

Extreme Case of Exposure Keratopathy Managed with a Scleral Lens

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Introduction

Exposure keratopathy (EK) can result from any condition that disrupts the normal function of the tears, eyelid position, and blink rate. The exposure-related complications result in damage to the ocular surface ranging in severity from corneal decompensation, loss of vision from scarring, potential ulceration, cornea perforation, and loss of eye in extreme cases. The treatment can vary with the severity of the condition and initial treatment begins with lubrication with artificial tears, ointment, and a total tarsorrhaphy if necessary to protect the ocular surface. Scleral lenses can also be an effective treatment in the management of EK by providing a protective barrier against prolonged exposure to the outside environment.

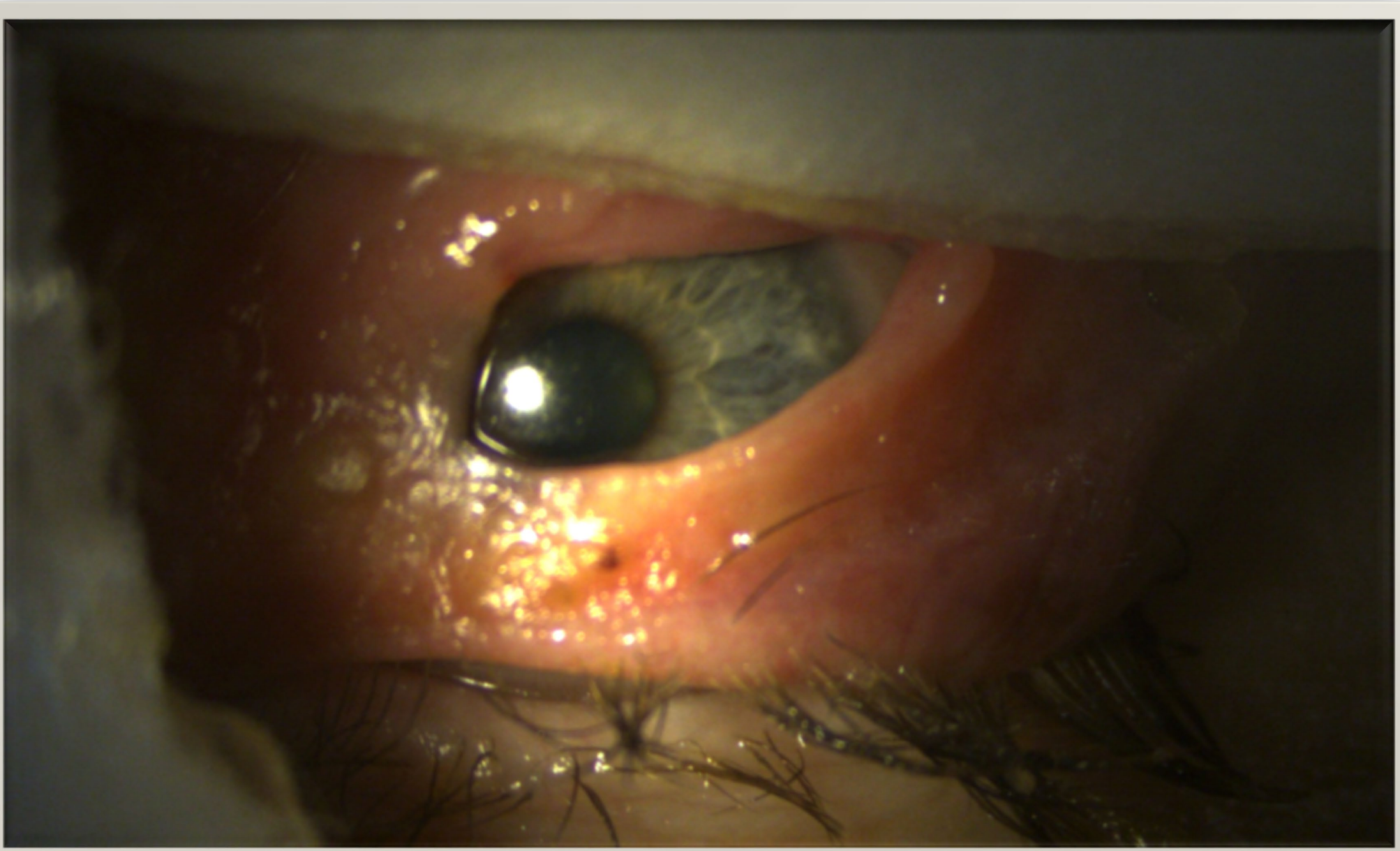
Case Presentation

A 58 year-old female was referred from oculoplastics for a scleral lens evaluation OS. Her vision measured 20/20 OD, 20/100 OS PH 20/80. Her ocular history includes exposure keratopathy OS secondary to a massive progressively erosive soft tissue lesion over her forehead, nose, and left upper lid since 2017. Her ocular medications include Refresh artificial tears PRN. The biopsy of tissue was inconclusive and during treatment she developed complete exposure of her cornea and inability to close her eyelid with scarring on her upper lid temporally.

