



# Options for Vaulting Pingueculae in Patients Who Need Specialty Contact Lenses



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## Case Background

- 34 year old Indian female
- CCs: blurry vision, constant red eyes, feeling of dryness and irritation
- POHx: Advanced Keratoconus OU, large pingueculae (pings) OU
- Occupation: Nurse ∴ high visual demand, long wear time, overnight wear while awake on nightshift
  - BCVA: OD 20/20-2, OS 20/25+
  - PMHx, FOHx, FMHx: unremarkable
  - Hobbies: swimming

## Clinical Findings

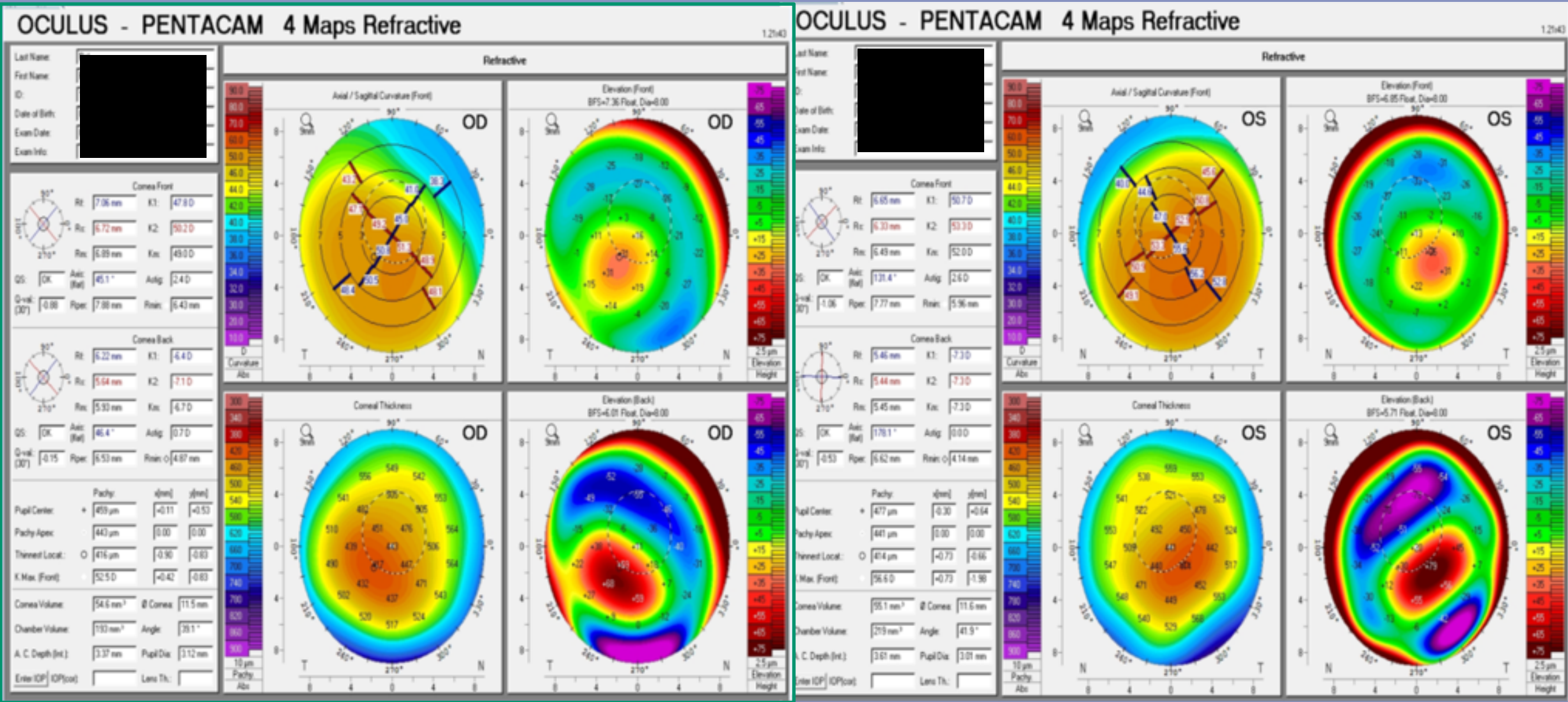


Figure 1. Pentacam images show characteristic signs of keratoconus

	OD	OS
Cornea	10% thinning (-) Vogt's (+) superior Fleischer's (-) scar	10% thinning (-) Vogt's (+) sup Fleischer's (-) scar
HVID	11.6 mm	11.6 mm
Conjunctiva	Large pings temporal>nasal, OS>OD (see Figure 2)	Large pings temporal>nasal, OS>OD (see Figure 2)

