

“ Nanopulse Revolution: From Glaucoma to Retina”

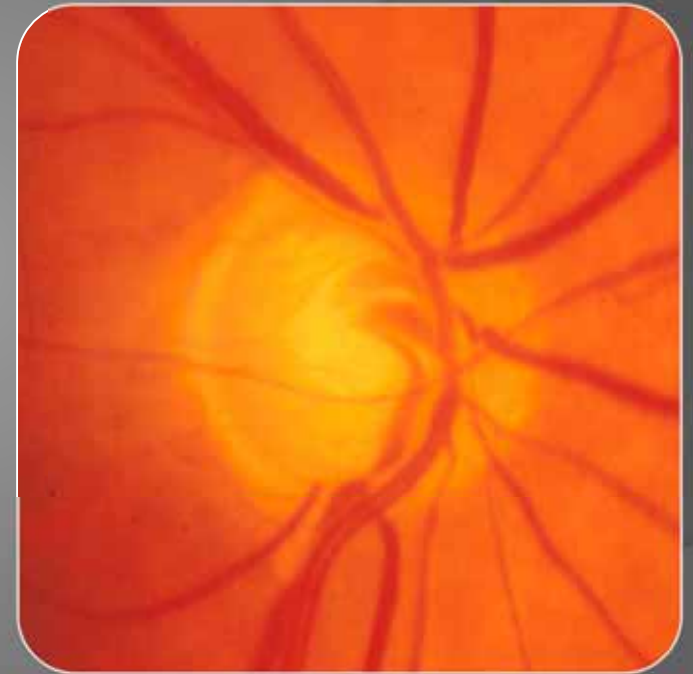
SLT: THE NEW ALTERNATIVE TO MEDICATIONS FOR GLAUCOMA PATIENTS

Prof. Roberto Carassa M.D.

*Italian Glaucoma Center
Milano, Italy*

Glaucoma Therapy

The goal of glaucoma treatment is to maintain the patient's visual function and related quality of life, at a sustainable cost



The impact of glaucoma on the quality of life of patients in Norway.

Odberg T, Jakobsen JE, Hultgren SJ, Halseide R.

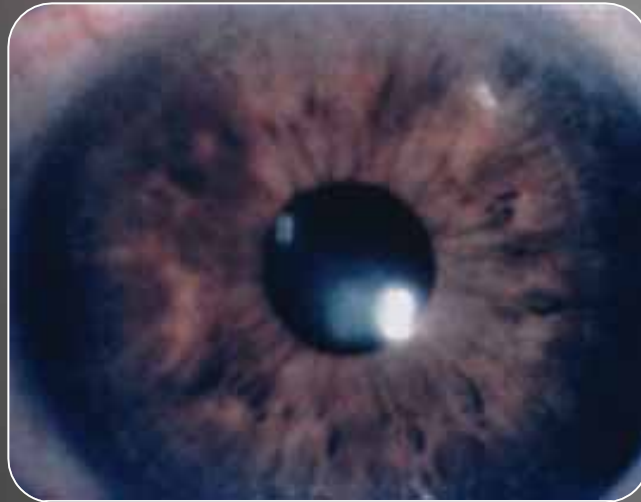
Department of Ophthalmology, Central Hospital in Hedmark, Hamar, Norway. tor.ordberg@c2i.net

RESULTS: More than 80% reported negative emotions on learning that they had glaucoma, one-third were afraid of going blind. Half the patients had no visual problem at all, 14% complained of poor or very poor vision. This proportion increased with age. One-fourth of the patients on topical medication experienced adverse effects of moderate or high degree.

About half the patients being treated with laser or surgery felt their situation had improved afterwards.



