WHAT ARE WE MISSING?

1. PATIENT SPECIFIC FACTORS
2. OCULAR SURFACE DISEASE
3. KERATITIS MEDICAMENTOSA
4. REFRACTIVE SURPRISES
5. FUNKY IOLs
6. DYSPHOTOPSIA
7. SUBTLE CORNEAL PATHOLOGIES
8. IOL DECENTRATION
9. PROBLEMS WITH MF IOLS
10. SUBTLE MACULAR PATHOLOGIES
How Do We Manage?

PCO ASSESSMENT

- S.I. Biomicroscopy
- Retroillumination
- Distant Direct Ophthalmoscopy
- Direct Ophthalmoscopy
- Clarity of Fundus View

How Do We Manage?
- PCO PROPHYLAXIS
  - Complete Removal of LEC
  - Surgical
  - Pharmacologic
  - Immunologic
  - LCOP: Laser Capsular Opacity Prevention
  - Prevention of LEC Proliferation / Migration
  - Surgical
  - Pharmacologic
  - Immunologic

Laser Capsular Opacity Prevention (LCOP)
ARC Nd:YAG laser photolysis

- Laser Capsular Opacity Prevention (LCOP)
  - ARC Nd:YAG laser photolysis
  - Evaluation of laser capsule polishing for prevention of PCO in a human ex vivo model

- WHAT WAS KNOWN
  - LP is capable of removing LECs from the Ant Capsule & the capsular bag in vitro setting
  - LP capsule polishing can be performed safely during in vivo cataract surgery

- WHAT THIS PAPER ADDS
  - Circumferential LP capsule polishing provides consistent and sustained prevention of PCO in vitro setting.
  - Thorough ablation of LECs from the capsular bag for PCO prevention in vivo cataract surgery / implantation
PCO PROPHYLAXIS

- Complete Removal of LEC
- Surgical
- Pharmacologic
- Immunologic
- LCOP
  - Laser Capsular Opacity Prevention

- Inhibition of LEC Proliferation / Migration

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PCO PROPHYLAXIS

Capsulorhexis: Regular, Round, Well-cent., 360° IOL Optic Overlap

Hydrodissection: Thorough Cortical Cleaving Hydrodissection

I& A: Thorough Cortical Clean – up to 5-5 Ring
Role of Posterior Capsular Polishing:
Role of Anterior Capsular Polishing:

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PCO Prophylaxis - Capsulorhexis

- Regular
- Round
- Well-cent.
- 360° IOL Optic Overlap

Capsular Sequestration
- "Shrink Wrap" the Capsule Around IOL Optic
Proper Sizing of the Capsulorhexis

- Rhesis Dia < 1 mm < IOL Optic Dia ≤ 4 mm
- Verus Capsulorhexis Device
  (Verus Ophthalmics, Denver) - Malik Y. Kahook
  JCRS 2014, May

PCO Prophylaxis – Cortical Cleaving
Hydrodissection

- Techniques
  - Cortical cleaving hydrodissection
    (Renato D’Agostini, Milan)

PCO Prophylaxis – Role of PC Polishing
PCO Prophylaxis – Role of AC Polishing

Many would like to avoid it.

Ring polishers

Singer’s Sweep

PCO Prophylaxis – Role of AC Polishing

Role of anterior capsule polishing in residual lens epithelial cell proliferation

Nalini Arumugam, MD; PRO, Shiraj MD; Naik MD; Patel MD; Vedula LN, MD; Vedula MM MD; VMK.

Conclusions: Anterior capsule polishing, although it removed many LECs, did not decrease residual cell growth and, conversely, enhanced cell proliferation in capsular bag cultures. This might explain why polishing does not reduce PCO in clinical studies.
PCO PROPHYLAXIS

IOL Issues

IOL Optic Geometry
- Square, Truncated Edge Optics
- Maximal IOL Optic Contact
- Posterior Angle Haptic
- Post Convexity of the Optic
- Adhesive Biomaterial (Shrink-Wrap)
- Biocompatible IOL Material
- Stimulate Cellular Proliferation
- Small Haptic-Optic Junction

PCO MANAGEMENT

IOL Capsulotomy
- Definitive

PCO MANAGEMENT

Decision More Complex in a MF IOL Pt

- ? Cause of Visual Disability
  - Early PCO
  - Other Mechanism
  - Early PCO + Other Mechanisms

YAG Capsulotomy for Early PCO (When PCO wasn’t the Cause)

- Nonimprovement of Symptoms
- Complicate Further Mx. If IOL Exchange is Needed

MANAGEMENT: Post YAG Capsulotomy

- Well Centered + Adequate Size
- Topical Steroids
- NSAIDs
- Topical IOP Lowering Agents
- Guard Against CME & other Retinal Complications
WHAT ARE WE MISSING?

1. PATIENT SPECIFIC FACTORS
2. DECOUP SURFACE DISEASE
3. KERATITIS MEDICAMENTOSA
4. REFRACTIVE SURPRISES

5. EARLY PCO
6. DYSPHOTOSIS
7. SUBTLE CORNEAL PATHOLOGIES
8. IOL DÉCENTRATION
9. PROBLEMS WITH MF IOLS
10. SUBTLE MACULAR PATHOLOGIES

CONCLUSION: MANAGEMENT of EARLY PCO

• "Early PCO" Assumes Significance in the Context of MF IOL
• Prophylaxis – Good Surgical Technique, Strategy - Appropriate IOL Design
• YAG Capsulotomy is Definitive but the Decision Process is Complex

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