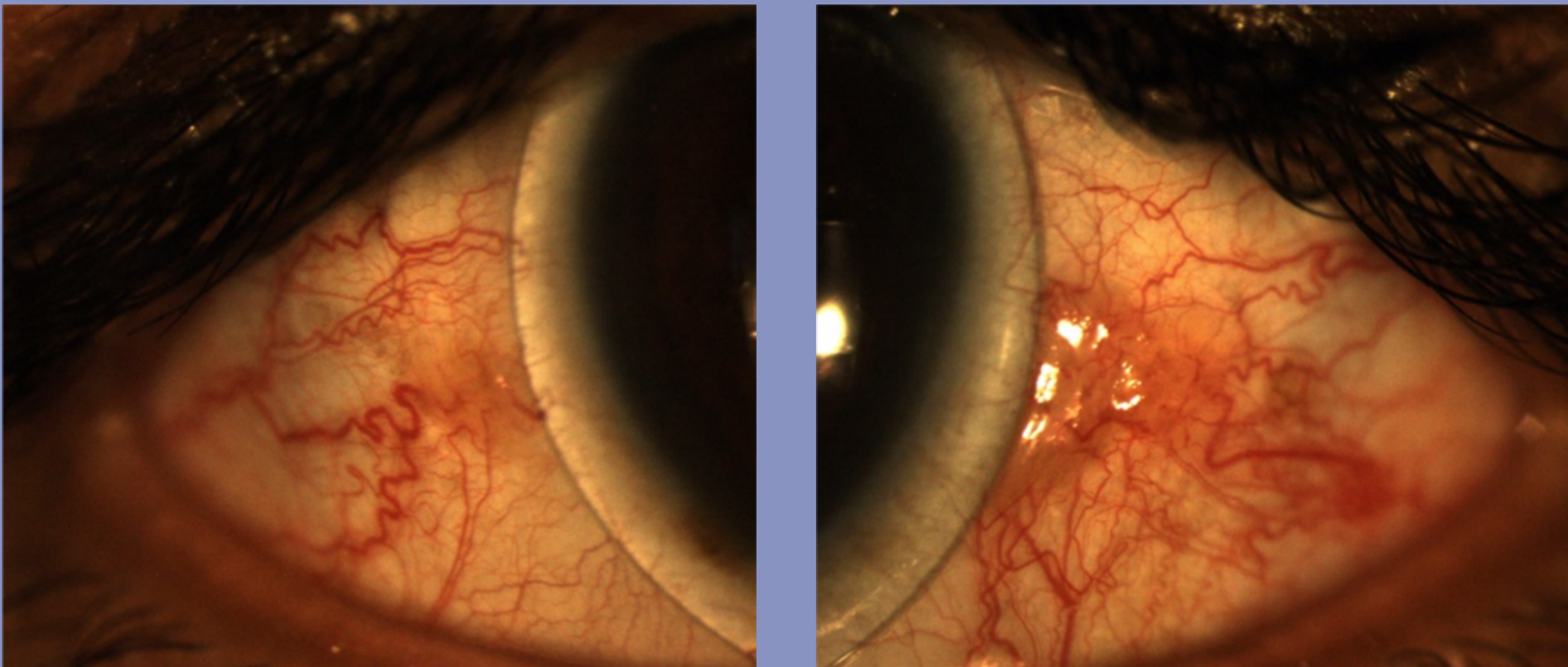


Figure 2. Anterior segment photo showing large pingueculae on the nasal and temporal bulbar conjunctiva in both eyes \*NOTE: photos will be replaced with photos of both nas and temp pings w/o lens on

## Contact Lens History

Modality	Potential Complications
Corneal RGPs	Ejection
Larger Diameter Scleral	Landing on pings causing discomfort and hyperemia
Smaller Diameter Corneoscleral	Landing on cornea causing microcystic edema and SPK
Piggyback System	Vision reduced c/t sclerals, discomfort, Ejection
Larger Diameter scleral with Notches (OneFitMed CPR)	Discomfort, did not resolve hyperemia
Larger Diameter scleral with Vaults (Europa, Plift)	Difficult to fit; Discomfort if fit incorrectly
Hybrid	Cone too advanced

