

# Migratory Caterpillar Hairs: A Case Report and Review of Literature

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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 secondary inflammatory reaction to the foreign body. Here, we report a case of caterpillar hair causing nummular keratitis with subsequent intense anterior chamber inflammation.

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## Introduction

Ophthalmia nodosa is defined as an inflammatory reaction in the eye to hairs 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.<sup>1,2,3</sup>

The common lesions seen are allergic dermatitis, catarrhal conjunctivitis with marginal keratitis, nodular conjunctivitis, localised or diffuse keratitis, iridocyclitis with or without hypopyon, granulomatous iritis and panophthalmitis.<sup>4,5</sup>

## Case report

A 14 year old female patient, presented with a history of redness, foreign body sensation, lacrimation in the right eye for past 2 days. Examination of the right eye showed lid edema, diminished interpalpebral aperture, marked conjunctival congestion, both palpebral and bulbar, and slit lamp examination revealed multiple tiny hairs, diffusely studded the in corneal stroma and around the superficial end of the hair, a nummular opacity had developed. The left eye was normal.

Superficial hair on the cornea of right eye were removed with a fine needle on slit-lamp, but as the hair were very friable and difficult to remove, few were allowed to remain, which

were lying deep. At this stage, the anterior chamber (AC) was quiet and the iris and lens were normal. The patient was started on topical treatment with moxifloxacin three times a day, low dose steroid four times a day, and homatropine three times a day. After 1 week of therapy, there were 1+ cells and 1+ flare in the AC, as few deep stromal lying hair migrated into the AC. Intensive topical steroid therapy was started in the form of topical prednisolone in place of low dose steroid. After suppressing inflammatory activity, 3 more similar episodes occurred which were also managed with tapered topical steroids. The patient was maintained on a low dose of steroids until most of hair were either taken out or had migrated to AC. Five months later, the cornea showed several slight nebulomacular opacities with 3 hair strands still buried in deep stroma. However, the anterior chamber was clear, the iris was normal, and gonioscopy revealed no abnormality of the angle.

## 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 and the common lesions seen are allergic dermatitis or nodular conjunctivitis.

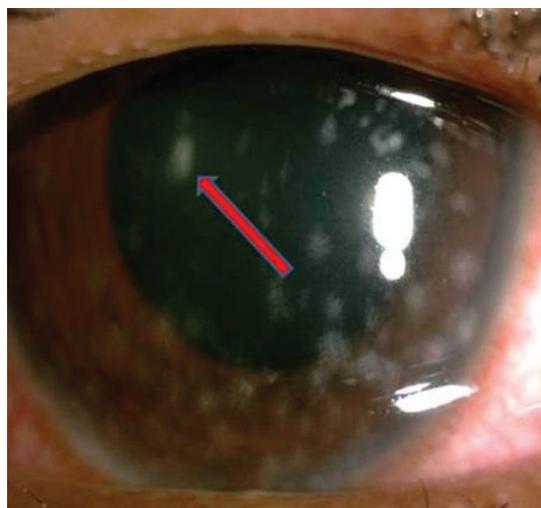


Figure 1: Caterpillar hair buried in corneal stroma with circumferential conjunctival congestion.

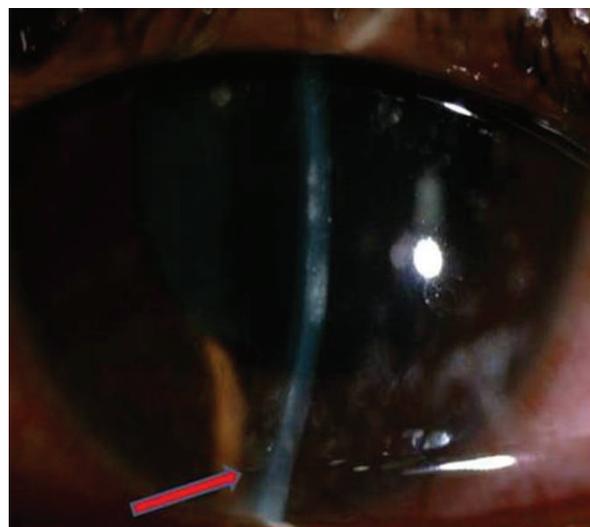


Figure 2: Caterpillar hair base is protruded in anterior chamber.

Gupta and Hari Gopal reported the first case of caterpillar hair involvement of the eye from North India.<sup>6</sup> In their case, there were caterpillar hair in the cornea with surrounding infiltration and many hair in the palpebral conjunctiva. Similar to our case, most of the hair were removed except few which were lying deep in the cornea.

Penetration of the cornea results in a localized or nummular keratitis, depending on the number of hair involved. 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. In our case also, we found three episodes of AC inflammation following a quiescent period.<sup>1,7</sup>

Caterpillar hairs are sharp and barbed and usually travel base forward, because of the direction of the barbs. The hair are 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.<sup>7</sup>

Pathologically, there is 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.<sup>7</sup>

The principal management is in the form of thorough removal of hair under slit-lamp at repeated examination along with topical steroid to reduce the inflammation.

### Conclusion

Caterpillar hairs are known to cause inflammatory reaction in the eye as well as they have the ability to migrate intraocularly through the cornea. Therefore, the possibility of intraocular inflammation after the quiescent stage always has to be kept in mind.

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