SIDE EFFECTS OF MEDS ARE A MAJOR CONCERN



DIFFICULTIES IN USING THE DROPS



NON-COMPLIANCE WITH MEDICATIONS

Features	Konstas et al ⁶	Gurwitz et al ⁷	Chang et al ²	Granström ³	MacKean and Elkington ¹	Spaeth ⁴
Study design	Cross-sectional	Retrospective cohort	Intervention study with preintervention/postintervention measurement	Prospective cohort with retrospective element	Cross-sectional	Cross-sectional
Results	Noncompliant vs. compliant: IOP 22.9 (± 3.7) mmHg vs. 18.6 (± 3.5) mmHg ($P > 0.001$); disc cupping: 0.69 ± 0.1 vs. 0.62 ± 0.1 ($P = 0.02$); VF loss 10.8 ± 5.8 vs. 7.0 ± 5.4 decibels ($P = 0.008$)	No difference in IOP at baseline, during and after study period	Overall drop in intraocular pressure of 0.8 ± 6 mmHg ($P = 0.003$) Drop of IOP of 1.7 ± 4.6 mmHg ($P = 0.052$) in patients reporting improved compliance Increase in IOP of 0.6 ± 8.3 mmHg ($P = 0.19$) in patients who reported 100% compliance at both visits	No significant association between compliance and VF progression after adjusting for other variables	No association between noncompliance and VF loss	Significant ($P \leq 0.01$) positive correlation between not using eyedrops and a full VF in both eyes

Noncompliance with Ocular Hypotensive Treatment in Patients with Glaucoma or Ocular Hypertension

An Evidence-Based Review

Christine M. G. O'Brien, Dr med, MSc,¹ Ian S. A. G. Stewart, MD, PhD,²
Ben W. van de Boven, MSc, PhD,³ Carol A. B. Wilson, MD, PhD⁴

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SLT is an effective and safer alternative to medications

- SLT can be used as a primary therapy
 - No compliance issues
 - Better response
- SLT can be used as combination therapy with medication
 - Improve IOP control
 - Decrease or stop medical therapy when side effects or poor tolerance occur
 - Decrease diurnal fluctuations
 - Delay surgical option
- SLT can be used after surgery or ALT
 - Improve IOP control

SLT as primary therapy

SLT is as effective as medications but requires less treatment's steps to reach target IOP

TABLE 3. Overall (Mean of Both Eyes*) Baseline and Follow-up IOP, Changes of IOP and Months of Follow-up

	Baseline	Follow-up 4 to 6 mo	Follow-up 9 to 12mo
Medicine group	n = 31	n = 31	n = 25
IOP	24.5 (± 2.2)	17.8 (± 3.0)	17.7 (± 2.5)
IOP change	—	6.6 (± 2.8)*	7.0 (± 1.8)*
Months of follow up	—	5.7 (± 1.1)	11.7 (± 0.8)
SLT group	n = 38	n = 38	n = 29
IOP	25.0 (± 2.2)	18.9 (± 2.9)	18.2 (± 2.8)
IOP change	—	6.0 (± 3.1)*	6.3 (± 2.7)*
Months of follow up	—	6.7 (± 1.0)	12.2 (± 1.5)
<i>P</i>		0.13	0.77

TABLE 5. Distribution of Number of Steps by Treatment Group and Percentage of Target IOP Being Met

Variables	Four to 6mo		Nine to 12mo	
	Medicine Group	SLT Group	Medicine Group	SLT Group
No. treatments				
Single treatment	25	33	18	24
Double treatment	4	2	7	2
Double treatment in left eye only	1	0	1	1
Double treatment in right eye only	1	1	0	2
Triple treatment	0	1	0	1
Percentage met (≤) target IOP				
Right eye	17 (56.7%) of 30	17 (47.2%) of 36	17 (70.8%) of 24	16 (57.1%) of 28
Left eye	13 (43.3%) of 30	15 (48.4%) of 31	15 (62.5%) of 24	13 (54.2%) of 24
<i>P</i> for right eye		0.45		0.31
<i>P</i> for left eye		0.69		0.56

Selective Laser Trabeculoplasty Versus Medical Therapy as Initial Treatment of Glaucoma: A Prospective, Randomized Trial

