



Case Report

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A rare case report of tuberculous uveitis

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Abstract

Background: Uveitis is a broad range of disease processes that involves the uveal tract and its associated ocular structures. Tuberculosis was leading causes of uveitis in the past but the incidence has reduced with the improved antibiotic therapy. Recently, incidence of ocular involvement due to tuberculosis has again been raising. Tuberculous uveitis can be readily treatable and if not diagnosed early can be vision threatening with irreversible blindness for the patient. In this study we are reporting a rare case of refractory uveitis, responding to anti-tuberculous therapy inspite of being no positive investigations in favour of tuberculosis. **Case presentation:** A 48 years immunocompetent male had reported to ophthalmology opd with diminision of vision in both eyes since 2 months which was of painless and progressive type. Patient is a known diabetic since 2 years and is on regular treatment. Patient was initially diagnosed as TORCH related uveitis and treated for the same. There was initial response to treatment, following which patient developed relapse within 1 month duration. Later, Tuberculosis being one of the most common causative agents of uveitis, patient has been empirically started on ATT, following which there is resolution of lesions. **Conclusion:** It is essential to know the varied range of ocular manifestations of tuberculosis as there is no specific test to confirm the diagnosis. Early recognition and timely management prevents the severe blinding complications in these patients.

Keywords: Ocular tuberculosis, uveitis, Mantoux test, Anti tuberculous therapy.

INTRODUCTION

Tuberculosis is the leading cause of posterior uveitis in tropical countries [1-3] caused by an aerobic acid-fast bacillus Mycobacterium tuberculosis also known as Koch's bacillus causes a necrotizing granulomatous systemic disease. In counties like India, where pulmonary tuberculosis is endemic, ocular tuberculosis was reported in 5.6^[4]–10.1%^[5] of the cases.

Primary infection usually affects lung, but eye can also be the initial site of entry. Primary infection in eye typically involves cornea, conjunctiva, and sclera^[6]. Ocular tuberculosis occurs as secondary infection from hematogenous spread of tuberculous bacillus from a distant primary focus or from a hypersensitivity reaction to an extraocular infection^[7] presenting as episcleritis, phlyctenulosis, and occlusive retinal vasculitis. Ocular tuberculosis rarely coexist with systemic tuberculosis.

The M. tuberculosis is a gram-positive, straight or slightly curved acid fast bacillus that are nonmotile, noncapsulated and nonsporing, intra cellular parasites and obligate aerobic organism.

The clinical presentation of ocular tuberculosis is highly variable and depends on virulence of organism, degree of hypersensitivity reaction of tissue to the organism, and the amount of host resistance acquired. The most common ocular manifeatation is a chronic granulomatous iridocyclitis which is usually bilateral. Tuberculous uveitis can be manifested as anterior, intermediate, posterior, or pan uveitis. Anterior segment inflammation may show presence of granulomatous or mutton fat keratic precipitates, iris granulomas which may result in development of posterior synechiae, and complicated cataract [1,8].

The most common presentation in posterior uveitis is a bilateral multifocal choroiditis with pigmented scars and with or without retinal necrosis^[7,9-12]. Exudative retinal hemorrhagic periphlebitis are highly suggestive of tubercular etiology. Fuzzy yellow or white nodules of less than 0.5 disc diameter are seen; these may join to form choroidal tubercles which are seen as focal elevated domeshaped lesions. In addition to multifocal choroiditis, serpinginous-like choroiditis has been reported with increasing frequency^[13]. Vitritis is commonly seen secondary to anterior, intermediate or posterior primary foci.

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Other manifestations of ocular tuberculosis include reddish-brown eyelid nodules called lupus vulgaris, conjunctivitis, phlyctenulosis, interstitial keratitis, scleritis, and optic neuropathy including neuroretinitis can occur.

Diagnosis can be made based on 1. Purified protein derivative skin test/ mantoux test/tuberculin skin test. The reactions of 10 mm or more is considered to be positive. However, a negative test does not rule out tuberculosis as the cause. In a study by Wroblewski KJ et al showed that in patients with histopathologically proven ocular tuberculosis, 40% had negative tuberculin skin test results [14]. 2. An abnormal chest radiograph. 3. Isolation of organism whenever possible from ocular fluid or other tissues.

A negative biopsy result does not essentially exclude the possibility of tuberculosis. In those cases either aqueous humor or vitreous can be subjected to molecular diagnostic testing As ocular tuberculosis is often a paucibacillary disease the test results is mostly inconclusive [15]. Even if all above tests are negative tuberculosis cannot be ruled out and a high clinical suspicion is essential in making the diagnosis. Now a days, PCR and ELISA of aqueous samples has become essential in diagnosis of ocular tuberculosis [16,17].

Uveitis that does not improve with corticosteroid therapy, especially when there is a history of fever with night sweats, or cough with expectoration, one should suspect of tubercular etiology.

