

**A case of ocular tuberculosis presented as retinal vasculitis**

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**Abstract**

Ocular tuberculosis can affect any part of eye, starting from eye lid to optic nerve. Retinal vasculitis is rare manifestation of ocular tuberculosis. In this case, we are reporting one case of retinal vasculitis with macular edema, which was later diagnosed as tuberculosis after investigations. The patient was put on Anti Tubercular Treatment (ATT) along with oral steroids. Later patient complained of diminution of vision and was then sent for VR surgeon consultation. Where, they planned pars plana vitrectomy along with ILM peeling followed by intraocular gas tamponade.

**Keywords:** Ocular Tuberculosis, Retinal Vasculitis, Macular Edema, Epiretinal Membrane.

**Introduction**

Intra ocular tuberculosis (IOTB) is a form of extra-pulmonary tuberculosis, caused by Mycobacterium tuberculosis. India is the highest TB burden country with incidence of 2.5 million (195/lakh/year) according to Global TB report 2015.<sup>[1]</sup> Intraocular tuberculosis may have a wide spectrum of clinical signs, including mutton fat keratic precipitates, fine keratic precipitates, posterior synechiae, iris nodules, vitreal snowballs, snow banking, retinal vasculitis,

choroiditis, serpiginous-like choroiditis, and panuveitis.<sup>[2]</sup> Though choroiditis is the most common ocular feature of tuberculosis but periphlebitis is also commonly present. It occurs either by direct infection or by hypersensitivity reaction to Mycobacterial antigens. It is associated with vitritis and retinal hemorrhages and may lead to branch or central retinal vein occlusion leading to neovascularization.<sup>[3]</sup>

**Case report**

A 45yrs old female presented with diminution of vision in her left eye from past 15 days, which was sudden in onset, painless and non progressive. It was not associated with any other ocular complaints. She denied any history of ocular trauma and was newly diagnosed case of hypertension.

On general physical examination blood pressure recorded was 140/90mm of Hg in both arms, all peripheral pulses were palpable and no radio-radial delay or radio-femoral delay. Systemic examination was within normal limits.

On ocular examination, best corrected visual acuity of right eye was 6/6 and left eye was 6/12(p). Right eye was having grade two hypertensive retinopathy in form

of general attenuation of arteriolar narrowing along with AV nipping, rest was normal. On examination of left eye, on slit lamp examination anterior segment was normal. anterior vitreous was having RBC's and cells. On distant direct ophthalmoscopy, fundal glow was dull. On indirect ophthalmoscopy, media haze grade 3 was present, there was intravitreal hemorrhage present inferiorly, preretinal hemorrhage present on 6 o'clock position, disc was faintly visible seems to be normal, perivascular sheathing present superiorly, superiotemporally, inferiotemporally, along with superficial hemorrhage inferiotemporally & superiorly (figure 1). Intraocular pressure was measured by non contact tonometer was 17mm of Hg in both eyes. Provisional diagnosis of retinal vasculitis along with vitritis was kept and patient was further evaluated.

On SD-OCT there was parafoveal macular edema.(figure 2) In blood examination fasting blood sugar was 105mg/dl with HBA1C 5.2 %. Complete haemogram, renal function test, electrolytes, serum uric acid were within normal limits. ESR was 32mm in 1<sup>st</sup> hour. On urine examination glucose was present along with trace proteins. Chest Xray was normal. Mantoux test was 20\*22mm, serum ACE level was 13 IU/L. ANA, cANCA, pANCA were negative. On the basis of clinical examination, elevated ESR and positive mantoux test final diagnosis of ocular tuberculosis was made.

She was started on anti-tubercle treatment (ATT) category I based on RNTCP, for the duration of 6 months along with oral prednisone in the dose of 1mg/kg/day after consultation with doctor in the department of chest & TB. She was remain under follow up initially weekly for two visit then 2 weekly. Patient improved symptomatically, Anterior chamber

became quiet, vitreous hemorrhage settled, vitritis decreased. After one month of treatment, visual acuity improves to 6/6(p). On indirect ophthalmoscopy media haze present, mild vitritis, organized vitreous hemorrhage, old venous sheathing in superiotemporal and inferiotemporal quadrants, ghost vessel was there in superiotemporal region, two neovascular fronts were present at 12 O'clock position with epiretinal membrane over macula was there.(figure 3,4)

She was sent for vitreo-retinal surgeon opinion and kept under observation. After two weeks she complained of diminution of vision. On examination, visual acuity was 6/12, developed vitreoretinal tractional bands superiorly involving 11O'clock to 1 O'clock position.(figure 5)Then she again sent for vitreo-retinal surgeon consultation, where they planned pars plana vitrectomy along with ILM peeling followed by intraocular gas tamponade.

