



Live Subretinal Nematode: An Effective Therapy Using Diode Green Laser Photocoagulation

KEYWORDS

DUSN, anti helminthic, oral steroids, diode green laser.

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ABSTRACT *Live intraocular nematode is a rare occurrence. Parasites of different sizes and several species of nematodes have been reported as the aetiology of Diffuse unilateral subacute neuroretinitis (DUSN). Various treatment modalities have been reported by authors for the cure of DUSN. In the present case, a middle aged man presented with complaints of sudden diminution of vision in the left eye. Anterior segment examination showed signs of inflammation. Fundus examination showed the presence of live subretinal nematode and multiple chorioretinal lesions. The patient received oral anti helminthic and tapering dose of oral steroids along with photocoagulation with diode green laser. On following up after 1 week the patient's visual acuity had improved to 6/6.*

Introduction:

Diffuse unilateral subacute neuroretinitis is an ocular disease caused by the presence of a nematode worm in the subretinal space, affecting children and young adults predominantly¹. It was called as “unilateral wipeout syndrome”, when it was first described by Gass, in 1977². Parasites of different sizes and several species of nematodes have been reported as the causative agent of the disease. These included *Toxocara canis*, *Baylisascaris procyonis* and *Ancylostoma caninum*. When nematodes which varied in length from 400 – 1000 μ m have been reported to have caused the disease in south western United States, larger nematodes of size 1500 – 2000 μ m were reported in Northern and Midwestern part of the country¹. Few cases of DUSN have been reported in India as well^{3,4,5}.

We report a case of DUSN in a middle aged man, who was diagnosed based on clinical findings and was treated successfully with oral anti helminthic, steroids and laser photocoagulation.

Case Report:

A 48 year old male, hailing from Mangalore, presented with complaints of sudden onset of painless diminution of vision in the left eye for 5 days duration. It was not associated with redness, watering, photophobia or floaters. There was no history of having pets at home. He did not give any history of trauma to the eye. He also denied history of any past medical or ocular illnesses.

On clinical examination his best corrected visual acuity on presentation was found to be 6/12 in the left eye and 6/6 in the right eye.

Slit lamp examination of the left eye revealed grade 1 cells and flare in the anterior chamber and grade 1 vitreous cells in the posterior segment, while right eye showed a normal anterior and posterior segment.

Fundoscopy examination of the left eye showed the presence of a coiled, moving subretinal nematode of about 3DD to 4DD in size, which was changing its position in the posterior pole. The area traversed by the nematode revealed the presence of multiple hypopigmented chorioretinal lesions.

Total leucocyte count, differential count, absolute eosinophil count and peripheral smear reports were found to be normal. Stool

examination showed no evidence of ova or cyst.

The patient was treated with Diode green laser photocoagulation, which was applied over and around the nematode. Following the laser therapy, cessation of motility of the worm was noticed. Oral therapy was started with one dose of Albendazole 400mg followed by Diethylcarbamazine 100mg for 3 weeks. Intraocular inflammation was addressed with oral Prednisolone (1mg/kg body weight) which was tapered and stopped over four weeks. The patient was also started on topical antibiotic steroid eye drop three times per day for a duration of one week. On following up the patient after one week, the visual acuity of the patient in the left eye had improved to 6/6 and posterior segment examination revealed decreased inflammation in the posterior pole with disintegrated worm.

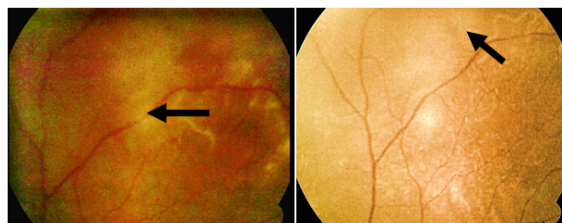


Fig. 1: Coiled moving subretinal worm changing its position

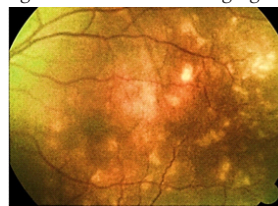


Fig. 2: Diffuse chorioretinitis in the posterior pole, area traversed by the nematode.

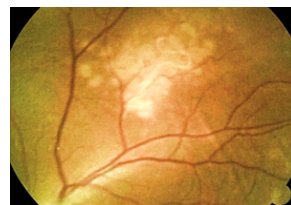


Fig. 3: Disintegrated nematode after Diode Green laser

photocoagulation.

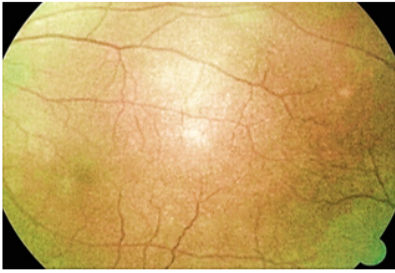


Fig.4: Decrease in chorioretinal patches following treatment.

Discussion:

DUSN is a progressive ocular infectious disease which typically affects healthy individuals in the second and third decades of life, with male preponderance.⁶ The mechanism of vision loss in DUSN is mainly by host inflammatory reaction to parasite, toxic effect of worm's secretory proteins, mechanical damage by the movement of the worm or an autoimmune reaction initiated by the infection.⁷ In cases of presumed DUSN where motile larva cannot be identified, a month long course of oral Albendazole 400mg once daily, along with tapering dose of systemic steroids have showed dramatic improvement in visual acuity.^{7,8} In a case report published by Safarpour Lima et al, a case of presumptive DUSN was initially treated with oral thiabendazole for four days and intravitreal Triamcinolone was injected to improve the visibility of the retina and to facilitate laser photocoagulation.⁹ In case of a visible worm, photocoagulation offers the best chances of halting worm motility and resolution of retinal lesions without causing significant intraocular inflammation and toxic damage to the eye.¹⁰ Both Nd:YAG and argon lasers have been reported to be effective in eradicating nematodes.^{4,11} A case of DUSN from Coimbatore was reported, where the patient was treated with Argon laser, followed by single dose of oral Albendazole 400mg, diethylcarbazine 100mg three times a day for three weeks and tapered dose of oral prednisolone starting from 60mg per day.¹² In the present case, the patient attained complete recovery of vision with disappearance of chorioretinal lesions. Thus it proved that application of Diode Green laser, along with oral anti helminthic and tapering dose of oral steroids is an effective treatment for DUSN.

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