EPIKERATOPHAKIA- A BOON IN THE MANAGEMENT OF KERATOGLOBUS

PRESENTER- DR SUMIT NAVNEET TOSHNIWAL

PATIENT PROFILE

- 48 years old housewife, residing at Nigadi, Pune

CHIEF COMPLAINT

- **Diminution of vision in (BE),(RE)> (LE) since 3 years**

HISTORY OF PRESENTING ILLNESS

- Patient was apparently alright 3 years back when she started developing diminution of vision in the both eyes (RE>LE) which was insidious in onset painless and progressive in nature.
- H/o spectacle use for far vision since 10 years.(infrequent use of glasses as patient was not comfortable wearing it)
- Patient was giving history of frequent change of spectacles 6-7 times for last 4 years.(H/o last change of spectacles 3 months back.)
- No h/o photophobia, glare
- No h/o redness, watering
- No h/o itching
- No h/o rubbing of eyes
- No h/o contact lens wear
- No h/o any ocular trauma

PAST HISTORY

- No history of DM/HTN/Hypo or hyperthyroidism/RA etc.
- No history of any previous ocular surgeries.

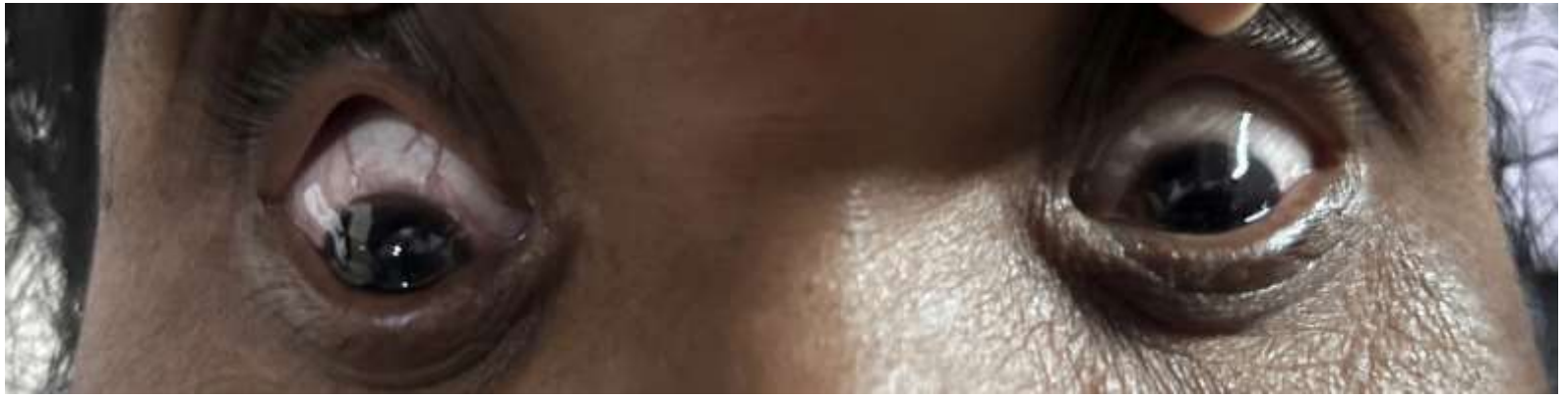
FAMILY HISTORY: No H/O similar complaints in any of the family members

GENERAL EXAMINATION :
Moderately built and well nourished
Well oriented to time, place and person
Afebrile
PR-72 /min
RR- 18/ min
No pallor, clubbing cyanosis, edema and lymphadenopathy noted

