Case Report

Multiple Retained Ocular Bee Stingers

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Abstract

Bee sting injuries, though rare in the eye, can be visually incapacitating for the patient if they occur. They have a wide variety of ocular manifestations ranging from involvement of the ocular surface right up to the optic nerve. This could be due to the venom of the bee itself, the sharp nature of the stinger, the toxic nature of the singer or the induction of the immunological response by the patient. Also, the introduction of the stinger in the eye may sometimes cause infection. These can individually or in part play a role in the clinical manifestations of a patient. We report a case of a 24-year-old female who had history of anaphylaxis due to multiple bee stings all over her body (including severe periorbital edema) one month back. After resolution of her acute symptoms she noticed a foreign body sensation, redness, lacrimation diminution of vision and pain in her left eye for which she came to us. Her Visual Acuity at presentation was 6/12in the left eye. On slit lamp examination two stingers were found embedded in her upper tarsal conjunctiva and one stinger was seen in the anterior chamber. All the three stingers were successfully removed mechanically after which she was prescribed topical antibiotics, steroids and cyclopentolate. This led to resolution of all her symptoms and improvement of her visual acuity to 6/6 within 5 days.

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Keywords: *Bee stinger, foreign body sensation, pain, prompt removal*

Case History

A 24-year-old female presented to the Eye OPD with the history of foreign body sensation, redness, lacrimation, diminution of vision and pain in her left eye for one month. She gave a history of anaphylaxis due to multiple bee stings all over her body one month back at which time she also gave history of severe periorbital edema. She received treatment for anaphylaxis at another hospital which included intravenous hydrocortisone and Avil (pheniramine maleate). This was followed by oral steroids in a tapering does for a period of 20 days. She recovered well but she noticed that all the symptoms in her left eye persisted, for which she came to us. On examination her Visual Acuity in the right eye was 6/ 6 and 6/12 in her left eye. Her IOP was 12 and 14 mmHg in right and left eye respectively. On slit lamp examination the cornea of her left eye was not clear and on staining with fluorescein dye it gave the appearance as shown in Figure 1. This raised the suspicion of a foreign body in her upper lid. On everting her upper lid two black stingers (with the classical oval sign) were seen embedded in the tarsal conjunctiva. One brown stinger was also seen in her anterior chamber as shown in Figure 2. Also, there were one plus cells in the anterior chamber. There was no evidence of any stinger over her skin.

On anaesthetizing her left eye two stingers were carefully retrieved from the upper tarsal conjunctiva and one from the anterior chamber, after entering the anterior chamber with the 3.2 millimeters surgical blade. The stinger was as shown in Figure 3. One suture was applied at the corneoscleral junction and pad and patch was applied. One removed stinger was sent on blood agar to detect any microbiological growth which was later found to be sterile. One other stinger was sent for histopathological examination which confirmed that it was a bee stinger.

On first post retrieval day the cornea was clear. Fundus examination was then done which was found to be normal

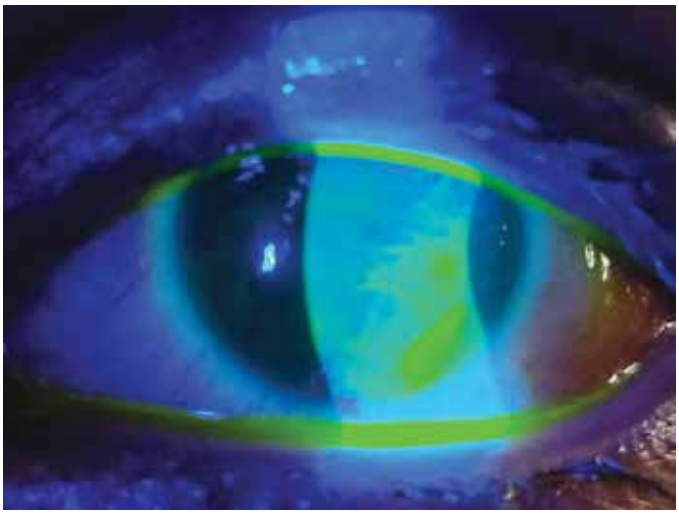

Figure 1: *Appearance of the cornea on staining with fluorescein dye*

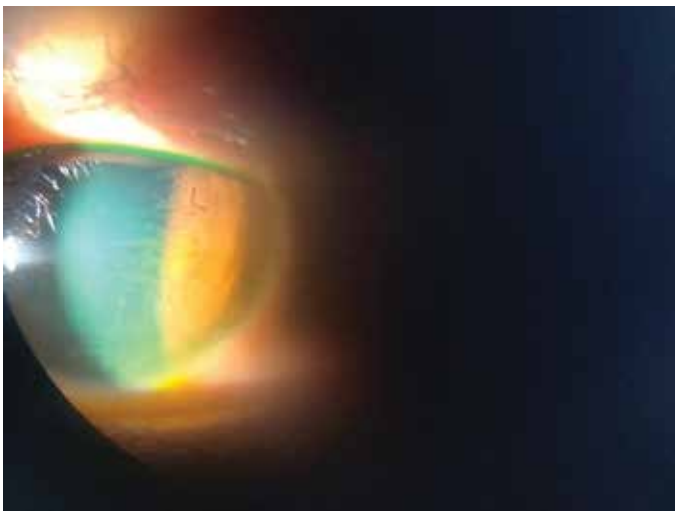

Figure 2: *Stinger as seen in the anterior chamber*

with no evidence of vitreous inflammation. She was then prescribed topical antibiotics, steroids and cyclopentolate for her anterior chamber reaction. On the 5th day post retrieval her visual acuity was 6/6 in both the eyes. Her anterior chamber was clear in the left eye though there were areas of iris atrophy superiorly as shown in Figure 4. The topical steroids were tapered over a course of 3 weeks and she was kept under follow up.

