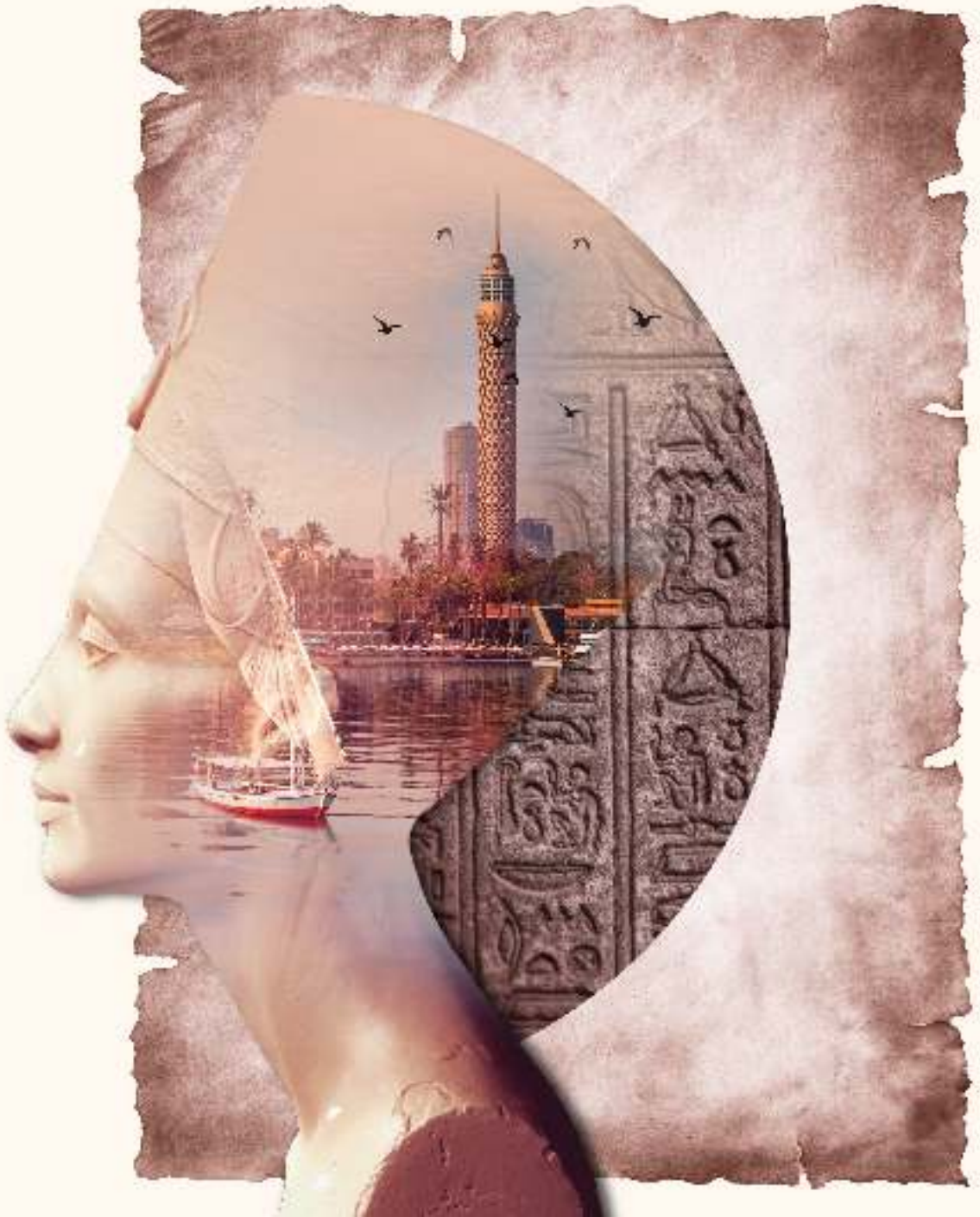
INTERNATIONAL CONGRESS OF THE
EGYPTIAN
OPHTHALMOLOGICAL SOCIETY

In collaboration with: MEACO

Filtering Surgeries in Angle Closure Glaucoma

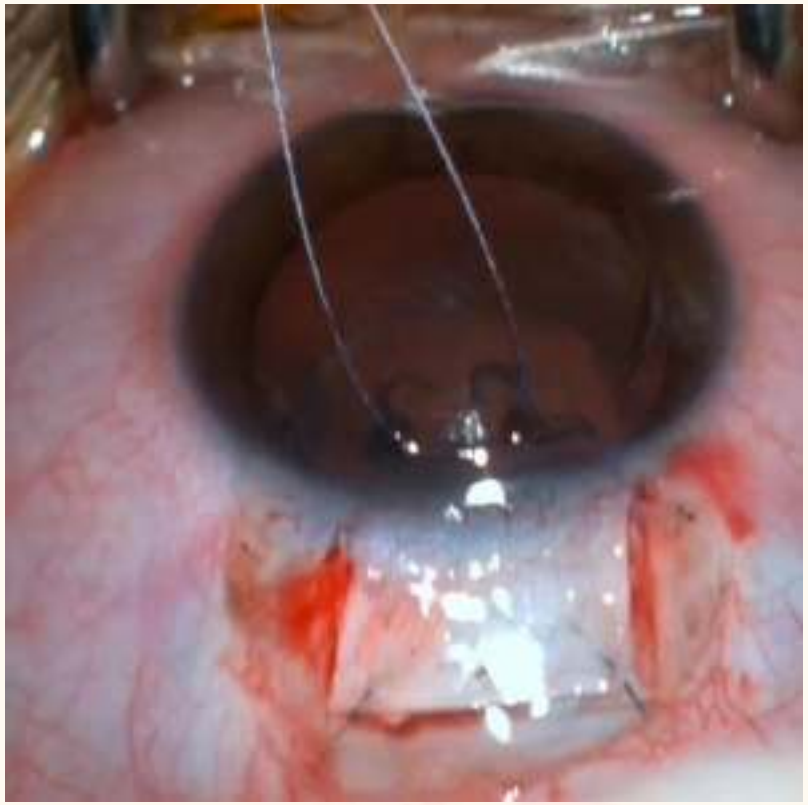
Amr Samir

Glaucoma Service
Magrabi Eye Hospitals
Al Mashreq Eye Center
Swiss Vision



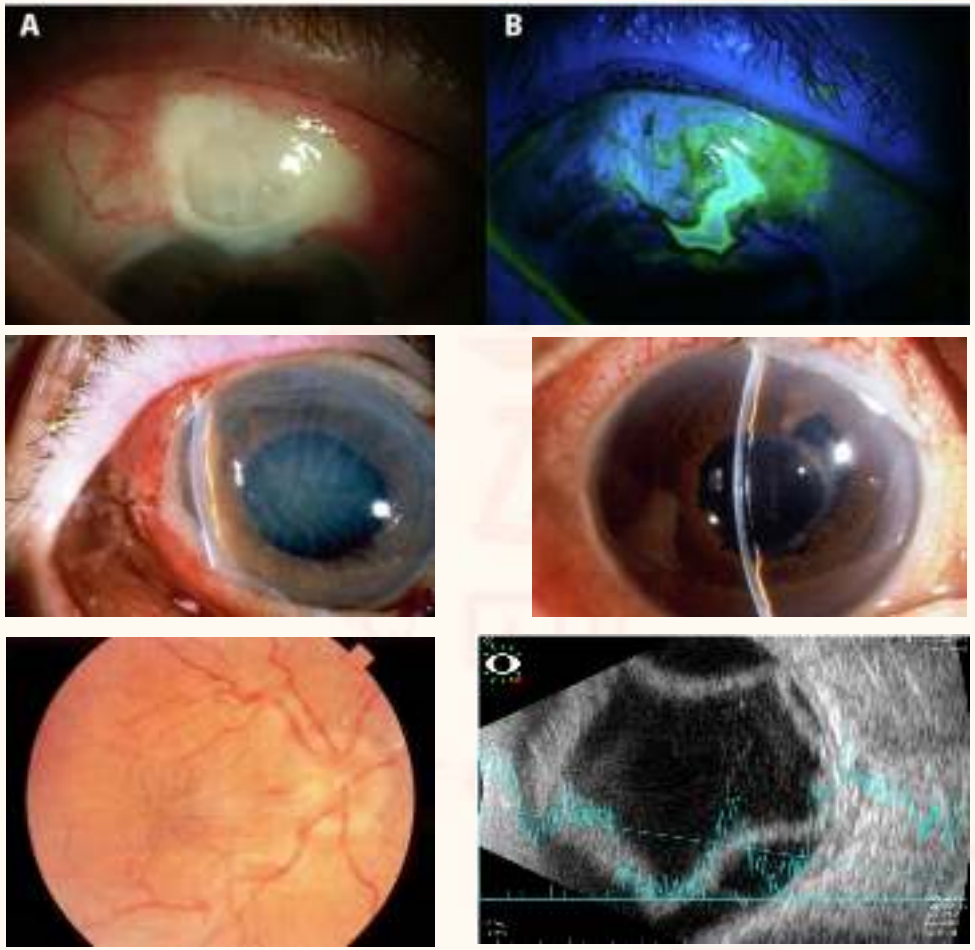
History of Filtering Surgery

- Filtering Surgery was always the gold standard procedure for glaucoma patients whenever medical treatment fails to slow down or stop the progression of the disease.
- Cairns JE initially described trabeculectomy in 1968.
- Modified by Watson in 1970.
- Moorfield's safe surgery system, developed by Peng Khaw and colleagues in 2005.



