

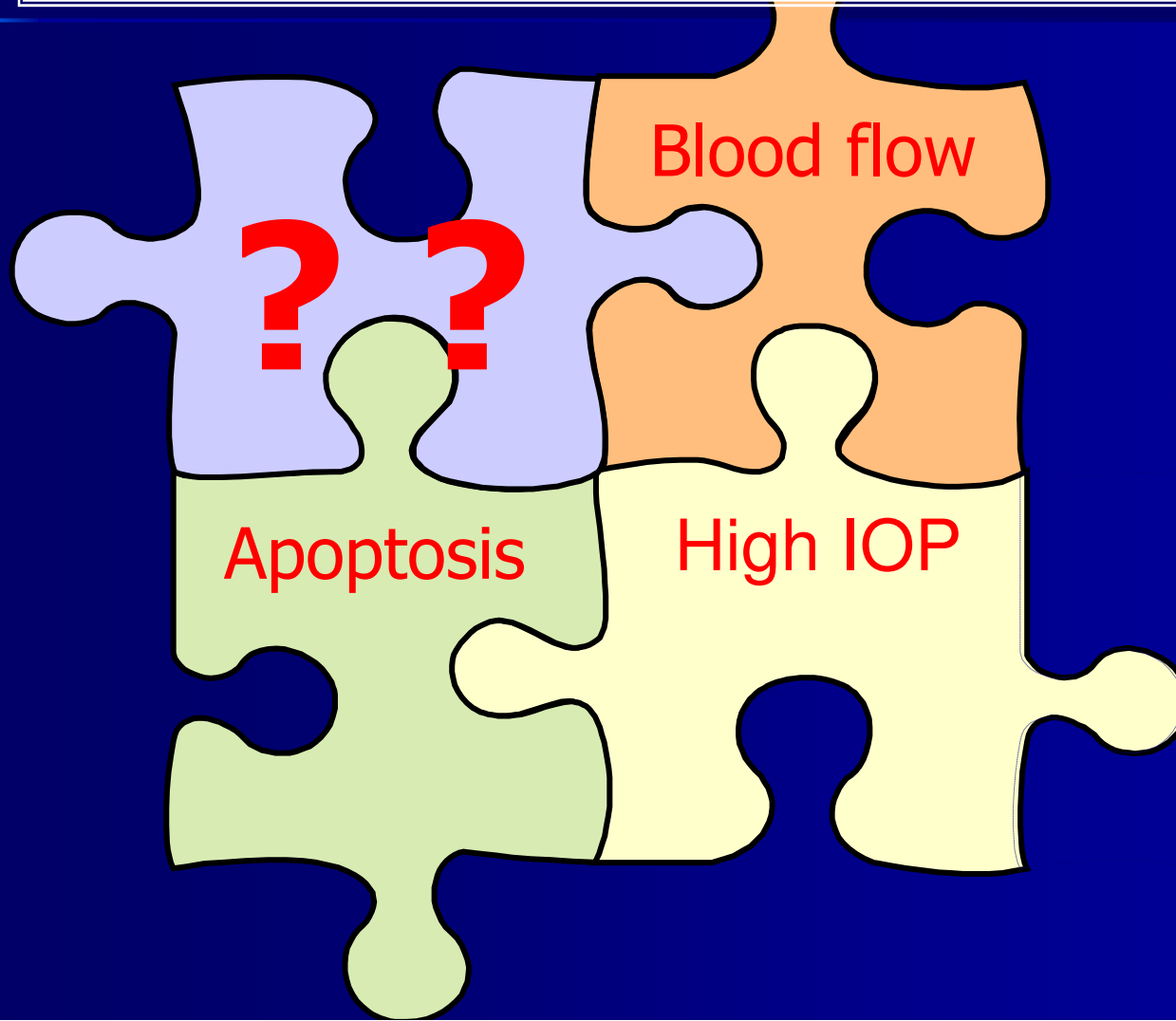
Clinical Experience with SLT in Treatment of Open Angle Glaucoma

