CATARACT IN HIGH MYOPIA

MOSTAFA SALAH MD
PROFESSOR
RESEARCH INSTITUTE OF OPHTHALMOLOGY
RIO

HIGH MYOPIA
EXTREME, PATHLOGICAL, MALIGNANT

- **AX. LENGTH:** MORE THAN 26.5 mm
- **ERROR:** MORE THAN:
  - -6.00 dpt. in adult
  - -4.00 dpt. in children less than 5ys.
HIGH MYOPIA
HIGH-EXTREME.PATHLOGICAL, MALIGNANT;

- POST POLE ABNORMALITIES:
  - Temporal peripapillary atrophic crescent, Hage & tilting of optic disc
  - Tessellated fundus.
  - posterior staphyloma
  - Lacquer cracks, diffuse atrophy, patchy atrophy.
  - CNM, macular atrophy, mac. Hole, Fuch’s spot.

CATARACT IN HIGH MYOPIA

PROBLEMS
- AGE: EARLIER
- ANISOMETROPIA:
  - MS DEVIATION- AMPLOYPIA.
- GLAUCOMA
- CHRONIC CL USE: GPC, C.Vazcularization, DRY EYE
- RETINAL AND MACULAR PATHOLOGIES
CATARACT IN HIGH MYOPIA

LENS OPACITY.

- High myopia is known to be associated with cataract.
- Increases risk of posterior subcapsular cataract, an important predictor of cataract surgery.

Myopia and Incident Cataract And Cataract Surgery. The blue Mountain Eye Study

CATARACT IN HIGH MYOPIA

PREOPERATIVE EVALUATION

- BCVA
- MS BALANCE
- IOP
- SL: CONJ/ CORNEA/ LENS
- VITREOUS
- RETINA : DISC/MACULA/PERIPHERY
CATARACT IN HIGH MYOPIA
PREOPERATIVE EVALUATION:

- **TOPOGRAPHY:**
  astigmatism management, KCC
- **USG:**
  PVD, post staphyloma. Axial length, ACD
- **FFA:**
  CNVs, Mac. scar.
- **OCT:**
  PVD, ERM, F. SCHESIS, CNM
- **BIOMETERY:**
CATARACT IN HIGH MYOPIA

BIOMETERY:
- LONG EYES MAY HAVE NORMAL Sized ANT.SEGMENT.!!!
  - IOL MASTER: most accurate.
  - A SCANE:
    - WHICH FORMULA:
      - SRK-T.
      - Holladay 2 (needs WTW diameter.)

CATARACT IN HIGH MYOPIA

PROPHYLACTIC ARGON LASER OR CRYO

- ACTUAL LESIONS
  - LATTICE WITH HOLES.
  - SYMPTOMATIC HORSE SHOE BREAKS!
  - BUCKLE!
- 360 DEGREE.

- NOTTT:
  - TTT MAY LEAD TO PVD, ERM.
  - NEW H/S BREAKS MAY OCCUR POST TO TTT OR EVEN TO ENCIRCLING BUCKLE.

- CLOSE POST OP F/U
CATARACT IN HIGH MYOPIA

- OPERATIVE TECHNIQUES
  - PHACO
  - FLACS

CATARACT IN HIGH MYOPIA

Surgical Technique

- Unilateral - bilateral
- ANAESTHESIA
- INCISION
- CAPSULORHESIS
- PHACOTECH.: IOL
- CLOSURE
- ASTIGMATISM MANAGEMENT
CATARACT IN HIGH MYOPIA

ANAESTHESIA

- **GENERAL:**
  SAVOFLURANE, laryngeal mask

- **LOCAL:** NEVER RETROBULBAR
  - **PERI BULBAR:**
    ONE INJECTION, SHARP NEEDLE.
    CHECK USG: AX. L., SITE OF POST STAPHYLOMA
  - **SUB TENON**

- **TOPICAL.**

---

WHICH IOL!!

LARGE BAG

- **OPTIC DIAMETER:** 6mm +.
- **MATERIAL:** SOFT Acrylic
- **EDGE DESIGN:** ANT.: ROUND SLOPE
  POST.: SQUARE.
- **OPTIC DESIGN:** BICONVEX.

NEVER - 5 mm PMMA DECENTRATION – PCO
-- SILCON

- **INTENDED POST OP. REFRACTION**
CATARACT IN HIGH MYOPIA

MY PREFERED SURGICAL TECHNIQUE

- UNILATERAL
- TOPICAL
- CCI
- 5mm.
- SOFT
  - Supra CAPSULAR PHACO-ASPIRATION
  - HARD
  - HORIZINTAL CHOPPING
- Rayner Supraflex

FOLDABLE RAYNER SUPRAFLEX

- AVH TECHNOLOGY.
- HYDROPHILIC ACRYLIC
- BICONVEX.
- ASPHERIC.
- UP TO -10 dpt
- AMON-APPLE ENHANCED SQUARE EDGE.
- 6.25 mm
- LEAST SILICON OIL DROPLET ADHERENCE
INTRA OP TIPS
INCISION

CAPSULORHEXIS
CATARACT IN HIGH MYOPIA

ASTIGMATISM MANAGEMENT

LRI:

- RANGE: 1.5 -3.00 D.
- PLACED 1.5 mm to limbus
- Use nomogram.

OCCI:

Corneal astigmatism correction with opposite clear corneal incisions or single clear corneal incision: Comparative analysis

- Journal of Cataract & Refractive Surgery

Volume 32, Issue 9, Pages 1432-1437, September 2006

Sudar Khoshankhar, MD, Pavan Lohiya, MD, Vanathi Murugiesan, MD, Anita Panda, MD:
CATARACT IN HIGH MYOPIA

ASTIGMATISM MANAGEMENT

LVC
- HIGH DEGREES
- 2-3 M POST OP.
- PRK-LASIK
- GOAL TO END UP WITH IS
  0.5-0.75 D

CATARACT IN HIGH MYOPIA

POSTOP. PROBLEMS
- KNOWN TO CATARACT SURGERY
  SPECIAL:
  - DIPLOPIA.
  - PCO
  - RD
  - CNVs
CATARACT IN HIGH MYOPIA

PROBLEMS
REFRACTIVE SURGERY CAN LEAD TO STRABISMIC COMPLICATION.

IOL DECENTRATION
PRISMATIC EFFECT
CAN DETERIORATE PHORIA INTO TROPIA

CLE FOR HIGH MYOPIA

RD:
- 1-8%
- VITRUS MOBILITY, PVD, RET. BREAKS
RISK IS DECREASED WITH
- New cataract techniques & IOLS.
- Careful preop. And post op. fundus exam. & TTT of any lesions.
- Patients education of symptoms of PVD
POSTOPERATIVE PROBLEMS
PCO

POST CAPSULOTOMY:
DEC. HYALURONIC ACID. CONCENTRATION
- **SURGICAL:**
  WHEN!
  - INTRAOP., POSTOP.
- **YAG:**
  SHOCK WAVES, SYNCHESIS, SYNRESIS
  WHEN, TECHNIQUE, RISK OF RD

CATARACT IN HIGH MYOPIA

**RISK REDUCTION PHACO TECHNIQUE:**
- SMALL INCISION
- PREVENT AC FLUCTUATIONS
- FOLDABLE IOL
- INTACT POST. CAPSULE
THANK YOU