Complications of Filtering Surgery

- Leaking blebs
- Hypotony
- Hypotonic maculopathy
- Choroidal detachment
- Suprachoroidal hemorrhage
- Bleb failure
- Endophthalmitis

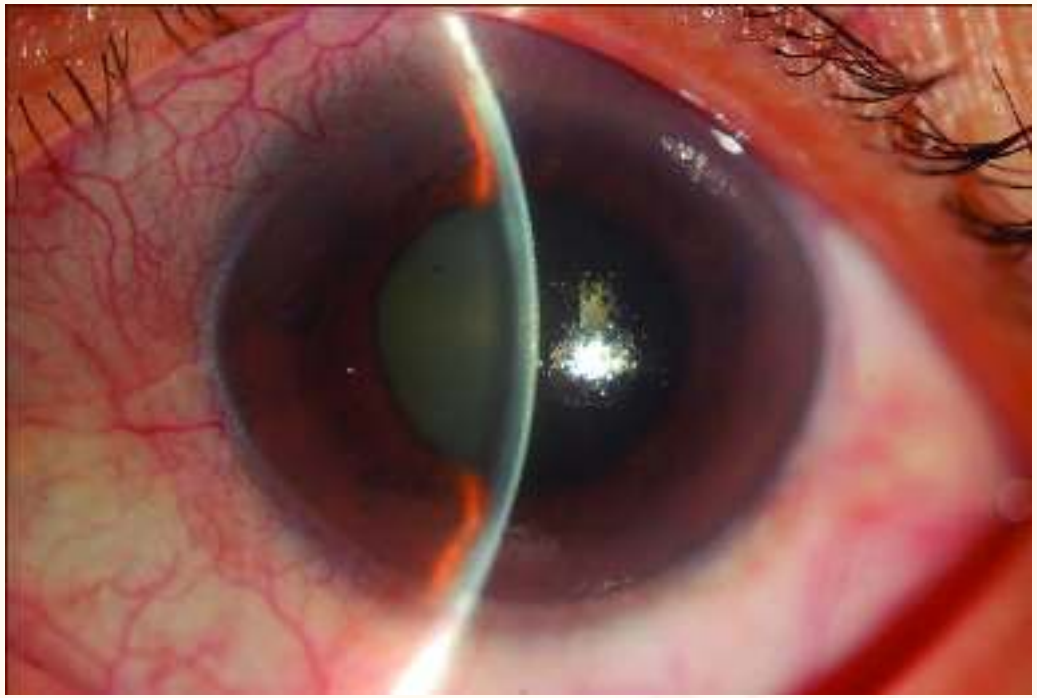


Why is a crude invasive surgery still around after 50 years:

Trabeculectomies can still lower IOP more and for much longer than any other alternative

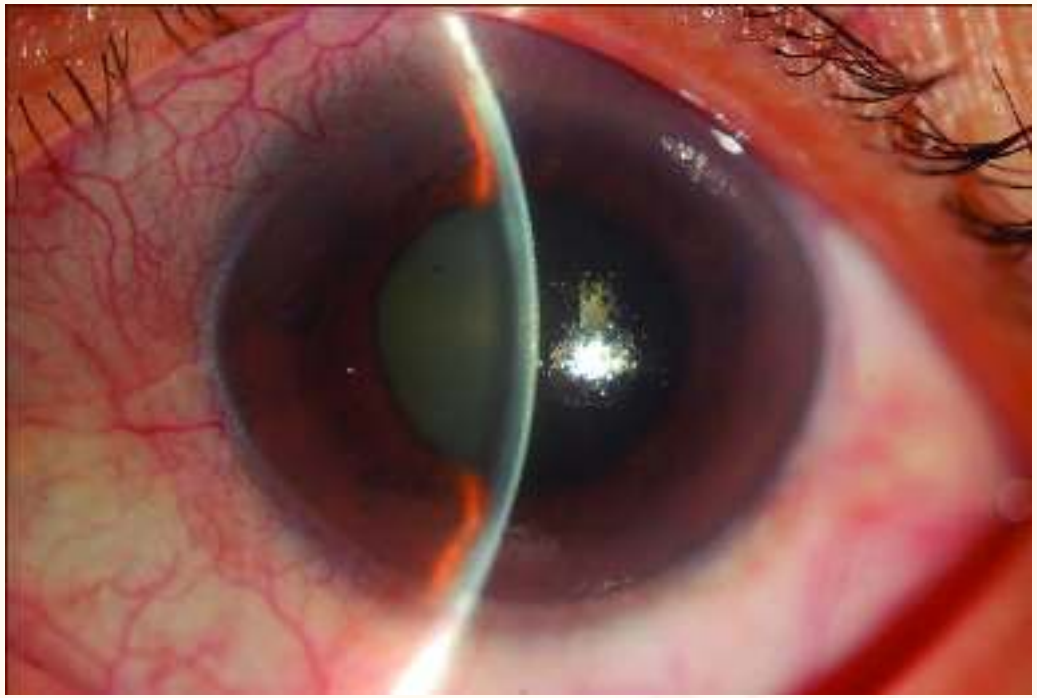
Goals of management for ACG:

- Reverse the angle closure process
- Control IOP
- Prevent optic nerve damage



Surgical Options for ACG:

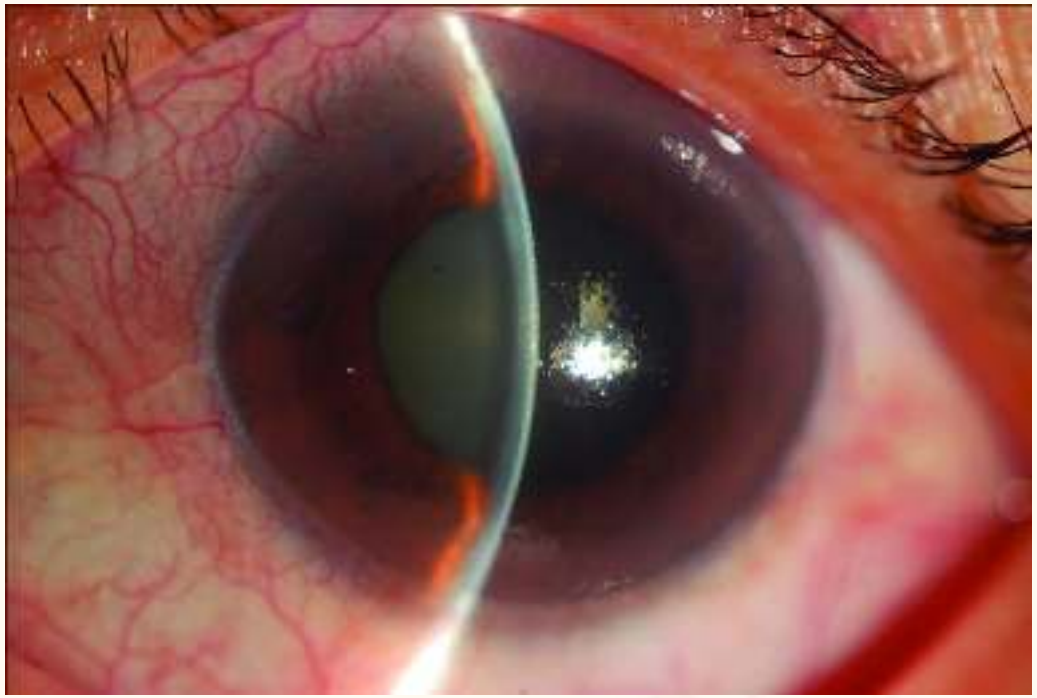
- Laser Iridotomy
- Lens removal
- Goniosynechialysis
- Trabeculectomy
- Combination




Phaco +/- GSL
Restore flow through
the natural drainage system
Trabeculectomy
Bypass the whole system
shunt aqueous to the subconj space

Indications of Trab in ACG

- Uncontrolled IOP despite max medical ttt
- PAS more than 180 degrees
- Progressing optic nerve damage