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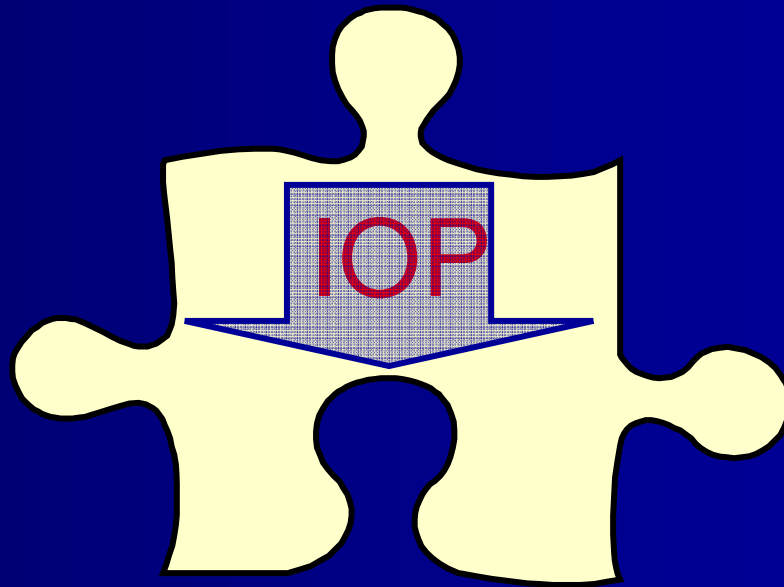
6.7 m bilateral blind caused by glaucoma



Causes of Primary Open Angle Glaucoma



Glaucoma Treatment



Pressure Reduction

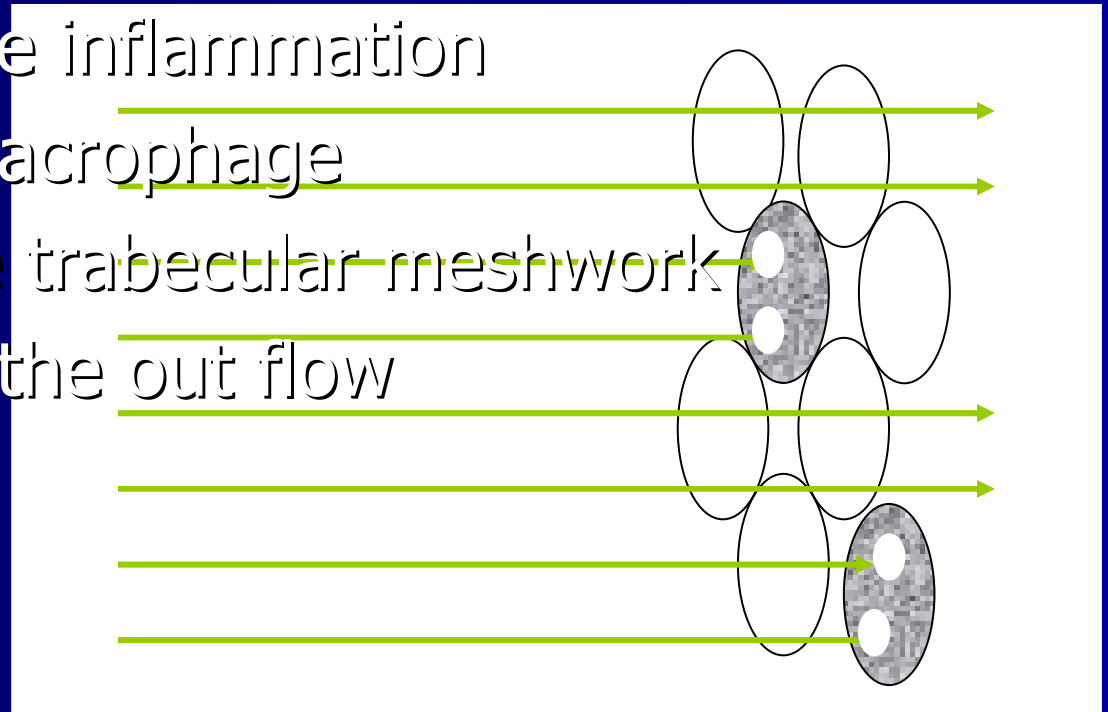
- Medical
- Laser Trabeculoplasty (ALT, SLT)
- Surgical

SLT

- Less morphological change in trabecular meshwork
- Good effect of re-treatment
- Better patient comfort
- Less post-operative complications

SLT: Mechanism

- Photon energy selectively absorbed by pigment particles in the cell
- → Low grade inflammation
- → Attract macrophage
- → Clean the trabecular meshwork
- → Increase the out flow
- ???