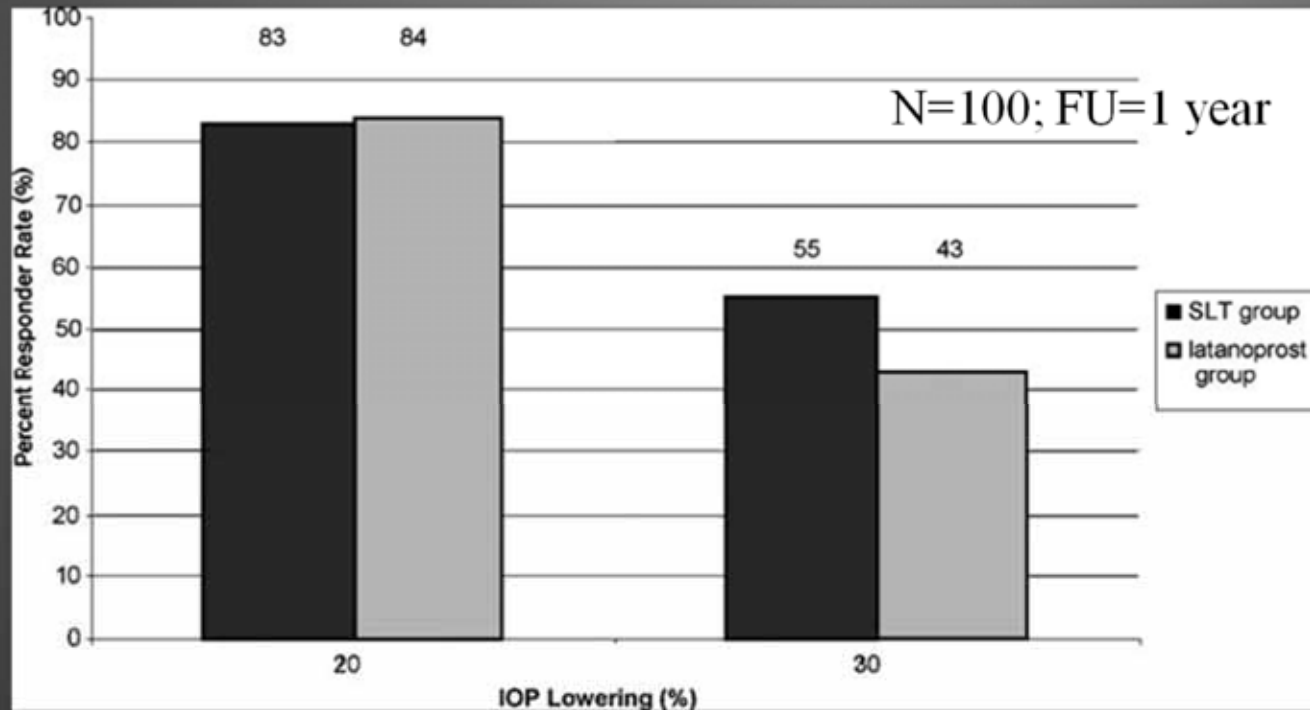
L. Jay Katz, MD,* William C. Strimling, MD†, Azad Kabe, MD‡, Anne Malmgren, CDA*
Sheryl S. Weiss, CDA* and George Marcellino, PhD§ for the SLT/Med Study Group

