

*A Case Report:*

## CASE REPORT OF TWO CASES OF CHRONIC ENDOGENOUS ENDOPHTHALMITIS TREATED WITH SYSTEMIC ANTIHELMINTHS

Prof. Dr. D.N.Bhuyan, Dr. Gayatree Mohanty  
KIIMS, BHUBANESWAR

Toxocariasis is caused by *Toxocara canis*, the intestinal nematode commonly found in dogs. Patients are mostly young children, with an average age of 7.5 years. Patients have unilateral progressive painless vision loss and occasional leukocoria. Ocular toxocariasis has a variable presentation, from localized peripheral or macular granulomas to chronic endophthalmitis.

### Case 1:

A 11-year-old male child presented to the Ophthalmology OPD of KIIMS, Bhubaneswar complaining of reduced vision and redness, intolerance to light and pain in right eye for 2 weeks and was being treated at the local dispensary as conjunctivitis.

He belongs to low socio-economical status family in Mayurbhanj but living in the hostel currently. He had no history of similar previous episodes and no significant systemic history.

On examination of the right eye, the best corrected visual acuity was 6/36. In the anterior segment, there was ciliary congestion, cornea was clear, anterior chamber had cells +++, large keratic precipitates with fibrin, pupil sluggishly reacting with posterior synechia, lens was clear, there were cells in anterior vitreous face. The fundus of right eye was within normal limit. The anterior segment and posterior segment of left eye was normal with visual acuity 6/6.

He was treated with Prednisolone acetate 1% eye drop hourly and Atropine 1% 3 times a day. Investigations were ordered for total blood

count, differential count, erythrocyte sedimentation rate, Mantoux test and CXR. The results were all found within normal limit and Mantoux was negative.

On the 1 week follow up, the patient was symptomatically better with reduced congestion and anterior chamber reaction with breaking of posterior synechia but there was marked diminution of vision of left eye to counting finger 3 meters. On examination it was found there was dense vitreous haze. No inflammatory focus was seen in posterior pole and peripheral retina. Then Oral Prednisolone 30mg/day in divided doses was added to the above regimen.

On the next follow up after 1 week the vision was found to have hand movement. On examination it was found the vitreous haze was associated with ill defined vitreous condensations and cyclitic membrane behind lens and no view of fundus. On B scan, there were hyper-reflective echoes in vitreous cavity and the retina was attached suggestive of probable inflammation.

The provisional diagnosis of Endophthalmitis of right eye due to Toxocariasis was made from the history and clinical finding. The ELISA for Toxocariasis couldn't be done for confirmation because of limited resources and empirical treatment for Toxocariasis was started with Oral Albendazole 400mg twice daily for 5 days and Prednisolone 30mg/day along with the topical treatments.

On the next 1 week follow up, the anterior chamber was quiet with resolved vitreous

reaction and view of normal fundus but the improvement of vision was not remarkable (counting finger 3m) because of development of posterior subcapsular cataract.

#### Case 2:

A 14-year-old female child, presented to the Ophthalmology OPD of KIMS, Bhubaneswar complaining of reduced vision and redness, intolerance to light and pain in left eye since 1 week.

She belongs to low socio-economical status family in Mayurbhanj but living in the hostel currently. She had no history of similar previous episodes and no significant systemic history.

On examination of her left eye, the best corrected visual acuity was 6/12. In the anterior segment, there was ciliary congestion, cornea was clear, anterior chamber had cells ++, large keratic precipitates with fibrin anterior chamber, pupil sluggishly reacting, lens was clear and the anterior vitreous face was quiet. The fundus of left eye was within normal limit. The anterior segment and posterior segment of right eye was normal with visual acuity 6/6.

He was treated with Prednisolone acetate 1% eye drop hourly and Atropine 1% 3 times a day. Investigations were ordered for total blood count, differential count, erythrocyte sedimentation rate, Mantoux test and CXR and called for follow up with reports as soon as possible. The results were all found within normal limit and Mantoux was negative.