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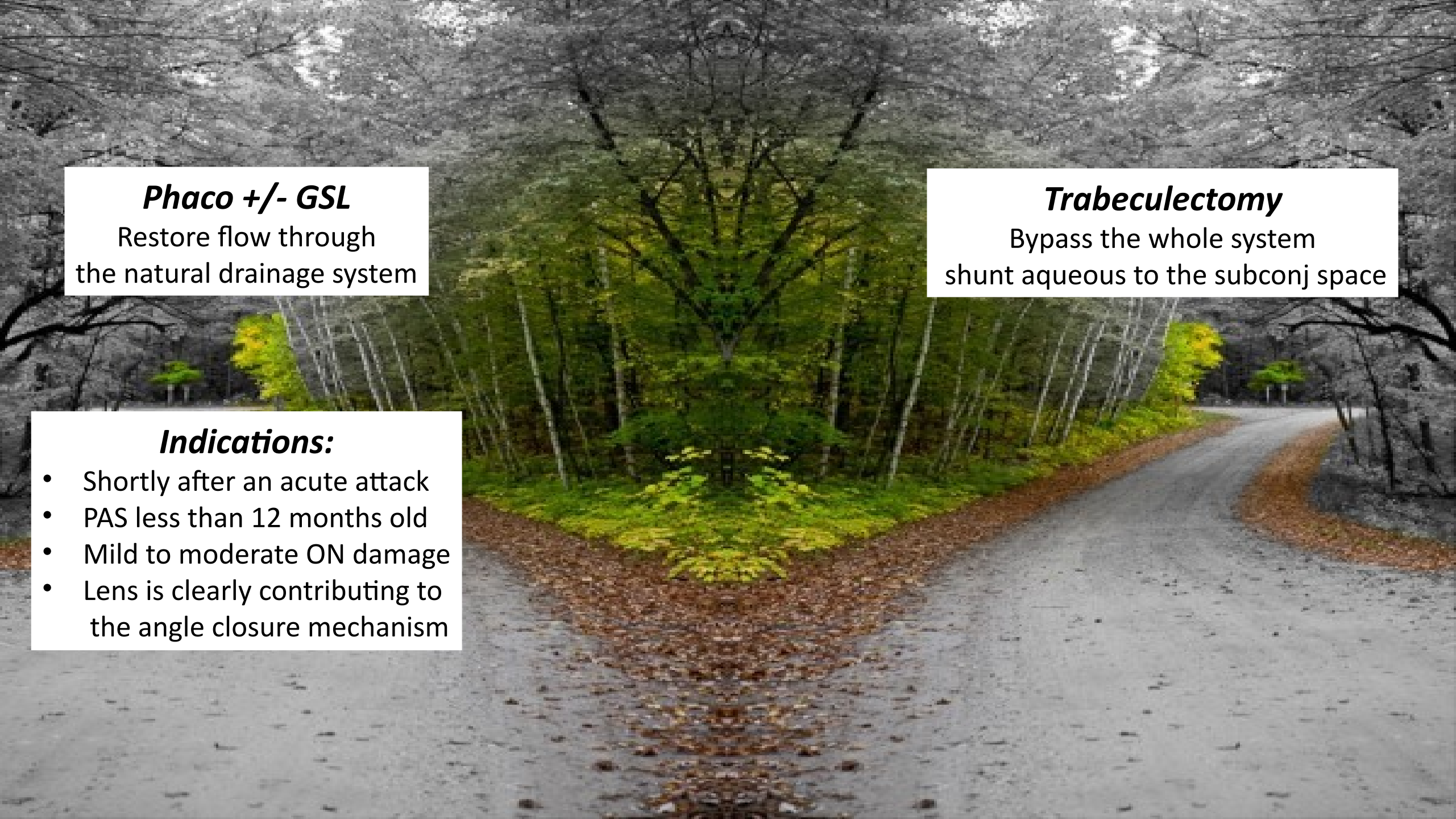

