

Overcoming the Abyss: Effective Management of a Gram-Negative Microbial Corneal Ulcer with Melting and Impending Perforation in a Contact Lens Wearer

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Submitted: 10 February 2025 **Accepted:** 17 February 2025 **Published:** 20 February 2025

Citation: Ioanna, G., & Nikolaos K. (2025). Overcoming the abyss: Effective management of a gram-negative microbial corneal ulcer with melting and impending perforation in a contact lens wearer. *Sci Set J of Ophthalmology & Eye Care*, 4(1), 01-03.

Abstract

Background: To present the management of a compelling case of gram-negative microbial corneal ulcer, accompanied by corneal melting and impending perforation in a 39-year-old female contact lens wearer.

Methods: Corneal scrapings for culture were taken. Owing to a strong suspicion of *Pseudomonas* being the offending agent, IV Ceftazidime 2gr x3 was incorporated into the regimen alongside with intense topical antibiotic drops.

Results: On a 5-day follow-up corneal melting subsided, the hypopyon had minimized, and the anterior chamber reaction had downgraded and cultures yielded *Pseudomonas*.

Conclusions: Post-discharge, she was followed in outpatient, scheduled for DALK.

Keywords: DALK, *Pseudomonas* Cornea Ulcer, Perforation, Contact Lens, Hot Therapeutic PK, Penetrating Keratoplasty, Gram Negative Bacteria.

Abbreviations

- **DALK:** Deep Anterior Lamellar Keratoplasty
- **BSCVA:** Best Spectacle Corrected Visual Acuity
- **OD:** Right Eye
- **OS:** left Eye
- **CCT:** Central Cornea Thickness
- **IV:** Intravenous
- **PK:** Penetrating Keratoplasty

Introduction

A 39-year-old otherwise healthy female contact lens wearer without any previous ocular history was referred the emergency department with pain and redness in her left eye (OS) ongoing for 5 days. The low CCT of 56µm as illustrated in tomography, as well as the rapid progression of the melting, indicated an urgent therapeutic PK, however the decision to follow the patient conservatively with medications was taken [1].

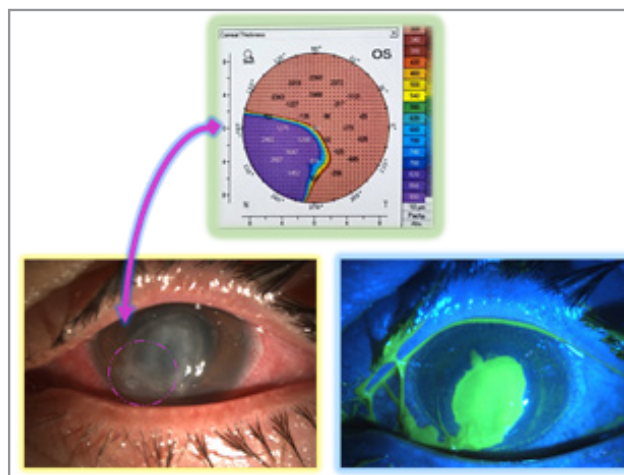


Figure 1: At presentation

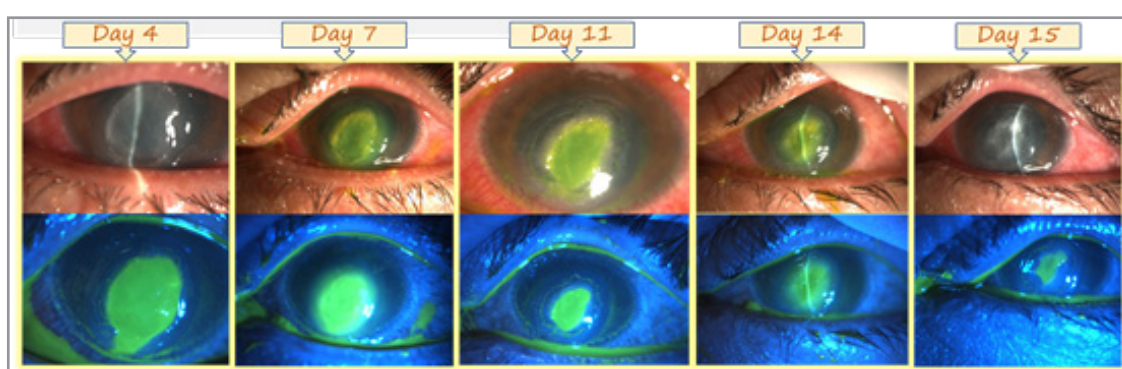


Figure 2a: Follow-up

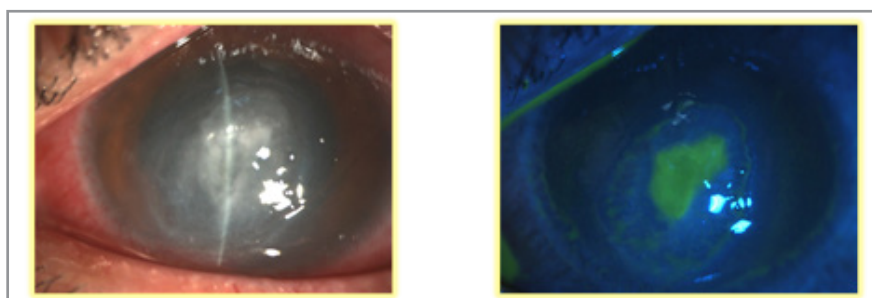


Figure 2b: At discharge

Materials and Methods

Slit lamp biomicroscopy of OS yielded conjunctival hyperemia with corneal melting. Anterior Chamber (AC) was deep, with significant inflammation (Tyndall +4), and a 3mm high hypopyon. All topical and systemic medications were discontinued for 6 hours as preparation for corneal scraping collection for culture. We switched treatment to Amikacin instilled every 15 minutes as a loading dose and then to hourly. Moreover, vancomycin was added. Owing to a strong suspicion of *Pseudomonas* being the offending agent intravenous (iv) Cefazidime 2gr x3 was incorporated into the regimen [2-4].

Results

On a 5-day follow-up corneal melting subsided, the hypopyon had minimized, and the anterior chamber reaction had downgraded to +2. Corneal scraping cultures yielded *Pseudomonas*. Epithelialization of the ulcer was initially evident 5 days later and the patient was discharged.

Discussion

Post-discharge, she was followed in outpatient, scheduled for DALK since the endothelium and Descemet membrane were left intact by the infection. By these means we avoided a hot therapeutic PK and the risks that it entails [5].

Conflicts of Interest

There are no conflicts of interest

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