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From Glamour to Danger: Clinical Cases of Ocular and Eyelid Complications After Eyelash Extensions

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Short Report

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Abstract

Eyelash extensions have become an increasingly popular cosmetic procedure worldwide. Despite their widespread use, these aesthetic enhancements may be associated with various ocular and periocular complications, ranging from mild irritation to severe infections. We report the case of a 28-year-old woman who developed acute bilateral ocular complications following the application of semi-permanent eyelash extensions. The patient presented with decreased visual acuity, photophobia, and significant ocular discomfort. Slit-lamp examination revealed a large central corneal abscess in the left eye and smaller peripheral microabscesses in the right eye. Microbiological analysis identified Pseudomonas aeruginosa. Intensive topical antibiotic therapy with fortified vancomycin and ceftazidime resulted in resolution of the infection, although residual corneal scarring persisted in the affected eye. This case highlights a rare but potentially sight-threatening complication associated with eyelash extensions. Possible pathogenic mechanisms include mechanical microtrauma, microbial contamination of synthetic fibers or adhesives, and tear film alteration. Early diagnosis, microbiological confirmation, and prompt aggressive treatment are essential to prevent irreversible visual impairment. Increased awareness among patients, ophthalmologists, and cosmetic practitioners is crucial given the growing popularity of these procedures.

Introduction

Many people view physical beauty as a significant and desirable quality. The eyes and the surrounding periocular area are among the face characteristics that are most important for initial impressions. Particularly, eyelashes add to how appealing people think the eyes are. Eyelash extensions are one of the most widely used cosmetic techniques that have been created to increase its length and volume. [1, 2] In this process, an adhesive is used to adhere synthetic fibers or other materials to natural lashes. [1, 3] Eyelash extensions have been quite popular all around the world in recent years, especially with younger ladies. [1, 3]

Eyelash extensions have become one of the most commonly requested cosmetic procedures, leading to an increasing number of consultations at eye clinics worldwide. [5] Despite their widespread popularity, these procedures can cause a variety of ocular and periocular complications. Patients may experience itching, redness, pain, and a sensation of heaviness in the eyelids. More severe issues, although less frequent, include allergic reactions, eyelid swelling, conjunctivitis, and damage to the natural eyelashes. [1, 2, 5, 6]These potential adverse effects underscore the importance of raising awareness about the risks associated with eyelash enhancement treatments. [3, 5, 7]

Here, we report the case of a 28-year-old woman who developed acute bacterial keratitis following eyelash extension application

Case report

The case is about a 28-year-old woman who had impaired vision, photophobia, and severe discomfort in her left eye. seven days after applying semi-permanent eyelash extensions, which she had previously worn without any issues, she stated that slight eye discomfort had started. She had never used contact lenses, denied any recent eye damage, and was generally in good condition with no notable medical or ocular history.

The ophthalmological examination noted a central abscess measuring 6.5 mm by 4 mm in diameter in the left eye,(figure B, D) with a fluorescein-positive corneal ulcer and a 3-cross inflammatory reaction in the anterior chamber.

An ocular echography showed no vitreous inflammatory reaction.

The examination of the right eye showed two microabscesses: one measuring 1.5 mm in diameter at 7 o'clock, the second measuring 0.5 mm in diameter at 8 o'clock, (figure A, C))with the presence of superficial punctate keratitis confirmed by fluorescein staining, with a cross-shaped inflammatory reaction in the anterior chamber and a normal fundus.

The bacteriological sample showed the presence of Pseudomonas aeruginosa. The patient was then given hourly antibiotic eye drops (vancomycin and ceftazidime) with favourable results, but with persistent corneal scarring in the left eye.

Local corticosteroid therapy was subsequently introduced to reduce the opacity, with regular and strict monitoring.

One week after we noted progressive resolution of the abscess and stromal edema.

And after 2 weeks we noticed a complete eradication of infection; however, a residual corneal scar remained in the left eye, partially affecting visual acuity.

Discussion

Although eyelash extensions are becoming more and more common as cosmetic operations, there are hazards involved. [1, 2, 5]The tear film may be broken and the ocular surface compromised by the adhesives employed in their application, which may include formaldehyde derivatives or other irritating substances. [1, 2, 3, 4]Furthermore, the actual application procedure may microtraumatize the corneal epithelium, opening the door for opportunistic infections. [3, 4, 6]

In this instance, the patient contracted Pseudomonas aeruginosa keratitis, a very severe infection that quickly destroys the cornea. [8, 9]Given that most occurrences are unilateral, the clinical presentation was noteworthy because there was a big corneal abscess in the left eye and tiny microabscesses in the contralateral eye. [8, 10]

Bilateral observations indicate either bacterial dissemination from periocular structures or contamination following application. [4, 6]

Bacterial keratitis following eyelash extensions can be explained by a number of mechanisms:

application-related mechanical microtrauma to the corneal epithelium. [4, 6]

contamination of synthetic fibers or adhesives, which may serve as a breeding ground for bacteria. [3, 9]

change in the tear film brought induced by foreign objects on the lashes, which encourages the development of germs. [5, 6]

inadequate personal hygiene during or following the operation. [2, 3, 5]

Previous reports have described similar complications following eyelash extensions, including allergic blepharoconjunctivitis, keratitis, and in rare cases corneal ulcers. [1, 2, 5, 6, 8]Pseudomonal keratitis is still rare, yet it can be quite harmful to eyesight. [8, 9, 10]

In order to handle this patient, extensive topical antibiotic medication and an immediate microbiological diagnosis were needed. Vancomycin and reinforced ceftazidime worked well together to eradicate the infection. Only when the infection was completely under control were topical corticosteroids administered, which improved the visual prognosis and reduced stromal scarring. Visual acuity was however somewhat diminished by a persistent center opacity. [8, 9]

Even in cases when symptoms are unilateral, the bilateral presentation emphasizes the significance of a thorough ocular examination in both eyes. Concerns around cross-contamination during the cosmetic surgery are also raised. [5, 10].

