

What More Could Possibly Go Wrong?

7 Cases of a Spontaneous
Intraoperative Fibrinoid Reaction
During DMEK

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- Michael Korchak, M.D.
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Background

- As a postoperative complication, fibrin reactions have been widely described in the literature.
 - Pediatric cataracts, PXF, Uveitis, etc
- Intraoperative fibrinoid stranding is sparsely reported.

Purpose

- To describe 7 DMEK cases complicated by a spontaneous intraoperative fibrinoid reaction.

Video

Methods

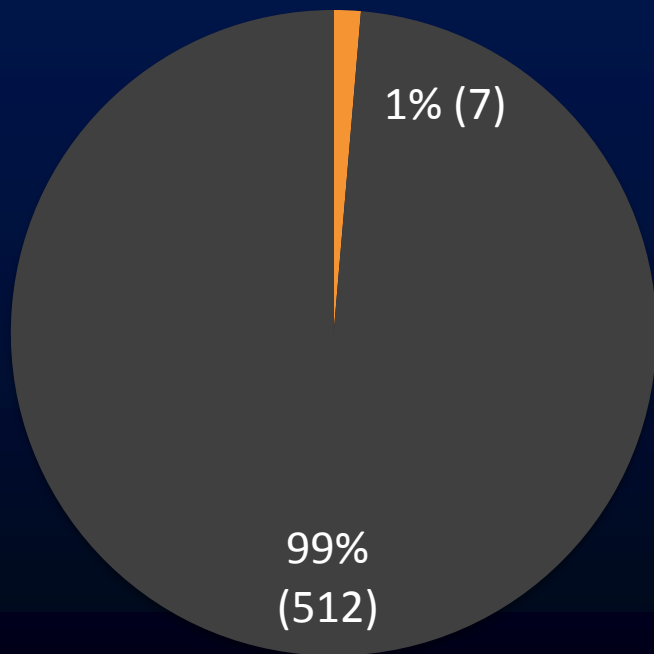
- Retrospective review of consecutive DMEKs performed for Fuchs' with a standardized technique.
- Cases were reviewed for occurrence of an intraoperative fibrinoid reaction.

Methods

- Cases were assessed for:
 - Medical history
 - Donor age
 - BCVA
 - Unscrolling time
 - 6-month ECL
 - Course of the mate cornea

Incidence of Fibrinoid Reaction

- 7 eyes in 6 patients developed fibrinoid stranding.



■ Fibrinoid ■ Normal

Surgeon Experience



■ Fellow (n=4)

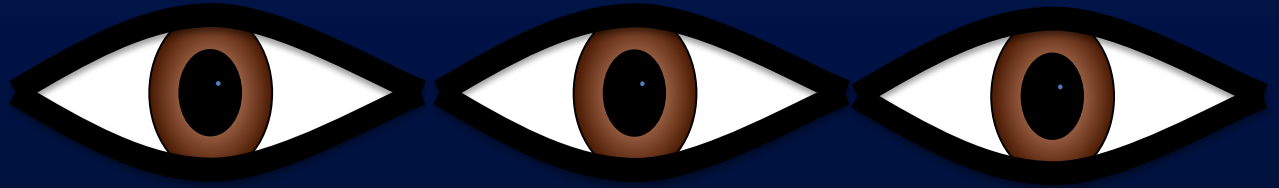
■ Attending (n=3)

Recipient Demographics

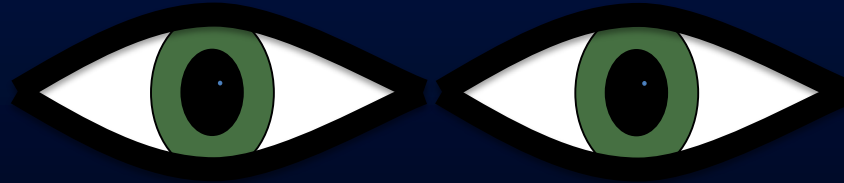
Can we find a common background?

