Catastrophic Keratitis: Pseudomonas In A Neonate

Karima K. Rai, MPH[1], Cory A. Christensen, DO, MPH[2], Robert T. Swan, MD[2]

[1]SUNY Upstate College of Medicine, [2]SUNY Upstate Medical University Department of Ophthalmology and Visual Sciences

Introduction

Keratitis is epithelial loss from the cornea with leukocyte infiltration of the underlying stroma.[1]

Infections can be vison-threatening, depending on ulcer size and severity.[2]

P. aeruginosa is the most common culprit.[1]

In the US, most cases are in contact lens-wearers; 2.76 per 10,000 person-years in non-contact lens-wearers and 13.04 per 10,000 person-years in contact lens-wearers.[1]

Rarely this disease is seen in children.[3]

Case Presentation

Twin A, male infant born at 30 weeks, 1400g, APGARs 8 and 8.

Diagnosed with Apnea of Prematurity, requiring CPAP and NICU stay.

Post-partum day 5 developed purulent discharge OS with erythematous lids and conjunctiva.

Corneal culture x2 OS grew *P. aeruginosa.* Negative blood cultures.

OD remained asymptomatic besides subsequent ROP Zone 2, Stage 0.

Inpatient treatment with fortified Tobramycin gtts for 2 days, and Cetazadime gtts for 1 week; transitioned to Ciprofloxacin gtts and Erythromycin ung for 2 weeks.

Ongoing outpatient treatment with Ofloxacin gtts, Cyclomydril gtts, Erythromycin ung.

IMAGES

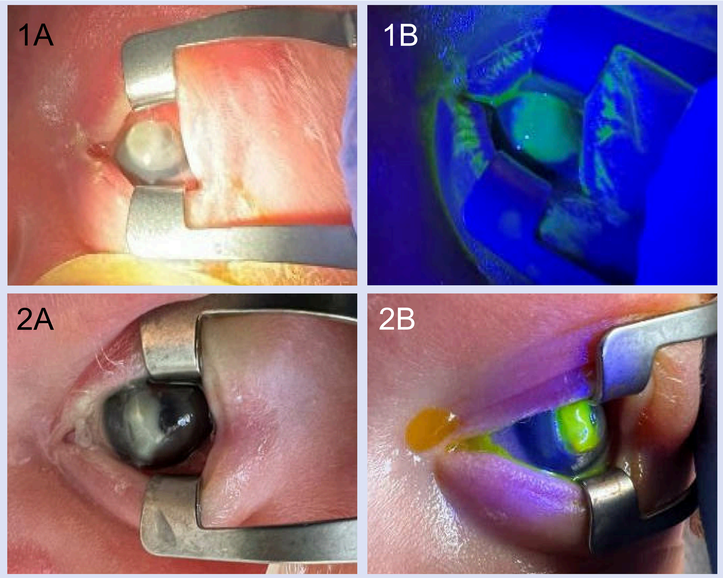

Figure 1A-B: External photography of corneal ulcer, day 18, with and without fluorescein staining.

Figure 2A-B: External photography of corneal ulcer after treatment, day 35, with and without fluorescein staining.

Diffusely cloudy and thin central cornea with subtle extension onto nasal conjunctiva. Treatment yielded slow but significant improvement, with residual corneal opacity.

DISCUSSION

Risk factors: IVF pregnancy of di-di twins, prolonged rupture of membranes (5 days), advanced maternal age, gestational hypertension.

No maternal infections, twin sister healthy with no ocular complications.

Mother received appropriate steroids and antibiotics during delivery course.

IgG testing to rule out immunodeficiency yielded normal results.

This work was funded in part by an unrestricted grant from Research to Prevent Blindness, Inc. New York, New York and by the Lions District 20-Y1, Syracuse, New York. No other significant financial interests or relationships to disclose.

SUPPORTED BY Research to Prevent Blindness

Conclusion

Pseudomonal Keratitis, most often associated with adult contact lens wearers, is rarely documented in neonates.

The etiology of this case remains unclear, perhaps some sort of traumatic inciting event occurred in the perinatal period.

While the keratitis improved, significant residual corneal scarring remains.

Discussions are ongoing for possible PKP.

Fortunately, ROP in the fellow eye self-resolved.

References

1. Willcox MDP. Management and treatment of contact lens-related Pseudomonas keratitis. *Clin Ophthalmol*. 2012;6(1):919. doi:10.2147/OPTH.S25168

2. Bennett L, Hsu HY, Tai S, et al. Contact Lens Versus Non-Contact Lens-Related Corneal Ulcers at an Academic Center. *Eye Contact Lens*. 2019;45(5):301-305. doi:10.1097/ICL.0000000000000568

3. Boyle EM, Ainsworth JR, Levin A V., Campbell AN, Watkinson M. Ophthalmic Pseudomonas infection in infancy. *Arch Dis Child Fetal Neonatal Ed*. 2001;85(2). doi:10.1136/FN.85.2.F139