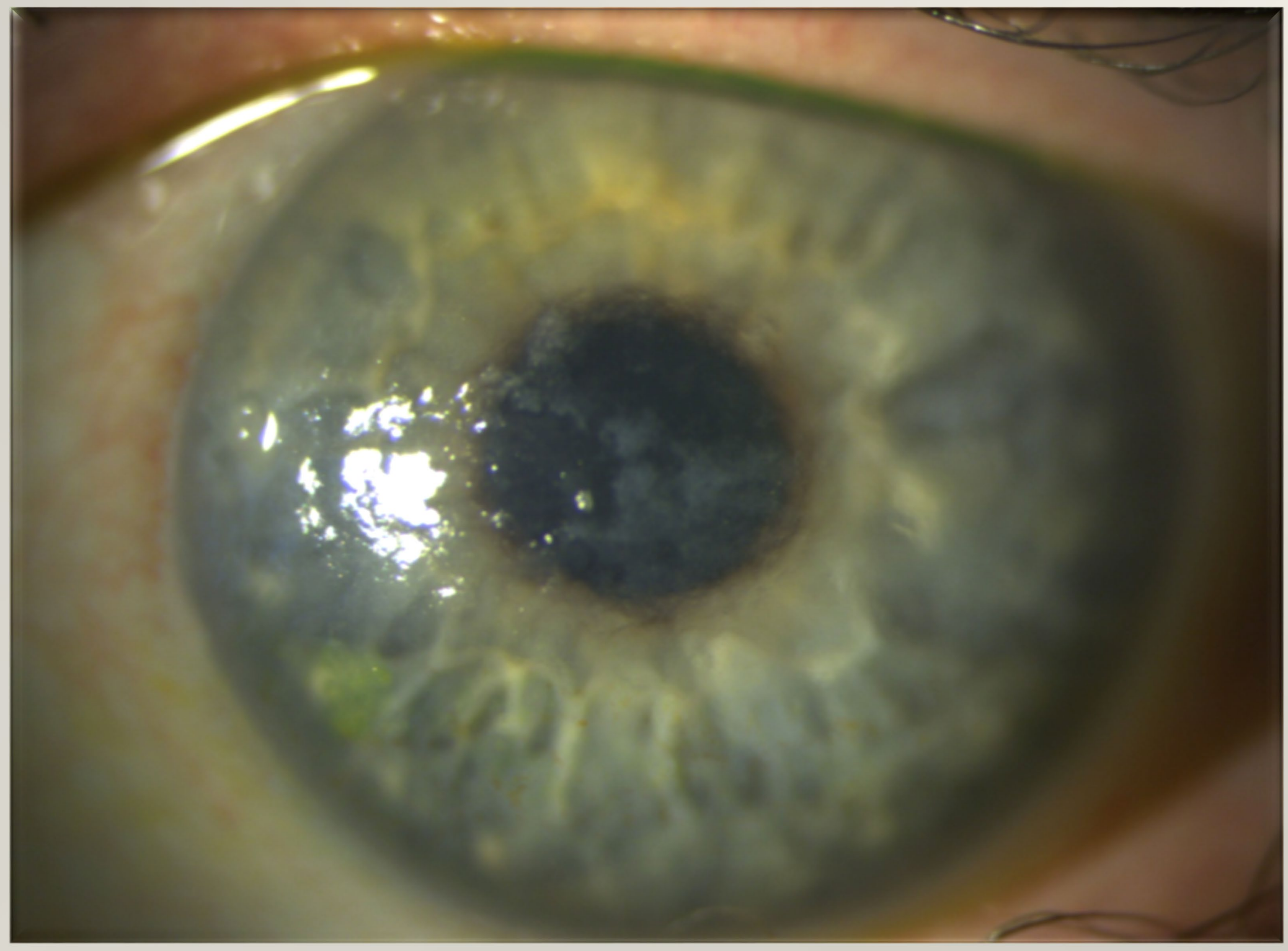
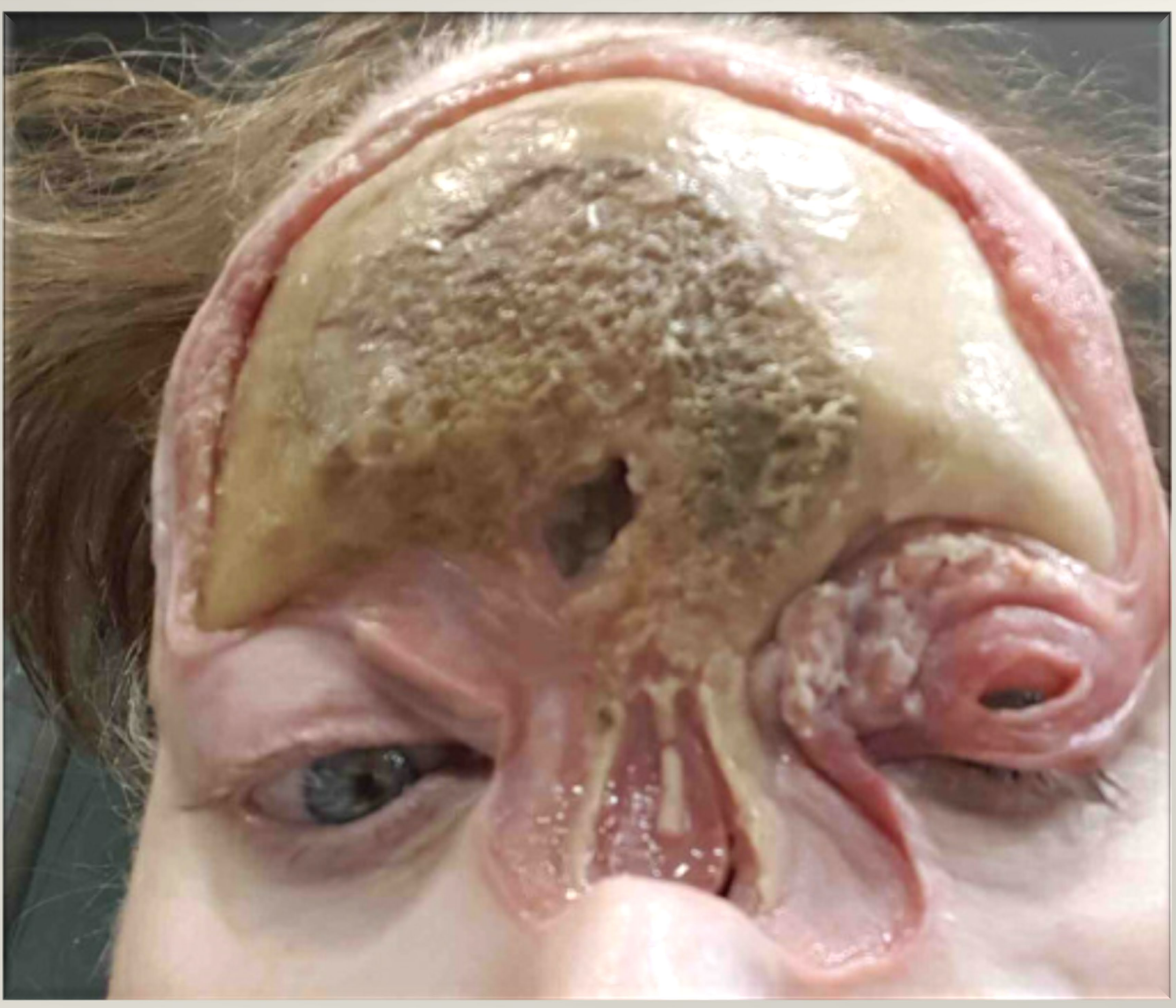
SLE	OD	OS
External	Complete loss of brow tissue, exposed superior orbital rim	Complete loss of brow tissue, exposed superior orbital rim
Lids/Lashes	Partial loss of preorbital lamella of upper lid	Almost complete loss of preorbital anterior lamella of upper lid, small amount of preserved upper lid laterally; full-thickness defect of central preseptal upper lid, partial loss of medial/central tarsus; cornea exposed through defect with eyes closed
Conj/Sclera	White and quiet	Exposed/keratinized palpebral conjunctiva through upper lid defect
Cornea	Diffuse 2+ PEE	Diffuse 2+ PEE
Anterior Chamber	Deep and quiet	Deep and quiet

