



A Case Report of Tuberculous Chorioretinitis in a Lactating Mother

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Abstract : Tuberculosis is an airborne disease caused by infection with the acid-fast bacillus *Mycobacterium tuberculosis*. Tuberculosis most commonly affects the lungs, but has many extrapulmonary manifestations, including intraocular involvement. In the eye, Tuberculosis commonly presents as posterior uveitis. Here we present a case of Tuberculous chorioretinitis in a lactating mother, who was treated with anti-tuberculous treatment. The lesion started resolving after one month of treatment initiation and almost resolved after completion of treatment.

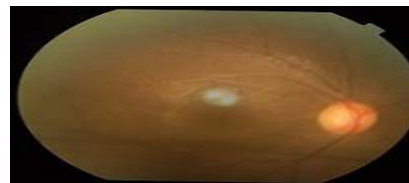
Keyword : Tuberculosis, choroiditis, anti-tuberculous treatment.

Introduction

Tuberculosis can have a variety of ocular manifestations, and consequently may mimic a number of ocular inflammatory diseases. Moreover, the absence of pulmonary tuberculosis does not rule out the diagnosis of ocular tuberculosis. Most common ocular presentation of tuberculosis is posterior uveitis which often indicates choroidal involvement⁸. The choroidal involvement can be in the form of choroiditis, serpiginous-like fashion (due to hypersensitivity), subretinal abscess, tubercles, and tuberculomas. The lesions usually respond to anti tuberculous therapy.

Case Report

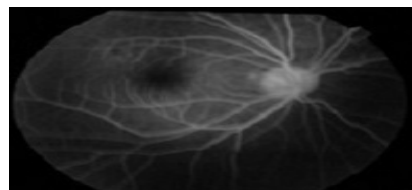
A 26 year old lactating mother of 6 month old infant, presented with the complaint of defective vision in the left eye for three weeks. No history of trauma. No history of any systemic illness including tuberculosis. No history of contact with any tuberculous patient. Her obstetric history was uneventful. Her general and systemic examination was normal. Best corrected visual acuity in RE was 6/6 and in LE was 6/24 NIG NIP. BE anterior segment was normal. BE pupillary reaction, intraocular pressure, visual fields were normal. Fundus examination of the RE revealed clear media, disc and vessels normal, macula-FR present. Fundus examination of LE showed clear media, disc and vessels normal, macula-FR dull. Yellowish white sub-retinal lesion of about one disc diameter size was located temporal to macula.