Conclusion

This case demonstrates Pseudomonas aeruginosa keratitis with bilateral involvement, an uncommon but potentially blinding side effect of eyelash extensions. To maintain visual function, early diagnosis, microbiological confirmation, and vigorous topical antibiotic therapy are necessary.

Education on the possible ocular hazards of eyelash extensions is necessary for both patients and beauty professionals. Crucial preventative steps include good personal cleanliness, sterile application methods, and timely consultation with an ophthalmologist in the event of eye complaints.

Since these operations are becoming more and more popular across the world, especially among young women, ophthalmologists should spread the word about them. The risk of irreversible vision impairment can be considerably decreased with increased awareness and prompt action.

Declarations

No conflict of interest

Ethics approval and consent to participate

Not applicable.

Consent for publication

Written informed consent for publication of clinical details and images was obtained from the patient.

Availability of data and material

Data sharing is not applicable to this article as no datasets were generated or analysed.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

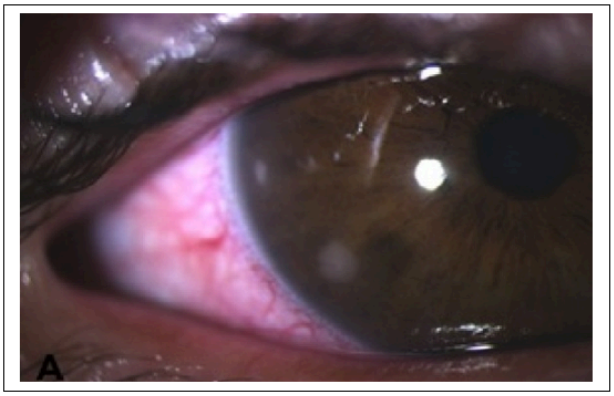
All authors contributed to the conception, data collection, drafting, and revision of the manuscript. All authors read and approved the final manuscript.

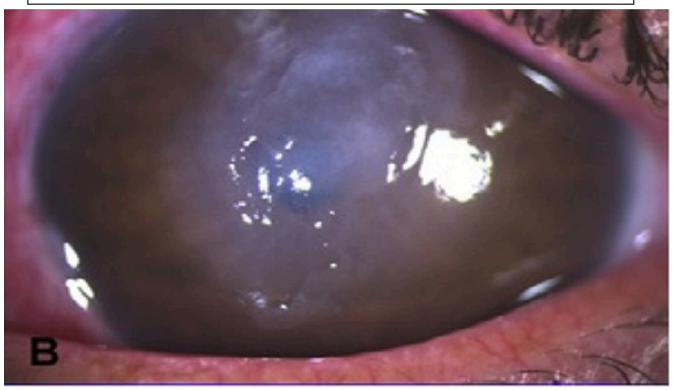
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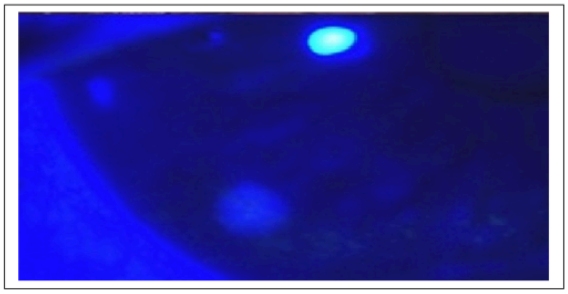
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Figures







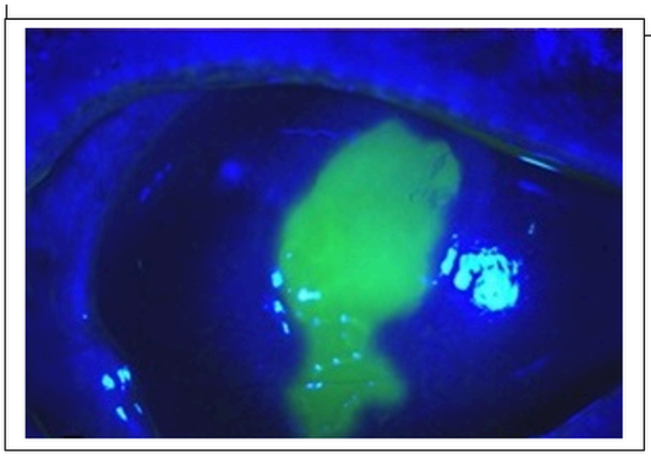


Figure 1

(A) right eye, 2 micro-abscesses, the first towards the 7 o'clock meridian measuring 1.5 mm in diameter, the second towards the 8 o'clock meridian measuring 0.5 mm in diameter;

(B) left eye, central corneal abscess measuring 7 mm by 4.5 mm in diameter;

(C) right eye, mild superficial punctate keratitis on the fluorescein test. No ulcer is noted at the site of the 2 micro-abscesses;

(D) left eye, central corneal ulcer positive for fluorescein.