Ocular Toxocariasis
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Toxocariasis is an infectious parasitic disease caused by the larvae of the nematodes *Toxocara canis* and *Toxocara cati*.

**Epidemiology**
*Toxocara spp.* eggs have been found in soil in rural and urban areas in Western and Central Europe, North and Central America, Asia and Australia.
Dogs and other canidae (wolves, foxes) are natural hosts of *T. canis* whereas cats of *T. cati*.

**Pathogenesis**
Adult forms of *Toxocara spp.* live in the small intestine of dogs and cats. They can grow up to 10-17 cm in length and produce about 200,000 eggs per day. The usual mode of infection in humans (aberrant hosts) is eating contaminated soil (geophagia, via hands) or uncooked food.
Children who have close contact with dogs, are at great risk of infection. The second-stage larvae (size 18-21 microns) migrate through the intestine wall to the blood of the infected person and may encyst in various tissues (eye, brain, liver, lungs), stimulating focal granulomatous reaction.

**Clinical features**
Majority of *Toxocara* infections are asymptomatic. Some patients, mostly young children, present with the visceral larva migrans (VLM) syndrome, caused by the migration of second-stage larvae. There are three main forms of ocular toxocariasis: peripheral granuloma, posterior pole granuloma and endophthalmitis. Other less common presentations are optic neuritis, neuroretinitis and mobile, living larva in the eye. The complications include macular heterotopia, epiretinal membranes, cataract, secondary glaucoma, tractional retinal detachment, detachment if the ciliary body and anterior choroid with hypotony, phthisis bulbi.

**Differential diagnosis** includes retinoblastoma, Coat’s disease, persistent hyperplastic primary vitreous, familial exudative vitreoretinopathy, retinopathy of prematurity, toxoplasmosis, pars planitis, endogenous endophthalmitis.

**Diagnosis** is based on clinical picture and serologic confirmation by detection of specific IgG and IgM antibodies using the ELISA. Another methods used in laboratory investigations are detection of specific anti-Toxocara IgG by Western-blot, measurement of specific IgE and intraocular fluid PCR analysis.

**Treatment**
Peripheral or posterior pole granuloma with no or minimal inflammation may not require treatment. In cases with severe inflammation systemic or periocular corticosteroids should be administered. The use of antihelmintic drugs (thiabendazole, albendazole, diethylcarbamazine)
in ocular toxocariasis is still controversial. It is generally advised to combine them with systemic or periocular corticosteroids. Vitrectomy is recommended in severe inflammation non-responding to medical therapy and in the treatment of complications such as epiretinal membranes, vitreoretinal traction and retinal detachment.