

Case Report

Intraocular eyelash in anterior chamber following penetrating trauma and self-sealing corneal laceration: Case report

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ARTICLE INFO

Keywords:

Ocular trauma
Eyelash
Eye injury
Wounds and injuries

ABSTRACT

Background: Intraocular foreign bodies pose a significant clinical challenge. The occurrence of an eyelash within the anterior chamber is infrequent, as illustrated by this case. We present a rare case of two eyelashes inside the anterior chamber following penetrating trauma, a scenario with few documented occurrences, especially those not related to surgical interventions.

Case description: A 35-year-old male presented with symptoms of a foreign body sensation, redness, blurred vision, and photophobia two days after sustaining a wire-induced injury. Examination revealed a self-sealing corneal laceration, two eyelashes in the anterior chamber, iridocorneal adhesion, and an irregular iris. The surgical removal of the eyelashes was successfully performed. Postoperatively, the patient's visual acuity improved significantly from 20/50 to 20/20, accompanied by a marked reduction in anterior chamber inflammation.

Conclusion: This case highlights the importance of considering all types of intraocular foreign bodies, including seemingly innocuous materials like eyelashes, to diagnose ocular traumas. It highlights the critical need for prompt diagnosis and intervention to prevent long-term complications and ensure favorable outcomes.

Introduction

Intraocular foreign bodies (IOFBs) are a major clinical concern, particularly following trauma. IOFBs account for 17 % to 40 % of penetrating eye injuries [1,2]. These injuries can cause serious visual impairment if not promptly addressed [2,3].

Foreign bodies vary in nature, influencing management and prognosis. Most are metallic or glass, which can cause mechanical injury, chemical toxicity, and inflammation [4,5]. Although rare, organic materials like eyelashes can provoke infection and inflammation, posing treatment challenges [4].

The presence of an eyelash within the anterior chamber, as reported here, is exceedingly rare [6]. Most documented instances of intraocular eyelashes are associated with surgical interventions [7]. Spontaneous entry following trauma, without surgical intervention, is not well documented, highlighting the distinctiveness of this case and the necessity for meticulous clinical observation in instances of penetrating trauma.

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Case description

A 35-year-old male presented to the ocular emergency room two days after sustaining a wire-related trauma while working in an industrial setting. He complained of redness, blurred vision, a sensation of a foreign body in his eye, and photophobia. The initial assessment revealed visual acuity of 20/50 in the right eye and 20/20 in the left eye, with a negative Marcus Gunn's reflex in both eyes. The patient had no previous history of ophthalmologic diseases or surgeries and was not on medication.

Detailed ocular examination with a slit lamp showed conjunctival hyperemia, a 3 mm self-sealed corneal laceration in the temporal-corneal area at zone 1, with no signs of active corneal infiltration, an irregular pupil, and the presence of two eyelashes in the anterior chamber, with a 3 plus anterior chamber reaction but without fibrin or hypopyon formation. The Seidel test was negative. Vitreous and retinal appearance appeared normal, and intraocular pressure on the Goldmann Applanation Tonometer was within normal limits at 14 mmHg. The X-ray orbit showed no evidence of additional IOFB. All other eye examinations were normal.

We performed surgical removal of the eyelashes and repaired the cornea. During the procedure, an intracameral antibiotic regimen (ceftazidime/vancomycin) was administered to reduce the risk of endophthalmitis. The patient received topical ciprofloxacin and betamethasone drops post-operatively and underwent 24-h monitoring. The immediate postoperative period was uneventful, with no signs of intraocular infection.

After two days, the patient was discharged, and the visual acuity of the operated eye improved to 20/30. At a follow-up visit one month later, the corrected visual acuity reached 20/20, and the anterior chamber reaction had significantly decreased, indicating a successful intervention and recovery (Fig. 1).

This figure illustrates the rare occurrence of eyelashes inside the anterior chamber of a 35-year-old male patient following a wire-induced trauma. A close-up of the slit lamp examination shows two eyelashes in the anterior chamber, along with an irregular pupil and iridocorneal adhesion. The pre-operative image captures the self-sealing corneal laceration and conjunctival hyperemia.