SYSTEMIC EXAMINATION :
CVS/RS/PA/CNS- WNL

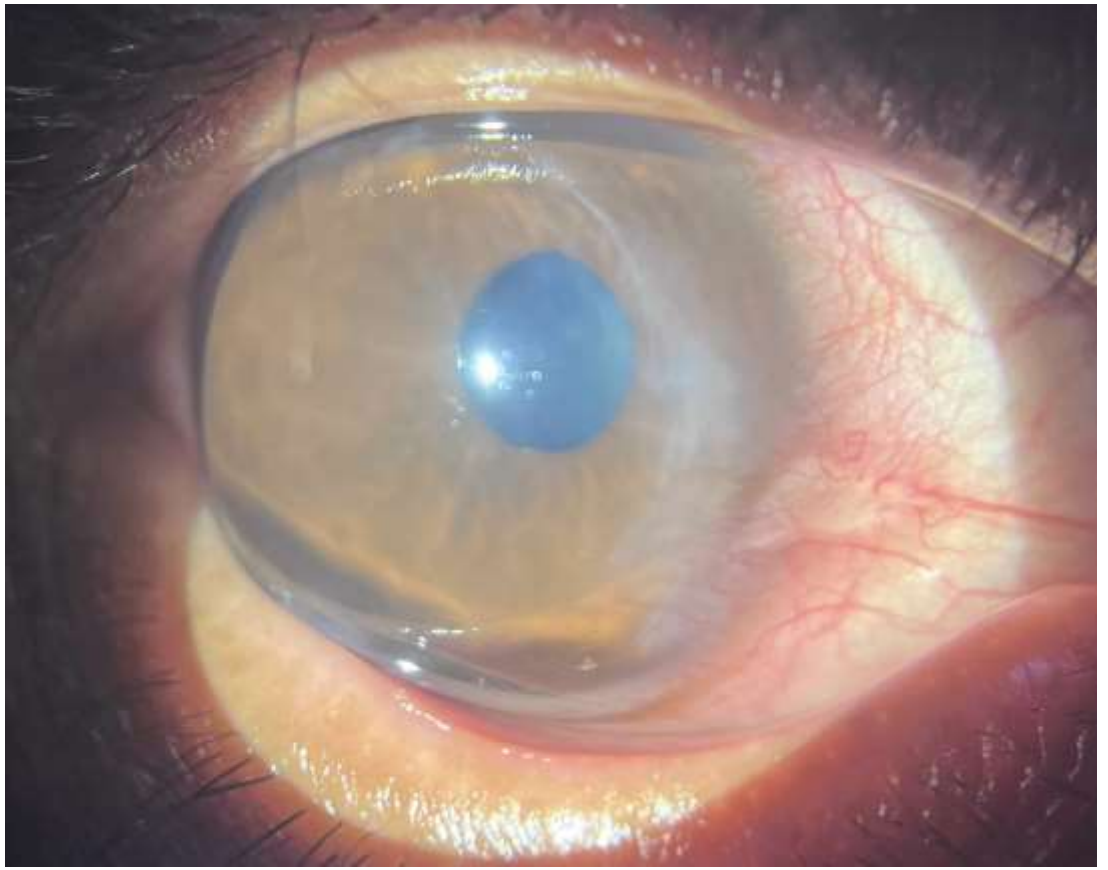
	RIGHT EYE	LEFT EYE
VISION	2/60 PR accurate(in all quadrants) -5/60 on pinhole(NI on BCVA)	5/60 PR accurate(in all quadrants)-NI on Ph
NEAR VISION	N36- N24(+1.50DS)	N36-N24 (+1.50DS)
COLOUR VISION	Intact	Intact
EXTRAOCULAR MOVEMENTS	Full ,free and painless	Full,free and painless
HEAD POSTURE	Normal	Normal
FACIAL SYMMETRY	Maintained	Maintained
EYELASHES	Normal	Normal
EYEBROW	Normal	Normal
ORBITAL MARGIN	Continuous, non tender	Continuous, non tender

