ROTATIONAL STABILITY OF THE MEDICONTUR (601 HP) ONE-PIECE HYDROPHYLIC ACRYLIC IOLS

Zsolt Biró, MD, PhD,
Tünde Kerek, MD,
Katalin Aranyoss, MD
ST. IMRE TEACHING HOSPITAL,
DEPARTMENT OF OPHTHALMOLOGY
BUDAPEST, HUNGARY

MEASURING ROTATIONAL STABILITY

• INCREASED IMPORTANCE AS TORIC IOLS BECOME AVAILABLE ON THE MARKET
• HOW TO MEASURE IT EXACTLY?
• WHEN DOES POSTOPERATIVE IOL ROTATION OCCUR?
• HOW LARGE ROTATION IS ACCEPTABLE?

MEASURING POSSIBILITIES

• Two sets of digital photographs
• Immediately postop and after 6 month
• 2 characteristic points of the conjunctiva and the IOLs (optic-haptic junction)
• The points were connected with a line and an angle was determined
• Comparing the 2 sets of images yielded an angle that revealed the rotation

ROTATION AND EFFECTIVENESS

• 1 DEGREE OFF AXIS = ~3% LESS EFFECT
• 10 DEGREE OFF AXIS = ~30% LESS EFFECT
• 33 DEGREE OFF AXIS = TORIC IOL HAS NO EFFECT ON ASTIGMATISM

MEASURING POSSIBILITIES

• Two sets of digital photographs
• Immediately postop and after 6 month
• 2 characteristic points of the conjunctiva and the IOLs (optic-haptic junction)
• The points were connected with a line and an angle was determined
• Comparing the 2 sets of images yielded an angle that revealed the rotation

TORIC IOLs ON THE MARKET

• Staar Toric IOL (Staar), cyl: +2.0D - +3.5D
• T-Flex IOL (Rayner), cyl: +1.0D - +6.0D
• MicroSil (HumanOptics), cyl: +2.0D - +12.0D
• AcrySof Toric (Alcon), cyl: 1.5D, 2.25D, 3.0D

MEDICONTUR IOL (601 HP)

• FOLDABLE
• HYDROPHYLIC ACRYLIC IOL
• SINGLE PIECE, “C” – LOOP
• MONOFOCAL, NON TORIC
METHODS

- PROSPECTIVE OBSERVATIONAL STUDY
- 20 EYES OF 20 PATIENTS
- PHACOEMULSIFICATION, MEDICONTUR IOL IMPLANTATION, 2 CAPSULE CUTS AND TINY CAPSULE FLAPS WERE CREATED AT THE CENTRE OF IOL HAPTIC
- DIGITAL PHOTOGRAPHY 1 DAY, 1 WEEK, 1 MONTH, 3 MONTHS POSTOPERATIVELY
RESULTS

- ± 5.0 DEGREE ROTATION WITHIN 1 WEEK
- ± 2.0 DEGREE ROTATION BETWEEN 1 WEEK AND 1 MONTH
- ± 2.0 DEGREE ROTATION BETWEEN 1 MONTH AND 3 MONTHS
- ± 0.5 DEGREE ROTATION BETWEEN 3 MONTHS AND 6 MONTHS

CONCLUSIONS

- CYCLOTORSION OF THE EYE SHOULD BE TAKEN INTO ACCOUNT DURING MEASUREMENT
- IT IS IMPORTANT TO INJECT THE ANTIBIOTIC, TO REMOVE THE SPECULUM AND THE DRAPE CAREFULLY AT THE END OF SURGERY
- MORE FREQUENT EARLY POSTOPERATIVE FOLLOW-UP IS RECOMMENDED WITH TORIC LENSES (1 DAY, 1 WEEK, 1 MONTH)

CONCLUSIONS

- WITH OUR METHOD IT WAS POSSIBLE TO PRECISELY DETERMINE THE IOL ROTATION
- MEDICONTUR IOL HAS A GOOD ROTATIONAL STABILITY, AND
- CAN BE RECOMMENDED AS TORIC IOL

LITERATURE

- Wehner W: Ophthalmologe, 2007
- Wario et al: Ophthalmologe, 2005
- Becker et al: Ophthalmologe, 2004
- Tehrani et al: J Cat Refract Surg, 2003
- Chang DF: J Cat Refract Surg, 2003
- Gerten et al: Ophthalmologe, 2001