J Glaucoma 2011;20(10):686-690



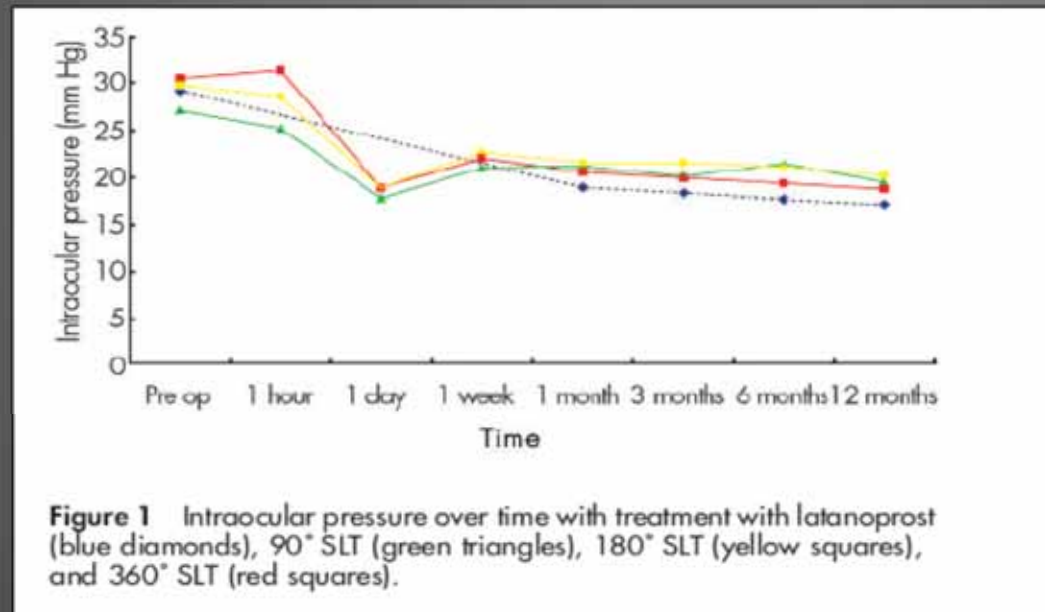
SLT as primary therapy

SLT is as effective as latanoprost as primary therapy of POAG



SLT as primary therapy

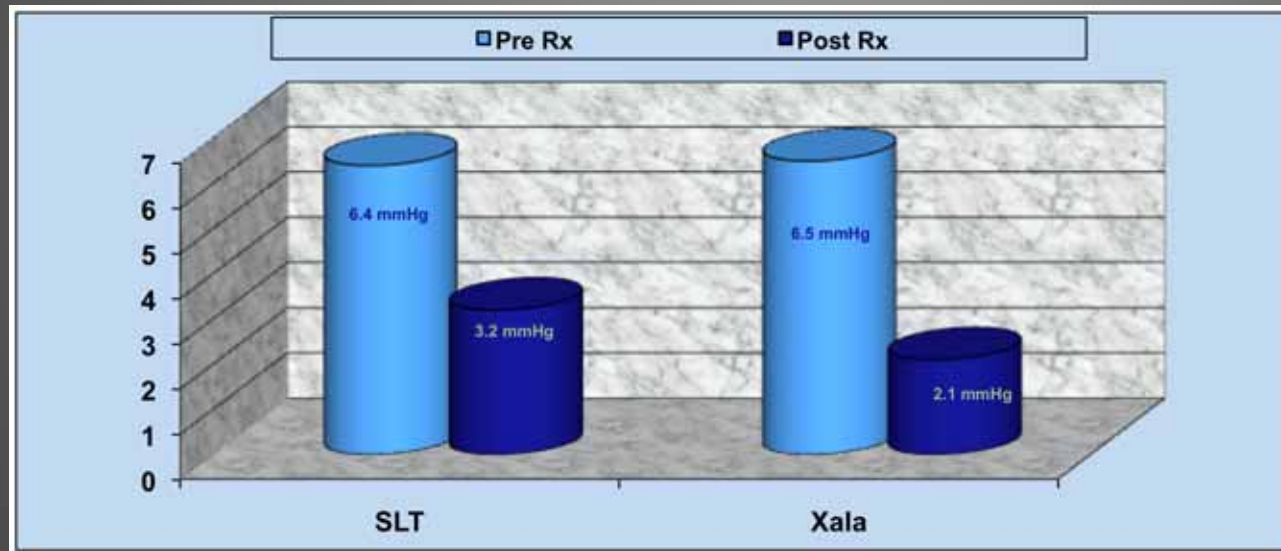
360° SLT is as effective as latanoprost as primary therapy of POAG



147 patients / eyes; newly diagnosed; medically controlled then washed out; SLT 90, 180, 360 vs Latanoprost

SLT as primary therapy

SLT is as effective as latanoprost in controlling IOP fluctuations



40 patients; SLT vs Latanoprost; diurnal curve; FU 6 months

Cost effectiveness of SLT

SLT is less costly than medical treatment

- Ontario Health Insurance Plan
- Assumed 2 year repeat rate
 - SLT \$ 373.98
- 6 year cumulative saving vs.
 - Monotherapy \$ 206.54
 - Dual therapy \$1,668.64
 - Triple therapy \$2,992.67

