

A Case Report on: Caterpillar Hair in Eye

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ABSTRACT

Caterpillars cause many ocular lesions. These can enter into the eye ball and migrate to the ocular tissues resulting in inflammatory reaction to the foreign body. It is a relatively rare condition with subtle findings.

Here, we report a case of caterpillar hair causing corneal abrasion and anterior uveitis in a 13 year old girl and its management. Also we wish to highlight the importance of close follow up in these patients.

Patient was symptomatically better after caterpillar hair were removed from anterior segment. But low grade inflammation persisted even after 2 months of treatment. Patient was maintained on low dose steroids to prevent further increase in anterior or posterior segment inflammatory response and was closely monitored for the same.

Keywords: Ophthalmia nodosa; Migratory caterpillar hair; Ocular inflammation

INTRODUCTION

Ophthalmia nodosa is defined as an inflammatory reaction in the eye to hair of certain insects or vegetable material and derives its name from the nodular conjunctival reaction which they produce. The first description was published by Schon [1-3].

The common manifestations seen are allergic dermatitis, catarrhal conjunctivitis with marginal keratitis, nodular conjunctivitis, localized or diffuse keratitis, iridocyclitis with or without hypopyon, granulomatous iritis and panophthalmitis [4,5].

CASE REPORT

A 13-year-old girl presented with a 1 day history of foreign body sensation, redness, pain and photophobia in the Left Eye (LE). The patient gave a history of travel to her native place and stay in a farmhouse before the symptoms started to appear. She had then shown to a local doctor on whose advice she used topical antibiotics and artificial tears without relief.

At presentation, the patient had visual acuity of 20/20 in both eyes. Examination of the left eye showed min lid edema and marked conjunctival congestion of both palpebral and bulbar conjunctiva. Detailed slit lamp examination revealed multiple, black, linear foreign bodies suggestive of caterpillar hairs, which were diffusely studded in the lower and upper tarsal conjunctiva

and sub-conjunctivally penetrated in the inferior bulbar conjunctiva.

There was one hair partially penetrating peripheral anterior cornea at 6 o'clock, one intra-stromal hair in the midperiphery at 4 o'clock and one hair at the 6 o'clock in the anterior chamber partially penetrated in the posterior corneal stroma.

Cornea had superficial epithelial defects in a crisscross pattern. The anterior chamber showed 2+ cells. The lens was clear and no abnormalities detected on fundoscopy in vitreous and retina. The Right eye examination was normal.

The UBM and B scan confirmed clinical findings and did not reveal any more intraocular hair.

Superficial hair on the conjunctiva and the cornea were removed under sterile precautions using fine forceps, on the slit-lamp. The patient was started on Lubricants (carboxy methyl cellulose 0.5%) 6 times, topical antibiotic (moxifloxacin 0.5%) 4 times, homatropine 2% eye drop 3 times and low dose steroid eye drops (prednisolone acetate ophthalmic suspension 1%) 6 times (Figure 1).

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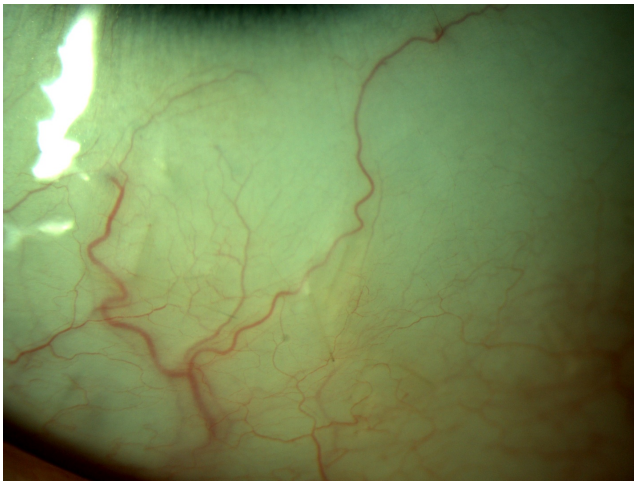


Figure 1: Slit lamp image of caterpillar hair in bulbar conjunctiva.

After a complete work up the patient was then admitted for the surgical removal of intracameral hair under general anesthesia to avoid ophthalmic reactions. Detailed examination of the anterior segment was performed under microscope to rule out presence of any more hairs. The intrastromal corneal and subconjunctival hairs were not touched to avoid scarring due to exploration (Figure 2).