Phaco +/- GSL

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Trabeculectomy

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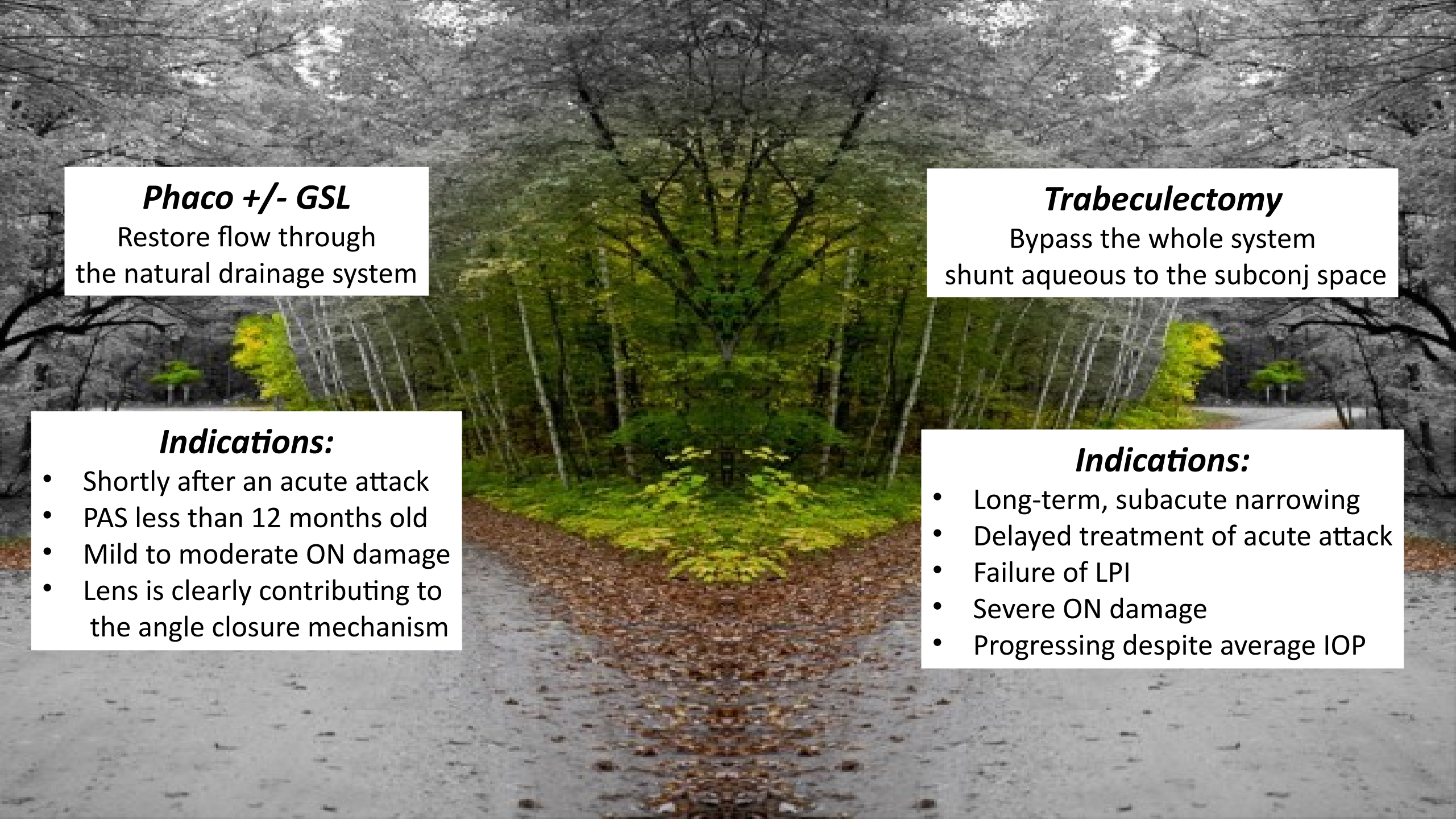
Indications:

- Shortly after an acute attack
- PAS less than 12 months old
- Mild to moderate ON damage
- Lens is clearly contributing to the angle closure mechanism



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Trabeculectomy

Bypass the whole system
shunt aqueous to the subconj space

Indications:

- Long-term, subacute narrowing
- Delayed treatment of acute attack
- Failure of LPI
- Severe ON damage
- Progressing despite average IOP

Indications of Trab in ACG

- Clinical studies have reported insufficient IOP reduction with GSL in CACG
- Diseased TM and SC
- Chronic inflammation
- Fibrous tissue hyperplasia

July 11, 2019

Efficacy of Phacoemulsification Alone vs Phacoemulsification With Goniosynechialysis in Patients With Primary Angle-Closure Disease

A Randomized Clinical Trial

Rahat Husain, MD (Res), FRCOphth[1,2]; Tan Do, MD, PhD[3]; Jimmy Lai, FRCEd[4]; et al

Author Affiliations | Article Information

JAMA Ophthalmol. 2019;137(10):1107-1113. doi:10.1001/jamaophthalmol.2019.2493

Review > JAMA. 2014 May 14;311(18):1901-11. doi: 10.1001/jama.2014.3192.

The pathophysiology and treatment of glaucoma: a review

Robert N Weinreb [1], Tin Aung [2], Felipe A Medeiros [3]

Affiliations + expand

PMID: 24825645 PMCID: PMC4523637 DOI: 10.1001/jama.2014.3192

> Invest Ophthalmol Vis Sci. 2011 Nov 17;52(12):8849-61. doi: 10.1167/iovs.11-7591.

