Ophthalmia nodosa with intraocular caterpillar setae

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INTRODUCTION

Ophthalmia nodosa is defined as an inflammatory reaction in the eye to certain insect or vegetable hair. Cases have been recorded in literature from time to time during the past 120 years. Although generally considered to be an innocuous extraocular condition, the present case demonstrates that caterpillar hairs (setae) are capable of intraocular penetration and repeated examinations are required to identify the extent of the disease.

CASE REPORT

A 30-year-old woman presented with history of a caterpillar falling into the left eye about 12 hours ago. She had washed the eye and had developed intense pain, stinging sensation, and congestion in the eye. On ophthalmic evaluation, she was found to have intense blepharospasm. Examination could proceed under surface anaesthesia with proparacaine 0.5% eye drops.

Visual acuity in the right eye was 6/6 and 6/12 in the left eye. The right eye examination was unremarkable. The left eye showed a large number of dark-brown-coloured caterpillar hair embedded in upper eyelid skin and on the tarsal aspect. Some were seen in the lower fornix and on the lid margins. There was nodular reaction on the lower palpebral conjunctiva and generalised conjunctival congestion. The cornea, anterior chamber, pupil, lens, and fundus were normal. All the visible hairs were removed with a McPherson forceps, and the patient advised 0.3% ciprofloxacin–dexamethasone eye drops QID.

On review the next day, the patient was symptomatically better and slit lamp examination could be done more easily. A large number of criss-cross scratches were noted on the cornea. On examination of the upper tarsal conjunctiva, at least 10 pale-yellow-coloured hairs were seen embedded therein. Their colour made identification from the tarsal background difficult. Some pale-coloured setae were also seen in the lower palpebral conjunctiva. All of these setae had been missed on the first day. In addition, one solitary hair was seen to be impaled in the cornea with 60% penetration into the inferonasal cornea (Figure 1).

All visible hairs were removed. An attempt was made to remove the hair impaled into the cornea, but it broke at the corneal surface during the manoeuvre. The patient was continued on the same treatment and called again the next day.

On review she was found to be feeling much better with almost no visible congestion. The criss-cross scratch marks on the cornea were reduced. Slit lamp examination revealed that the broken hair remained embedded and the cornea had epithelialised. However, a complete hair (about 1 mm long) was seen lying on the iris surface inferotemporally (Figure 2). There was

Figure 1 Setae impaled in cornea.

Figure 2 Setae in anterior chamber.

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no anterior chamber reaction in the form of flare or cells. There was no vitreous reaction. Dilated funduscopy was carried out which did not reveal any abnormality.

The patient was advised to continue medication for two weeks. Follow-up examination showed a quiet eye and clear cornea with no embedded hair. The hair in the anterior chamber remained at the same location. Subsequent follow-up visits after two and six months showed similar findings with visual acuity 6/6 and a quiet left eye. The patient has been advised to report in case of recurrence of redness or pain in that eye.

DISCUSSION

Caterpillar hair may get into the eye by direct contact or by being rubbed in when a towel is used. Their presence in the conjunctival sac causes intense pain and the common lesions seen are allergic dermatitis or nodular conjunctivitis.

Occasionally the hair migrates through the ocular tissues and severe inflammation may occur after a variable quiescent interval. Intraocular involvements such as iridocyclitis with or without hypopyon, granulomatous iritis, and panophthalmitis have been reported.^{1,2} A case of intralenticular caterpillar hair has been recently seen in India.³

A number of theories have been postulated suggesting the possible mechanism of migration of setae. Gunderson et al⁴ suggest that because the setae have no propulsive power of their own, movements of the globe with versions, respirations, and pulses together with the constant iris movement propel the spines (on the setae) forward. It can be seen from the electron micrographs that the direction of the spines is vital in this, allowing only forward movements. Ascher⁵ suggested that it was the inflammatory exudates pushing against the broken end of the hair that allowed it to move along the path of least resistance.

The line of management for intraocular setae ranges from conservative approach⁶ to vitreoretinal surgery,⁷ depending on the ocular condition. Opinion remains divided whether intraocular surgery is warranted in all cases.

Primary management is in the form of meticulous removal of extraocular setae under slit-lamp apart from topical steroid

to control the inflammation. As evident in this case, the variable colouration of setae arising from the same caterpillar can result in many setae being missed on initial examination. The hair lying in the anterior chamber did not cause any inflammation in this case but the possibility of intraocular inflammation many years later has to be kept in mind and explained to the patient.

CONCLUSION

Caterpillar hairs cause intense pain and inflammatory nodular conjunctivitis in the eye. They also have the ability to penetrate the cornea and migrate intraocularly. There is a need for careful and repeated examinations after the initial hair removal, as the patient is likely to be more cooperative at subsequent examinations.

CONFLICTS OF INTEREST

None.

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