STANDARD TREATMENT WORKFLOW (STW)

Intraocular Tuberculosis

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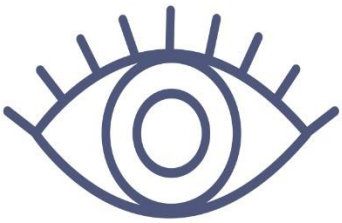
Standard Treatment Workflow (STW) for the Management of INTRAOCULAR TUBERCULOSIS

ICD-10-A18.3



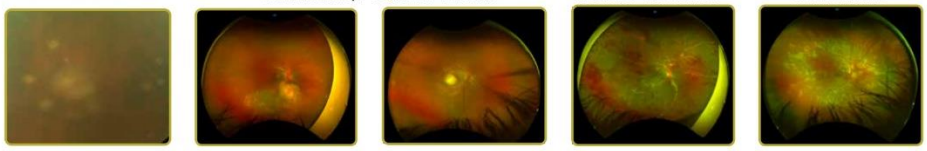
When to suspect	Refer to Ophthalmologist for detailed examination
Ocular Symptoms • Blurred vision • Redness • Photophobia • Pain in the eye • Floaters • Flashes of lights	**Eye Care facility should have:** **Mandatory:** Slit lamp, ophthalmoscope (direct or indirect), intraocular pressure assessment device **Preferred:** Fundus camera, Fundus fluorescein angiongram(FFA), Optical Coherence Tomography (OCT)

Granulomatous anterior uveitis

Examination of the eyes

Clinical signs
- Assess visual acuity
- Anterior chamber cells, Keratic precipitates, Synechiae, Irregular pupil, RAPD
- Complicated cataract, high or very low intraocular pressure
- Vitritis, Pars plana exudates, Retinal vasculitis, Retinitis, Choroiditis, Optic nerve head swelling

Intermeditate uveitis | Panuveitis/Posterior uveitis | Retinal vasculitis | Choroiditis



INVESTIGATIONS

Essential:	Desirable:	Optional:
CXR for healed/ active pulmonary TB	**Mantoux Test (standardised tuberculin units)**: 10 mm induration considered positive	**CT Chest (if available) for** healed/active pulmonary TB

Imaging of eye: Ascertaining diagnosis, extent of disease & follow up, teleconsultation

Retinal photographs using fundus camera	Optical coherence tomography scans (if available)	Fluorescein angiograms (if available)

Investigations to rule out other causes of clinical presentation

MANAGEMENT

TREATMENT

- **ATT** : 2 months of RHEZ + 7 months of RH depending on clinical response & side effects to treatment
- Add pyridoxine 10 mg/day
- **Corticosteroids** : Topical steroids eye drops for severe/anterior chamber inflammation
- For treatment in children refer to paediatrician
- Systemic corticosteroids for severe inflammation in consultation with Uveitis expert

REFERRAL TO HIGHER CENTRE

- Not confident to treat
- Vision threatening
- Non-response to treatment
- Side effects due to treatment
- Atypical reaction

MONITORING AND FOLLOW UP

- **Frequency of follow up:** 1-2 weeks in 1st month followed by monthly for 3 months & then 3 monthly
- **Eye:** Clinical grading of inflammation using fundus photographs & OCT scans (if available)
- **Steroids:**
  - › **Topical:** Monitor IOP, cataract and any signs of bacterial/ fungal infection
  - › **Systemic steroids:** Monitor body weight, blood sugar & blood pressure

ABBREVIATIONS

ATT: Antitubercular treatment	**IOP:** Intraocular pressure	**OCT:** Optical coherence tomography
E: Ethambutol	**R:** Rifampicin	**Z:** Pyrazinamide
H: Isoniazid	**RAPD:** Relative Afferent Pupilary Defect	

REFERENCES

1. Agrawal R, et al.; Collaborative Ocular Tuberculosis Study Consensus Group. Collaborative Ocular Tuberculosis Study Consensus Guidelines on the Management of Tubercular Uveitis-Report 1: Guidelines for Initiating Antitubercular Therapy in Tubercular Choroiditis. Ophthalmology. 2021 Feb;128(2):266-276. doi: 10.1016/j.ophtha.2020.01.008. Epub 2020 Jan 11. PMID: 32115264.
2. Agrawal R, et al.; Ilaborative Ocular Tuberculosis Study Consensus Group. Collaborative Ocular Tuberculosis Study Consensus Guidelines on the Management of Tubercular Uveitis-Report 2: Guidelines for Initiating Antitubercular Therapy in Anterior Uveitis, Intermediate Uveitis, Panuveitis, and Retinal Vasculitis. Ophthalmology. 2021 Feb;128(2):277-287. doi: 10.1016/j.ophtha.2020.06.052. Epub 2020 Jun 27. PMID: 32603726.