### Discussion

Retinal vasculitis is a relatively rare manifestation of intraocular TB. There are some reports regarding retinal vasculitis due to TB. [4-7] The diagnosis of ocular tuberculosis In most cases diagnosis requires detailed examination and proper investigations, such as a positive PPD and chest x-ray, or a positive therapeutic trial for TB with exclusion of other causes (presumed ocular TB). [8] The demonstration of acid-fast organisms under the microscope or the detection of bacterial genome by polymerase chain reaction (PCR) is required for confirmation (confirmed ocular TB). [4,7]

### Conclusions

Tuberculosis can cause a wide spectrum of ocular morbidities. Ocular tuberculosis affect both the anterior and posterior segments. It requires thorough investigation and timely intervention to prevent serious vision threatening complications,

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## Legend Figures

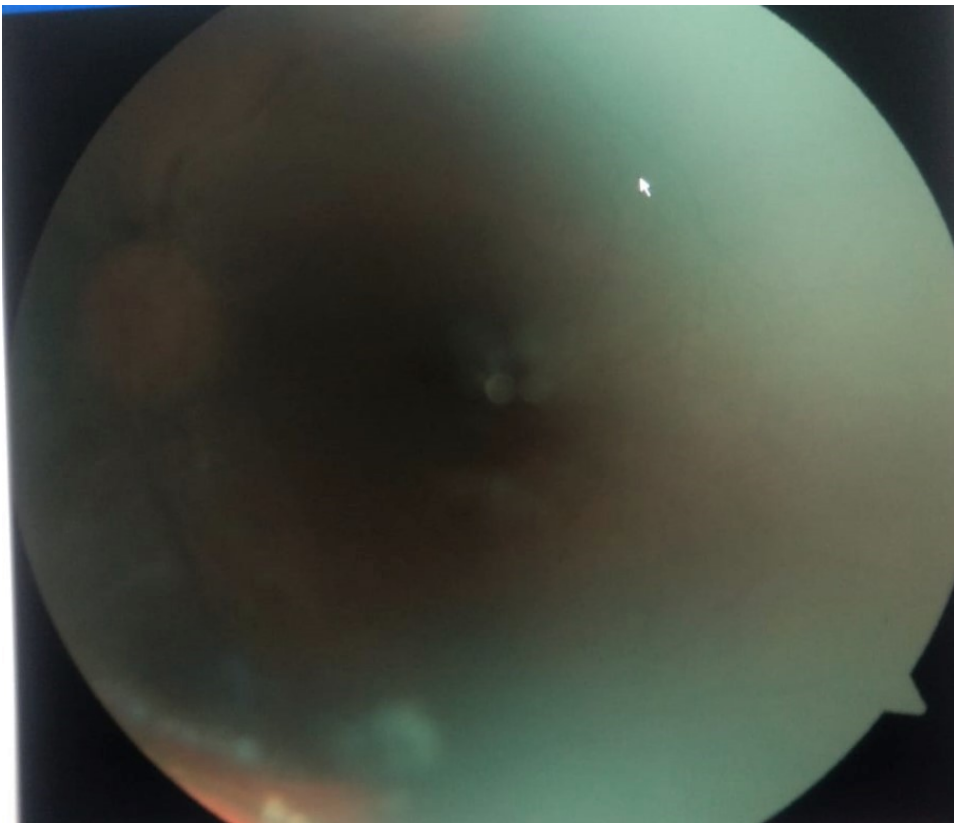


Figure1

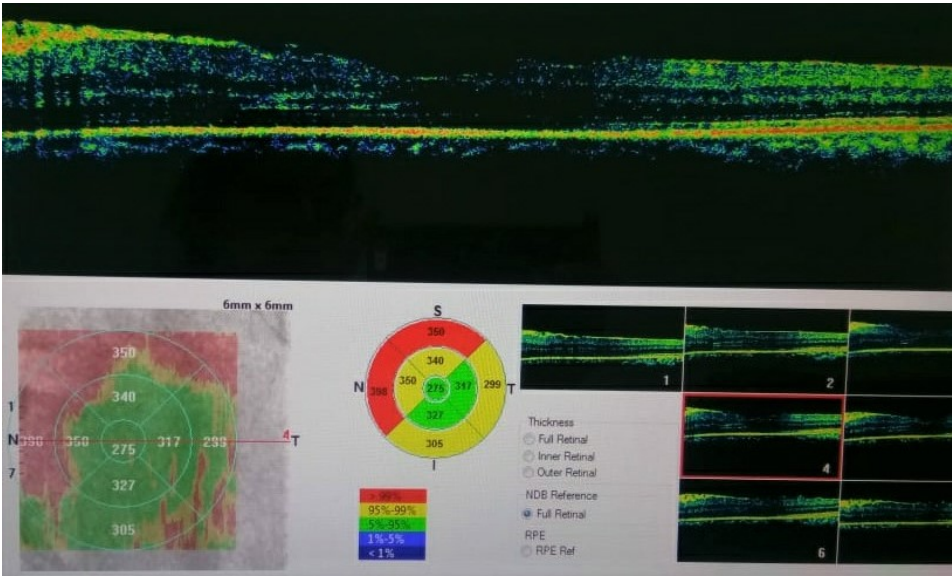


Figure 2

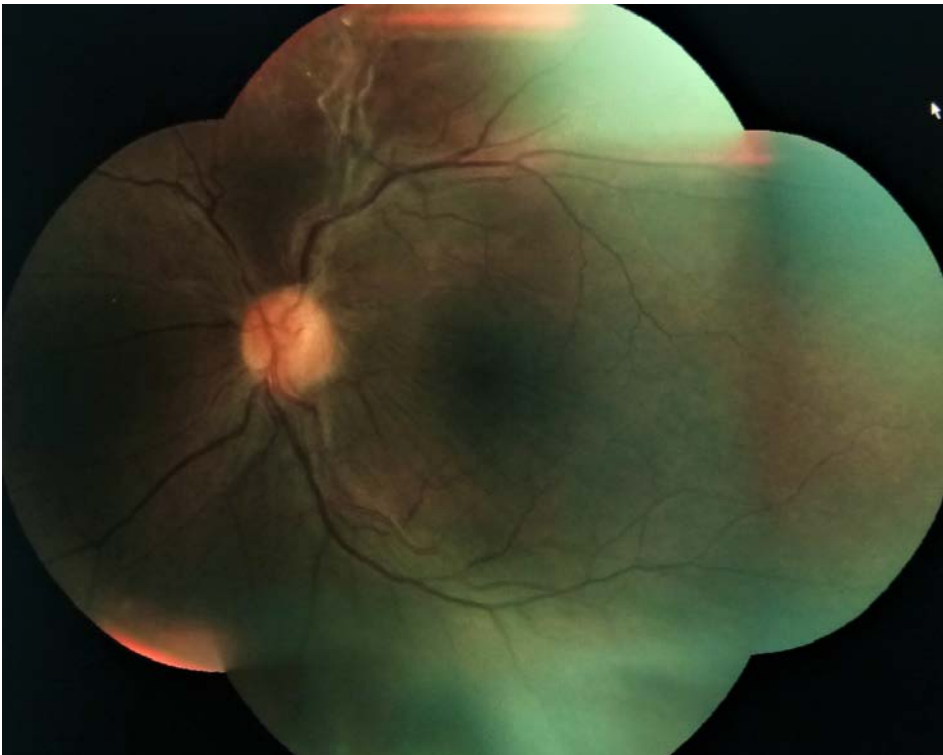


Figure 3

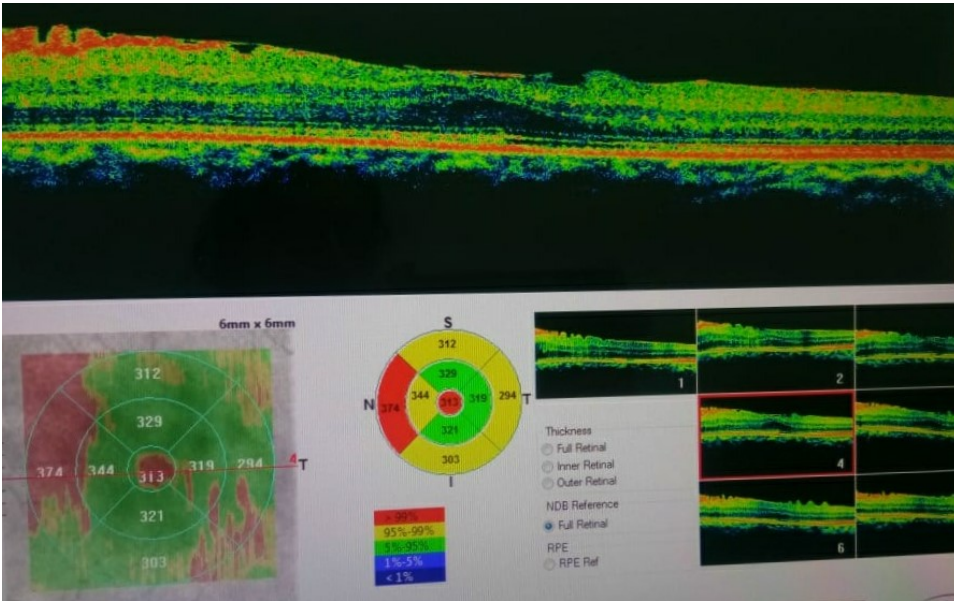


Figure 4

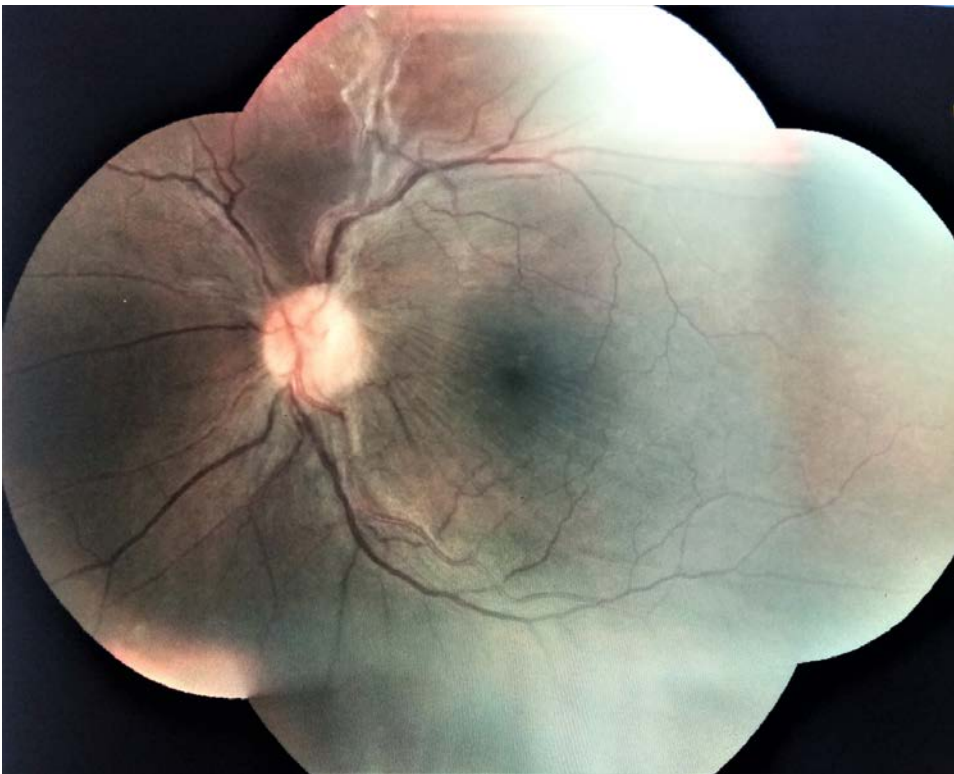


Figure 5