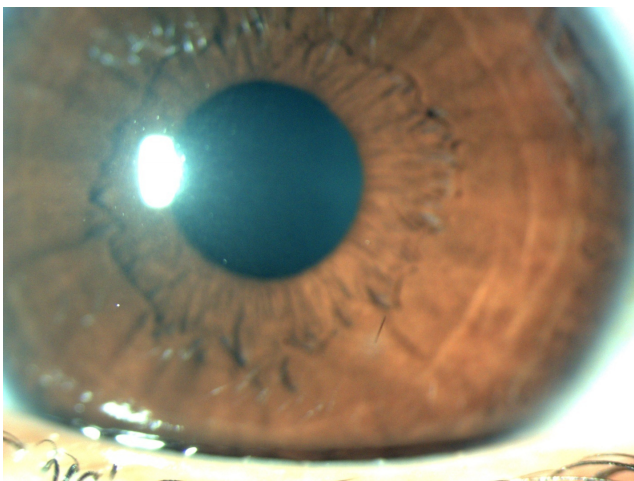


Figure 2: Slit lamp image of intrastromal penetration of caterpillar hair.

Post operatively patient was discharged on low dose topical steroids, lubricants and antibiotic eye drop. Patient showed significant improvement during the follow up visits but was not completely free of inflammation. After a month of follow up she is now maintained on low dose topical steroid eye drop and under regular follow up to keep a check on intraocular inflammation.

DISCUSSION

Caterpillar hair may penetrate into the eye (the conjunctiva or cornea) forcibly by direct contact or by being rubbed. Their presence in the conjunctival sac causes intense pain.

Caterpillar hair (setae) is sharp and fine with unidirectional barbs due to which they can migrate towards the base. The hair

is brittle and fracture easily once they have penetrated the eye. They have the ability to travel in the eye, perhaps because of the shape of the hair and stresses from the lid and ocular movements, or even possibly from vascular pulsations [6].

Pathologically, there can be an acute inflammation followed by a granulomatous reaction around the hair. The intensity of the reaction and the final result probably depends upon the number of hair or the amount of foreign material gaining entry into the eye [7,8].

First phase is with severe symptoms when the patient presents to the OPD. Thereafter, there is a quiet interval lasting for a few days, which is apparently the period during which hair migrates through the cornea. It is followed by a phase of inflammation when the hair is free or protruding in the AC or is irritating the anterior uvea. Sometimes, this reaction may be sufficiently severe to produce a hypopyon and nodules on the iris or flat yellow and oval nodules in the conjunctiva.

Some eyes of ophthalmia nodosa may develop phthisis [8].

The principal management is in the form of thorough examination and removal of hair with a regular follow up. Intraocular penetration of setae causing severe anterior segment reaction usually responds to topical steroids and cycloplegic drugs. Vitritis may require intra-vitreous or systemic steroids.

Gupta and Hari Gopal reported the first case of caterpillar hair involvement of the eye from North India [9]. In their case, there were caterpillar hair in the cornea with surrounding infiltration and much hair in the palpebral conjunctiva. Similar to our case, most of the hair was removed except few which were lying deep in the cornea.

A study by Sengupta [10] reported that the presence of deep intracorneal hair was found to be the only risk factor for intraocular penetration ($P < 0.001$). The removal of intracorneal hair was associated with a significantly reduced risk of intraocular penetration ($P = 0.022$). Patients with retained intracorneal hairs should be counseled regarding risk of intraocular penetration and closely followed up for at least six months which was followed by us in our case where the intracameral hair was removed and patient was closely followed up and monitored for increase in inflammatory response.

The diagnosis of caterpillar-hair was clinical in our case, as we could confirm the retrieved hair under a microscope. In many cases, direct history of exposure to caterpillar hair may not be available [10]. Upper lid eversion to search for retained setae and removal of any conjunctival or iris nodules is mandatory.

CONCLUSIONS

- Ophthalmia nodosa is a relatively rare condition with subtle findings, which can be missed, causing considerable discomfort to the patient.
- Caterpillar hairs are known to migrate intraocularly through the cornea and cause inflammatory reaction in the eye. The prognosis is relatively good even with intraocular penetration of the hair if treated in time.
- The removal of intraocular hair after analyzing the risks and benefits is preferable. Such cases should be followed closely as

late migration and late worsening has also been reported in some of these cases.

- There are reports of intraocular setae without subsequent reactivation.
- Despite the grave range of possibilities in the manifestations, the outcome in most of the cases is satisfactory, if diagnosed early and treated appropriately.

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