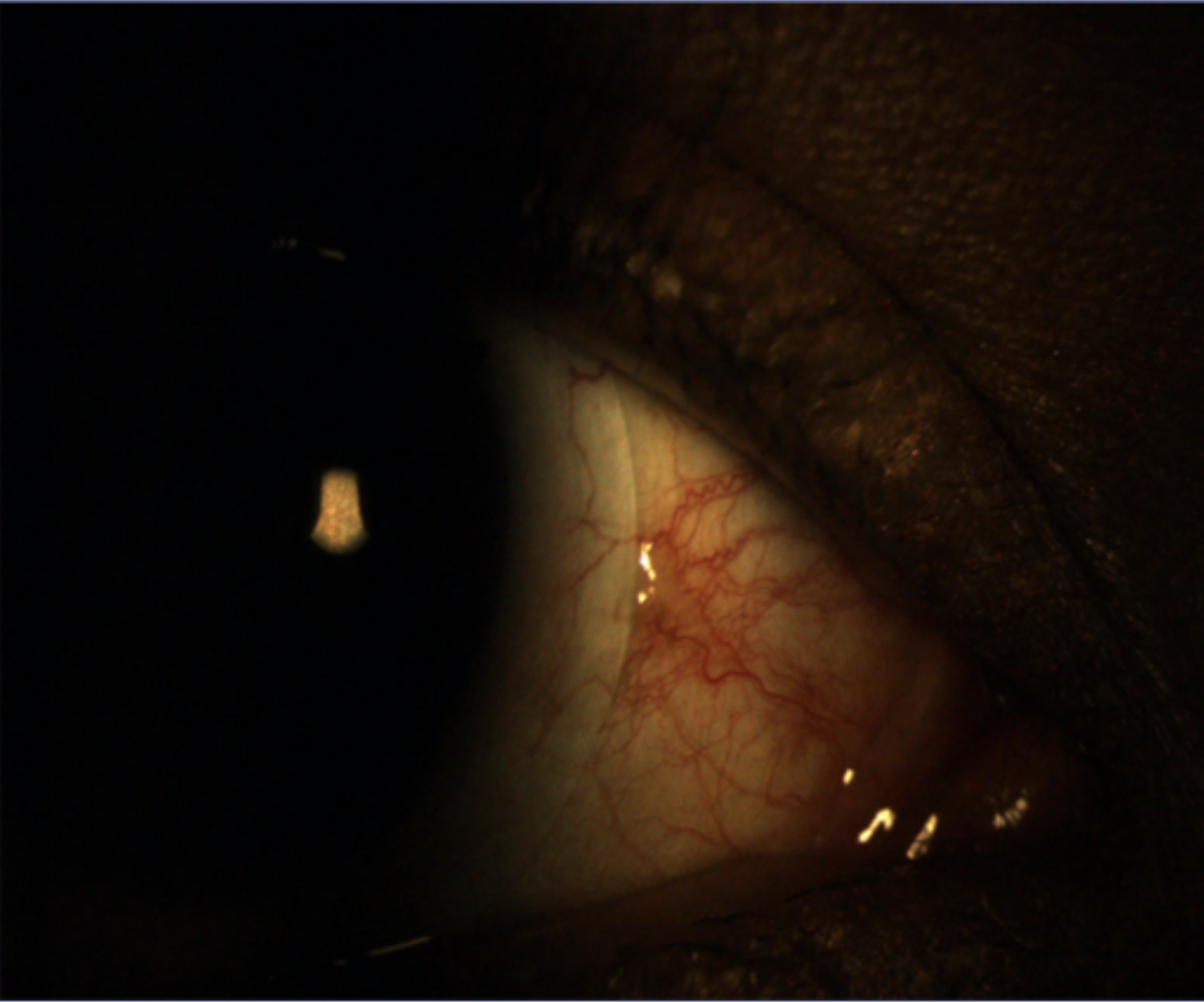


Figure 3. Large diameter (16.0) scleral lens landing on ping and causing hyperemia