MUNSON'S SIGN- ANTERIOR BOWING OF LOWER EYELID ON DOWNGAZE



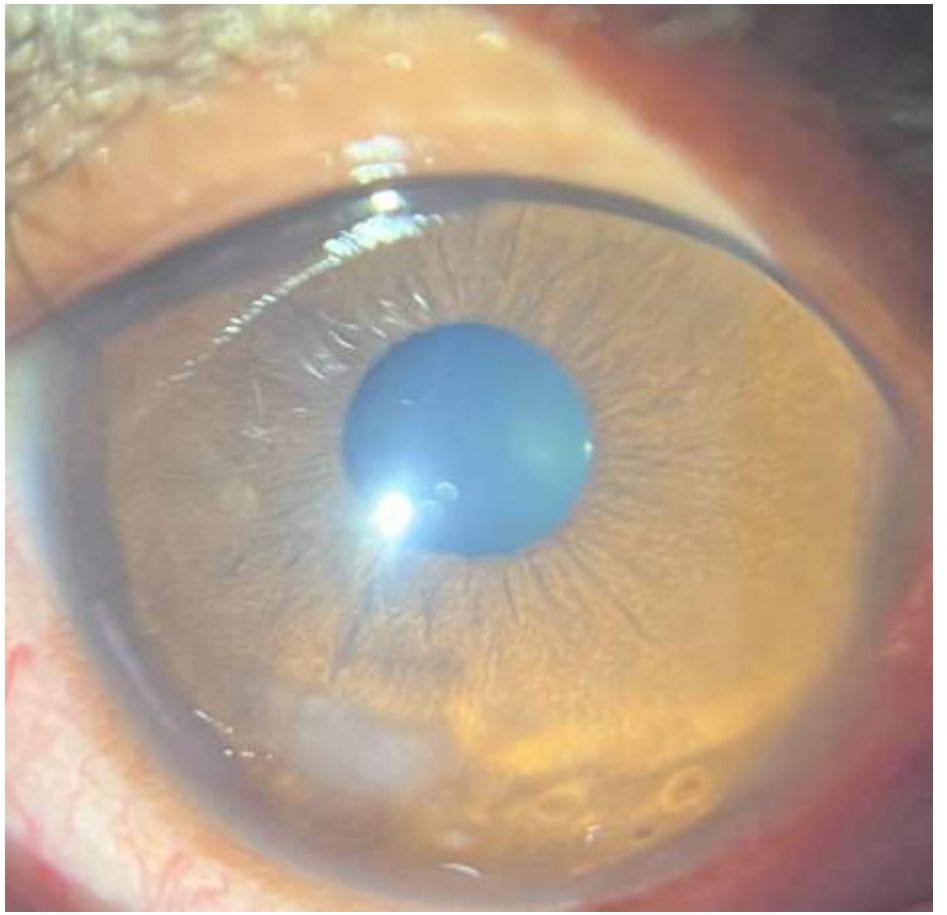
ANTERIOR SEGMENT EXAMINATION

	(RE)
CONJUNCTIVA	Superficial vascularisation +from 1-5 o'clock No pigmentation/papillae
CORNEA	Generalised protrusion of cornea with thinning inferiorly Fine vertical lines in deep stroma inferonasally s/o Vogt's striae Prominent corneal nerves inferonasally
ANTERIOR CHAMBER	Deep
IRIS	Normal pattern
PUPIL	Central/circular/reacting to light
LENS	Clear



ANTERIOR SEGMENT EXAMINATION

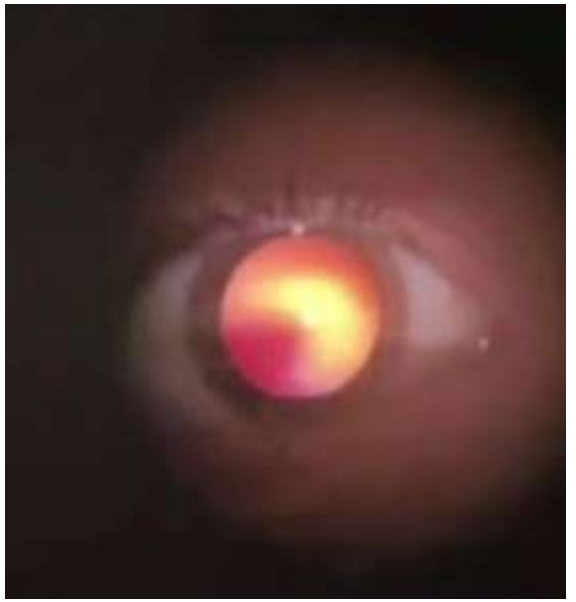
	(LE)
CONJUNCTIVA	No congestion/pigmentation/ papillae
CORNEA	Generalised protrusion of cornea with thinning inferiorly Sub epithelial scarring inferonasally
ANTERIOR CHAMBER	Deep
IRIS	Normal pattern
PUPIL	Central/circular/reacting to light
LENS	Clear



FUNDUS EXAMINATION

	RIGHT EYE	LEFT EYE
MEDIA	Clear	Clear
OPTIC DISC	~1.7x1.5mm in size and vertically oval in shape with peripapillary atrophy	~1.7x1.5mm in size and vertically oval in shape with peripapillary atrophy
CUP-DISC RATIO	0.4	0.4
NEURORETINAL RIM	Healthy(obeying ISNT rule)	Healthy (obeying ISNT rule)
MACULA	WNL at present	WNL at present
FOVEAL REFLEX	Present	Present
GENERAL FUNDUS	WNL at present	WNL at present

