Persönliche Erfahrungen mit CO-MICS

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Purpose - Phacorefractive Surgery - Precise

Problem:
The visual outcome of patients with a bifocal IOL and an astigmatism above 0.75 cyl is poor

Solution:
Reduction of astigmatism via corneal incisions or Lasik – Bioptics

or

Implantation of a toric, bifocal IOL through an astigmatism neutral incision
Why Monomanual MICS in Phacorefractive Surgery?

1. **Corneal incisions** to correct astigmatism (LRI, AK, T-Cut, OCCI) are sometimes **unpredictable** and may therefore cause postoperative visual problems with MIOL

2. **Bimanual MICS never** became a widespread method
Why is Monomanual MICS better than Bimanual?

The two instruments of MICS have to be caught very tight in the incisions to avoid intraoperative leakage problems.

An irreversible stretching of the corneal collagen fibers (see electron microscope photographs by R. Menapace) results in hardly watertight incisions (and therefore postoperative leakage problems) and more descemet folds postoperatively than in coaxial phaco.
The Obvious Solution

Wanted was a method that combines the advantage of the coaxial phaco (use of a sleeve without stretching the incision) with the advantage of MICS (incision under 2.0 mm):

The obvious solution: Construction of a phaco tip with sleeve, which fits through a 1.6 mm incision.
No surgically induced astigmatism after CO-MICS through a 1.6mm incision
No surgically induced astigmatism with CO-MICS
(see studies by R. Menapace)
Method – IOL Implantation with Irrigation through 1.6mm
Method – Toric Bifocal IOL

Front face **toric**
Back surface **bifocal**
Pupil independence
Light allocation 65:35
Light intensity refractive distant focus 65%,
Light intensity diffractive near focus 35%
Near addition: + 3.75 dpt
MICS-Technology:
an incisionwidth of only 1.5 mm allows an astigmatism neutral operation
Physical Observations

Less postocclusional surge than classic phaco
Better **Stability** of the AC in COMICS:
Physical Observations

Higher flow rate necessary for an adequate vacuum
Zur Anzeige wird der QuickTime™ Dekompressor „YUV420 codec“ benötigt.
Inzision 1.6mm

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Phacoemulsification - Soft Nucleus

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Clinical Observations- Regarding CO-MICS

- No stretching of collagen fibers
- Prolonged surgical time in hard cataracts in former times
- Nearly identical surgical time with the new CO-MICS II phaco tip
- Few nucleus chatter
- Continuous phaco mode better than pulsed mode
- Steep learning curve
- Smooth fluidics and phacodynamics
Conclusion - Regarding Phacorefractive Surgery

The CO-MICS procedure avoids any surgically induced astigmatism

The objective measurements and especially the subjective patient statements are very satisfying and promising (Poster DOC 2008, OTE, JCRSTE, Der Augenarzt, ON)

By using the Acri.Lisa TD one can avoid a bioptic procedure in patients with higher astigmatism and the wish for bifocal IOL

CO-MICS and the Acri.Lisa TD are a perfect match in phacorefractive surgery
Conclusion - Modern Cataract Surgery

COMICS is very interesting nowadays essential for modern cataract surgery:

1. Peripheral corneal degenerations 2. Toric or multifocal IOL
3. Combined cararact and vitrectomy surgery 4. Miosis or floppy iris
5. Higher myopes or vitrectomized eyes 6. Ocular surface disorders
7. Later filtrating surgery 8. Clear Cornea Incision
9. PRELEX and Clear Lens Extraction

Due to:

1. 6mm watertight incision and smoother phacodynamics and fluidics

And will therefore possibly be routinley used by more surgeons than MICS

And will therefore surely be routinley used by more surgeons than MICS