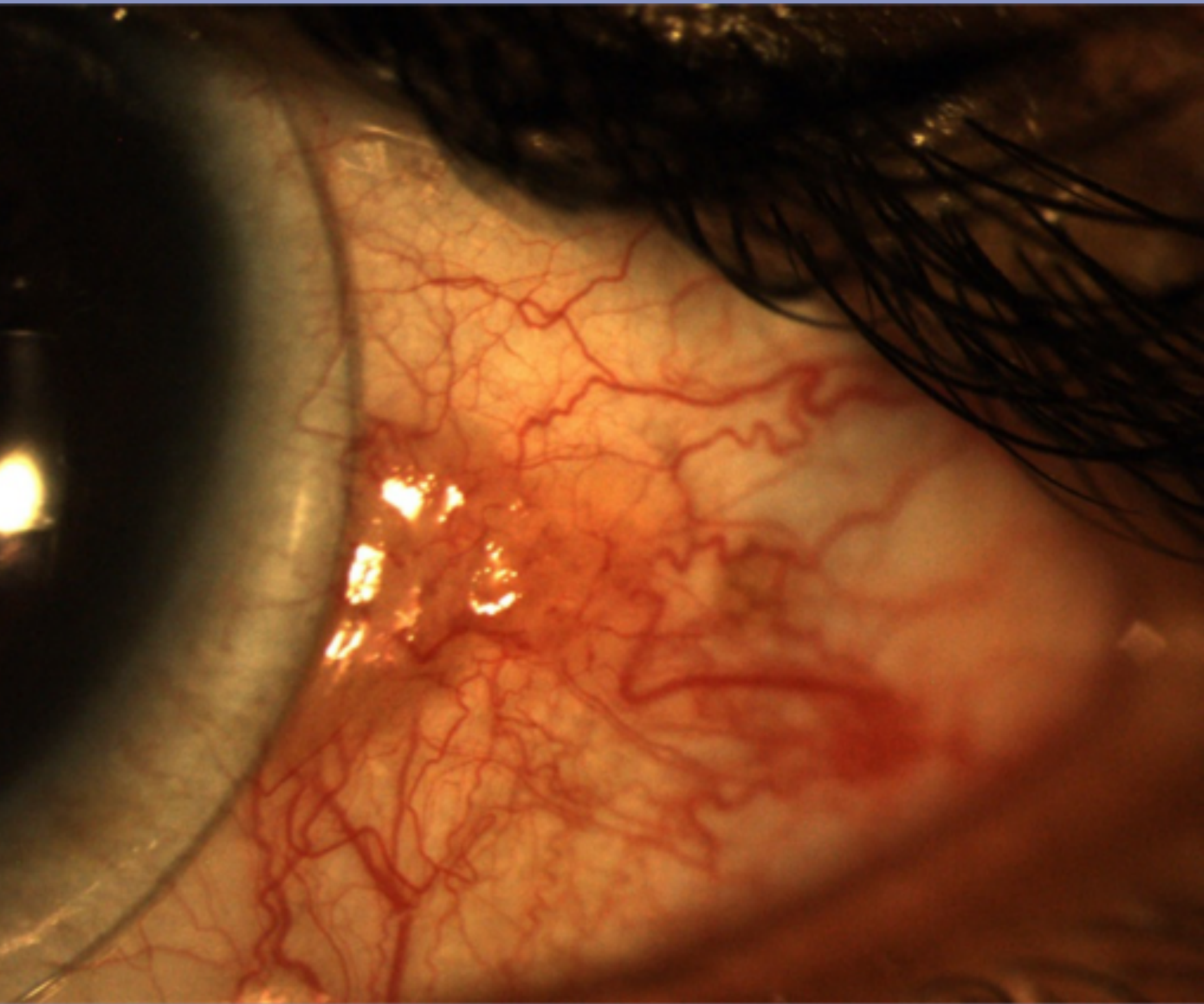


Figure 4. Small diameter (14.0) corneoscleral lens still landing on ping and causing hyperemia. Also caused microcystic edema and SPK on the areas the lens was touching the cornea (not pictured)