- **ON RETINOSCOPY- “SCISSORING REFLEX” was present.**
- **ON AUTOREFRACTOMETER- (Normal keratometric values = 42-44 D)**
- **(RE) -KV- 52.25D KH- 49.75D**
- **(LE)- KV- 50.50D KH- 48.50D**



PROVISIONAL DIAGNOSIS

(BE) Keratoglobus

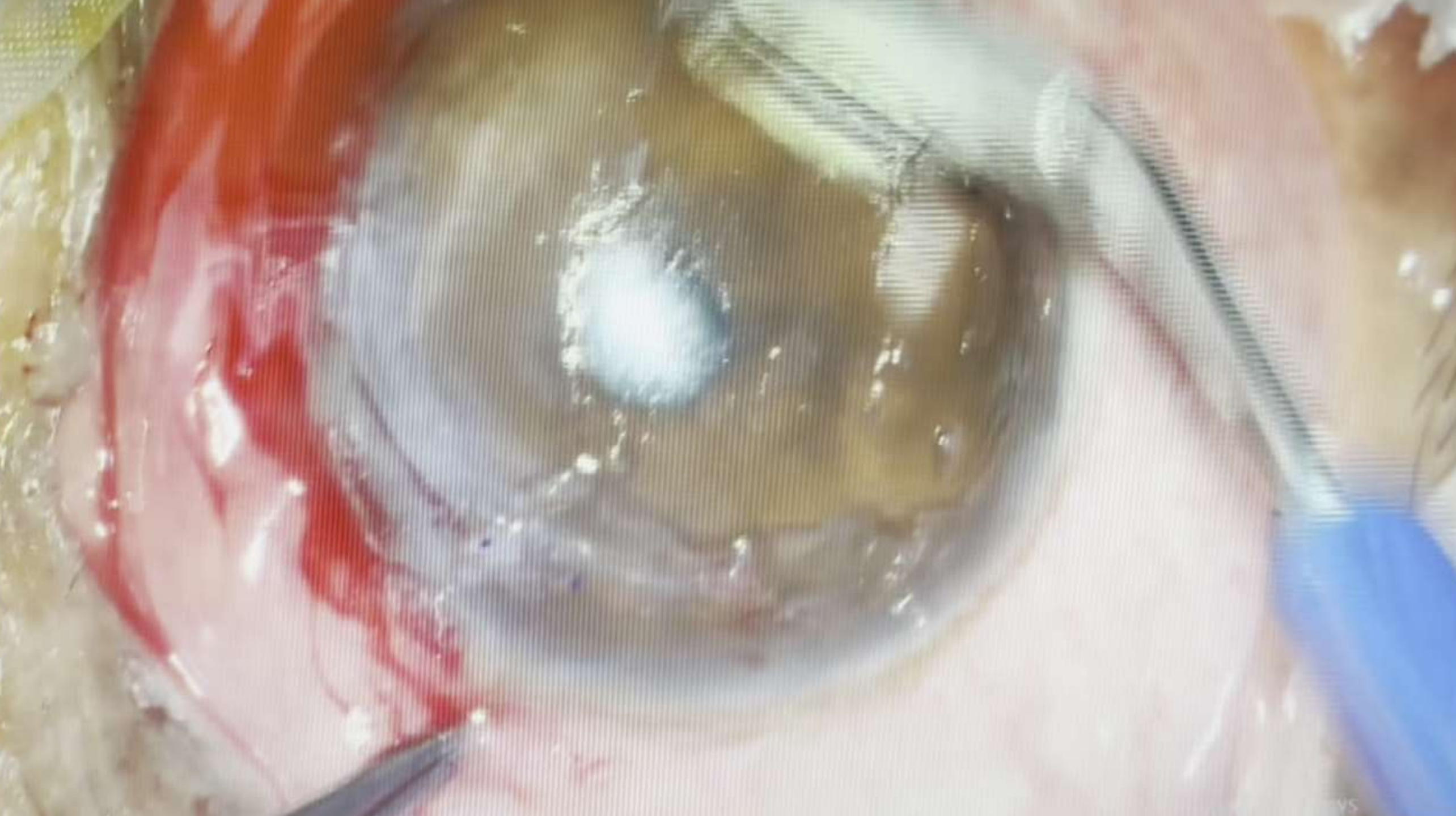
PLAN OF MANAGEMENT

Patient was planned for epikeratophakia of (RE) followed by (LE)