Recipient Eye Color

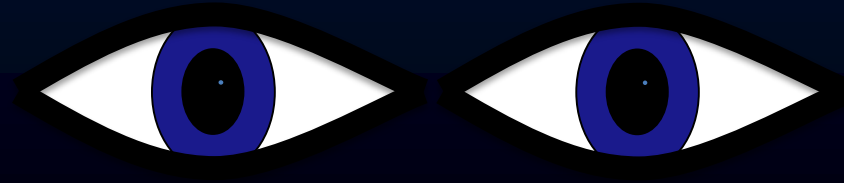
- 3/7 Brown



- 2/7 Green



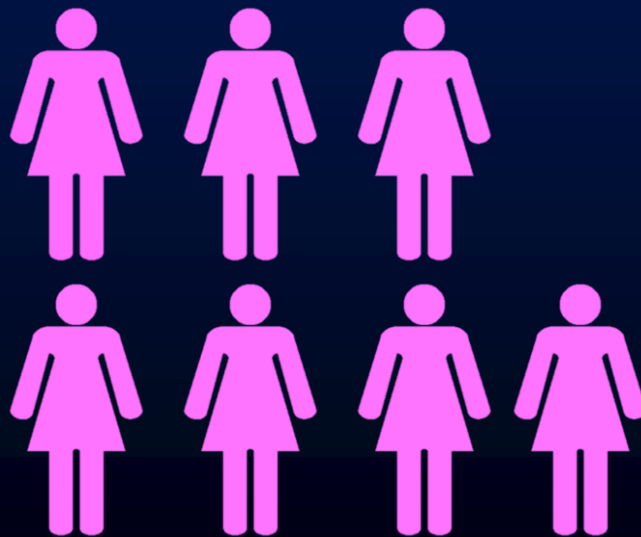
- 2/7 Blue



Recipient Sex, Age

- Median Age: 67
(64-74)

- 100% female



Recipient Medical History

- ≤ 3 Drug Allergies



- > 3 Drug Allergies

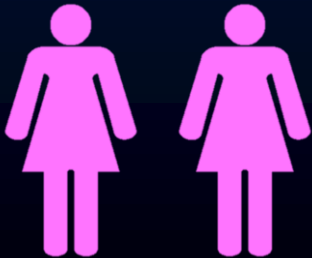


Recipient Medical History

- Autoimmune Disease



- Diabetes



- Uveitis
- Vision limiting comorbidities

0%

Donor Demographics

- Median Age: 66 (55-75)
- Median Post-strip ECD: 2849 (2222-3012)
- 7/7 mate corneas transplanted at other centers without complications

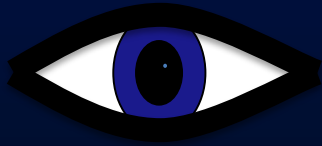
100%

Standardized Technique

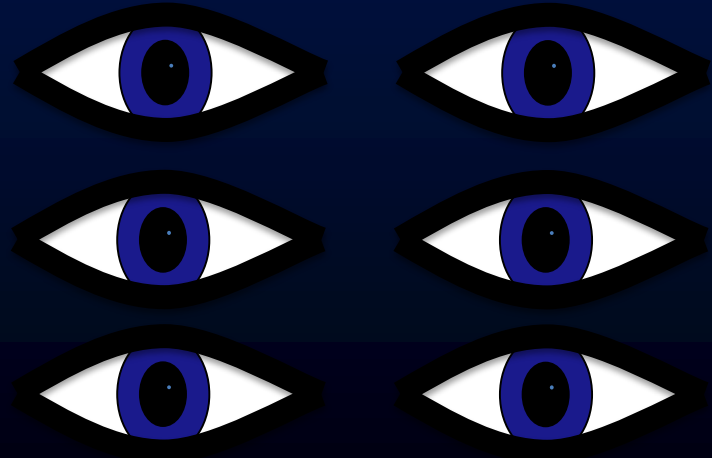
- S-Stamped pre-stripped tissue from LVG
- Overstripping under Healon
- *Intraoperative surgical inferior PI*
- *Use of miochol, rinsed out vigorously*
- Straiko modified glass Jones tube
- No-touch tap technique
- 20% SF6 gas bubble

DMEK Triples

- Pseudophakic DMEK

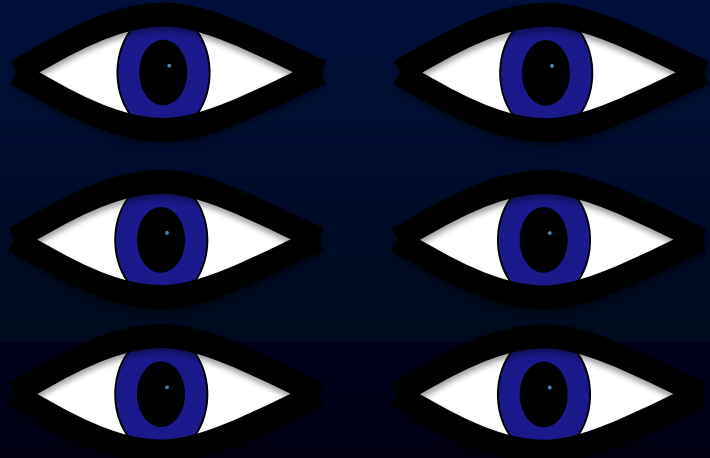
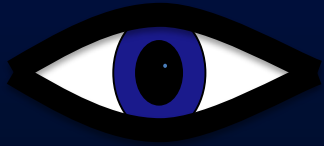