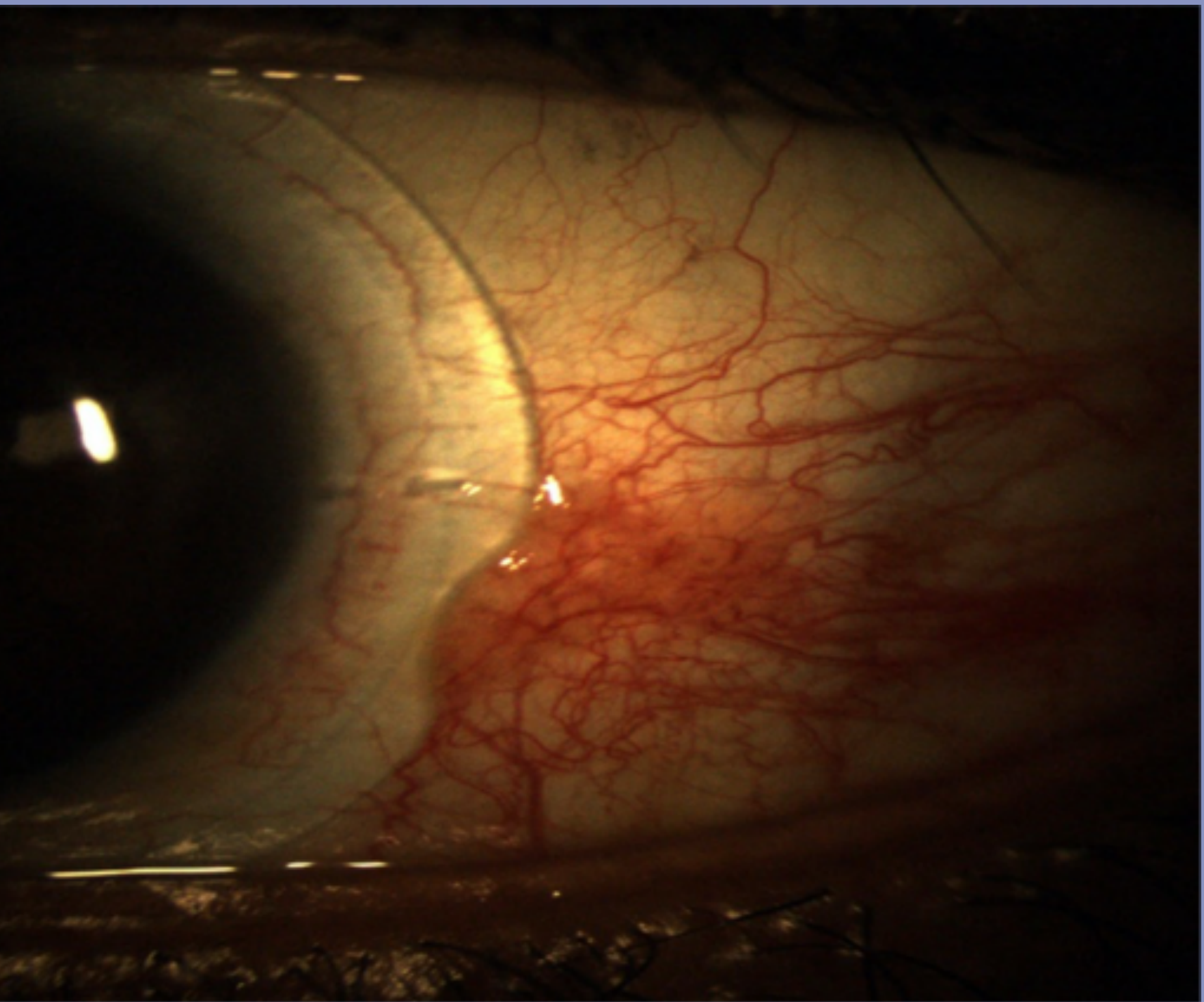


Figure 5. Notch at edge of scleral is sitting in the appropriate position, but the edges are still impinging on the ping causing hyperemia. The notch could not be made larger than this to fit around the ping

