International Journal of Clinical Science and Medical Research

ISSN(print): 2770-5803, ISSN(online): 2770-582X

Volume 05 Issue 11 November 2025

DOI: https://doi.org/10.55677/IJCSMR/V5I11-02/2025, Impact Factor: 8.005

Page No : 286-287

Bilateral Corneal Abscess Associated with Cosmetic Contact Lenses: A Case Report

H. Boui[1], Z. Filali[1], M. A. Hanine[2]

[1]Department of Ophthalmology, Hassan II Military Hospital, Laayoune, Morocco.

[2]Department of Otorhinolaryngology, Hassan II Military Hospital, Laayoune, Morocco.

ABSTRACT

Cosmetic contact lenses, although popular for their aesthetic appeal, expose users to serious complications such as infectious keratitis[1]. We report a rare case of bilateral corneal abscess following first-time cosmetic lens wear in a healthy woman. This case highlights the risks related to inadequate hygiene and the lack of regulation surrounding these devices[2].

Published Online: November 06, 2025

KEYWORDS:

infectious keratitis, cosmetic contact lenses, Pseudomonas aeruginosa, corneal abscess, prevention.

INTRODUCTION

The use of cosmetic contact lenses, similar to corrective lenses, may lead to serious ocular complications. Among them, corneal abscess is an ophthalmologic emergency that can endanger vision[1]. Unlike corrective lenses, cosmetic lenses are often freely sold in beauty shops or online without medical oversight, increasing the risk of misuse and infection[3].

CASE REPORT

A 39-year-old woman with no prior ocular or systemic history presented to the emergency department with bilateral eye pain, redness, and decreased visual acuity after wearing cosmetic contact lenses for one evening. She reported changing lenses multiple times and neglecting hygiene recommendations[4].

OPHTHALMOLOGIC EXAMINATION

Left eye: central corneal abscess measuring 6.5 × 4 mm, fluorescein-positive ulcer, and +++ anterior chamber reaction. Right eye: two peripheral micro-abscesses (1.5 mm at 7 o'clock and 0.5 mm at 8 o'clock) with superficial punctate keratitis and mild anterior chamber inflammation (+). Fundus: normal bilaterally. Ultrasound: no vitreous reaction. Corneal scraping grew Pseudomonas aeruginosa, the pathogen most frequently implicated in contact-lens-related keratitis[5].

Corresponding Author: H. Boui

Cite this Article: H. Boui, Z. Filali, M. A. Hanine (2025). Bilateral Corneal Abscess Associated with Cosmetic Contact Lenses: A Case Report. International Journal of Clinical Science and Medical Research, 5(11), 286-287

TREATMENT AND OUTCOME

The patient was treated with hourly fortified vancomycin and ceftazidime eye drops[6] plus strict hygiene measures. Improvement occurred within several days, though a central corneal scar remained in the left eye. A topical corticosteroid was subsequently introduced to reduce scarring[7] under close monitoring.

DISCUSSION

Infectious keratitis is the most serious complication of contact-lens wear[1,4]. Its incidence depends on lens type, hygiene practices, and wearing time[8]. Pseudomonas aeruginosa remains the predominant organism[5,9] due to its strong adherence to damaged corneal epithelium and hydrophilic surfaces.

RISK FACTORS

The major risk factors include[8,10]: prolonged lens wear (> 8 h/day), poor hand and case hygiene, rinsing with tap water, sleeping while wearing lenses, and purchasing lenses from unregulated sources. Cosmetic lenses, commonly sold without prescription or counseling, lack the strict regulations applied to corrective lenses[11]. Consequently, misuse among young users increases preventable infections.

THERAPEUTIC CONSIDERATIONS

Management relies on intensive topical antibiotic therapy guided by microbiological results[6,9]. Fortified eye drops (ceftazidime, vancomycin, tobramycin, amikacin) constitute the standard initial regimen[6]. Corneal scraping is essential for both diagnosis and improved drug penetration[8]. Topical

corticosteroids may be introduced after infection control to limit scarring[7,12].

PREVENTION AND REGULATION

Prevention requires hygiene education, professional fitting, and regular ophthalmologic follow-up[11]. Cosmetic lenses should be classified as medical devices and distributed only through regulated channels[4,13]. Public awareness campaigns could markedly reduce preventable vision-threatening keratitis.

CONCLUSION

Bilateral corneal abscess secondary to cosmetic contact-lens wear represents a preventable but potentially blinding condition. This case underscores the importance of public education, regulated sales, and professional supervision. Ultimately, prevention through awareness and legislation remains the key to reducing such complications[4,11,13].

ICONOGRAPHY

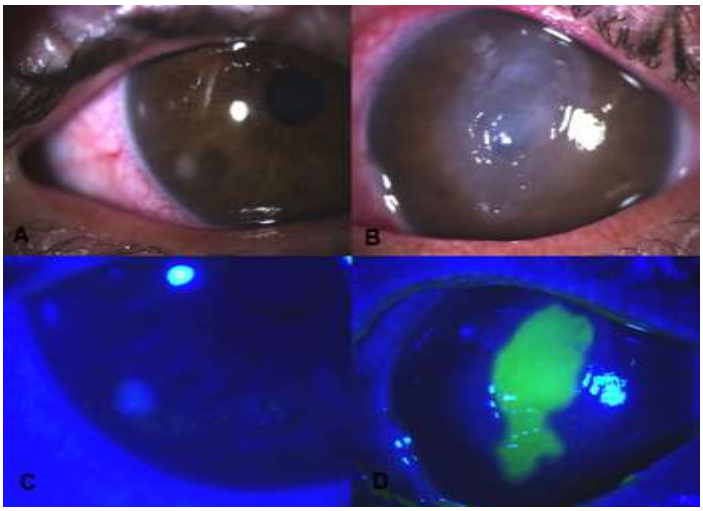

Figure 1 (A). Right eye with two peripheral micro-abscesses at the 7 and 8 o'clock meridians (1.5 mm and 0.5 mm diameter, respectively).

Figure 2 (B). Left eye showing a large central corneal abscess measuring 7 × 4.5 mm.

Figure 3 (C). Right eye with mild superficial punctate keratitis visible on fluorescein staining, without ulceration.

Figure 4 (D). Left eye displaying a central fluorescein-positive corneal ulcer.

Author Contributions

Dr. BOUI Hatim: conception, data analysis, manuscript drafting.

Dr. FILALI Zineb: data collection, critical revision.

Dr. Hanine Mohamed Amine: data collection, critical revision.

All authors approved the final version of the manuscript.

Conflict of Interest Statement

The authors declare no conflict of interest related to this study.

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