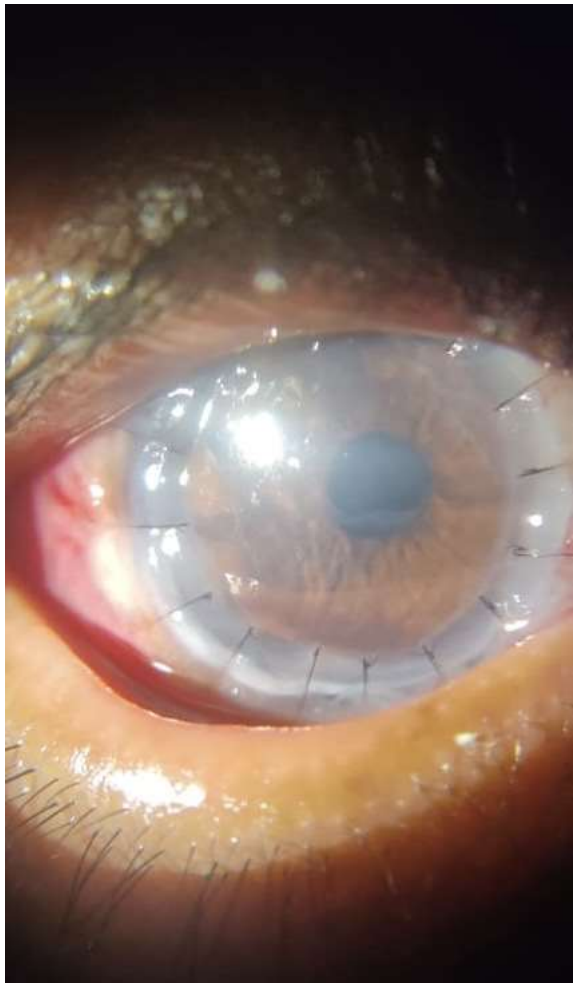
EPIKERATOPHAKIA

It is a refractive surgical procedure in which a lamella of donor cornea is transplanted onto the anterior surface of the patient's cornea. So basically, a lamellar disc from donor cornea is placed over de-epithelialized host cornea and sutured into a prepared groove on the host cornea.

Feder RS, Kshettry P. Noninflammatory ectatic disorders. In: Krachmer JH, Mannis MJ, Holland EJ, editors. Cornea. 3rd ed. Vol. 1. Philadelphia: Elsevier/Mosby; 2011. p. 865-87.

