Cataract Surgery with Corneal Pathology

Discose: Trends and Challenges in the Lens Refractive and Cataract Surgery
Sponsored by ASCRS & ALACCSA-R (LASCRS)
Sunday, April 19, 2015: 03:00 PM - 04:30 PM, SD CC, Room 6E

Arturo Kantor

DISCLOSURE
I HAVE NO FINANCIAL INTEREST

Corneal Astigmatism

- Main cause of visual dissatisfaction with clear cornea.
  - Post Queratoplasties (PKP-DALK)
  - Corneal Disease
    - PUK
    - Peripheral scarring
    - Trauma
    - Post infectious keratitis
  - KCN
Quality of Life Post PKP en KCN

• 2 year S/P PKP 70% say their quality of life and dependence on CL is same or worse than Pre Op.

Problems Associated to High Astigmatism

• Extreme Anisometropia
  - Spectacles unfeasible
• Irregular or Asymmetric astigmatism
• Unstable refraction for months
• Complex CL fitting
• Amblyopia

Pre surgical considerations in cataract surgery with abnormal cornea:

- Underlying disease inactive
- In PKP healed / stable G-H junction.
- Stable topography
- Stable refraction prior to cataract
- Adequate corneal viability
  - stem cells and ECC
- Vascularization
Case 1

- 55 yo male, healthy
- Corneal laceration 2002 OS
  - 3 mm irregular wound + traumatic cataract
- Aspiration of residual cortex + Cyanoacrylate patch
  - No available tissue
- OD normal eye exam VASC 20/20

4 months later:
- PKP / Aphakia with good residual capsule.
- No follow up visits for 8 years S/P suture removal.
- VA SC OS of 20/20
- TONO PEN OS 15
- MX OS V 1.25 R 1.00 + 0.75 A 90° = 20/20p
- KS OS - 4.00 + 1.50 X 160° = 20/20p
- EEE-CT X(T) OS distance/near, normal motility

Slit Lamp:
- OS PKP OK, no surface disease, AC D + Q, horizontally elongated pupil, posterior synechiae to capsule.

Gonioscopy:
- 360° Annular residual capsule, stable
- Superior PAS + Iridectomy at 1, No vitreous in AC

Fundus: NORMAL

IMPRS: Aphakia+ High corneal Astigmatism in PKP
Case 1

- Current ECC OS1030
- Pachy OS 580 microns (OCT)
- TOPO: Big ATR astigmatism 11.9 D
- KS OI 40.5 Y 48.25 A 1° (7.75)
- OCT MACULAS NORMAL
- Sulcus Fixation IOL for high Astigmatism.

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Case 1

- 2 year follow up
- VA SC OS 20/20p
- Auto Refraction: OS +1.00 ESF = -0.75 CIL A 170º
- MR: +0.75 a 80° 20/20p
- KS: OS 41.75 Y 48.25 A 3° (6.50)
- Tono Pen OS 9 mm Hg

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2 years Post Op.
Case 2

26 yo female
- Sheep breeder in Tierra del Fuego and Model
- OD Perforated corneal laceration at age 2 años (corneal suture)
  +K: 0D 38 D 25 Y 44.75 A 96° (-6.50)
  +VA OD: -7.00 ESF = -6.50 CL A 180° --> 20/70P (crowding)

Slit Lamp:
  + OD Corectopia + Discoria PAS
  + Central cornea ok
  + Anterior SC and fetal nucleus lens opacity.
  + Posterior lens capsule with traction striae to peripheral leucoma.

Case 2

IMPRS: Corectopia + Discoria + High Astigmatism + Anisometropia + Amblyopia OS.

Dilated MR no help

RGP CL OD AV 20/70P
  + Does not tolerate RGP (wind)
  + Un happy with cosmesis
Planned surgery OD:
- Phaco + Custom made capsular bag
- Toric IOL + CTR + Synechiolysis + Iridoplasty

Case 2

18 months S/P Surgery
- Tono Pen OD 16 mmHg
- KS OD 38.75 Y 44.75 A 95° (6.00)
- VA SC OD 20/100 reads J2
- MR OD -1.50 ESF --> 20/40
Case 3

- 53 yo female
- Congenital Aniridia
- FF KCN
- NO macular hypoplasia
- NO limbal stem cell deficiency
- 2 children with congenital aniridia...

Case 3

- Severe GPC secondary to DW SCL with iris.
- Severe chronic hypoxia due to CL
- Moderate SC lens opacities in visual axis.
- PLAN: Phaco + Alcon SN6AT IOLS + CTR + Artificial iris
IOL Master
3 weeks without CL

KS
OD 40 Y 41.75 A 110° (1.75)
OS 44 Y 50.50 A 65° (6.50)

• We explain she will need distance and near spectacles.
• She will have residual irregular astigmatism.

2 years Post Op.

• VA SC OU 20/40 and J2 at 35 cms easy
• TN OD 7 / OI 7
• PSL LEJOS
• OD -2.50 CIL A 20° → 0.5
• OI -2.00 ESF → 0.5 P
Conclusions

• Complex cases require using all available surgical technics and devices.
• Judicious case selection.
• Study each case in detail, intensive in chair time.
• Frequent follow up visits, to treat possible complications timely.
• Under promise, objective is reduce:
  – ammetropia and anisometropia.