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A Case of Tuberculous Choroidal Abscess

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ABSTRACT

Ocular tuberculosis is an extrapulmonary form of TB. It can have a variable presentation depending on the site and severity of infection. We report a case of tuberculous choroidal abscess which presented with subretinal lesion with lifting of vessels was seen along with a choroiditis patch. Based on positive Mantoux, fundus examination and fundus fluorescence angiography findings along with chest physician opinion, a diagnosis of choroidal abscess of presumed tubercular etiology was made. The patient was successfully treated with anti-tubercular therapy. This case is reported to emphasize the importance of early detection and management of ocular tuberculosis as it aids in lesser ocular morbidity and visual impairment.

Keywords: Ocular tuberculosis, Choroidal abscess, Tuberculoma, Choroiditis

INTRODUCTION

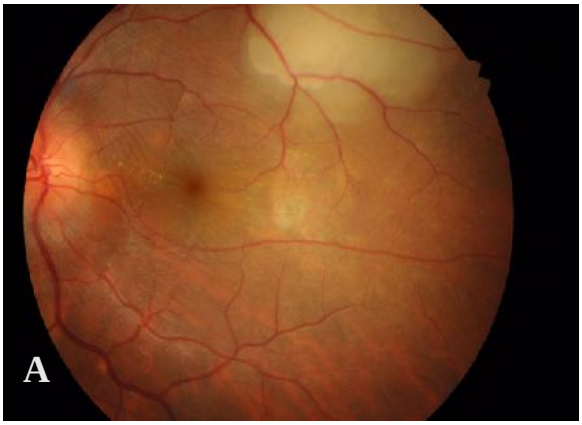
Tuberculosis (TB) is a granulomatous disease caused by Mycobacterium tuberculosis, which currently remains a worldwide health problem, especially in endemic countries and in patients undergoing any kind of immunosuppression. In 2014, 9.6 million people have fallen ill and 1.5 million people died of TB.

Ninety percent of infected people are asymptomatic, while among those who develop the disease, close to 80% have pulmonary manifestations. Only 20% of the patients have an extra pulmonary disease. Ocular TB is a rare disorder. In cases with ophthalmic involvement, any part of the eye or the orbit can be affected. Posterior uveitis is the most common ocular presentation, particularly multiple choroidal abscess.

Choroidal tuberculosis is the most common manifestation of ocular tuberculosis. The lack of uniform diagnostic criteria and the difficulty in obtaining a tissue specimen makes the diagnosis challenging in many cases. Choroidal abscess may be associated with latent tuberculosis which has to be ruled out before treatment with ATT. The demonstration of acid fast bacilli in ocular tissues is the gold standard for diagnosis. PCR also is a specific investigation for diagnosis of ocular tuberculosis but a negative PCR does not negate the diagnosis. We are reporting a case of Choroidal abscess with vitritis in an immunocompetent male.

CASE

A 52 year old female with complaints of painless defective vision and metamorphopsia in left eye for past 3 weeks. Patient was provisionally diagnosed as a case of CSR outside. She had no history of trauma, fever or systemic illness including tuberculosis. There was a positive family history of pulmonary tuberculosis in her father who was on irregular treatment with ATT and expired 10 years back. On general examination, she was normally built and nourished and there was no evidence of lymphadenopathy. Her visual acuity in the right eye was 6/6 and left eye 6/12. Intraocular pressure by non contact tonometry was 12mmhg in both eyes. The anterior segment examination of both eyes was normal with normally reacting pupils. The anterior vitreous phase of right eye was normal and left eye showed grade 1 vitritis. Fundus examination of the right eye was normal with media clear, disc and vessels normal, macula FR +.



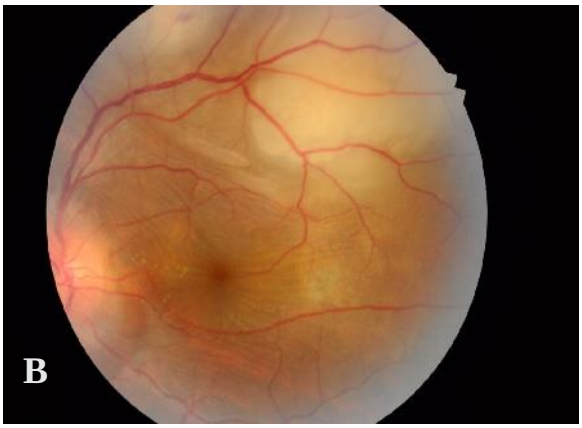


Image 1 : A - The fundus examination of the left eye revealed media mildly hazy due to grade 1 vitritis, blurring of disc margins, a yellowish lesion with blurred margins suggestive of a choroiditis patch was seen superotemporal to the disc with a flame shaped hemorrhage.