The patient was cured and was told to come for a regular 3 monthly follow up to detect any cataract or secondary glaucoma. The visual acuity in the left eye was 6/6 and her intraocular pressure was 11 mmHg , 6 months post retrieval.

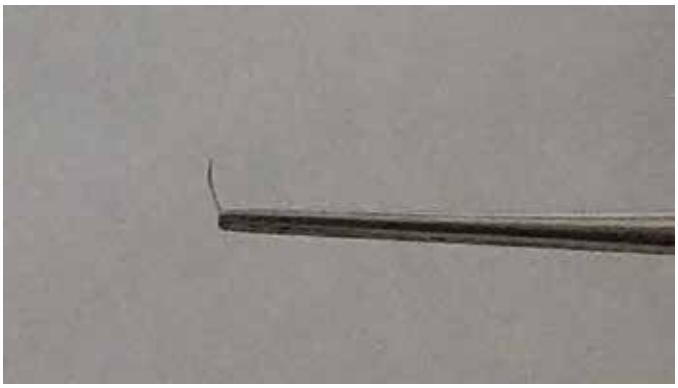

Figure 3: *Appearance of the stinger*

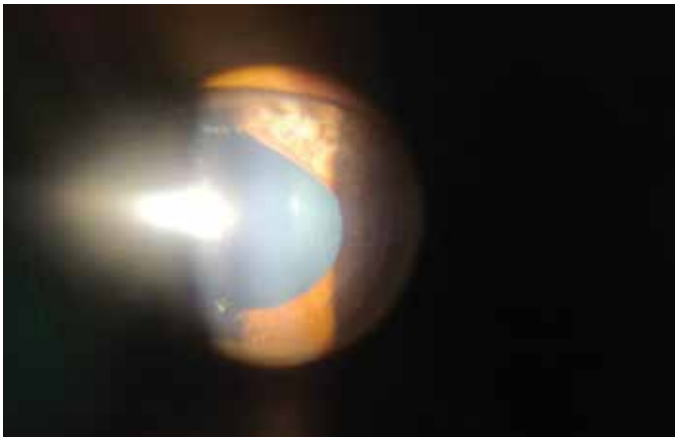

Figure 4: *Post retrieval appearance of eye showing areas of Iris atrophy*

Discussion

Bee sting injuries though a rare source of environmental injury to the eye, can be a source of great ocular morbidity with patient discomfort. They have varied ocular manifestations and hence different treatment strategies too depending upon their location in the eye. The symptoms can vary from a trivial irritation to profound diminution of vision.[1]

They have a two staged effect in the eye. In the first stage which is acute, there is usually anaphylaxis due to the toxic nature of the venom and the resultant induction of immunological response by the patient. In the present case there was severe periorbital edema around both the eyes along with anaphylaxis in the acute stage which was managed by intravenous and oral steroids. More so, there are even reports of possible neurotoxic effects on the retina and the optic nerve which are believed to be severe reactions related to the venom.[2] The optic neuritis that has been seen to occur in the acute stage is usually followed by a good visual recovery with timely treatment with intravenous followed by oral steroids.[3]

Later, in the second stage, these injuries may have a delayed presentation due to retained stinger inside the eye. This may present as a foreign body sensation and pain if the stinger is in the conjunctiva[4,5] or the cornea.[5,6,7,8] It may present as anterior uveitis or glaucoma if the stinger is inside the anterior chamber.[8] Also it may present as cataract[8,9] if the stinger is intralenticular. They are most commonly found at the ocular surface. These presentations are due to the mechanical nature of the stinger, the toxic nature of the stinger or the immunological response by the patient. In our case there were two stingers embedded in the upper tarsal conjunctiva causing foreign body sensation and pain due to the mechanical nature of the stinger. The rubbing of the stingers over the corneal surface caused multiple corneal abrasions which led to pain and diminution of vision in the left eye. There was one stinger in the anterior chamber causing anterior uveitis which also contributed to the pain and diminution of vison in the concerned eye, either due to the toxic nature of the stinger or due to the immunological response by the patient. The treatment of this stage is by the surgical removal of the stinger under topical anesthesia which should be done carefully because it is not without the risk of leaving broken fragments in situ due to the saw-toothed anatomy of the stinger.[5,9] Luckily all the three stingers came out easily in our case after anesthetizing the eye. After removal of the stingers treatment with topical antibiotics, steroids and cyclopentolate led to the complete resolution of the symptoms though there was iris atrophy superiorly as a telltale sign of the injury. This could be attributed to either the toxic nature of the stinger or the immunological response of the patient.

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