

Posterior Uveitis of Tubercular Etiology a Challenging Diagnosis: A Case Report

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Abstract

Case Report

Background: In this case report we describe a case of intraocular tuberculosis presented as diminution of vision and the challenges associated with the diagnosis of it.

Keywords: Intraocular tuberculosis, Posterior uveitis, presumed serpiginous choroiditis.

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INTRODUCTION

35 years old women came to eye OPD of IGMC Shimla from a village in Himachal Pradesh with a history of diminution of vision in right eye from last 2 weeks. The diminution of vision was painless and of insidious onset and progressive in nature. Fundus examination of right eye had active multifocal serpiginoid lesions which were greyish yellow with indistinct margins starting from peripapillary area and advancing forward. Fundus examination of left eye showed old atrophic scars with pigmentary clumping with many lesions showing distinct margins.

All serological and radiological tests were negative except a positive MOUTOUX TEST (>20mm), Quantiferon TB Gold test and evidence of old healed tuberculosis in CT chest

- Based on clinical findings and investigations, diagnosis of presumed tubercular serpiginous like choroiditis was made.
- Patient was started on antitubercular treatment (ATT) with four drugs (isoniazid, rifampicin, ethambutol and pyrazinamide) along with oral steroids (prednisolone 1mg/kg body wt) in tapering dose.
- After 4 weeks of treatment with ATT and steroids the vision in right eye improved to 6/9.
- There was healing of active lesions in right eye and there was significant improvement in vision in Right eye.

CONCLUSION

Despite the advances in diagnostic tools for intraocular tuberculosis clinical diagnosis remains a complex issue especially in posterior uveitis due to TB and it influences the eventual treatment of the disease.

CASE REPORT

- 35 years old women came to eye OPD of IGMC Shimla from a village in Himachal Pradesh with a history of diminution of vision in right eye from last 2 weeks. The diminution of vision was painless and of insidious onset and progressive in nature. There was no history of redness, photophobia, lacrimation, floaters, and flashes of light, metamorphosia or positive scotoma. No viral prodrome or symptoms of meningism. There was no history of any trauma to the eye and no history of any systemic disease or ocular surgery in the past. She had a similar episode of painless diminution of vision in her left eye one year back for which she took treatment from local hospital.
- There was no history of ingestion of raw undercooked meat or contaminated water.
- There was no history of chronic fever, arthralgias, skin diseases, productive cough, gastrointestinal or genitourinary problems

There was no history of any maternal illness or any medical illness, ocular disease or any contagious disease in the family. General Physical examination did not reveal any systemic disease

On local examination of right eye the vision was 6/60 with no improvement with pin hole. Most of

the ocular examination was normal except there were cellular infiltration 3+ cells distributed throughout the vitreous seen in slit lamp biomicroscopy in right eye. Fundus examination of right eye had active multifocal serpigoid lesions which were greyish yellow with indistinct margins starting from peripapillary area and advancing forward. Left eye vision was 6/60 with no improvement with pin hole. Fundus examination of left eye showed old atrophic scars with pigmentary clumping with many lesions showing distinct margins.



Fig-1: Fundus examination of right eye had active multifocal serpigoid lesions which were greyish yellow with indistinct margins starting from peripapillary area and advancing forward



Fig-2: Fundus examination of left eye showed old atrophic scars with pigmentary clumping with many lesions showing distinct margins

- Fundus fluorescein angiography (FFA) of right eye showed early hypofluorescence and late hyperfluorescence of active lesions.
- Atrophic lesions of left eye showed late staining.

Ultrasound B-scan of both eyes was normal.

Visual fields were normal.



Fig-3: FFA Right Eye

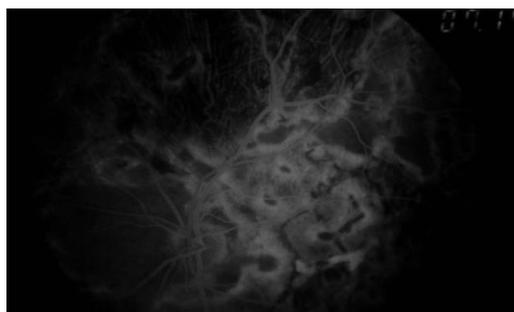


Fig-4: FFA LEFT EYE

- The patient underwent chest radiography, Montoux test, Quantiferon TB Gold test, CT Chest, Erythrocyte sedimentation rate, serological investigations for TORCH infections, Sarcoidosis, Syphilis, Enzyme linked immunosorbent assay (ELISA) for human immunodeficiency virus (HIV), RA factor, ANA and a thorough examination by a physician.
- All serological and radiological tests were negative except a positive MOUTOUX TEST (>20mm), Quantiferon TB Gold test and evidence of old healed tuberculosis in CT chest.