B - A yellowish subretinal lesion of 2DD in size with lifting of vessels was seen in the superotemporal quadrant temporal to choroiditis patch seen earlier.

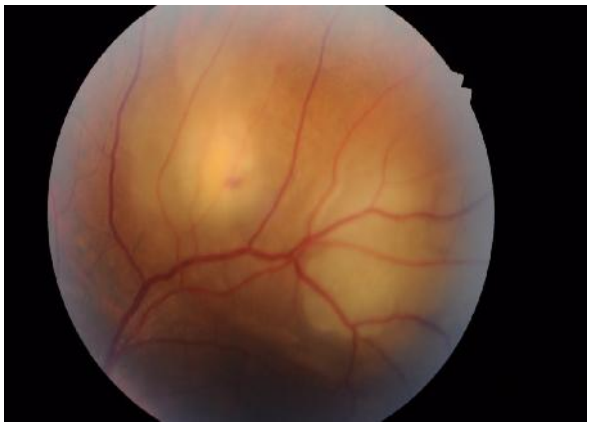
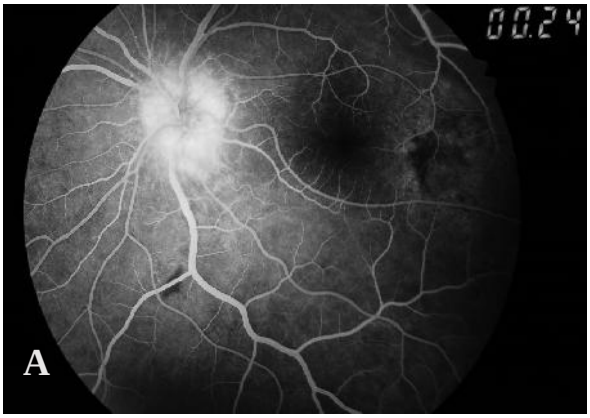


Image 2 : Minimal exudation was seen temporal to the disc and temporal to the macula. ILM folds were seen below the elevated lesion and in the macula.

On investigating, TORCH screening was done - Rubella, CMV, HSV IgG +. Chest X-ray, complete blood count, ESR were within normal limits. Mantoux showed 25mm induration suggesting strongly positive. ELISA for HIV 1 & 2 were negative. Fundus fluorescein angiography of right eye was within normal limits.



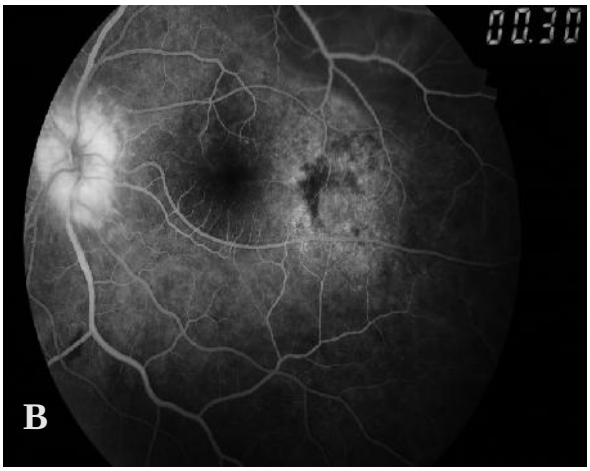
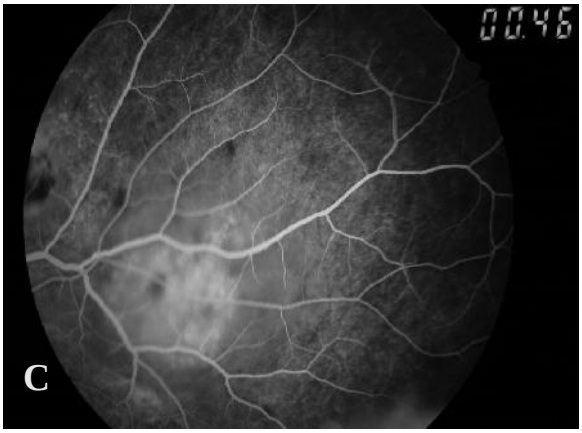


Image 1 : A - FFA of left eye showed leakage of dye around the disc suggestive of disc edema.
B - Temporal lesion showed hyperflourescence increasing in intensity throughout the phases s/o pooling suggestive of a tuberculous abscess.



