

PHACO IN RADIAL KERTOTOMY

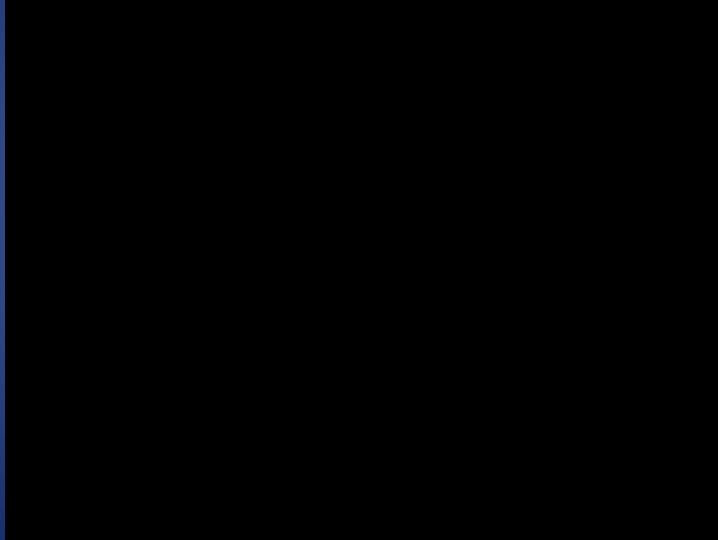
BY

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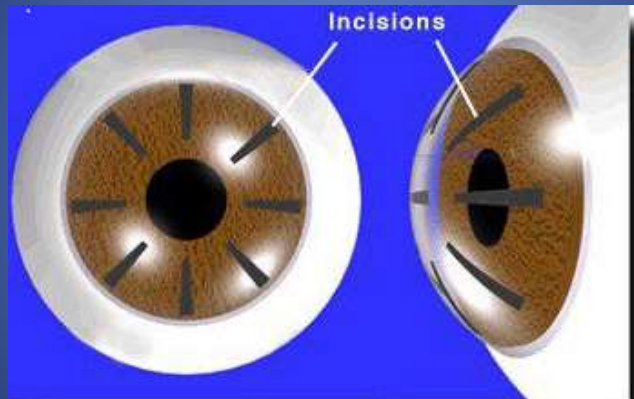
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- Male pt 55 years old .
- Bilateral RK for correction of myopia 15 years before presentation.
- Complaining of drop of vision due to cataract.
- VA :0.1 refraction was -4/-5 ax 155.
- lol calculation was 12 Ds.

case



- Radial keratotomy (RK) is a refractive surgical procedure to correct myopia and astigmatism, in certain patients. It involves making numerous radial incisions extending from the pupil to the periphery of the cornea in a radial pattern like the spokes of a wheel. It was very popular in the 90's.




- The number of post-RK patients needing cataract surgery is rising because they are aging and so they have more probabilities of developing cataract.
- Because of their irregular corneas, even mild cataracts can induce visually significant aberrations at an earlier stage than would be expected for a traditional patient.

- Even after many years, the cornea never regains its original integrity, with the persistence of the presence of epithelial cells in the scars
- Appropriate preoperative studies and specific intraoperative precautions must be adhered to

- This is a difficult subset of patients for many reasons: the IOL implant calculations can be inaccurate, the surgical procedure can be challenging, and the postoperative recovery can be prolonged. However, the greatest challenge is often the mindset of the refractive patient. These patients often have high demands and are frequently intolerant of residual refractive errors.

- IOL calculation and selection.
- Operative difficulties
- Postoperative care
- Patient expectations.

IOL CALCULATION

- Many formulas and techniques.
- there is no single method that yields great results.
- The principal error is overestimation of the corneal power,  lower power IOL and postop hyperopia.

IOL CALCULATION

- Because these patients have typically been myopic their entire lives, leaving them with residual hyperopia is particularly uncomfortable and bothersome. To help in preventing postoperative hyperopia, a more myopic result can be targeted,

IOL CALCULATION

- Robert K. Maloney, MD. It uses the central corneal power as measured by topography.
The power of the cornea is a combination of the anterior corneal power and the posterior corneal power. By converting the overall central corneal power

From topography back to the anterior corneal power, then subtracting the expected posterior corneal power, we can achieve a fairly accurate estimation for our IOL calculations. This formula is:

- Estimated K power = (central K power on topography \times 376/337.5) – 6.1

IOL CALCULATION

- Another formula is postrefractive surgery IOL calculator provided on the ascrs's website.
- But still no guarantee for accuracy.

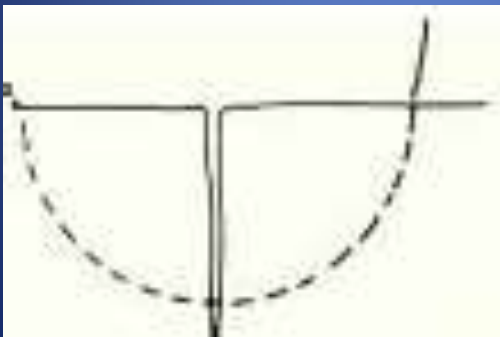
IOL SELECTION

- Because of the irregular corneas, It is preferred to avoid multifocal iols.
- Aspheric IOLs may be a particularly good choice in these patients because of their significant corneal aberrations.
- A negative spherical aberration aspheric iol can help to offset the large amount of positive spherical aberration often seen in RK corneas.

OPERATIVE DIFFICULTIES

- Primary incision:
Careful placement of the incision for phacoemulsification, evaluating the space between the incisions, avoiding to intersect any RK incision.
- If an RK scar is transacted by the primary incision, significant instability of the wound will likely result, with consequent incompetence and aqueous leakage.

- A 10-0 nylon suture, and left the knot on the surface, which we removed two weeks postoperatively.
- Superior, temporal and it is better to do scleral tunnel.



- Due loss of corneal biomechanics there is excessive folding and corrugation that interfere with good visualization .
- The phacoemulsification exposes to an increased risk of dehiscence or rupture of previous RK incisions, because of an impaired corneal biomechanics

SO.....

- In between incision incision better scleral tunnel.
- 10/0 nylon stabilizing suture
- Phacodynamics : infusion flow was setted to 28 ml/min, vacuum to 300 mm hg, US power 20% and smaller phacoemulsification tips were used to ensure that the fluid inflow remained greater than the fluid outflow.
- Wound closure.

BACK TO OUR CASE

- POST OP VA: 0.5
- POST OP REFRACTION: +6 DS CYL AX 170



- BUT THE MOST IMPORTANT THE PT IS UNEXPECTEDLY SATISFIED

الحمد لله

THANK YOU