17 TH INTERNATIONAL CONFERENCE OF THE RESEARCH INSTITUTE OF OPHTHALMOLOGY

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Anterior Segment Eye Diseases
Current Status & Future Directions

Individual Solutions for Anisometropia with unilateral Cataract

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Problem

Motivation for this presentation:

Repeated second-opinion requests from patients with

- Unilateral cataract-surgery necessary with high(er) degrees of ametropia
  - Esp. With potential limitation of functional result (e.g. after detachment surgery, with macular pathology, amblyopia etc.)
- Information by treating physician:: Bilateral surgery mandatory because of otherwise resulting anisometropia-problem
- Problem: Wish to avoid risk für 2nd eye, e.g.
- Request for second opinion
  - *„Is there really no alternative to surgery of both eyes or waving ametropia-correction completely?“*

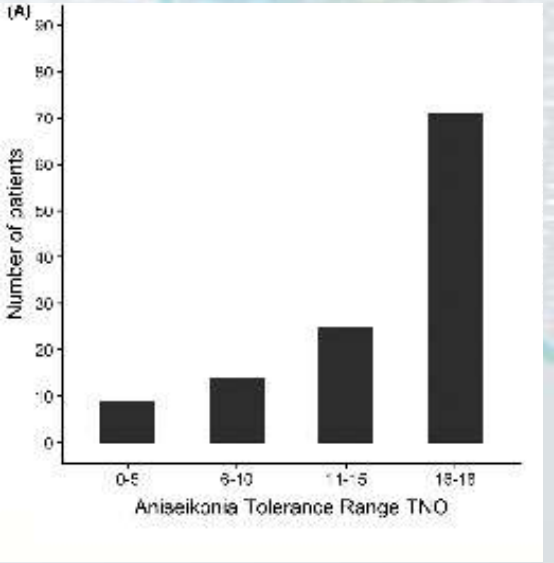
„As we all know…“

- Anisometropia/-Eikonia is tolerable / tolerated up to maximally 2 - 3D / 3 - 5%
- Spectacle freedom has generally / for everybody high(est) priority
  - Is „certainly“ worth the risk
- The ideal target refraction is emmetropia

Own experience

1.

The extent of tolerance of Anisometropia / -Eikonia is individually highly variable



- Complex sensory physiologial interactions
- Database: Aniseikonia-tolerance is (Krarup et al. Acta ophth 2020, 2021)
  - High in 80-90% – 6-18% (!); low in ≤ 10% – 3-5%
  - Frequently in short term enlargeable by neuroadaptation (up to 20% !)
- Previous experiences are highly informative in this respect
  - Eg with myopic cataract
- Trying out is the one and only way to find out in the individual case
  (Krizizok, Kaufmann, Schwerdtfeger, Klin Mbl Augenheilk 1996)

Own experience

2.

- Spectacle free emmetropia is not the best for everyone:
- Live-long visual experience („Distance-animal“ rsp. „Near-animal“) (hyperopia/myopia) and
- Live-long correction-experience – spectacles vs. contact lenses – are both highly relevant for indiv idividual preferences also later in life

Own experience

3.

- For cataract patients regaining best possible and tolerable Vision has highest priority, refractive optimization, of course, is comfortable and pleasant, but less important – especially under risk aspects
- This is especially true for the subgroup in this discussion
  - Cataract has surgical indication only unilaterally
  - Namely with ± compromized visual prognosis

Options: „It‘s all about target refraction“

- Unilateral surgery:
  - „Ideal“ or at least satisfactory target refraction with acceptance of anisometropia – with subsequent
    - Spectacle correction
    - Contact lens correction
    - Exchange/ add-on / 2nd eye surgery in case of intolerance or problems
  - „Compromise“ target refraction
    - In direction „ideal“ target refraction
    - Then, later, with 2nd eye optimize further in tolerable range
    - (Add-on later, when 2nd eye needs surgery, always possible...)
- Bilateral surgery

What needs to be determined

- Ideally desired target refraction
- Previous anisometropia-experience
  - Tolerance
- Previous contact lens experience
  - Routine
  - Tried but never tolerated
  - No experience yet
- Contact lens simulation
  - How much anisometropia can be tolerated?
  - Is there a chance for contact lens acceptance / tolerance?
- Vision-expectation for eye to be operated
- Weighing risk-minimisation vs. refractive optimization