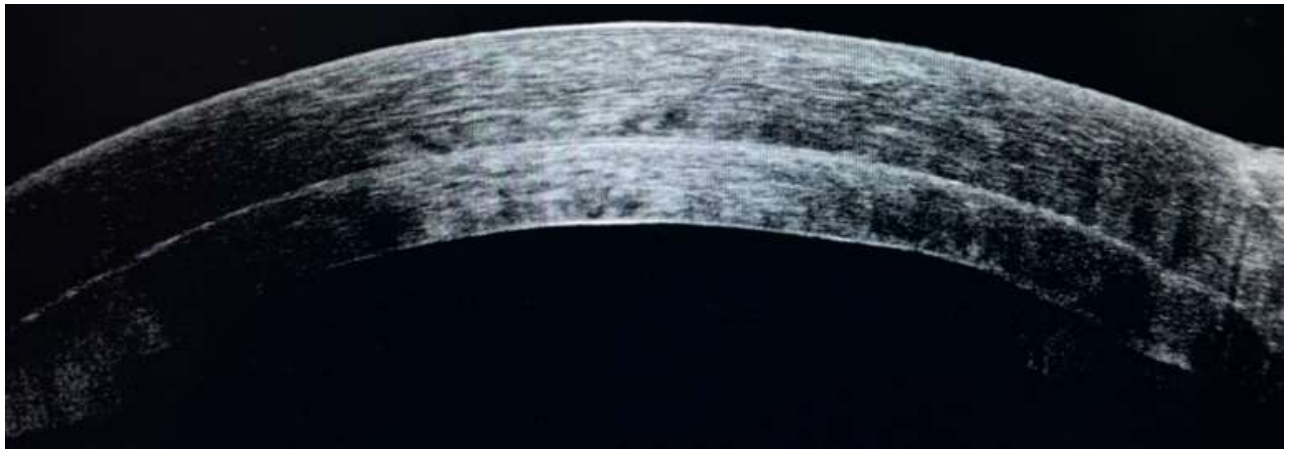


POST OP DAY -1



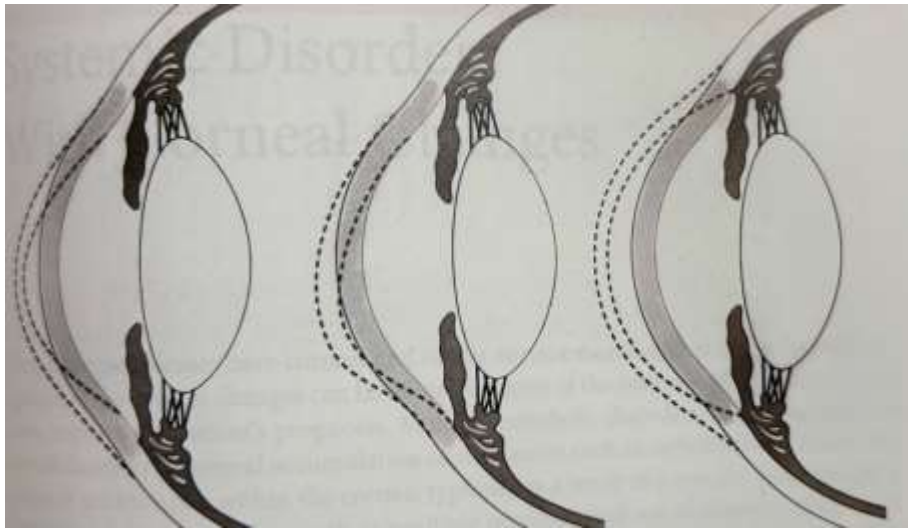
POST OP-ANTERIOR SEGMENT OCT

- Anterior segment OCT (optical coherence tomography) is an amazing tool in the follow up of all the patients of lamellar keratoplasty, which determines surgical success.
- In the given image, donor's graft is well opposed with the host bed. There is no clear space that signifies a good approximation post surgery.



KERATOGLOBUS

- Keratoglobus is very rare, non-hereditary, bilateral, non-inflammatory condition of the cornea that differs from other ectatic conditions of cornea in typically being present at birth. It is similar in appearance of keratoconus, but manifests as a globular, rather than a conical form of the cornea.



KERATOGLOBUS

- Pathology- It is strongly associated with blue sclera and Ehlers-Danlos syndrome Type VI and it may represent a defect in collagen synthesis.
- Histologically, It is characterised by an absent or fragmented Bowmans layer, thinned stroma and descemet membrane with normal lamellar organisation.

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MANAGEMENT

- 1- Scleral contact lenses can also be used.
- 2- A lamellar tectonic graft followed by PK
- 3-Spontaneous corneal rupture has also been reported, so patients must be counselled regarding the importance of protective eyewear.
- 4-High myopia is treated with spectacles to prevent amblyopia.

REFERENCES

1- Feder RS, Kshettry P. Noninflammatory ectatic disorders. In: Krachmer JH, Mannis MJ, Holland EJ, editors. Cornea. 3rd ed. Vol. 1. Philadelphia: Elsevier/Mosby; 2011. p. 865-87.

2-Vajpayee, Rasik B. M.B.B.S., M.S.; Bhartiya, Prashant M.D.; Sharma, Namrata M.D.. Central Lamellar Keratoplasty With Peripheral Intralamellar Tuck: A New Surgical Technique For Keratoglobus. Cornea 21(7):p 657-660, October 2002.

3-Kaushal S, Jhanji V, Sharma N, Tandon R, Titiyal JS, Vajpayee RB. "Tuck In" lamellar keratoplasty (TILK) for corneal ectasias involving corneal periphery. Br J Ophthalmol. 2008 Feb

THANK YOU