- DMEK triple with acrylic 1-piece IOL



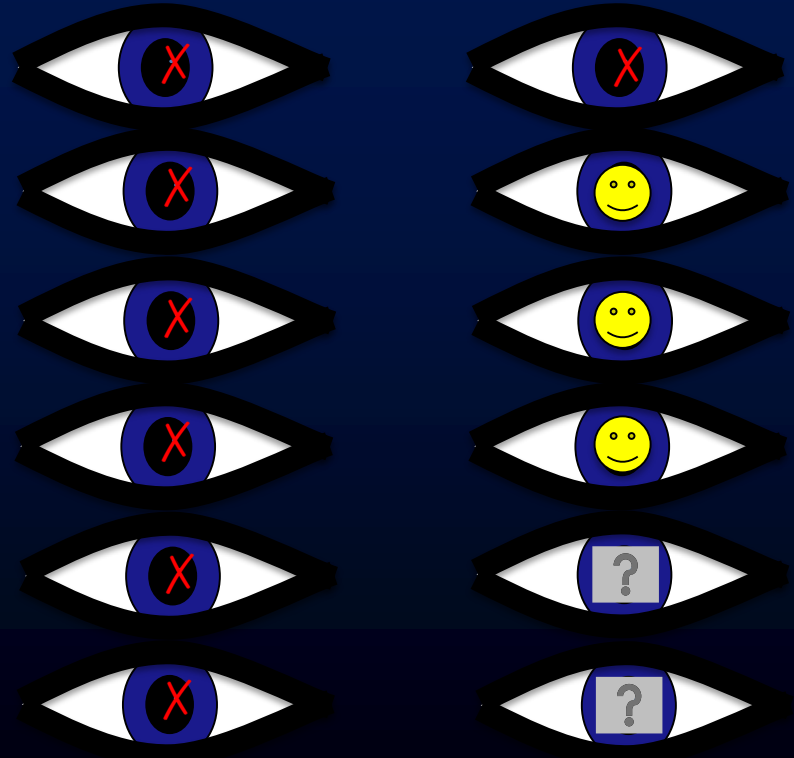
Intraoperative Complications

- Intraoperative hyphema
- No complications



Contralateral DMEK Course

- 4/6 patients underwent contralateral DMEK with 1/4 having a fibrinoid reaction (the 7th eye in this series)



Results

Eye #	Unscroll time (min)	Rebubble	6 mo ECD (cells/mm ²)	6 mo ECL (Percent)	6 mo BCVA (Snellen)	6 mo CCT (um)
1	1	No	2404	20%	20/20	526
2	32	Yes	863	70%	20/20	473
3	27	No	1538	41%	20/40	511
4	49	No	691	72%	20/40	582
5	19	Yes	774	73%	20/30	452
6	19	No	1795	19%	20/20	567
7	42	Yes	1866	37%	20/25	540

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Discussion

- Intraoperative fibrinoid reactions are rare in DMEK.
- The etiology is unclear from our series.
 - Could it be related to technique? The patient? The donor?
 - Intraoperative PI
 - Hypotony
 - Iris color
 - Graft preparation

Discussion

- No pathology available at this time – what is this material?
 - Fibrin?
 - De-hemoglobinized Blood?
 - De-pigmented Iris Tissue?
 - Cortical material?

Discussion

- Management
 - Flush Anterior Chamber with BSS?
 - Intracameral anti-fibrinolytics?
- Future Efforts
 - Collaboration among sites to pool data and identify etiology
 - Trials to test possible surgical solutions

Conclusion

- Intraoperative fibrinoid reaction is a rare complication that can make DMEK more difficult.
- This reaction may have deleterious effects on BCVA and ECL, likely related to prolonged intraocular manipulations.
- This series does not reveal any obvious risk factors for the problem.

References

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Thank you for your attention!

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