**Bee sting keratopathy with retained stinger**

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1. **Introduction**

   Corneal bee sting is an uncommon ocular injury which can result in various complications with triad of penetrating, immunologic and toxic effects of the stinger and its injected venom.[1]

2. **Case report**

   A 55-year-old man presented with a bee sting injury to his left cornea while gardening two days prior to first visit. He complained of severe eye pain with redness, tearing and blurring of vision.

   On examination, visual acuity in his right eye was 6/6 and in left eye was hand movement. There was generalized conjunctival hyperemia and cornea showing significant descemet striae. A deep seated bee stinger with surrounding infiltration noted at 2 o'clock was associated with striate keratitis. It was deeply seated at the posterior third of cornea stroma near to paracentral area. Pupil was mid-dilated with absence of relative afferent pupillary defect. There was neither hypopyon nor cataract. The posterior segment could not be visualized due to severe corneal edema. However, B-scan ultrasound was normal. Bee stinger was removed under local anaesthesia on the day of presentation. Post-operatively, patient was administered with topical moxifloxacin and topical non-steroidal anti-inflammatory drugs. Three weeks later, there was resolution of cornea infiltrate with improvement of striate keratitis and his vision was improved to 1/60. However, cornea edema did not regress but ended up with bullous keratopathy. The patient has undergone descemet-stripping automated endothelial keratoplasty and his vision was improved to 6/9. We recommend early stinger removal to reduce the possible sequelae of bee sting toxicity for better visual outcome.

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**ARTICLE INFO**

**ABSTRACT**

This case report aims to report an uncommon case of bee sting keratopathy with retained stinger. A 55-year-old man presented with left cornea bee sting while gardening two days prior to first visit. He complained of severe eye pain with redness, tearing and blurring of vision. On examination, his right eye visual acuity was 6/6 and in left eye was hand movement. There was generalized conjunctival hyperemia and cornea showing significant descemet striae. A bee stinger with surrounding infiltration noted at 2 o'clock was associated with striate keratitis. It was deeply seated at the posterior third of cornea stroma near to paracentral area. Pupil was mid-dilated with absence of relative afferent pupillary defect. There was neither hypopyon nor cataract. The posterior segment could not be visualized due to severe corneal edema. However, B-scan ultrasound was normal. Bee stinger was removed under local anaesthesia on the day of presentation. Post-operatively, patient was administered with topical moxifloxacin and topical non-steroidal anti-inflammatory drugs. Three weeks later, there was resolution of cornea infiltrate with improvement of striate keratitis and his vision was improved to 1/60. However, cornea edema did not regress but ended up with bullous keratopathy. The patient has undergone descemet-stripping automated endothelial keratoplasty and his vision was improved to 6/9. We recommend early stinger removal to reduce the possible sequelae of bee sting toxicity for better visual outcome.

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**Keywords:**
- Striate keratitis
- Corneal wasp sting keratopathy
- Stinger
- Venom
- Bullous keratopathy

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management. Descemet-stripping automated endothelial keratoplasty was done and his vision improved to 6/9 after nine months of bee sting injury.

3. Discussion

Corneal bee sting injury is rarely reported but it can cause vision threatening complications. Reactions of the eye could involve anterior segment and posterior segment. Bullous keratitis is the most common clinical presentation which can persist for few months. Characteristically, a striate keratitis is pathognomonic finding in bee sting keratopathy. Our patient presented typically with a fine network of ridges in the corneal epithelium appearing surrounding the retained stinger[2,3].

A wide range of immunologic mediated effect on eyes, bullous keratopathy and glaucoma caused by acute trabeculitis, lens subluxation, anterior polar cataract, iris atrophy, iridoplegia, internal ophthalmoplegia, panuveitis, optic neuritis and papilloedema has been reported. It has been noted that the cause of corneal edema in bee or wasp stings is acetylcholine in the venom. Nakatani et al. reported decreased endothelial cell density in patient’s affected eye[4]. This finding indicated that the bee and wasp venom contained toxic substance to corneal endothelium. In our patient, Descemet-stripping automated endothelial keratoplasty has contributed a favourable visual outcome.

Early stinger removal is recommended to reduce the possible sequelae of bee sting toxicity for better visual outcome. We recommend a corneal incision along the injured plane to remove the whole length of stinger.

Conflict of interest statement

We declare that we have no conflict of interest.

References