Methods and Results

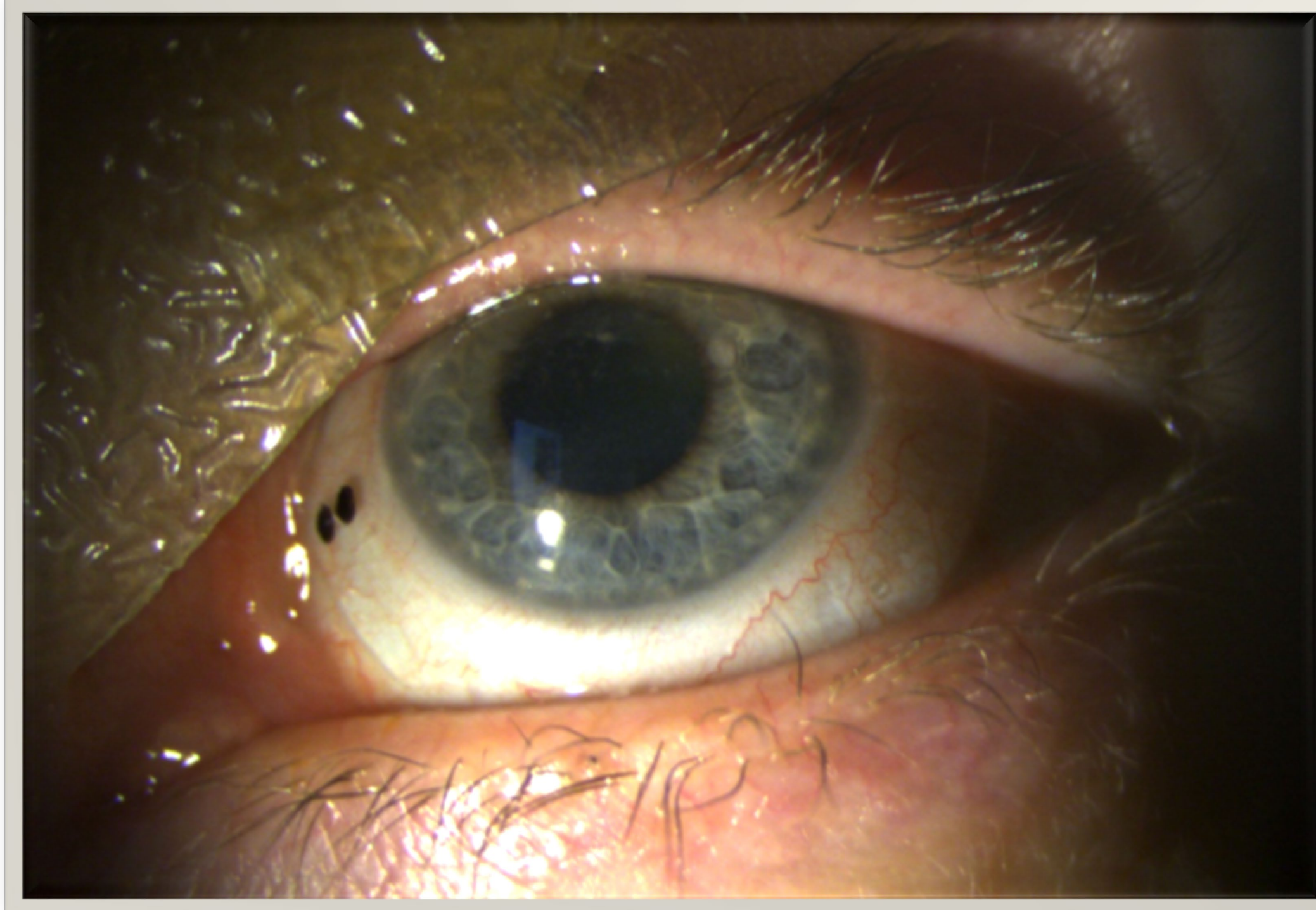
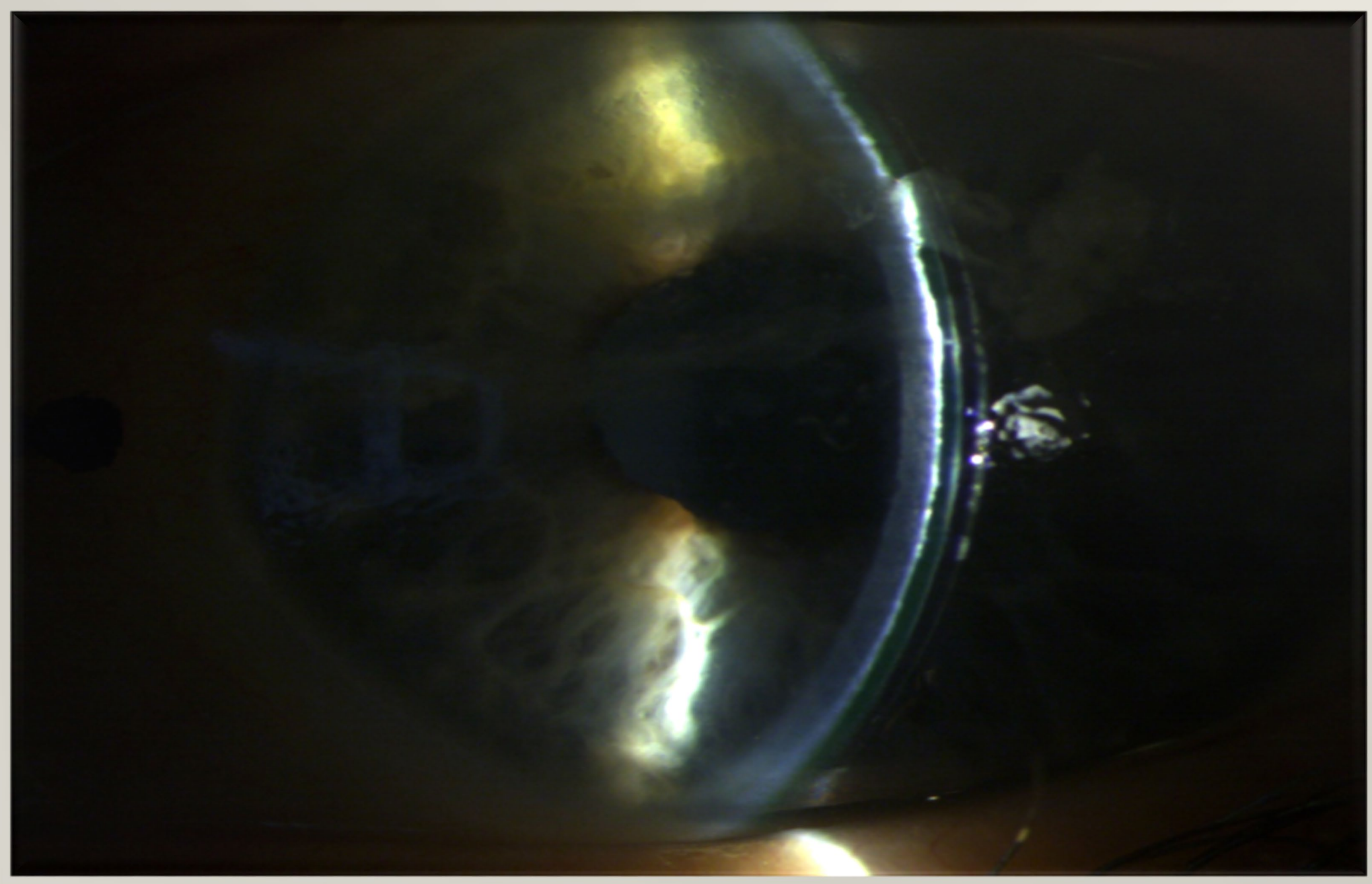
She developed worsening symptoms of pain, blurred vision and was fit with a BostonSight SCLERAL lens OS to help protect the ocular surface. Her ocular medications include Ofloxacin QID OS, nonpreserved artificial tears, and ointment QHS if not wearing the scleral lens. Her corneal surface improved and was stable during lens wear. An additional lens was ordered adding two fluid ventilation channels to help with tear exchange.