SLT as primary therapy

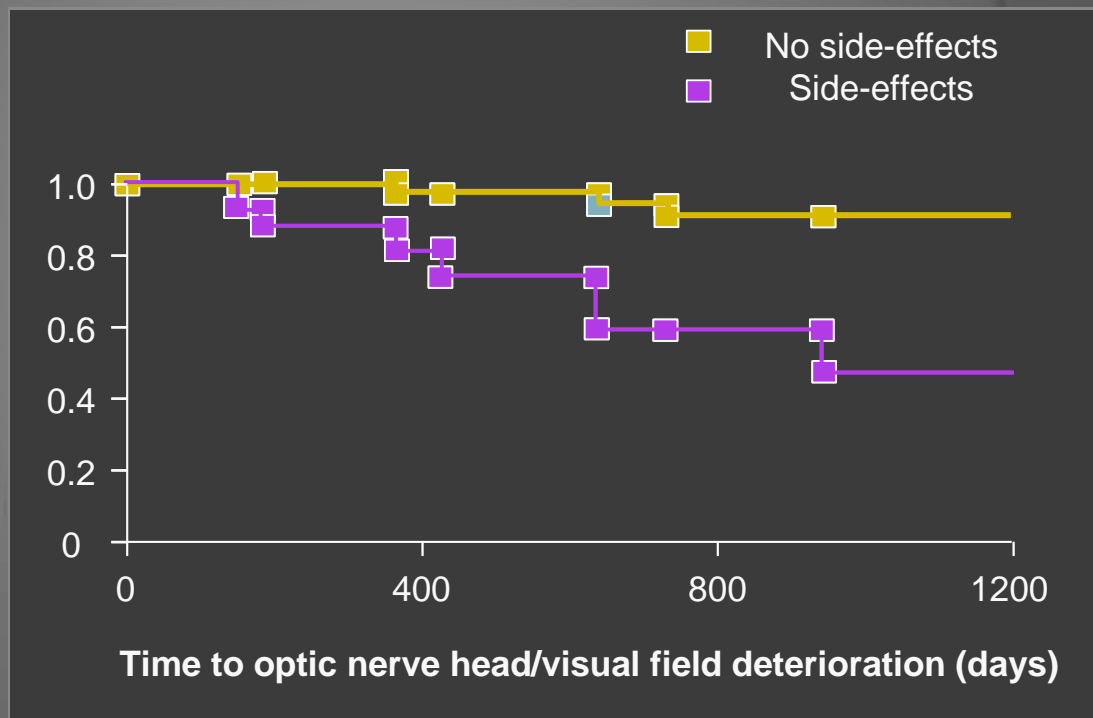
WHEN:

- **always** (*excluding: active uveitis, NVG, traumatic gl., congenital or early childhood gl., angle closure with inadequate angle visualization*)
- the impact of the disease / therapy highly affects QOL
- side effects of drugs are a major concern for the patient
- the patient has difficulties in using the drops
- there is a high risk of poor adherence

GLAUCOMA TREATMENT MUST BE INDIVIDUALIZED

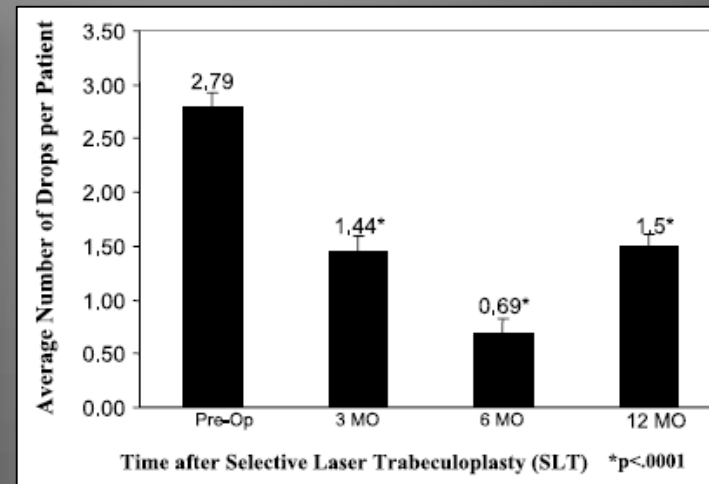
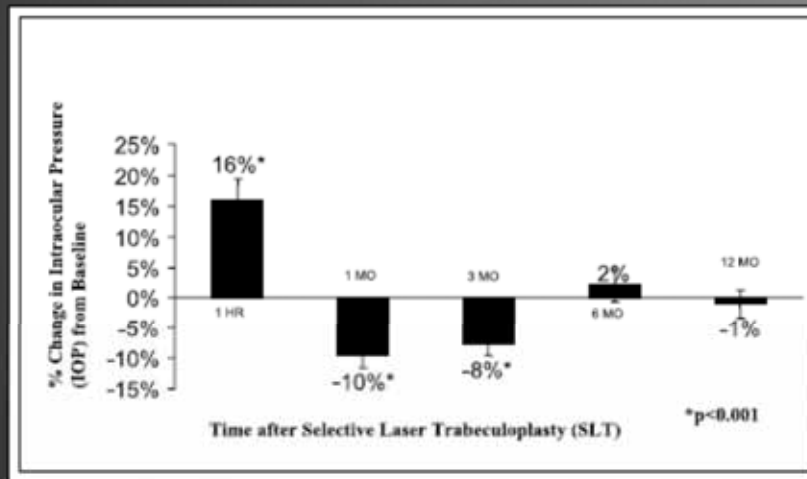
“Individualized glaucoma treatment aims at providing glaucoma management tailored to the individual needs of the patients.”

