

Case Report

Isolated Eyelash in Anterior Chamber, an Unusual Intraocular Foreign Body Following an Indolent Self-Sealing Corneal Rupture with Reversible Lenticular Opacity during COVID-19 Era: A Case Report

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Abstract

Observation: It is very rare to find cilia as a foreign body in the anterior chamber. Cilia is seen in anterior chamber in 45% cases of all intra-ocular cilia. Intra-ocular cilium can have various presentations and thus needs individualized management approach. Previous case reports have cited instances of eyelash in anterior chamber leading to cataract where an additional surgery was required for cataract extraction.

Conclusion: We present an unusual case of ocular trauma with broomstick in a young male presenting with an isolated eyelash in anterior chamber with self-sealed corneal rupture with reversible lenticular opacity.

Keywords: Cilia in anterior chamber; Cilia adhered to iris; Cilia adhered to anterior lens capsule; Reversible lenticular opacity; Eyelash in anterior chamber in COVID pandemic

Introduction

Ocular trauma is a leading cause of blindness. Intraocular Foreign Bodies (IOFB) are seen in 17-40 % of penetrating ocular injuries [1]. IOFBs cause internal damage with cornea, lens and retina being the commonly injured structures [2]. Cilia as a Foreign Body (FB) in the Anterior Chamber (AC) is rare (0.4%), [2,3] comprising 45% of all intraocular cilia [2]. It can occur secondary to penetrating eye injury, ocular surgery or without any apparent etiology [4]. We present an unusual case of ocular trauma presenting with an isolated eyelash in AC with self-sealed corneal perforation with reversible lenticular opacity.

Case Report

14-year-old male with history of trauma to right eye (OD) with broomstick, presented with foreign body sensation, redness, pain, blurring of vision and watering for 4 hours. Best Corrected Visual Acuity (BCVA) in OD and left eye (OS) was 6/18 and 6/6 respectively. OD examination revealed mild lid edema, conjunctival congestion and self-sealed corneal perforation at 9 o'clock, 1mm medial to the limbus, which was Siedel test negative. An eyelash with bulbous end at 11 o'clock adherent to the iris and curled inwards to adhere the Anterior Lens Capsule (ALC) at 8 o'clock with the pointed end was seen. Localized lenticular opacity was present inferior to the adhered eyelash. Acute inflammatory reaction with $\times 2$ cells was present (Figure 1). Pupillary reaction was normal. Intraocular pressure on Goldmann Applanation Tonometer was 20mmHg. Dilated fundus examination was normal. USG B-scan showed no abnormal intra-ocular reflectivity. X-ray orbit showed no evidence of IOFB. OS examination was normal. Systemic steroids and topical antibiotic eye drop were started. Patient was posted for FB removal under General

Anesthesia (GA). But, as the patient presented during COVID period, COVID-19 test had to be done pre-operatively in view of GA. Surgery was delayed by 10 days during which conservative management was continued. During this period, inflammatory reaction in AC increased and patient developed acute anterior uveitis. Localized lenticular opacity also increased. Subsequently, the report was negative and patient was operated with all safety measures pertaining to government guidelines. During surgery, side-port was made with MVR blade at 2 o'clock. Adhesions between the eyelash and ALC were released using viscomet. 1.8mm clear corneal tri-planar incision was made at 12 o'clock. Dispersive viscoelastic was injected in AC. Foreign body was removed with McPhearson forceps and sent for histopathological examination. Thorough irrigation of AC was done. Corneal perforation was self-sealing and did not require any suture. Side-port was hydrated with saline. Histopathological examination confirmed the FB to be an eyelash with foreign body reaction (Figure 2). On post-operative day 1, BCVA in OD was 6/9. Systemic corticosteroid were continued and tapered over 15 days. Topical antibiotic-steroid eyedrops were given for 6 weeks. Post-operative period was uneventful. On follow-up, uveitis subsided remarkably and lenticular opacity gradually resolved completely (Figure 3 and 4).