Fig-5: CT Chest Showed Old Healed Tuberculosis

- Based on clinical findings and investigations, diagnosis of presumed
- Tubercular serpigoid like choroiditis was made.
- Patient was started on antitubercular treatment (ATT) with four drugs (isoniazid, rifampicin, ethambutol and pyrazinamide) along with oral steroids (prednisolone 1mg/kg body wt) in tapering dose.
- After 4 weeks of treatment with ATT and steroids the vision in right eye improved to 6/9.
- There was healing of active lesions in right eye and there was significant improvement in vision in Right eye.
- The vitritis in right eye also disappeared

DISCUSSION

Tuberculosis is a global health challenge, affecting more than 2 billion people worldwide, with Asian countries like India and China being the hardest hit [1-4]. Although primarily affecting the lungs, extrapulmonary involvement, including intraocular TB (IOTB), can occur in up to 20 percent of patients [5]. The most common manifestation of IOTB is posterior uveitis, and the most common structure involved is the choroid [6-8].

Etiology and Diagnosis

The disease has varied clinical manifestations, and its phenotypic expression can mimic several other inflammatory and non-inflammatory diseases that cause intraocular inflammation, making it difficult to diagnose and manage. The disease can present as:

- granulomatous anterior uveitis;
- intermediate uveitis;
- choroidal tuberculomas;
- serpiginous-like choroiditis;
- multifocal choroiditis;
- retinal vasculitis neuroretinitis;
- optic neuritis;
- panuveitis; and
- scleritis.

Rarely, IOTB may present as panophthalmitis, endophthalmitis, optic neuropathy or optic nerve tubercle. These uncommon phenotypes are mostly seen in endemic regions. The varied spectrum of presentation, coupled with the difficulty of making a definitive diagnosis, due to lack of a tissue sample and uncertain guidelines and protocols for anti-tuberculosis treatment, make both diagnosis and treatment a challenge. Among the Asian patients, the most common manifestation was TB serpiginous-like choroiditis (SLC).

Imaging Signs

Intraocular tuberculosis is usually suspected based on the clinical signs, and the diagnosis is further supported by ancillary and laboratory investigations. Ancillary investigations, including fundus autofluorescence, fluorescein angiography, indocyanine green angiography and optical coherence tomography, may detect characteristic features and are useful in detecting posterior segment disease.

When observed on FA, multifocal serpiginous like choroiditis lesions are hypofluorescent in early phases of the angiogram, with hyperfluorescence seen in late phases. *to 4*).

Testing and Treatment

There is no single, gold-standard test for diagnosing IOTB. The confirmatory tests to isolate *Mycobacterium*, such as a positive acid-fast bacillus test or a positive culture from the ocular fluid, are rarely possible. Tests like Quanti FERON TB gold,

Purified Protein Derivative (PPD) and CT chest are corroborative at best.

So far, approach to making the diagnosis of IOTB which is widely followed involves identifying the clinical features and excluding other causes of uveitis, followed by looking at the results of a chest X-ray or CT scan chest, PPD or QuantiFERON gold test.

The standard therapy for IOTB consists of isoniazid, rifampicin, ethambutol, pyrazinamide and pyridoxine. The therapy is initiated with 5 mg/kg/day of isoniazid, 10 mg/kg/day of rifampicin, 15 mg/kg/day of ethambutol, 20 to 25 mg/kg/day of pyrazinamide, and 10 mg/day of pyridoxine.

The patients require a dose of steroids or additional methylprednisolone pulses intravenously. In cases of anterior uveitis, topical steroids can be administered.

Despite the advances in diagnostic tools for IOTB, clinical diagnosis remains a complex issue, and it influences the eventual treatment of the disease. To manage intraocular tuberculosis, the ophthalmologist and a medical specialist have to work together as a team.

REFERENCE

1. Dye C, Scheele S, Pathania V, Raviglione MC. Global burden of tuberculosis: estimated incidence, prevalence, and mortality by country. *Jama*. 1999 Aug 18;282(7):677-86.
2. Chakraborty AK. Epidemiology of tuberculosis: current status in India. *Indian journal of medical research*. 2004 Oct 1;120(4):248.
3. Chadha VK. Tuberculosis epidemiology in India: a review. *The International Journal of Tuberculosis and Lung Disease*. 2005 Oct 1;9(10):1072-82.
4. Kyu HH, Maddison ER, Henry NJ, Mumford JE, Barber R, Shields C, Brown JC, Nguyen G, Carter A, Wolock TM, Wang H. The global burden of tuberculosis: results from the Global Burden of Disease Study 2015. *The Lancet Infectious Diseases*. 2018 Mar 1;18(3):261-84.
5. Shakarchi FI. Ocular tuberculosis: current perspectives. *Clinical ophthalmology (Auckland, NZ)*. 2015;9:2223.
6. Gupta V, Shoughy SS, Mahajan S, Khairallah M, Rosenbaum JT, Curi A, Tabbara KF. Clinics of ocular tuberculosis. *Ocular immunology and inflammation*. 2015 Jan 2;23(1):14-24.
7. Gupta V, Gupta A, Rao NA. Intraocular tuberculosis—an update. *Survey of ophthalmology*. 2007 Nov 1;52(6):561-87.
8. Gupta A, Bansal R, Gupta V, Sharma A, Bambery P. Ocular signs predictive of tubercular uveitis. *American journal of ophthalmology*. 2010 Apr 1;149(4):562-70.