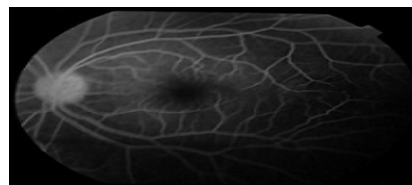
RIGHT EYE(RE) FUNDUS



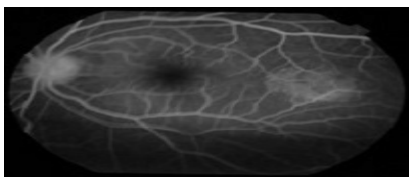
LEFT EYE(LE) FUNDUS



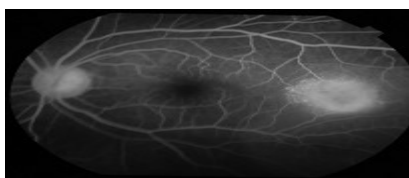
RE FFA- NORMAL



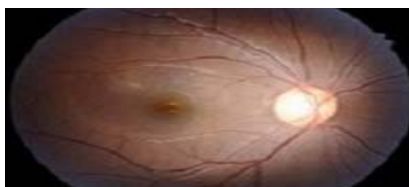
LE FFA EARLY HYPOFLUORESCENCE



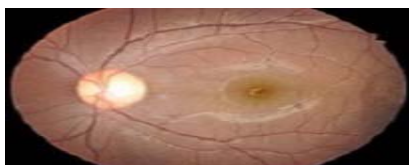
LE MID PHASE- INCREASING FLUORESCENCE



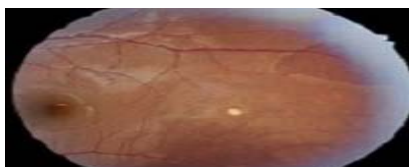
LE LATE PHASE- HYPERFLUORESCENCE



RE FOLLOW UP FUNDUS



LE FUNDUS



LE RESOLVED LESION

Fundus fluorescein angiography (FFA) of RE was normal. In LE the lesion was hypo fluorescent in the early (choroidal) phase and became hyper fluorescent in the late phase, suggesting a choroiditis lesion. Ultrasound B-scan of Left eye was normal. Patient was diagnosed as left eye tuberculous choroiditis. Patient was investigated with complete blood count, ESR, blood sugar, Mantoux test and chest X-ray. Complete blood count test showed hemoglobin of 11 g/dl, total white blood cell count of 6,500 cells/cu.mm, Differential count of N-56%, L-40%, M-4%, E-0% & B-0%, all of them were normal; ESR was 24 mm/hour; Random blood sugar was 129 mg/dl; Mantoux test was negative and Chest X-ray was normal. Patient was advised quantiferon test and the result was found to be positive with the tuberculosis specific antigen response of more than 0.35 IU/mL. She was referred to a pulmonologist to rule out extraocular manifestations of tuberculosis. Pulmonologist advised HRCT (High Resolution Computed Tomography) chest which was normal and sputum was negative. Patient was treated with category 1 anti-tuberculous treatment. A multi-disciplinary approach involving obstetrician, paediatrician, pulmonologist was carried out while prescribing anti-tuberculous treatment. The mother was asked

To continue breast feeding and slowly wean, as the child was already six months old and he was fed with complementary feeds. The child was vaccinated with BCG (Bacillus Calmette Guerin) at birth, as part of routine vaccination schedule. The child was examined periodically by the pediatrician to rule out both tuberculosis and drug toxicity. Isoniazid prophylaxis was not recommended by the paediatrician. Patient was started on oral prednisolone 40 mg after 2 weeks of starting ATT and slowly tapered. The lesion started resolving at around one month after treatment initiation. A near total resolution of the lesion was noted after six months. Her best corrected visual acuity at the end of six months was 6/9.

Discussion

The term "ocular tuberculosis" encompasses any infection by *Mycobacterium tuberculosis* in, on, or around the eye. The most common manifestation of ocular involvement is uveitis, usually presenting as a posterior uveitis followed by anterior uveitis, panuveitis and intermediate uveitis⁸. Choroidal tubercles are small gray-white to yellow nodules, ranging in size from 1/4th to several disc sizes in diameter³. Several such nodules can be present at a time, in one or both eyes but usually they are less than five and concentrated more in the posterior pole. Typically, these tubercles do not have any associated vitritis. When healed, the tubercles appear better circumscribed with surrounding pigment, and develop into a scar³. A tubercle may grow into a large solitary mass up called a choroidal tuberculoma, which often has a surrounding exudative retinal detachment⁸. It is hypothesized that choroidal disease may stem from acid-fast bacilli which persist in the retinal pigment epithelium². The differential diagnosis includes sarcoidosis, syphilis, toxoplasmosis and other inflammatory diseases³. Sometimes choroidal melanoma can mimic choroidal tuberculoma. In this patient, the points favouring tuberculous choroiditis are typical choroiditis lesion (subretinal location in fundus examination and early hypofluorescence followed by late hyperfluorescence in fundus fluorescein angiography) without vitritis or retinal involvement, positive Quantiferon test and resolution of lesion with anti-tuberculous treatment. A negative mantoux test, normal HRCT chest and sputum negativity are points against the diagnosis of tuberculosis in this case. Toxoplasmosis usually presents with vitritis and more of retinitis. Absence of anterior uveitis, vitritis and perivascular exudates, normal HRCT chest and lack of other systemic manifestations make sarcoidosis unlikely. All active intraocular tuberculosis warrants treatment with Anti Tuberculous Treatment(ATT). Choroidal tubercles and tuberculomas generally respond well to ATT³. However, when tuberculosis-associated choroiditis is treated with ATT, initially there may be a paradoxical worsening, which can be prevented by concomitant treatment with oral corticosteroids⁸. Drug therapy for ocular tuberculosis is similar to that for pulmonary tuberculosis. Current guidelines recommend a six monthly course of daily Isoniazid (5mg/kg) and Rifampicin (10mg/kg), in addition to Pyrazinamide (15- 30mg/kg) and Ethambutol (15mg/kg) for the first two months. According to WHO guidelines, all these drugs can be safely prescribed to lactating mother¹⁰. The therapy will also target other undiagnosed foci of disease which may co-exist.

Conclusion

Intraocular tuberculosis can be difficult to diagnose due to variable presentations. A high index of suspicion should be maintained for tuberculosis because of the severity of the disease and its systemic manifestations. Anti-tubercular therapy (ATT) is used systemically in the treatment of

intraocular tuberculosis because it offers the best penetration of posterior ocular structures with less toxicity.

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Abbreviations:

RE - Right Eye, LE - Left eye, BE - both eyes, NIG- Not improving with glasses, NIP- Not improving with pinhole, FFA - Fundus fluorescein angiography, ATT- anti tuberculous treatment, ESR Erythrocyte sedimentation rate, HRCT- High Resolution Computed Tomography, WHO - World Health Organisation.

