

# Acinetobacter Secondary Infection on Herpes Stromal Keratitis

## Case Report

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### Abstract

**Aim:** To report 2 cases of HSV stromal keratitis with Acinetobacter secondary bacterial infection.

**Methods:** Retrospective analysis of microbial keratitis from year 2009-2013.

**Results:** 2 cases of HSV stromal keratitis with culture proven Acinetobacter species did not resolve with sensitive antibacterial therapy instead responded to antiviral therapy.

**Conclusion:** Acinetobacter secondary infection is quite common in compromised corneas like herpes stromal keratitis.

**Keywords:** Acinetobacter; Herpes stromal virus; Keratitis

## Introduction

Acinetobacter is a low virulent bacterium that is usually found in nosocomial infection of immune compromised patients in the intensive care units. It rarely causes microbial keratitis. Community-acquired keratitis with corneal perforation resulting from Acinetobacter has been reported [1,2]. Infections associated with corneal exposure, soft contact lens wear penetrating keratoplasty and chronic lymphatic leukemia have been reported in the literature [3-7]. Herpes simplex viral stromal keratitis can present with stromal edema, epithelial defect and secondary infection with bacteria or fungus. We present two cases of culture proven Acinetobacter infection treated with sensitive antibacterial drugs with no response. Instead when antivirals along with topical steroids were started the lesions responded dramatically.

## Materials and Methods

### Case 1

A 50 year old man presented with pain, redness, dimunition of vision in his left eye since 2 months. He had no history of trauma,

foreign body fall into the eye. He was treated elsewhere with antifungal (Natamycin eye drops hourly), antibacterial (Moxifloxacin 0.5% eye drops hourly) and cycloplegic (atropine eye drops 2 times) in a day for 2 month with no response. At presentation he presented with visual acuity of 20/25 in right eye, hand movements in left eye. Anterior & posterior segment were normal in right eye. His left eye showed diffuse conjunctival congestion, central corneal epithelial defect (1.2 x 4.2 mm) with anterior to midstromal infiltrate (1x 2 mm) with surrounding stromal edema, scarring all around (Figure 1). Anterior chamber showed flare, cells and trace hypopyon. Posterior segment was within normal limits. Corneal scraping was done for bacteria and fungus which yielded no organisms. IFA, PCR for HSV 1 was also negative. Confocal microscopy also was inconclusive. Patient was started on fortified cefazolin and ciprofloxacin eye drops hourly with atropine eye drops 3 times day for 4 days. After 4 days there was no response and a repeat corneal scraping was done which showed gram negative coccobacilli, identified as Acinetobacter on culture. It was sensitive to most of the antibiotics except cefuroxime and chloramphenicol. Two weeks on intensive antibiotics did not

yield any response. Patient was seen regularly for three months with no response. His visual acuity was the same and also the clinical picture. After three months the diagnosis was revised, as he had chronic presentation, stromal edema, scarring all around with few deep vascularizations, herpes simplex virus stromal keratitis was suspected and he was started on Acyclovir eye ointment 5 times a day and Prednisolone acetate eye drops 8 times a day. He was seen after one week with a dramatic improvement. His visual acuity improved to 20/150 with resolution of infiltrate, stromal edema. Later he was continued on tapering dose of Prednisolone acetate eye drops with Acyclovir eye ointment for 1 week more. After one month he had a best corrected visual acuity of 20/60 with complete resolution of infiltrate, stromal edema with some amount of stromal scarring (Figure 2).

**Case 2**

The second case also presented with similar clinical history and findings which responded with antiviral and steroid therapy instead of antibacterial therapy (Figure 3 and 4).