On the next follow up after 1 week, the patient was symptomatically better with reduced congestion and anterior chamber reaction but there was marked diminution of vision of left eye 6/36. On examination it was found there was dense vitreous haze. No inflammatory focus was seen in posterior pole and peripheral retina. Then Oral Prednisolone 30mg/day in divided doses and Albendazole 400mg twice daily for 5 days empirically was added to the above regimens after observation of the previous case and patient called for review after 1 week.

On the next follow up, the anterior chamber was quiet with resolving vitreous reaction and view of normal fundus and improvement of vision to 6/12.

#### Discussion:

*Toxocara canis* is a round worm with dog as its natural host. Humans can become infected by ingestion of soil or contaminated meat containing *Toxocara* larvae. In particular, children eating dirt or in close contact to puppies are at risk of being infected. In humans, the *Toxocara* larvae can invade several organs, such as the lungs, liver, brain, and eye, where they are encysted by a granulomatous cellular reaction. Not much is known about the prevalence of human, but the disease occurs worldwide. High percentages are associated with low hygienic standards and high exposure to infected dogs.

Ocular toxocariasis is a common cause of reduced visual acuity in young age group who eat dirt (pica) and in close contact with puppies. It has various manifestations from posterior pole granuloma, peripheral granuloma to chronic endophthalmitis. Chronic endophthalmitis presents in the children as granulomatous anterior uveitis and vitritis with or without peripheral granuloma or snowbanking. It has to be differentiated from other causes of leucocoria. Posterior pole granuloma presents as round yellow-white granuloma which is 1-2 disc diameter in size in the posterior pole associated with vitreoretinal tractional bands. The peripheral granuloma presents with absence of intraocular inflammation and diminution of vision due to dragging of the disc by a vitreoretinal band from a peripheral white granuloma from any quadrant.

The major cause of visual loss is contraction of vitreoretinal traction causing tractional retinal detachment and contraction of cyclitic membrane causing hypotony. The chronic inflammation and prolonged steroids also result in posterior subcapsular cataract.

The diagnosis is usually based on clinical examination and in atypical cases ELISA for *T.canis* antibodies and cytology of intraocular fluids. Ultrasound and CT scan are required to differentiate from other causes of leucocoria like retinoblastoma.

The main stay of medical treatment are systemic antihelmenthic Albendazole 800mg twice daily in adults and 400mg twice daily orally in children for 5 days along with systemic steroids(Prednisolone 0.5-1mg/kgbdwt) and topical steroidsPrednisolone acetate 1%) and cycloplegics(Atropine 1%) to control the inflammation due to disintegration of the helminth. In presence of vitreoretinal tractional bands, vitrectomy may be required to prevent treat retinal detachments.

**Conclusion:**

Ocular Toxocariasis can cause significant vision loss. Limitation of resources caused delay in treatment in the first case but quick diagnosis and effective treatment with corticosteroids and

antihelminthics allowed to obtain clinical improvement in second case.

**Reference:**

1. Kanski JJ. Systemic Approach to Clinical Ophthalmology Ed. 7, Elseiver, 2011. Chapter 11, p.402-475.
2. Foster SC., Vitale AT. Uveitis: Diagnosis and Treatment Ed. 2, Jaypee Brothers, 2013. Chapter 41,p 606-14.
3. Frazier M, Anderson ML, Sophocleous S. Treatment of ocular toxocariasis with albendazole: a case report.Optomety. 2009 Apr;80(4):175-80.
4. Saporito L, Scarlata F, Colomba C. Human Toxocariasis: A report of nine cases. Acta Paedric. 2008;97(9):1301-2.
5. Barisani-Asenbauer T, Maca SM, Hauff W, Kaminski SL, Domanovits H, Theyer I, Auer H. Treatment of ocular toxocariasis with albendazole. J Ocul Pharmacol Ther. 2001 Jun;17(3):287-94.

