



# Infectious Crystalline keratopathy in an already neurotrophic cornea

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## Introduction

Infectious crystalline keratopathy is a rare form of infectious keratitis that manifests as branching crystalline opacities in the stroma. It classically is caused by streptococci and is associated with chronic steroid therapy.

Neurotrophic keratitis and ulcers are a cause of serious ocular morbidity. Infection leads to worse outcomes.

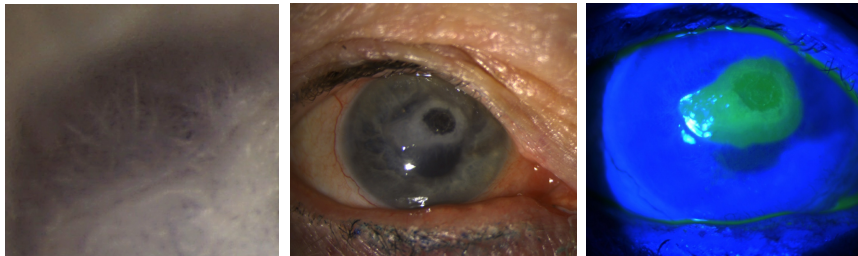
## Case Report

Our patient is an 82 year old female with a complex history in the right eye. She had a history of HZO and a panuveitis that subsequently caused corneal thinning/scarring requiring RGP lens use as well as glaucoma requiring an Ahmed valve. Diagnostic vitrectomy showed a B-cell monocytosis. She was controlled on prednisolone eyedrops.

- Patient presented with eye redness and pain lasting 1 week. Exam showed crystalline keratopathy with 50% thinning. Started on q1h fortified vancomycin and tobramycin eyedrops.
- Culture grew *Abiotrophia defectiva*. Switched from tobramycin to ciprofloxacin.
- Crystalline infiltrate improved but epithelial defect enlarged with rolled edges, suggesting neurotrophic cornea.
- Patient eventually healed over the course of a month on a regimen of ciprofloxacin gtt, doxycycline PO, prednisone 20mg, temporary central tarsorrhaphy, and multiple Prokeras.

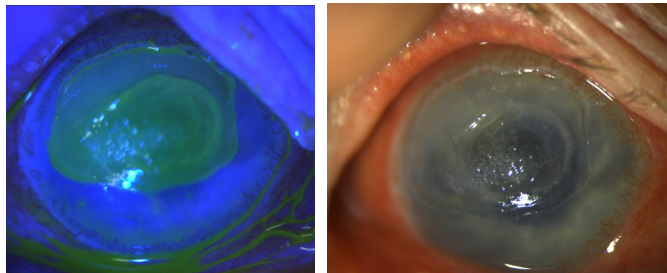
## Disease Course

### Presentation

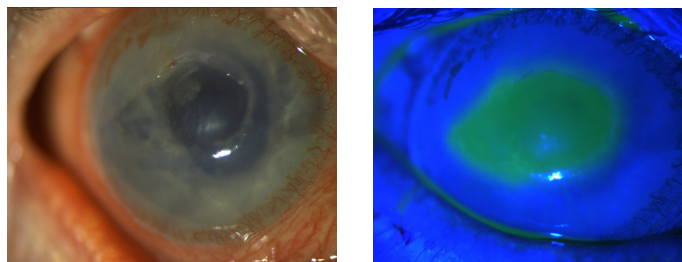


Dec 10<sup>th</sup>. Left: magnified view showing infiltrate and crystals. Center: Central ulcer with 50% thinning. Right: Cobalt blue view showing extent of epithelial defect

### Follow - Up



Dec 15<sup>th</sup>. Left: Largening epithelial defect. Right: Disappearing crystalline infiltrate but new ciprofloxacin crystalline deposits. Increased inflammation shown by increased injection and severe meibomitis.



Dec 18<sup>th</sup>. Left: Cleared infiltrate and crystals. Improving inflammation. Right: Decreased epithelial defect

## Discussion

*Abiotrophia defectiva* is an alpha hemolytic streptococcus species. It is a rare corneal pathogen. Literature review reveals less than 10 previously documented cases, all of which had poor outcomes<sup>1,2</sup>. Due to the rarity of the strain, our lab did not have the ability to find antibiotic susceptibilities. Ciprofloxacin was chosen based on literature review, and the infectious keratopathy responded well. However, healing was difficult and prolonged due to a neurotrophic cornea with a robust inflammatory cascade, requiring doxycycline, prednisone, and amniotic membrane to finally heal.

## Conclusion

It is important for the physician to recognize signs of neurotrophic keratitis early in the treatment course for ulcers, as it changes management and outcomes.

## References

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2. Abry, Florence MD; Sauer, Arnaud MD; Riegel, Philippe MD, PhD; Saleh, Maher MD; Gaucher, David MD; Speeg-Schatz, Claude MD, PhD; Bourcier, Tristan MD, PhD Infectious Crystalline Keratopathy Caused by *Streptococcus Abiotrophia defectiva*, Cornea: August 2010 - Volume 29 - Issue 8 - p 934-936



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