**Discussion**

Acinetobacter is ubiquitous, aerobic, gram-negative coccobacilli. It is known by various names such as Bacterium, Herellea, Mima,

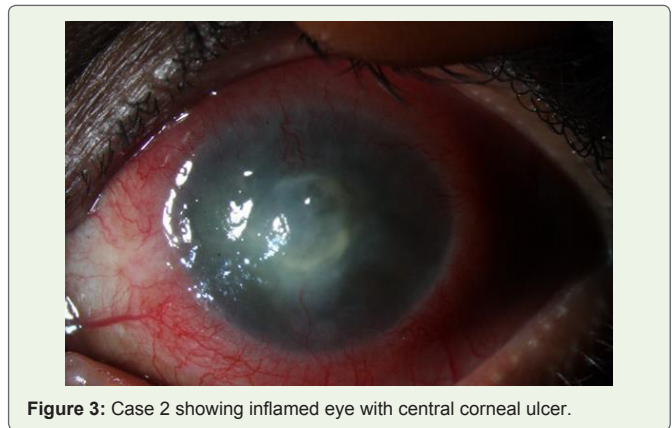


Figure 3: Case 2 showing inflamed eye with central corneal ulcer.



Figure 4: Case 2 after starting antiviral and steroid therapy showing a quite eye with corneal scar.

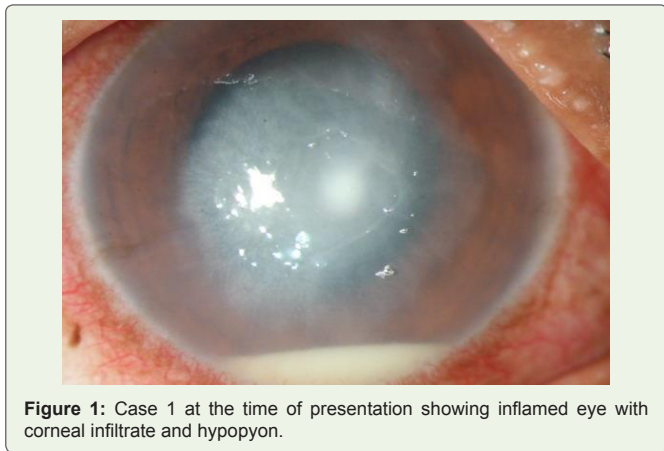


Figure 1: Case 1 at the time of presentation showing inflamed eye with corneal infiltrate and hypopyon.

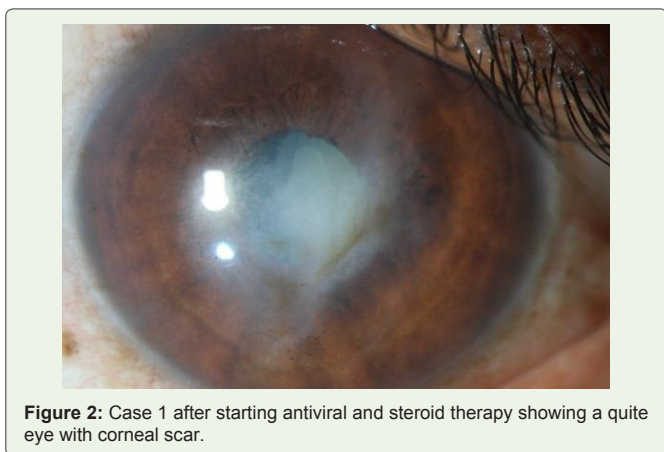


Figure 2: Case 1 after starting antiviral and steroid therapy showing a quite eye with corneal scar.

Achromobacter, Alcaligenes, Neisseria, Micrococcus, Diplococcus, B5W and Cytophaga [8,9]. It is a human commensal of relatively low virulence present on skin, mucus membranes, and the eyelid margin and in the urinary tract [10]. Patients with impaired host defenses or those in the intensive care unit setting are most frequently colonized. Among the Acinetobacter organisms, *A. baumannii* is the main species associated with nosocomial outbreaks. Pneumonia is the most common infection, whereas septicemia, endocarditic, urinary tract infections, meningitis and skin and soft tissue wound infections have also been reported.

Here we describe two cases which had colonization of Acinetobacter species on active herpes stromal keratitis. Mere microbiological positivity for Acinetobacter should not misguide the treating ophthalmologist to treat the bacteria rather should be aware that these bacteria colonizes the eye and does not cause fulminant infection.

**Conclusion**

Acinetobacter is a normal human commensal of relatively low virulence which colonizes rather than infects. The two patients presented in this study focus the attention of the ophthalmologist on yet another cause of opportunistic eye infection. Herpes stromal keratitis can be an important factor for subsequent contamination with Acinetobacter species.

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