CASE REPORT

The patient, the a seven years old girl, came to our unit in December 2010 with a bee sting on the cornea almost four months ago (September 2010) and was seen by a local ophthalmologist. The cornea was noted to be edematous and diffusely stained with fluorescein. She was started on topical antibiotics, steroids, and mydriatics as well as systemic antibiotics and analgesics. A week later the same ophthalmologist reviewed her and added topical anti glaucoma combination.

She presented to another center in December 2010 with persisting corneal edema, shallow and hazy anterior chamber and visual acuity of only light perception in the affected eye. The bite site had turned into opacity. On examination, ectropion uvea, traumatic mydriasis, complicated cataract and a raised intraocular pressure was noted. She was put on systemic acetazolamide in addition to topical antibiotics, steroids, and anti-glaucoma medications.

She presented to us in December 2010 with pain, blurred vision and photophobia. On examination, there was diffuse corneal edema, shallow and hazy anterior chamber and an IOP of 34 mm Hg in the affected eye. Topical steroids and antiglaucoma medications were continued. She has examined again in February 2011 with no improvement in her condition. She was given intracameral Triamcinolone in March 2011 with no remarkable improvement. She underwent a left lens matter aspiration and IOL implantation in another center in May 2011 after a normal B-scan.

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SUMMARY

Bee stings are common in our environment but bee stings on the conjunctiva and cornea are quite rare. There is a wide range of reactions to bee venom which can range from benign conjunctivitis to sudden vision loss. Here we present a case of a female child who suffered severe loss of vision due to a bee sting on the cornea.

Injuries associated with corneal bee sting can be penetrating, immunologic or toxic as well as a combination of all the three. The lesion is due to the localized action of the chemical substances rather than the sting present in the tissues.

Bee stings can be managed with medicines and when no improvement is seen or the condition worsens then surgery can be opted for too.

Our patient went through a variety of management options and is waiting for a corneal transplant at the moment.
One year later she again presented to us with pain, photophobia, and blurred vision. The intraocular pressure was 40mmHg in the left eye and the vision was reduced to the perception of hand movement. The cornea was opaque and vascularized. In December 2011 she underwent trabeculectomy in our hospital. The anterior chamber was shallow and the iris was stuck up with the back of the cornea at surgery so much so that peripheral iridectomy was not possible. The drainage operation resulted in a flat bleb and a post-operative IOP of 30 mm Hg. She was last seen in August 2014 with opaque and vascularized corneal opacity and IOP of 30mm Hg. in spite of the topical combination of dorzolamide and timolol. She is waiting for corneal transplantation in the near future.

**DISCUSSION**

Bees belong to the insects of Hymenoptera order. The stinger consists of a real part that remains attached to tissues and drags the venom glands with itself. The poison consists of a mix of complex chemicals such as Phospholipase A, Melittin, Apamine, Hyaluronidase and a Mast Cell Degranulation Peptide, to mention a few. Phospholipase A (makes 75% of the venom along with melittin), acts on the red blood cells and other cells causing hemolysis and rupture of membranes. Melittin causes inflammatory effects and Apamin is a neurotoxin which blocks potassium channels.¹

Bee stings of the cornea are rarely reported ², but when they do it is not less than a challenge for the doctor.

The chemicals of Bee venom have been used to treat many conditions in various countries, in the treatment of rheumatism, sciatica, gout, dropsy. It has not only been used by folk therapists but by educated physicians too.³

The bee dies after it stings, leaving the last few portions of the body and the sting at the same site. The stinging part keeps releasing poison.⁴

When the poison enters the anterior chamber it causes necrosis of the corneal endothelium and pupillary dilation. After this, the endothelium proliferates which extends to the angle of the chamber and the anterior surface of the iris. Due to the injury, the iris adheres to the peripheral cornea and thus reduces the corneal angle. This eventually leads to Glaucoma.⁵

This mechanism was operative in our patient as well. The iris was found adhered to the back of the cornea so that peripheral iridectomy was not possible during trabeculectomy on this patient.

Regarding the stinger and whether it should be removed or not is a matter of debate and some postulate that it is completely inert and needs not be removed if it is not associated with any adverse effects.⁶

In one study the patient developed a panuveitis which was managed with vitrectomy and was postulated to be an effective treatment.⁷

As compared to bee stings, wasp stings bring about milder reactions in the eye.⁸

**REFERENCES**

1. Mauricio Vélez, MD1, Gloria I. Salazar, MD2, Patricia Monsalve, MD2 Bee sting of the cornea, A Case report