

Utility of GP Lenses to Improve Vision for a Patient with EKC Scars

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Background:

Epidemic Keratoconjunctivitis (EKC) is a serious ocular manifestation of human adenovirus infection.¹ Persistent scarring in EKC appears as plaque-like lesions, disrupting Bowman's layer and creating localized epithelial thickening and stromal thinning.¹ These scars are visually significant, diminishing visual acuity and increasing glare.² This case study discusses the utility of corneal gas permeable (GP) lenses to restore 20/20 vision to a patient with EKC scars.

Case Description:

CC: A 56-year-old Hispanic male referred for specialty contact lens (CL) fitting.

POHx: EKC scarring; OU. Onset: 10 years ago.

(-) recurrence; (-) previous betadine or steroid treatment

PMHx: Unremarkable

Clinical Findings:

BCVA with spectacles: 20/25 OD, 20/100 OS, 20/20- OU

Pupils: PERRLA (-)APD OD, OS

EOM: Full, (-)pain, (-)diplopia OU

Cover test (cc): Ortho distance and near

Randot Stereopsis: Global: Poor response

Local: 200 seconds of arc

Anterior Segment:

Adnexa: Normal

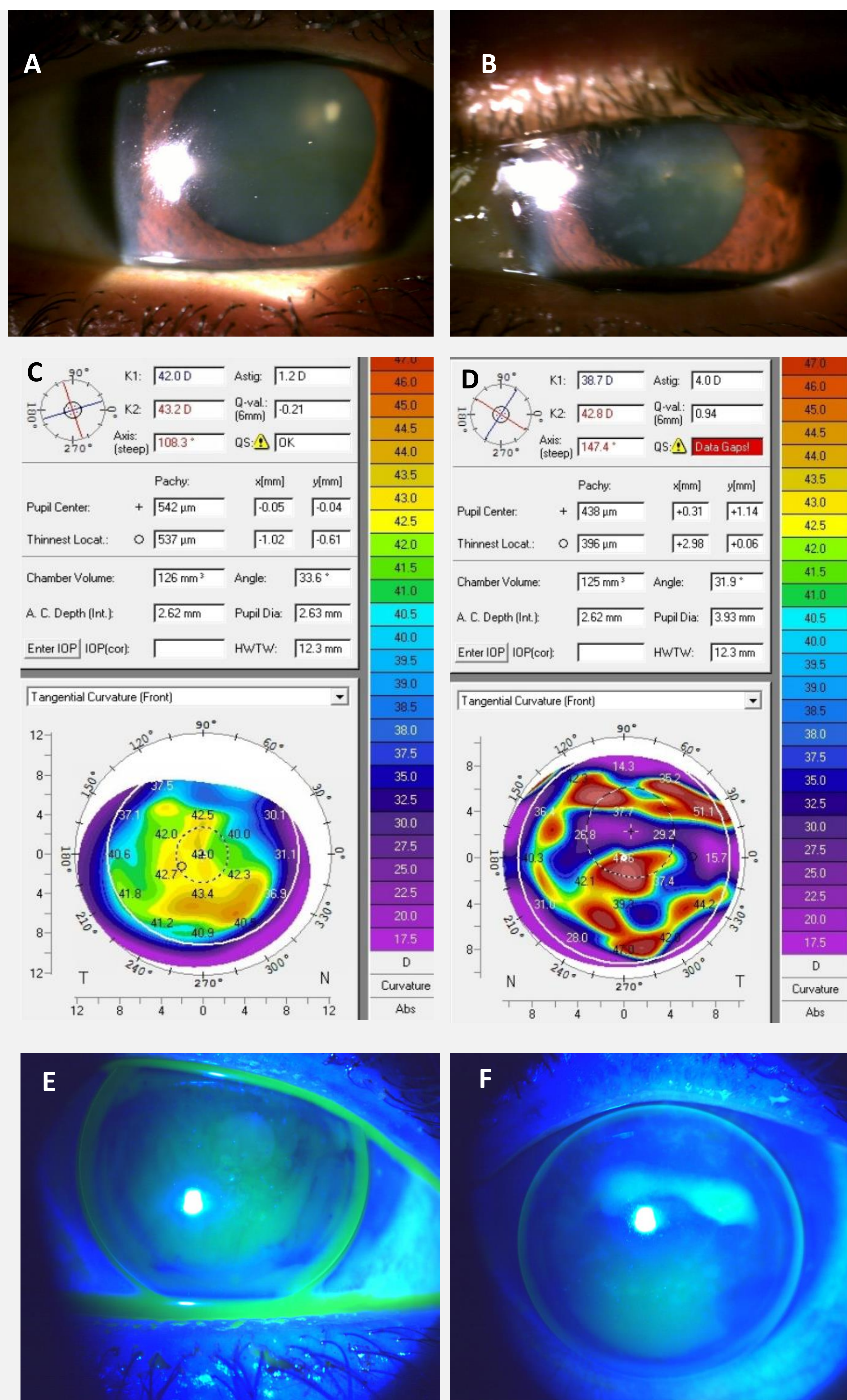
Lids and Lashes: Trace debris and telangiectasia OU

Cornea: Multiple mid-sized, round, plaque-like scars scattered throughout anterior stroma, OS>OD

Sclera: White and Quiet OU

Conjunctiva: Pink and healthy OU, (-)papillae, (-)follicles

Posterior Segment: Within-normal limits OU



Figures A and B: Anterior segment photos of the right and left eye, respectively.

Figures C and D: Tomography data of the right and left eye, respectively.

Figures E and F: Anterior segment photos of contact lenses with fluorescein on the right and left eye, respectively. Figure F was taken with both upper and lower lids held.

Discussion:

An aspheric back surface GP lens was selected to manage the 4 diopters of corneal cylinder, OS. The asphericity Q value (Q) of 0.94 @ 6mm suggested an oblate shape, OS, while OD was relatively regular and prolate with a Q of -0.21 (normal prolate Q is -0.26).³

Initial CL fitting: ACE (ART Optical) Custom Eccentric GPs

	Power	BC (mm)	Diam (mm)	OZ (mm)	Edge lift	Eccentricity	DK	BCVA
OD	-2.00 Sph	7.70	9.60	8.0	0.11	0.50	65	20/20
OS	-1.50 Sph	7.60	9.60	8.0	0.11	0.50	65	20/25

Fit: Both lenses were well-centered, lid attached with adequate movement. Patient reported good comfort.

OD: Moderate central and peripheral pooling of sodium fluorescein (NaFl) indicates slightly steep apical fit with good edge lift 360.

OS: Feathery apical touch with paracentral pooling and mild peripheral pooling of NaFl indicates slightly flat apical fit with acceptable edge lift 360 & good movement.

Post Dispensing Follow-up Visit:

The patient reported great satisfaction with his GP lenses. He used +2.50D OTC readers over his GPs for near vision. Corneal evaluation was negative for dimple veiling, desiccation, or other associated complications.

Conclusion:

An aspheric corneal GP lens is a great option for improving visual acuity and offering better alignment than a spherical back surface lens for scarring-induced irregular corneal surfaces.⁴

References

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