

## Simultaneous mutually exclusive active tubercular posterior uveitis

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Ocular tuberculosis (TB) is a form of extra-pulmonary TB, which can involve almost any intraocular structure or ocular adnexa. Posterior uveitis, the commonest form of intraocular TB manifests as choroidal tubercles, choroidal tuberculoma, subretinal abscess, neuroretinitis, or serpiginous-like choroiditis. These forms of posterior tubercular lesions can be broadly classified into two groups based on their pathophysiology and morphology. One group of lesions is related to the direct invasion and reactivation of the bacilli in the choroidal tissue, whereas the other is a result of hypersensitivity reaction to the bacilli. Simultaneous bilateral active posterior uveitis with such varying morphology and pathophysiology in either eye of the same patient is an extremely rare presentation. We report a case with pulmonary TB on Anti-tubercular therapy (ATT), who presented to us with two mutually exclusive and distinctly different forms of tubercular posterior uveitis in

either eye simultaneously. Both lesions were active at the time of presentation.

**Key words:** Choroidal tuberculoma, serpiginous-like choroiditis, tubercular postreior uveitis

### Case Report

A 35-year-old male presented with complains of diminution of vision in the left eye since 2 weeks. He was a known case of sputum positive pulmonary TB with susceptibility to the standard four drug regimen, and was on ATT (HRZE) since 2 months. The patient was emaciated and had a history of seizure disorder for which he was on anticonvulsant medications. His visual acuity was 20/20 and Hand movements close to face (HMCF) in right and left eye, respectively. On examination, there were occasional cells in AC in left eye. Left eye fundus evaluation revealed a yellow-white subretinal mass with exudative retinal detachment (ERD) with vitreous cells [Fig. 1]. Right eye showed a choroiditis patch with fuzzy borders [Fig. 2]. SS-Oct and Fundus fluorescein angiography (FFA) showed presence of activity bilaterally [Figs. 1-3]. A diagnosis of ocular TB with left eye choroidal tuberculoma with ERD and right eye active serpiginous-like choroiditis was made. HIV, HBsAg, and venereal disease research laboratory test (VDRL) titers were non-reactive. Tapering dose of oral steroids was started along with continuation of ATT. Patient was lost to follow-up due to the unfortunate circumstances of the pandemic.

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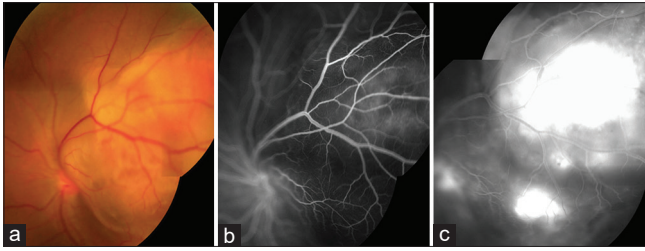
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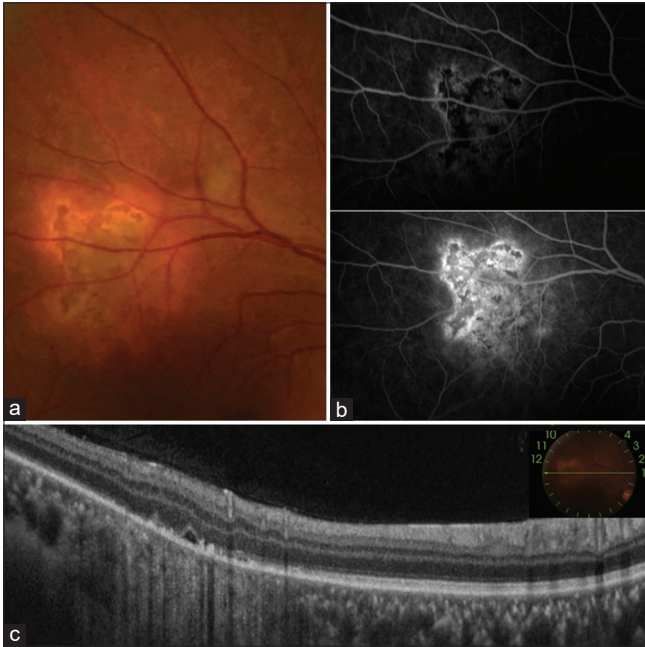
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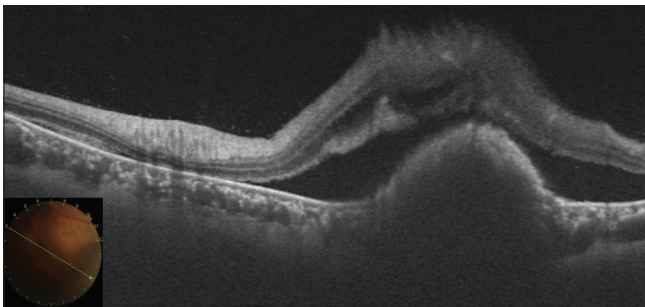
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**Figure 1:** Left eye fundus picture showing a superior-temporal white-yellow creamy subretinal mass with surrounding ERD (a). Fundus fluorescein angiography shows early hypofluorescence with late hyperfluorescence (b and c)



**Figure 2:** Fundus picture showing a bright orange-yellow perivascular choroiditis patch in the superotemporal quadrant in the right eye (a). Fluorescein angiography showing early hypofluorescence with late hyperfluorescence suggestive of an active lesion (b). SS-oct scan through the lesion showing hyperreflective bumps corresponding to the active edge of the lesion along with increased thickness of underlying choroid with disruption of overlying photoreceptor layer (c)



**Figure 3:** SS-Oct scan through the edge of the tuberculoma showing a choroidal mass with overlying sub-retinal fluid and retinal edema and underlying dilated large choroidal vessels. Hyperreflective cells are also present in the vitreous cavity

## Discussion

Our patient presented with a granuloma with ERD in his left eye and choroiditis in the right eye. Looking closely, he fulfills almost all the criteria enlisted in the collaborative ocular tuberculosis study (COTS) – 1,<sup>[1]</sup> except that he was not subjected to any intra-ocular biopsy study to confirm TB. The physical manifestation was quite characteristic of ocular TB and is well established. Fluid or tissue biopsy is corroborative evidence for diagnosing ocular TB and its negativity or unavailability does not essentially eliminate the diagnosis. The left eye had an active tuberculoma which has been proposed to be due to direct mycobacterial invasion and reactivation.<sup>[2,3]</sup> Alternatively, it may also be attributable to a “paradoxical reaction” which is known to occur in ocular TB after initiation of ATT in absence of steroid cover.<sup>[4]</sup> Whereas, the right eye had features of serpiginous-like choroiditis which is a hypersensitivity reaction to the tubercle bacilli.<sup>[5]</sup>

## Conclusion

To our knowledge the presence of two different types of “active” tubercular posterior uveitis together, in either eye of the same patient has not yet been described in literature and the presence of such ocular manifestations in a patient with pulmonary tuberculosis can mandate the use of oral steroids along with ATT.

### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

### Conflicts of interest

There are no conflicts of interest.

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