SLT

Indication:

- IOP reduction in eyes with open angle glaucoma (Primary, normal tension, exfoliation, pigment)
- IOP reduction in eyes with narrow angle glaucoma after iridotomy or iridoplasty

SLT

- Primary treatment
- Adjunctive treatment
 - High IOP despite topical therapy, ALT, SLT
 - Intolerance of topical treatment (allergy, side effects)
 - Poor compliance
 - Have difficulty administering eye drops
 - Improve life quality
 - During pregnancy

SLT is not suitable

- When trabecular meshwork is not visible (hazy cornea, narrow angle)
- Pediatric or juvenile glaucoma
- Uveitis

Examination: Pre-SLT

- Visual acuity
- Intraocular pressure
- Gonioscopy
- (Pre-medication: pilocarpine, brimonidine)

SLT

- Q-switched frequency doubled (532nm) nd:YAG laser
- Fix parameter: 400 μm , 3 ns
- Energy level: 0.6-1.2 mJ



Post SLT Treatment

- Iopidine x 1 (only eye, relatively high pre-SLT IOP, advanced glaucoma)
- Continue with same pressure lowering treatment until next visit
- IOP control: 2 hours, 1, 3, 7 months post SLT

Non responders

- Wait at least two months before re-treatment

SLT: Influence Factors

- 78 eyes / 78 patients
 - 76 unsatisfactory IOP regulation in spite of medical treatment
 - 2 intolerance of medical treatment
- Age 72.4 +/-12.4 yrs
- 25 effects on 90° of trabecular meshwork

SLT: Influence Factors

- 44 eyes with ≤ 2 topical medications,
34 eyes with >2 topical medications
- 35 eyes with exfoliation
- 26 eyes with previous ALT

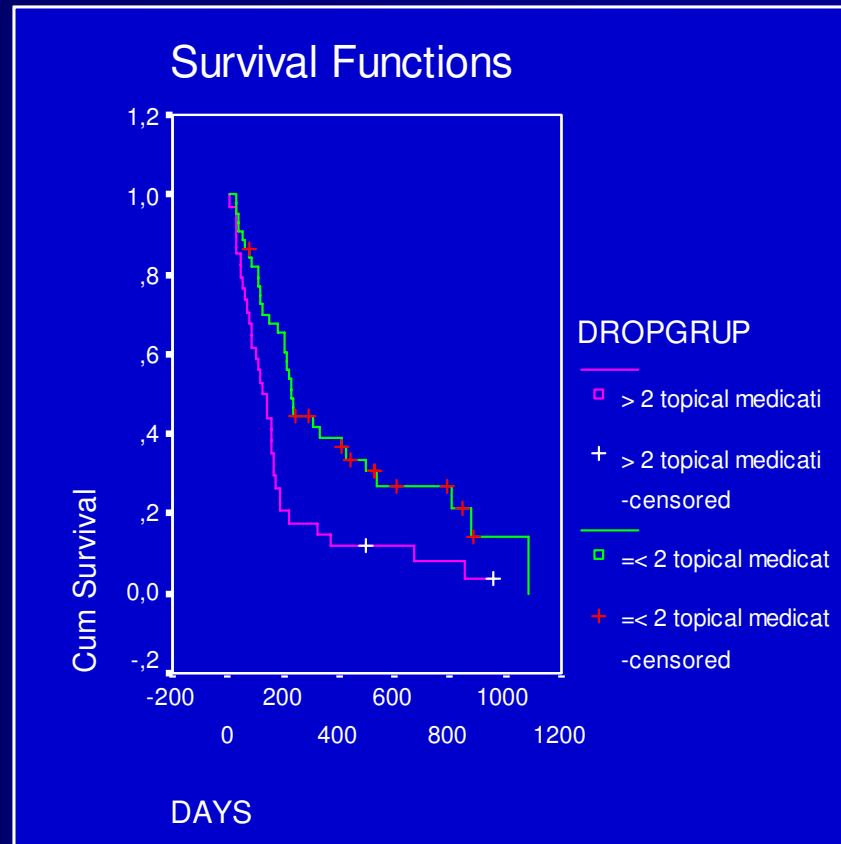
SLT: Influence Factors

- Pre-SLT IOP 25.4 ± 5.5 mmHg
- The loss of the IOP regulation was defined as the IOP reduction less than 20% (or less than 3 mmHg) compared to pre-SLT IOP