Discussion

In the present case, there was a delay in surgery due to COVID lockdown, due to which increase in inflammation and lenticular opacity was observed. However, after the surgery, reversal was seen in both. In a previous report, patient with stick injury 5 days back, had self-sealed corneal wound with cilia in AC which was adherent to ALC and Grade-2 nuclear sclerosis with posterior subcapsular cataract. After removal of cilium, the patient was advised cataract surgery. This emphasizes that early intervention is crucial and may

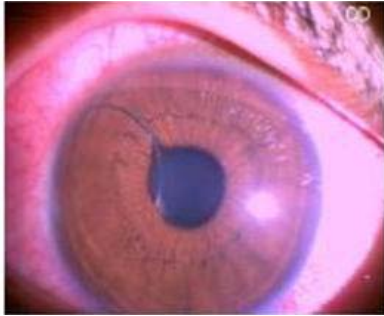


Figure 1: Clinical Picture on Presentation.



Figure 2: Histopathology.

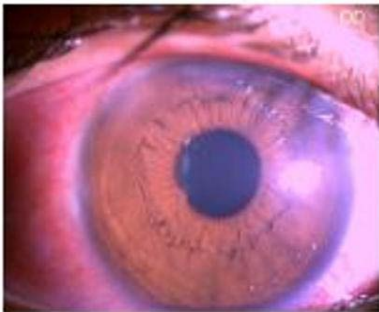


Figure 3: Post-operative day 1.

reverse the lenticular changes whereas delayed intervention may require additional cataract surgery [5]. Another reported case with trauma for 1 day with perforated corneal injury and cilia in AC had good post-operative outcome. The authors advocated early removal of eyelash in cases where its surgical removal is easy, without probable damage to the eye [3]. Spontaneous resolution of traumatic cataract has been reported in a patient with open globe injury, thus, highlighting the importance of conservative management before deciding to surgically intervene for cataract surgery [6]. However, on literature search we could not find any case with intraocular eyelash associated with reversible anterior capsular opacity.

Causative agents of ocular trauma depend upon the occupation, recreational and daily activities. IOFB can be metallic e.g. copper or non-metallic e.g. wood. Site of IOFB and the severity of damage depends on the type, size and shape, site of ocular penetration and momentum of causative object [2]. FB with greater mass is associated with worse visual prognosis [7]. Stone and organic FB have higher

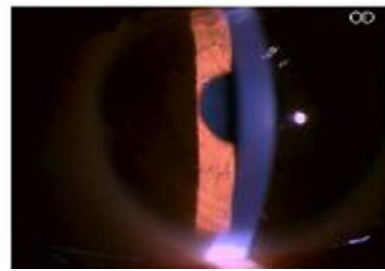


Figure 4: Post-op day 1.

incidence of infection. Substances like glass, plastics, gold and silver are inert and their excision depends upon site of impingement, size and potential for causing secondary injuries [8]. Generally, reflex lid closure is delayed which prevents contact of the object with lid margin. Rarely, the FB brushes the ciliary margin and the closure occurs simultaneously with the impact due to which the cilia may be carried into AC [3]. It may lie partly in the corneal wound and partly in AC or may freely float in the aqueous humor. It may also get implanted or adhered in the iris tissue. In the presenting case, the eyelash got entangled in the iris and adhered to the ALC.

The response of eye to an intraocular eyelash is variable. Following type of possible reactions can occur [9]:

1. Acute pyogenic inflammation
2. Accidental discovery, if the eyelash remains inert and does not incite any inflammation
3. Delayed inflammation resulting in blindness
4. Plastic iridocyclitis
5. Granulomatous reaction
6. Rarely sympathetic ophthalmitis
7. Delayed complication due to retention of eyelash in AC like cyst formation
8. Lenticular involvement resulting in anterior subcapsular cataract
9. Corneal edema

The biological process of follicle cycle and pigmentation in a cilium differs as compared to a hair [10]. Eyelash present in the eye for a very long time may undergo structural changes like depigmentation, splitting or in rare cases may get absorbed [3]. Cilia is relatively inert and may not incite any inflammation or infection [11]. Case reports confirm presence of cilia in AC for up to 50 years [2,4]. Thus, in the absence of inflammation conservative management can be done but it carries risk of delayed complications like endophthalmitis. However, surgical removal is necessary if inflammation or infection is present. Therefore, the decision to surgically remove an intraocular eyelash is controversial and should be considered on individual basis.

Conclusion

Intraocular cilium has variable presentation and needs individualized management approach. In the present case, uveitis and anterior capsular cataract was present, which reversed on surgical

management. This is the first reported case of eyelash in AC associated with reversible anterior lenticular opacity in literature to the best of our knowledge. Thus, surgery may cause reversal of anterior capsular cataract and early intervention should be advocated in such cases.

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