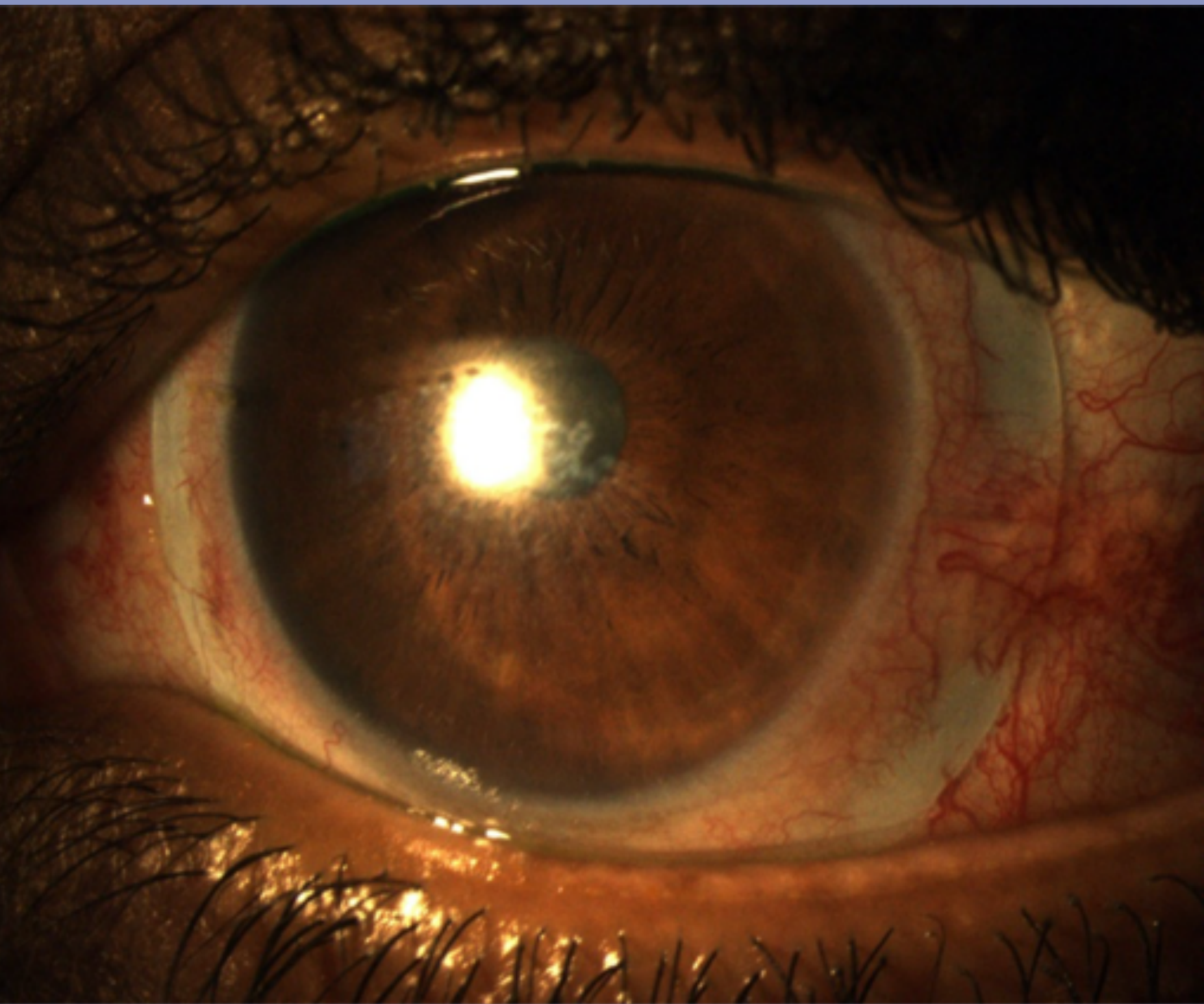


Figure 6. Microvault at edge of lens is clearing the ping, but haptics are too tight causing impingement. After the haptic was flattened, the change in fit made the lens rotate and the vault had to be moved back into the correct position

## Final Management

- Scleral lenses (16.0 diameter) with appropriately sized and placed vaults (Plift, Europa, Visionary Optics)  
**PHOTOS TO COME**
- Piggyback system when at home for less visual needs
  - Daily disposable SCL when swimming (discard immediately after swim)

## Discussion & Clinical Pearls

- Pings pose a problem for fitting scleral lenses. Sclerals without specific modifications tend to sit heavily on the pings, impinge the blood supply, and cause discomfort and hyperemia. However, some patients require specialty lenses to have adequate vision, so not fitting them is not an option. Specifically, some patients require scleral lenses because their lifestyle demands it or their disease is too progressed for other options.

- To fit a scleral lens to avoid pings, modifications can be made to the diameter of the lens, or the edge can be adjusted to clear around or over the top of the pings.
  - Options for specialty lenses that can avoid causing pingueculitis include: corneal RGP's, large diameter sclerals that land outside the area of the ping, small diameter scleral or corneoscleral lenses that land short of the area of the ping, a piggyback RGP and soft lens system, hybrid lenses, notching the edge of a scleral around the ping, or vaulting over the ping with a small section of lift in the haptic over the area of the ping
  - Which lens is most appropriate depends on patient parameters such as BCVA, disease stage, and lifestyle
  - Other considerations, if the above options are unsuccessful: corneoscleral mapping to measure the exact size and location of the ping to help better design the lens, or EyePrintPRO™ lenses that are specifically designed to "match the exact contours" of the eye (including pings) by taking an impression mold

## References available on request