SLT: Influence Factors

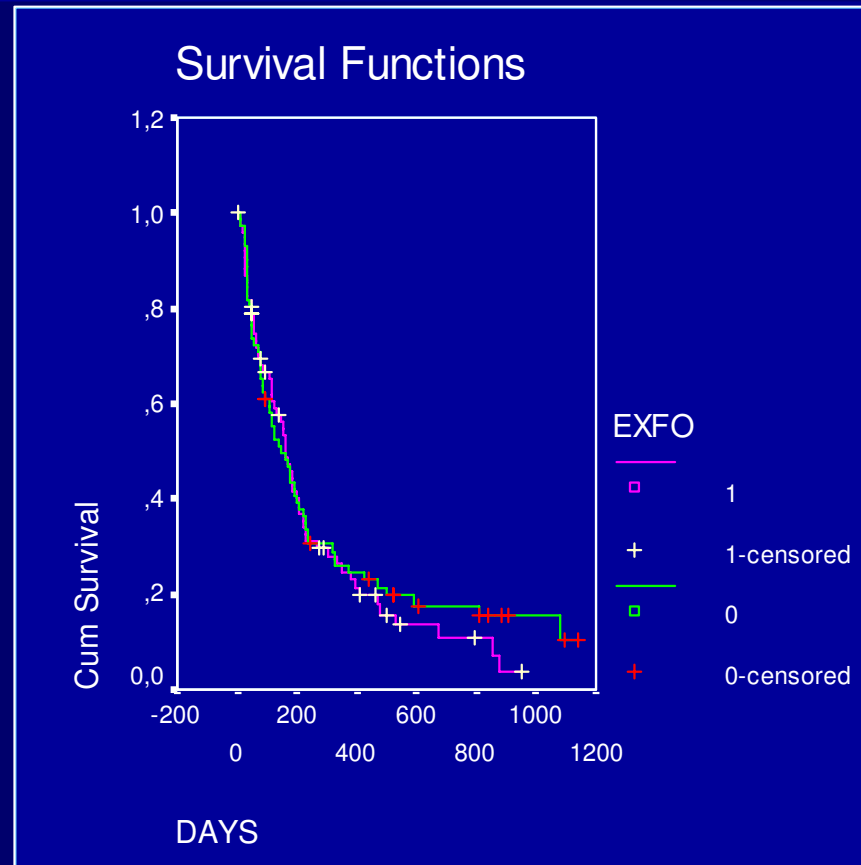
- Time interval between the laser treatment and the loss of IOP control was analysed with Kaplan-Meier survival analysis