Side Effects of Medical Therapy



SLT as drug replacement

SLT is effective in reducing medical therapy



Selective Laser Trabeculoplasty as a Replacement for Medical Therapy in Open-Angle Glaucoma

Brian A. Francis, MD, Tsontcho Ianchulev, MD, John K. Schofield, DO, and Donald S. Minckler, MD

Am J Ophthalmol 2005;140:524-525



SLT as drug replacement

Effect of Selective Laser Trabeculoplasty on Number of Medications Used

Elaine M. Miglino

Lawrence F. Jindra, MD

ASCRS 2011

Meds Pre-SLT	Proportion of Eyes	Meds Post-SLT	Proportion of Eyes
• >3	18%	• >3	7%
• 3	21%	• 3	7%
• 2	26%	• 2	16%
• 1	35%	• 1	14%
• 0	0%	• 0	56%

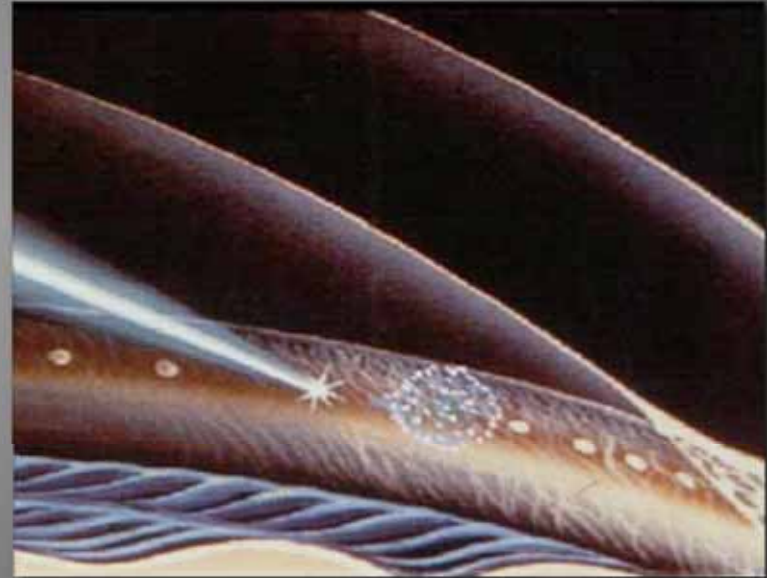
Results were significant with $p < 0.05$

Retrospective chart review was performed on 997 eyes, from a consecutive case series of 3,034 eyes treated with SLT over 8 years.

SLT: Complications

SLT is a very safe procedure

- Mild inflammation, appearing 1 hr after SLT, decreasing by 24 hrs, and resolving in all cases within 5 days¹
- Ocular discomfort in 15%-39% of eyes, resolving in 1 day^{1,2}
- IOP spike (≥ 5 mmHg) in 3.4% - 25% 1 hr after treatment, resolved with medication^{1,3,4}



1. Latina M et al., 1998; 2. Nagar M et al., 2005; 3. Damji KF et al, 1999; 4. Lai JS et al.: 2004

CONCLUSIONS

MEDICATIONS

SIMILAR EFFICACY
LONG TERM DRIFT
MAJOR ADVERSE
EVENTS

SLT

GOOD EFFICACY
REPEATABILITY
LONG DURATION
MINOR ADVERSE
EVENTS