Initial presentation OS closed

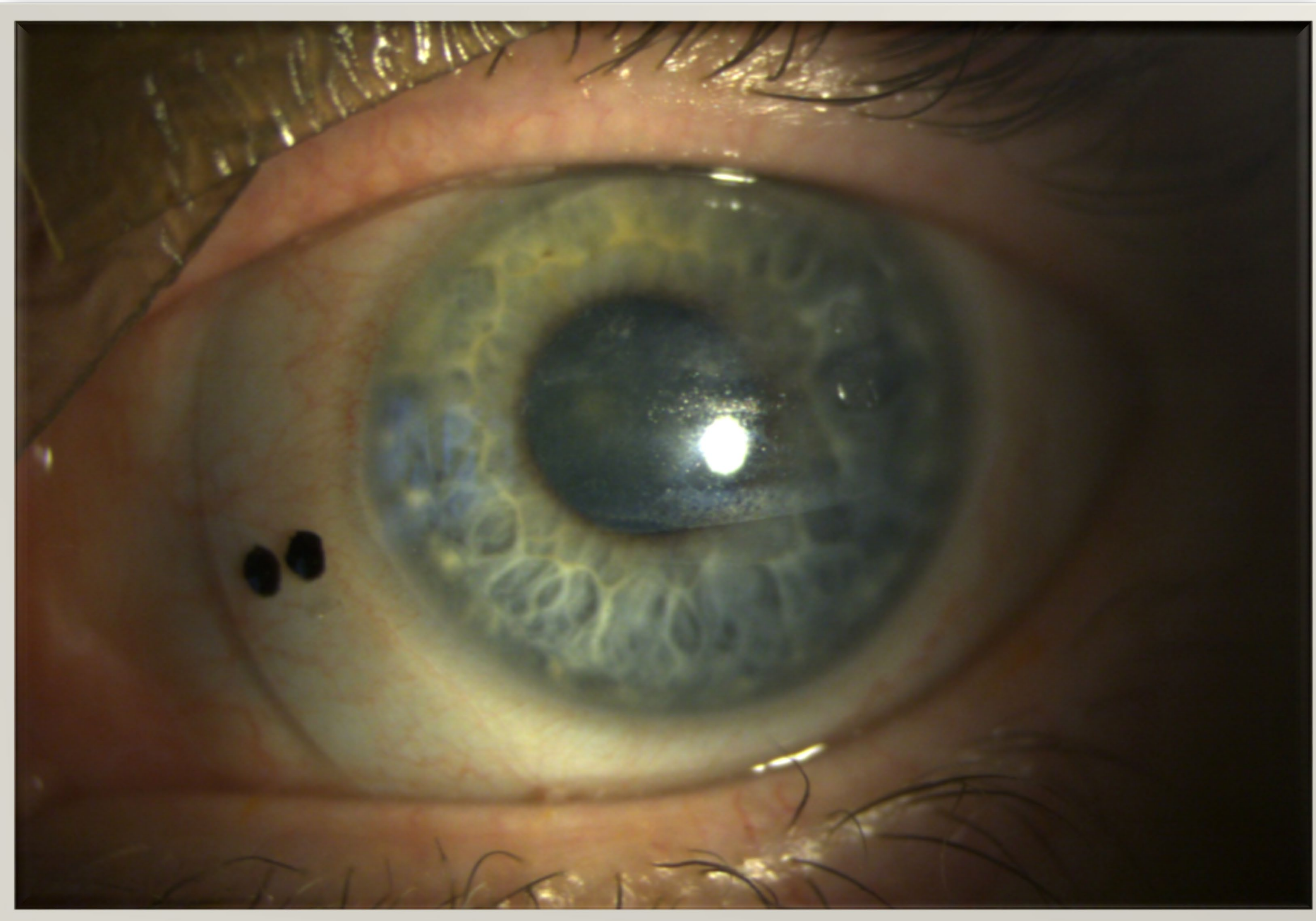


OS corneal presentation at scleral lens dispense



Incomplete lid closure developed after biopsy. OS attempting to close.

Brand	Overall Diameter (mm)	Base Curve (mm)	Power (D)	CT (mm)	Material
BostonSight SCLERAL	18.00	8.0	+6.50	0.40	Contamac Optimum Extra



Final scleral lens OS

Discussion

EK can result in severe desiccation to the ocular surface in chronic incomplete lid closure. Scleral lenses can provide an opportunity to stabilize the ocular surface in the event surgical intervention is not indicated. The use of the scleral lens in this patient case was to help to avoid worsening symptoms due to the corneal exposure even with lid closure. The patient was under the care of multiple physicians to determine the cause of the lesion, but no underlying diagnosis to date has been identified.

Conclusion

Scleral lenses can be effective in managing cases of extreme EK in patients with limited options and progressive complications. The patient's symptoms of pain, discomfort and progressive corneal decompensation improved with scleral lens wear.

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