Histopathology of the trabecular meshwork and Schlemm's canal in primary angle-closure glaucoma

Teruhiko Hamanaka [1], Katsuaki Kasahara, Tamiko Takamura

Affiliations + expand

PMID: 21960557 DOI: 10.1167/iovs.11-7591

EOS 2025
EGYPTIAN OPHTHALMOLOGICAL SOCIETY

MAGRABI HOSPITALS & CENTERS

Al Mashreq للعيون

SWISS VISION

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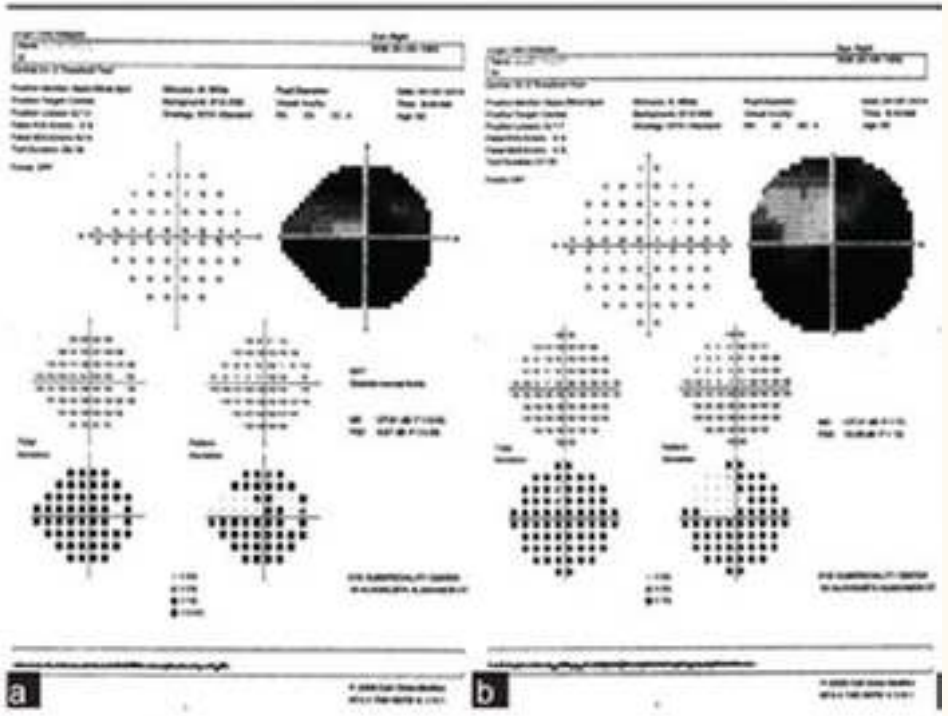

Randomized Controlled Trial > Ophthalmology. 2009 Apr;116(4):725-31, 731.e1-3.
doi: 10.1016/j.ophtha.2008.12.054. Epub 2009 Feb 25.

Phacoemulsification versus combined phacotrabeculectomy in medically uncontrolled chronic angle closure glaucoma with cataracts

Clement C Y Tham [1], Yolanda Y Y Kwong, Dexter Y L Leung, S W Lam, Felix C H Li, Thomas Y H Chiu, Jonathan C H Chan, Dennis S C Lam, Jimmy S M Lai

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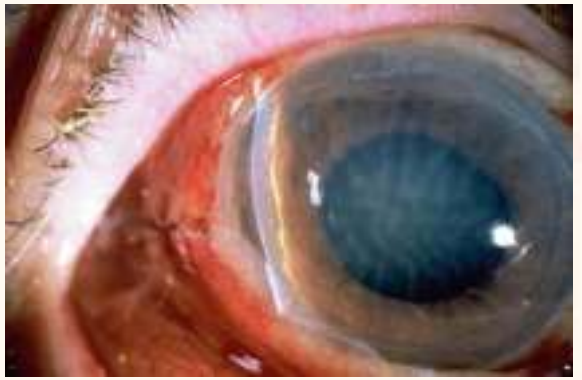
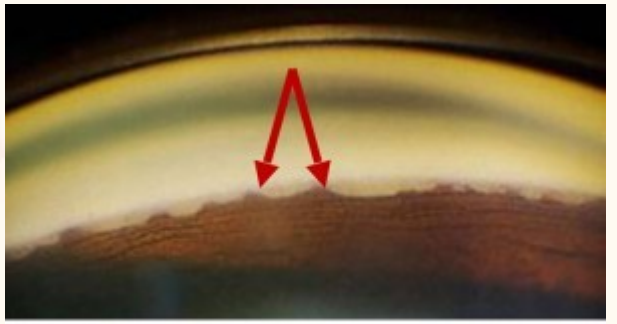
Conclusions: Combined phacotrabeculectomy with adjunctive mitomycin C may be marginally more effective than phacoemulsification alone in controlling IOP in medically controlled CACG eyes with coexisting cataract. Combined surgery may be associated with more complications and additional surgery in the postoperative period. Further study is needed to determine whether the marginally better IOP control of combined surgery justifies the potential additional risks of complications and further surgery.