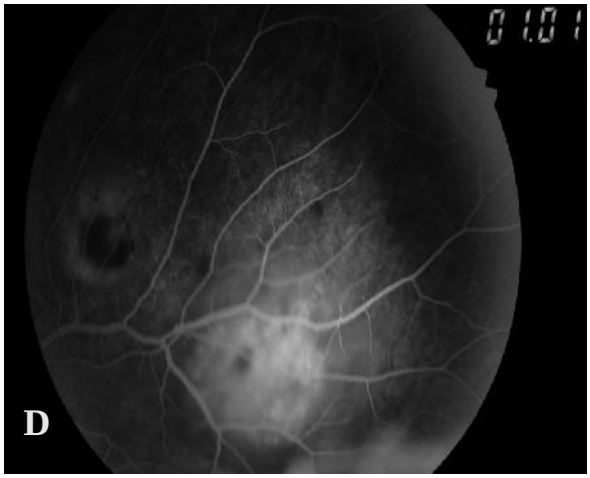
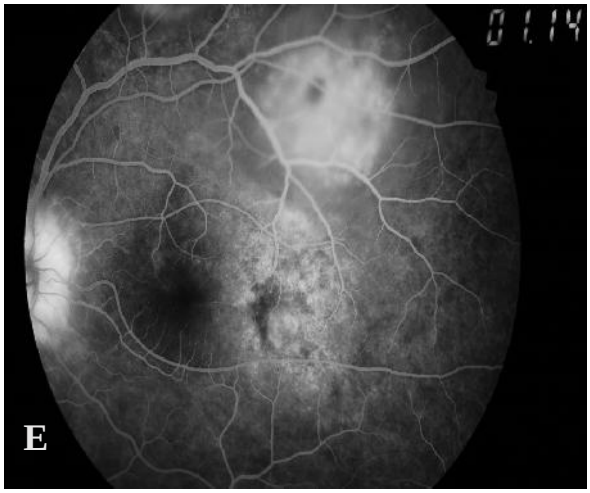


Image C & D - The nasal lesion showed hypoflourescence in early phases with late hyperfluorescence suggestive of an active choroiditis lesion.



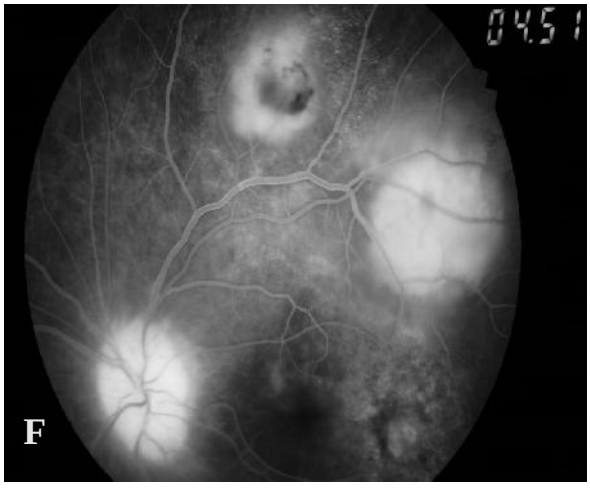
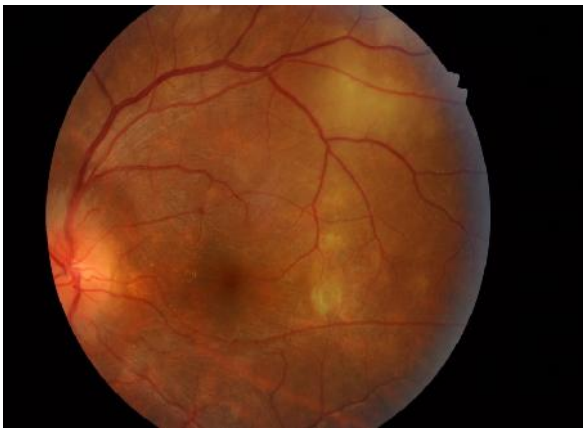


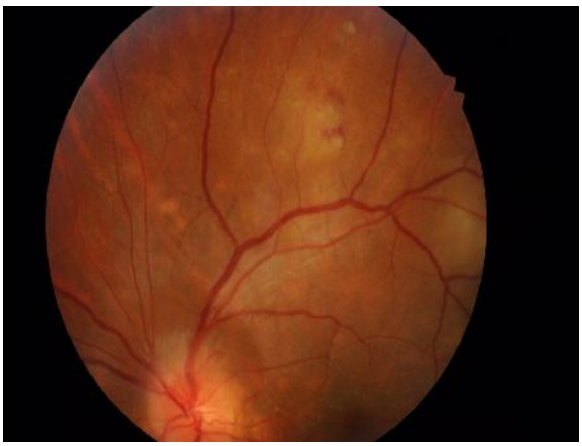
Image E & F - Hyperflourescence increasing in intensity temporal to disc and macula increasing in intensity suggestive of exudation was seen.

