor necrosis factor drugs (anti-TNF), particularly monoclonal antibodies like infliximab and adalimumab. Such treatments have been highly effective in patients with resistant non-infective uveitis, Behçet disease, juvenile idiopathic arthritis associated uveitis and spondyloarthritis-related uveitis.^{3,6}

Future treatment of uveitis will see application of precision medicine. Understanding of the immune system has led to the development of new treatments that target interleukins, B-cell mediated inflammation and Janus kinase (JAK) receptors. However, despite the possibilities of these drugs, patient selection and interprofessional cooperation will be key to obtaining the best results.

Diagnostics have also improved in recent years. Optical coherence tomography (OCT) has been found to be extremely useful in detecting macular disease and the reaction to therapy.⁸ Peripheral retinal inflammation and vasculitis can be detected using ultra-widefield retinal imaging.⁹ As a result of these technologies, in addition to clinical assessment, earlier intervention and more accurate disease evaluation has been enabled.

However, several issues persist especially in resource-limited settings such as Pakistan. Delayed diagnoses, lack of uveitis experts, limited availability of modern diagnostic tools, high costs of biological medicines and gaps in communication among various fields remain potential causes of preventable blindness and visual impairment.^{1,10} Most cases come to a tertiary hospital only after developing irreversible damage. Not only research on innovative therapy is needed but improvements in healthcare system are also necessary. One of the ways of solving the problem is multidisciplinary uveitis clinics that allow cooperation of ophthalmologists and rheumatologists. The pathway of referral should be outlined for patients with inflammation of the eye. Clinical guidelines to standardize protocols and reduce variations in practice should also be established.

Ophthalmologists have the knowledge required for detecting and controlling inflammation of the eye, for evaluating its structural damage and visual outcome. The expertise of rheumatologists lies around systemic immune diseases, immunomodulating therapy and

control of the disease. The exchange of information between the two specialists will help ensure that the patient receives proper treatment for both manifestations of the disease. Moreover, it would be wise to reflect these changes in medical education. Rheumatology courses should focus more on urgent ocular symptoms while ophthalmology classes should deal more with systemic inflammatory diseases. Shared clinical discussions, academic meetings and research initiatives may also help to bridge this traditional separation of disciplines.

In Pakistan, where the availability of health resources is limited and late presentations are still common, increased awareness is especially important. It is important for the patients who have inflammatory arthritis to know about ocular symptoms and be aware to visit the ophthalmologist. In addition, primary care physicians and specialists need to know that recurrent inflammation of the eyes may signify the presence of the systemic disease instead of just being an ocular one. Finally, it is also crucial that the strategy of “treat to target” used in the treatment of many rheumatological diseases, needs to be included in the management of uveitis. The treatment should not only be the temporary management of the inflammation but should involve sustained management of the disease, prevention of the tissue damage and visual impairment, preservation of vision and better quality of life. Achieving these goals require continuous monitoring and therapy adjustment based on objective findings.

In conclusion, uveitis is a shared effort on the part of the disciplines of ophthalmology and rheumatology. Early identification, cooperation and communication are vital components in addition to improvements in therapy. It must be remembered that while the eye is suffering from inflammation, it could be the window through which systemic inflammation can be identified as well.

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