Conclusions: Combined phacotrabeculectomy with adjunctive mitomycin C is more effective than phacoemulsification alone in controlling IOP in medically uncontrolled CACG eyes with coexisting cataract. Combined phacotrabeculectomy is associated with more postoperative complications.

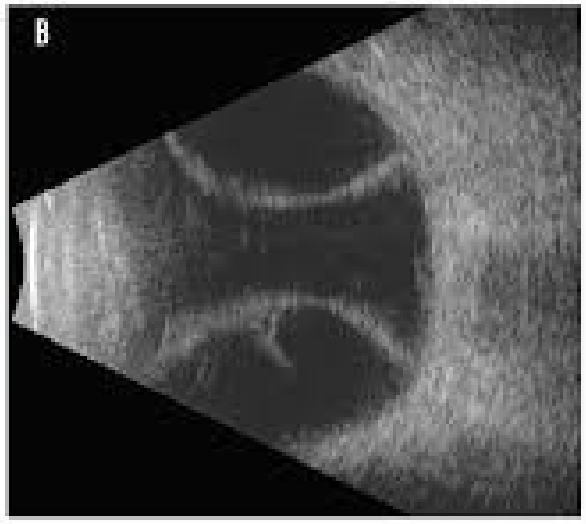
Challenges of Trab in ACG

- Shallow AC
- PAS
- Choroidal effusioin or Hge
- Inflammation and fibrosis
- Malignant glaucoma
- Bleb failure





PAS - Peripheral Anterior Synechiae



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Is Lens Removal Necessary?

- Lens contributes to the mechanism
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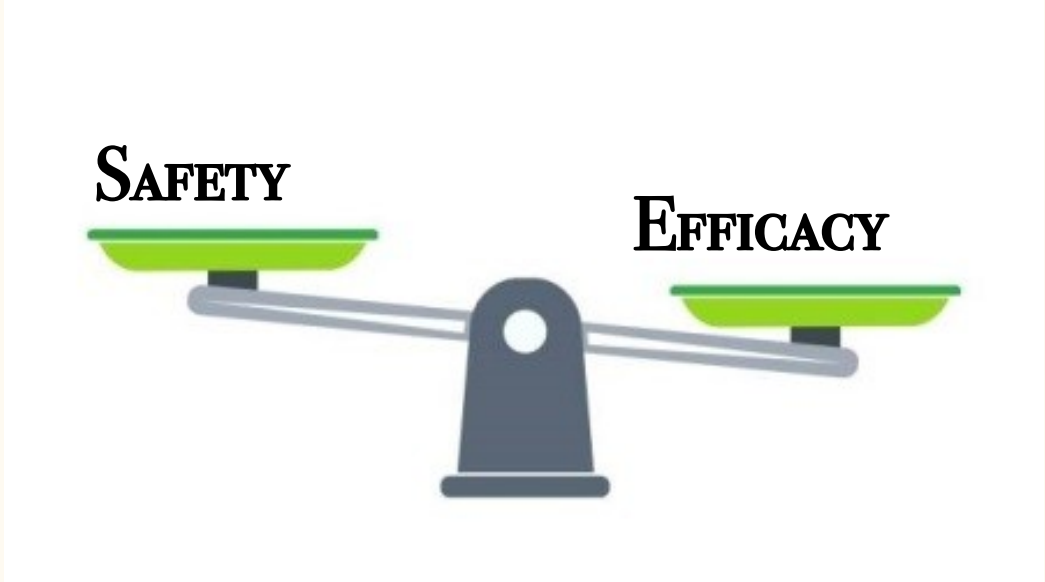
- More inflammatory response
- More scarring and bleb failure
- Increased surgical complexity
- Technically more challenging

Take home messages:

- Phaco +/- GSL or GT is a safe surgical option for ACG with relatively predictable outcomes and post operative course. However, it does not offer the same IOP lowering as Trabeculectomy.
- Trabeculectomy is a more invasive procdure, with more IOP lowering efficacy but more complications.
- Consider Trabeculectomy for patients with long duration of angle closure or with severe ON damage where lower IOP levels are needed.
- Lens removal with Trab deepens the AC and widens the angle. However, it aggravates the inflammatory response and compromises bleb survival.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