Influence of Number of Eye Drops



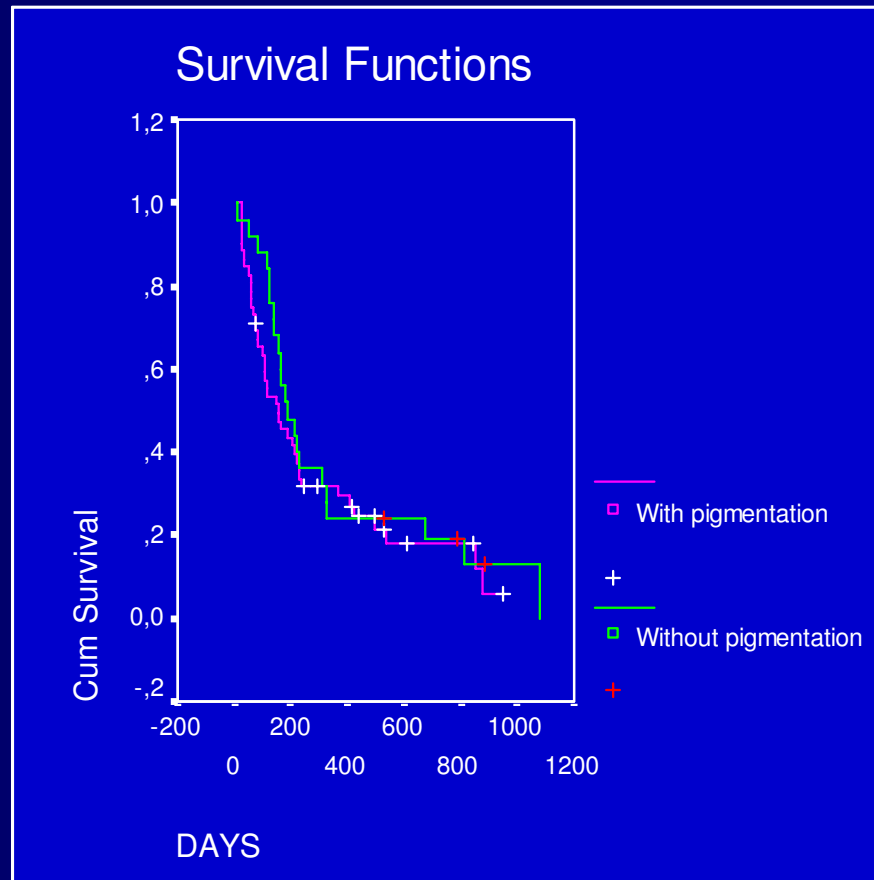
$P < 0.002$

Influence of Exfoliation



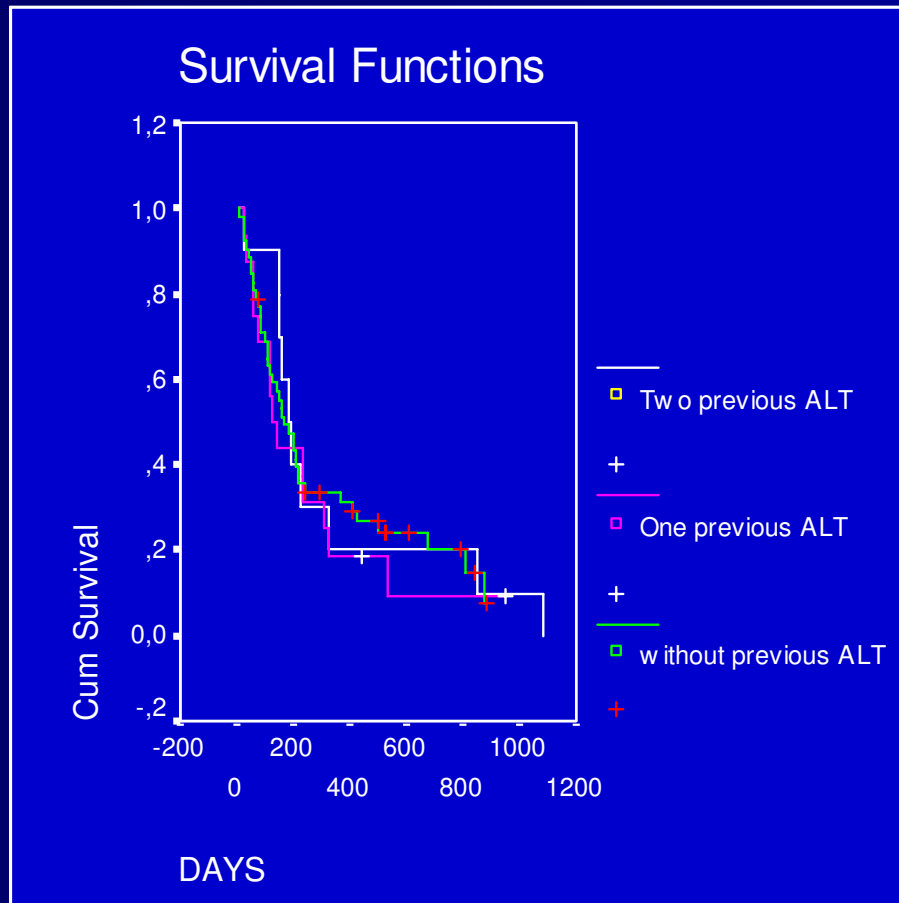
P = 0.89

Influence of Pigmentation



P = 0.45

Influence of Previous ALT



P = 0.85

SLT: Influence Factors

- SLT was more effective in the eyes with ≤ 2 topical agents

SLT: Influence Factors

- The following factors did not influence the period of IOP control after SLT:
 - Exfoliation
 - Pigmentation of the trabecular meshwork
 - Previous ALT

Summary

SLT: Important part in glaucoma treatment

- Effective as primary and adjunctive therapy
- Safe with few minor complications
- Repeatable