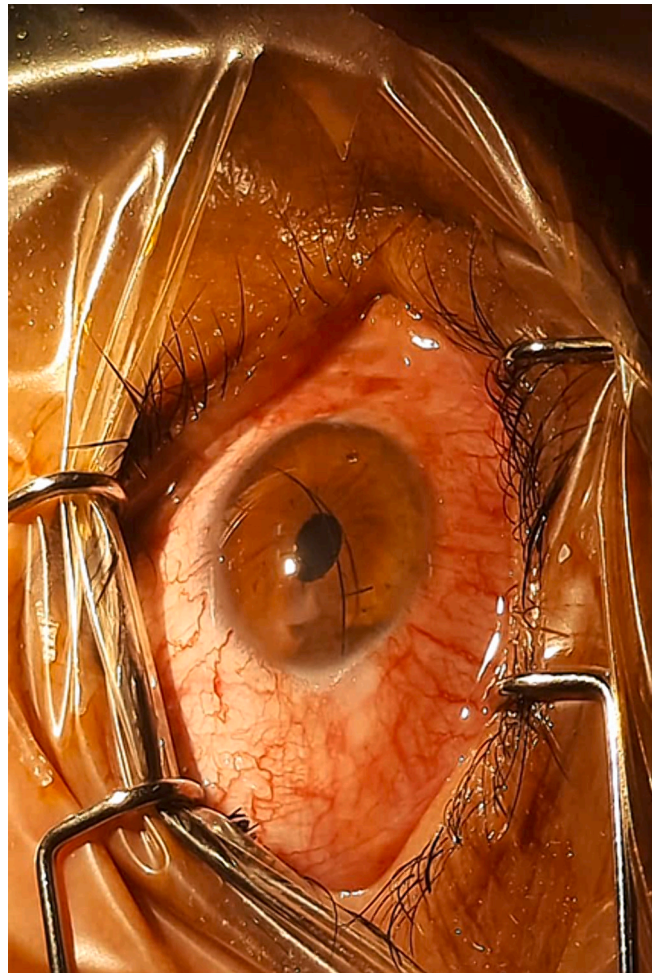


Fig. 1. Intraocular eyelash in the anterior chamber following penetrating trauma.

Discussion

The incidence of eyelashes as IOFBs post-trauma is exceedingly rare, with most cases associated with intraocular procedures, particularly iatrogenic instances following cataract surgeries [6]. In our case, eyelashes were found inside the anterior chamber following penetrating trauma, which resulted in a significant anterior chamber reaction. In typical cases, prompt removal of the foreign body often results in minimal inflammatory responses.

Intervention timing and technique have a significant impact on patient outcomes. Early removal of metallic IOFBs within 24 h leads to better visual outcomes, whereas the urgent removal of organic materials like eyelashes, which can provoke a different inflammatory response, presents unique challenges [8].

This case illuminates the variability in outcomes by demonstrating that even seemingly innocuous materials like eyelashes can lead to significant complications if not promptly addressed. The presence of eyelashes caused a notable anterior chamber reaction and structural damage to the iris, necessitating surgical intervention. Despite the unusual nature of the foreign body, prompt diagnosis and removal resulted in a significant improvement in the patient's visual acuity, from 20/50 to 20/20. This contrasts with other documented cases where delays in removal led to more severe complications, such as inflammation, cataract formation, and vision loss.

By comparing our case with other instances of intraocular eyelashes and different types of IOFBs, we point out the importance of individualized patient management. The diverse inflammatory responses and potential for complications in different cases point out the need for tailored approaches to diagnosis and treatment, depending on the nature and timing of the IOFB.

One report describes a case where an eyelash entered the anterior chamber following trauma. Initially, the corneal laceration healed spontaneously, and the eyelash caused no symptoms. However, the patient later experienced diminished vision in the affected eye. Upon examination, the eyelash attached to the iris had resulted in an iris cyst. Surgical removal of the cyst containing the eyelash led to improved vision [9].

Another case involved a patient who sustained a corneal laceration from a broomstick and had an eyelash lodged in the anterior chamber. The lack of adequate facilities delayed surgery, resulting in inflammation and cataract formation. The patient eventually underwent surgery to remove the foreign body and correction of the cataract [8].

These cases emphasized the necessity of a thorough ocular examination following the traumatic insertion of eyelashes into the anterior chamber, drawing attention to the need for meticulous management to prevent potential infections. Intraocular eyelashes can cause a range of complications, from mild irritation to severe endophthalmitis. There are also small but possible risks of granulomatous reaction and sympathetic ophthalmia [2,3]. Preventive strategies should include the use of protective eyewear, comprehensive ocular examinations, and regular imaging follow-ups [1].

On similar lines, another case involved a 58-year-old woman who had an eyelash in the eye for 50 years following childhood trauma, during which an eyelash entered into the anterior chamber, eventually passing through the iris to the posterior chamber. The eyelash became symptomatic during COVID-19 infection which led to the decision for surgical removal due to new symptoms like strange shadows in the visual field. The surgeon surgically removed the eyelash despite the absence of infectious symptoms, highlighting the importance of removal even in delayed cases [10]. Due to the potential for serious complications, including granulomatous inflammation, sympathetic ophthalmia, or endophthalmitis, it is crucial to remove any intraocular foreign bodies, such as eyelashes, as promptly as possible.

Conclusion

In conclusion, this case report illustrates the importance of prompt diagnosis and early intervention for organic foreign bodies, such as eyelashes, in the eye. Early treatment significantly improved symptoms and visual acuity, leading to better visual outcomes and minimizing long-term complications.

Funding source

No sources funded this study.

Statement of ethics

Study approval statement: This study protocol was reviewed and approved by the Isfahan University of Medical Sciences ethics committee. The approved ethics code: IR.ARI.MUI.REC.1403.086.

CRedit authorship contribution statement

Mohsen Pourazizi: Writing – review & editing, Validation, Supervision, Project administration, Methodology, Conceptualization. **Sepehr Karbasi:** Writing – original draft, Software, Resources, Formal analysis, Data curation. **Elham Rahmanipour:** Writing – review & editing, Visualization, Validation, Project administration, Investigation.

Declaration of competing interest

None.

Acknowledgements

None.

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