Options
„Ideal“ target refraction accepting anisometropia

This option will be considered, if

- Patient wishes to benefit from refraction-optimization, but giving avoidance of second eye surgery a chance
- Contact-lens correction of partner eye, if
  - Used to it, can be continued without problem
  - Tried / simulated, proven tolerable
- Spectacle correction, if
  - Simulation has proven – probable – tolerability
  - Functional prognosis is limited – tolerance not anticipated problematic (undercorrection)
  - Escape options (exchange / add-on / second eye surgery in case of intolerance or problems are accepted and possible.

Options
compromise target refraction with tolerable anisometropia

Targeting best partial refraction correction, but within tolerable anisometropia

This option will be considered, if

- Benefit of the chance of ametropia correction by the IOL should be maintained, but within limits of tolerable spectacle correction
  - Accepting less correction than ideal

    „ As much as possible without problem and risk“.
  - Further optimization always possible, whenever later 2nd eye surgery becomes necessary or desirable – with – if necessary – add-on in the 1st eye

Options
Bilateral surgery

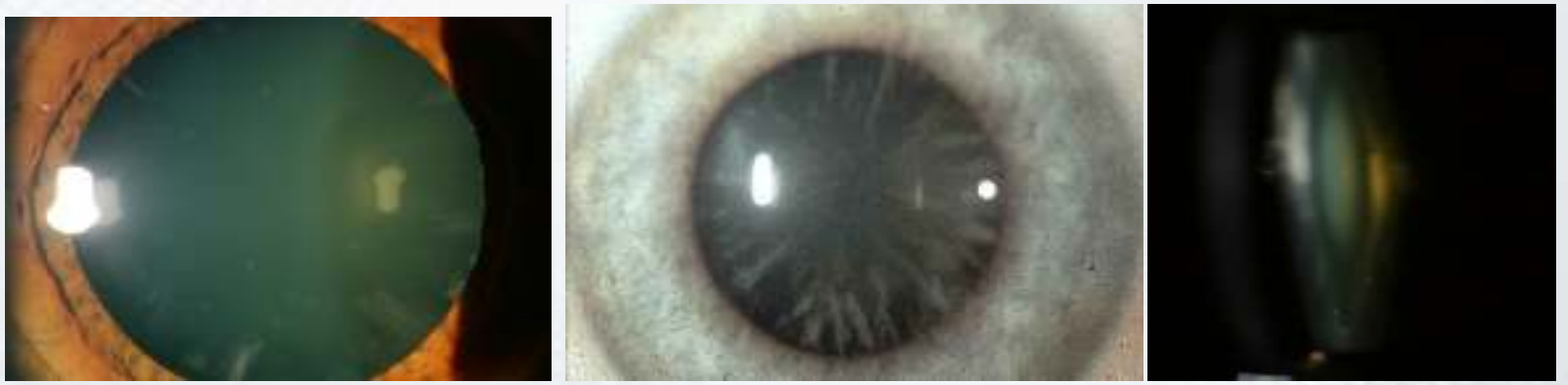
This option will be considered

- If none of the alternative Options is accepted/preferred by the patient
- Caveat: If the second eye has already an incipient cataract, which, by itself, would not yet necessitate surgery, but appears to become worth of removal in foreseeable future: No „automatic“ decision!

Do not solve a problem which the patient does not have!

(esp. In a „better eye“ situation)

If other solutions turn out unstisfactory, option remains always open!



In conclusion....

- Listen, inform, don‘t indoctrinate – then let patients decide
  - Counter wrong expectations with information
  - Respect fear – make sure it is not unfounded
  - *NB: Statistics and means do not describe the individual case!*
  - When in doubt – err on the les risk side: Making a surgery that does not turn out as desired, undone, is much more difficult, than performing a surgery later, if and when it eventually turns out desirable or necessary

The benchmark for what is right is not the physician‘s opinion, but

the patient‘s appropriately informed weighting and decision


Vielen Dank!