A diagnosis of left eye tuberculous choroidal abscess was made. Patient was referred to a chest physician for opinion, HRCT of chest was normal and further he recommended Category I ATT based on the diagnosis of ocular tuberculosis. Patient was on ATT for 1 month. Post treatment the visual acuity of both eyes of the patient was 6/6. Intraocular pressure by non contact tonometry was 12mmhg in both eyes. The anterior segment findings were normal in both eyes with normally reacting pupils. The anterior vitreous phase also was normal in both eyes.

AFTER 3 WEEKS OF ATT

After 3 weeks of ATT, choroidal abscess has decreased in size and all the above mentioned findings have resolved.





DIFFERENTIAL DIAGNOSIS

Differential diagnosis of tuberculous choroidal abscess are choroidal osteomas, masquerade syndromes and endogenous bacterial endophthalmitis presenting as subretinal abscess.

The recognized association of TB with ocular disease dates to the 1700s, when iris lesions in TB patients were described. Recognition of choroidal tubercles in the medical literature was first noted between 1830 and 1844. It is estimated that 1.4% of persons with PTB develop ocular

manifestations but many patients with ocular TB have no evidence of PTB. Ocular M. tuberculosis infection is most often a result of hematogenous spread during PTB or EPTB.

Primary ocular infection in which bacilli enter the body through the conjunctiva is rare and is most likely to occur in children.

Ocular TB is often unilateral and asymmetric. The most common sign of ocular TB is a choroidal mass, followed by choroiditis. This is likely caused by the extensive blood supply to the choroid which makes it susceptible to hematogenous spread of M. tuberculosis. Hematogenous dissemination is the assumed etiology of tuberculous choroidal granulomas, but more widespread inflammation in choroiditis and vasculitis is likely due to hypersensitivity. The diagnosis of ocular TB is important because prompt treatment may improve the individual patient's outcome. Delayed diagnosis can lead to pain, vision loss, and systemic complications of the infection. Unfortunately, there is no pathognomonic ophthalmic finding for ocular TB. Ocular TB is difficult to diagnosis due to its similarity to other causes of uveitis, the invasiveness of obtaining tissue samples, and limitations of available diagnostic tests.

The investigations are Tuberculin Skin Testing, Chest Xray, Interferon Gamma Release Assays, Polymerase chain reaction for IS 6110.

Treatment of ocular TB includes Category 1 ATT with systemic steroids. If no response in 4 weeks alternative diagnosis should be considered.

CONCLUSION

Subretinal tuberculomas and abscess, if diagnosed early, are amenable to medical treatment. Early treatment prevents complications like subretinal fibrosis and inflammatory choroidal neovascularisation membrane and also prevents recurrences. Active pulmonary tuberculosis should be ruled out in cases of ocular inflammations before starting steroids in order to avoid exacerbation of the lesions. Antituberculous therapy using four drugs for a period ranging from 6 to 18 months have been documented in literature but the results are variable and there is no standardized treatment protocol. Four drugs namely, Isoniazid, Rifampicin, Pyrazinamide and Ethambutol are given during the initiation phase followed by Isoniazid and Ethambutol for a variable period of 4–7 months. In our case response to ATT was evident within four weeks of therapy. Steroids are given concomitantly with ATT for 4–6 weeks in tapering doses in order to reduce inflammation and tissue damage from delayed hypersensitivity.

Ocular tuberculosis poses a serious threat in our country due to the endemic nature of the disease. Early diagnosis and prompt treatment prevent sequelae and recurrences of inflammation. In our case the patient presented with very subtle clinical feature but with extensive lesions in the posterior segment.

Very few reports of choroidal tuberculosis presenting simultaneously with a choroidal abscess, choroiditis patch and vitritis are available. The diagnosis of ocular tuberculosis should be considered even in young immunocompetent patients in the appropriate clinical setup.

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