CASE REPORT

A 48 years immunocompetent male presented with diminution of vision in both eyes since 2 months which was of painless and progressive type. Patient gives history of floaters since 1 week. Patient is a known diabetic since 2 years and is on regular treatment. At the first visit, distant vision in right eye was 6/9 and left eye was 6/12 measured on Snellens distant vision chart and near vision was N6 in both eyes measured on Romans near vision chart. On Slit lamp examination, anterior segment showed presence of KPs in the cornea in both eyes and anterior chamber showed 2+ cells and vitreous cells, pupil was irregular and segmentally reactive due to presence of posterior synechiae (fig 1a, 1b). Conjunctiva was normal. Dilated fundus examination showed presence of blurred disc margins and tortuous veins in right eye (fig. 2a) and left eye showed presence of blurred disc margins, tortuous veins and haemorrhages along the superior and inferior arcade suggestive of chronic disc edema (fig. 2b). Laboratory investigations include ESR- 28mm/hr, RA factor- 12 IU/ml, HLA B27-negative, Chest X Ray- normal study, Mantoux test- negative, real time PCR for TB- negative, Serum ACE levels – normal (16.3 U/l), HIV and HBsAg – non reactive, TORCH PANEL: IgG antibodies to Toxoplasma – 48.40 IU/ml (raised), IgG antibodies to Rubella – 36.00 IU/ml (raised), IgG antibodies to CMV – 126.70 IU/ml (raised), IgG antibodies to HSV-2 – 95.12 RU/ml (raised), CT brain and orbit showed normal study. Based on history, clinical findings and fundus examination and because of raised titres of TORCH titres, patient was initially treated as TORCH related uveitis and treated for the same with T. Valciclovir 1 gm three times a day following which there was initial response. Patient had developed relapse within 1-month duration with presence of choroiditis patches at and around the macula. Later, Tuberculosis being one of the most common causative agents of uveitis, patient has been empirically started on category 1 ATT for 6 months duration, following which there is resolution of lesions (fig. 3a,3b). Patient was reviewed for upto 6 months after stopping ATT, showed no evidence of relapse.

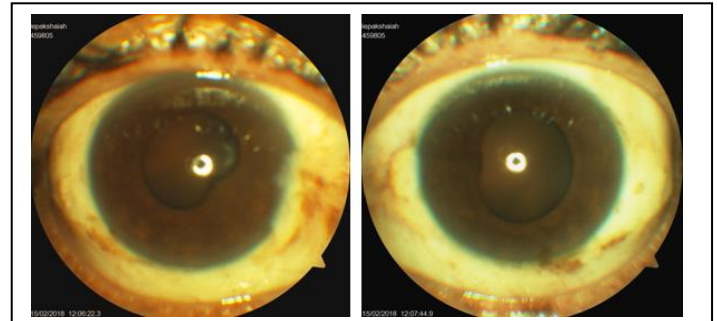


Figure 1a, 1b: Posterior synechiae in both eyes

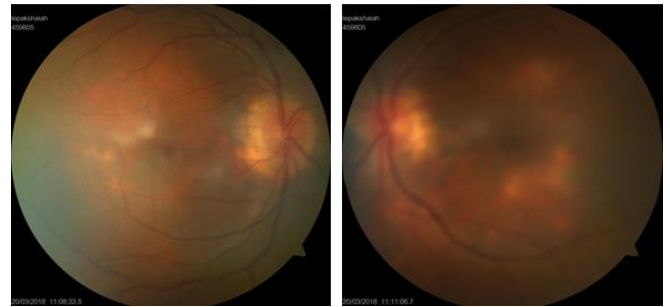


Figure 2a, 2b: Dilated fundus image at initial visit

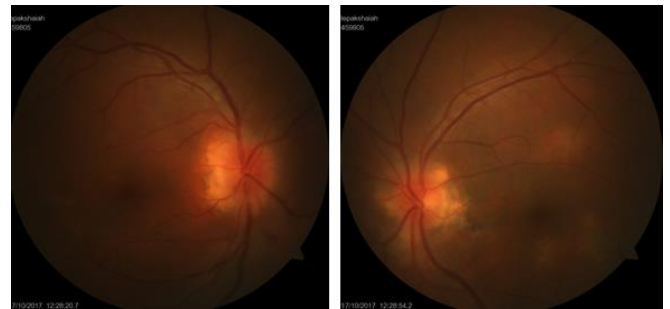


Figure 3a, 3b: Dilated fundus image following anti tuberculous therapy showing resolution of lesions

DISCUSSION

In this case the patient was initially misdiagnosed as having TORCH related uveitis as the screen for TORCH panel showed raised titres of IgG antibodies and other investigations were not suggestive of any particular etiology. Hence the patient was treated for the same with an antiviral agent, Valciclovir. Since there was no resolution of lesions and the patient presented back with presence of cells and flare in anterior chamber, fine KP's in the arlt's triangle region, posterior synechiae, vitritis and presence of choroiditis patches at the macular and perimacular regions, made us to reconsider the diagnosis as the possibility of ocular tuberculosis. About 60% of patients with extrapulmonary tuberculosis donot show any signs of pulmonary TB. Thus, making the diagnosis of tubercular uveitis is challenging because of its variable clinical presentation. Hence, diagnostic criterion has been recommended for the diagnosis of ocular tuberculosis. Definitive TB is considered only when the tubercle bacilli are isolated from ocular tissues. The criteria for presumed ocular tuberculosis is considered when any one of the following are present- choroidal granuloma, broad-based posterior synechiae, retinal vasculitis with or without choroiditis, and a positive Mantoux or QuantIFERONTB Gold, or chest radiograph and computed tomography suggestive of tuberculosis[1].

Presence of clinical and symptomatic relief with ATT and absence of further recurrence of the disease supports the diagnosis of ocular tuberculosis.

CONCLUSION

In conclusion, we emphasize the need to know the various clinical presentations of ocular tuberculosis in an area endemic to tuberculosis. Most of the patients with ocular tuberculosis does not show any signs of pulmonary or other systemic manifestations and further no laboratory test is conclusive of tuberculosis, makes it difficult to make an early diagnosis. Though no laboratory investigation is confirmatory of ocular tuberculosis, a high index of suspicion of tuberculosis is required for the diagnosis of ocular tuberculosis. Ocular tuberculosis can be readily treatable and delay in diagnosis can lead to irreversible blindness. Hence early diagnosis & timely intervention helps in preventing the occurrence of blinding complications in case of tubercular uveitis.

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Conflict of Interest

We confirm and deny any conflicts of interest existing.

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