Commentary: Diagnostic challenges in sarcoid uveitis in India

In this issue of Indian Journal of Ophthalmology, an article titled "Progress in diagnosis of sarcoid uveitis" is published.[1] The article highlights the current status of the laboratory investigations and imaging in this uveitic entity.

Sarcoidosis is a multisystem granulomatous inflammation of unknown etiology that commonly affects the lungs but can also involve the eye, skin, liver, heart, etc.

Sarcoidosis was once thought to be the disease of the west. A couple of decades back, sarcoidosis was not diagnosed frequently; in fact, tuberculosis was considered to be the most common pulmonary disease. Now, there is increasing awareness about the diagnosis of sarcoidosis. In recent studies, sarcoidosis has been noted in 10–12 cases per 100,000 new registrations in a respiratory unit yearly in western India and 61.2 per 100,000 in a respiratory unit of Delhi.[2] The eye can be the initial site of sarcoidosis; as such, uveitis can be the first manifestation of systemic sarcoidosis. Therefore, an ophthalmologist can be the first physician to see these patients. Ocular involvement occurs in 30-60% of subjects, with dry eye and uveitis being the most frequent presentation.[3] Sarcoid uveitis has protean manifestations. It can present as non-granulomatous and granulomatous anterior uveitis, intermediate uveitis, posterior and panuveitis and retinal vasculitis, among which panuveitis is the most predominant uveitis. In recent years, in India, there is an increase in the diagnosis of sarcoid uveitis.

Diagnosis of sarcoid uveitis is often made clinically. Diagnostic criteria were laid down by the International Workshop on Ocular Sarcoidosis (IWOS) in 2009 and were updated in 2019.[4] The gold standard for diagnosis of sarcoidosis is biopsy of the tissue showing non-caseating granuloma with negative staining for fungus and acid-fast bacilli. Such biopsy is not possible in sarcoid uveitis due to its invasive nature. Diagnosis is based on the negative Mantoux test and/or QuantiFERON TB Gold test. The latter is found to be less sensitive. Chest X-ray is also less sensitive. Therefore, nowadays, high-resolution computed tomography (HRCT) of the chest is the preferred radiological test in sarcoidosis. However, sometimes, HRCT findings cannot differentiate between sarcoidosis and tuberculosis. In a study, abnormal HRCT findings were seen in 96.3% cases of sarcoidosis as compared to 64.7% cases of ocular tuberculosis.[5] Hilar lymphadenopathy is seen in both diseases. Bilateral hilar nodules and fissural nodules are seen in sarcoidosis. Necrosis of such nodules is seen in tuberculosis. Serum biomarkers in sarcoidosis angiotensin-converting enzyme (ACE) are not sensitive and specific enough to be considered to be a diagnostic marker. Serum ACE can also be elevated in tubercular uveitis as this enzyme is produced by the granuloma. Moreover, there are reports that there can be coexistent sarcoidosis and tuberculosis. Mantoux positivity can be seen in 7.3% and QuantiFERON TB gold test positivity can be seen in 16.2% of cases of ocular sarcoidosis. Tubercular and sarcoid uveitis can mimic each other closely.[6] One can do a polymerase chain reaction of anterior chamber fluid for mycobacterium tuberculosis when the suspicion is strong for tubercular uveitis. However, the sensitivity of this test in recent years has not been found to be high.

Therefore, there is a challenge in the diagnosis of sarcoid uveitis in TB-endemic countries, such as India. However, some studies showed that certain features can be used to differentiate between tubercular and sarcoid uveitis. Recently, Agarwal *et al.*[7] described various clinical and multimodal imaging clues to differentiate tuberculoma and sarcoid granuloma. Tuberculoma tends to be solitary, intensely yellow, larger, full-thickness, lobulated and is associated with hemorrhage and exudation. In contrast, sarcoid granulomas are diffuse, often bilateral, multiple, relatively small, partial thickness, dull yellow, rounded, and are not associated with increased vascularity.

The accurate and prompt diagnosis of sarcoid uveitis is important as it can cause several complications such as cataract, glaucoma, cystoid macular edema, and epiretinal membrane. Recently, IWOS has provided guidelines for therapy of sarcoid anterior uveitis, intermediate uveitis, posterior uveitis, and drugs for the management of ocular sarcoidosis.[8] These guidelines will help ophthalmologists to manage sarcoid uveitis is better. It is important to recognize sarcoid uveitis, but it can be a challenging job in the Indian scenario.

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