



Effect of East Asian Race on Selective Laser Trabeculoplasty

ASCRS 2011

Minerva Kim

Johns Hopkins University

Gigi George

Siena College

Elaine M. Miglino

Floral Park Ophthalmology

Lawrence F. Jindra, MD

Columbia University

Winthrop University Hospital

- 1st author has no financial interest in the subject matter of this poster.
- 2nd and 3rd co-authors have no financial interest in the subject matter of this poster.
- 4th co-author has independently conducted and financed the clinical research study presented herein and received honoraria from Ellex Corporation in the last year.



Introduction

- **Selective Laser Trabeculoplasty (SLT) uses a Q-Switched frequency-doubled (532 nm), low energy Nd:YAG laser, which targets melanocytes in the trabecular meshwork^{1,2}.**
- **SLT treatment induces a biologic response in the trabecular meshwork, which involves the release of cytokines that trigger macrophage recruitment and other changes, leading to reduction in intraocular pressure (IOP).**
- **SLT treats the trabecular meshwork without causing thermal nor coagulative damage to surrounding structures.**

1. Latina MA, et al. Selective targeting of trabecular meshwork cells: in vitro studies of pulsed and CW laser interactions. *Exp Eye Res.* 1995;60:359-372.

2. Latina MA, et al. Q-switched 532-nm Nd:YAG laser trabeculoplasty (selective laser trabeculoplasty): a multicenter, pilot, clinical study. *Ophthalmology.* 1998;105:2082-2090.



Purpose

- To examine the effect of East Asian race on Selective Laser Trabeculoplasty (SLT), as primary or secondary therapy, to decrease intraocular pressure (IOP) and reduce the number of medications (meds) used in patients with glaucoma.



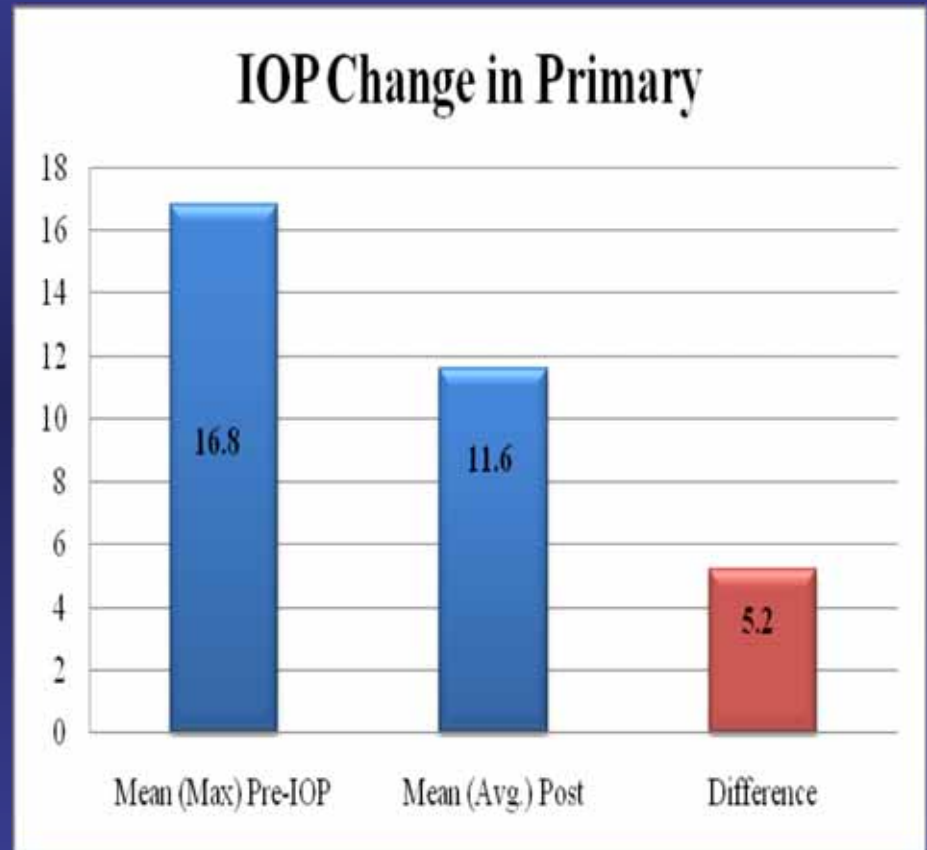
Methods

- Retrospective chart review was performed on 31 of 3,034 eyes from a consecutive case series of eyes treated with SLT over 8 years.
- Eyes were grouped according to therapy method (primary or secondary) in patients of East Asian race.
- Post-SLT IOP decrease and reduction in meds were analyzed.
- Two-tailed paired t-test was used to compare maximum pre- and average post- procedure IOP and meds.



Results: Primary

- There were 16 eyes
- Mean follow-up was 818 days
- Mean decrease in IOP was 31%

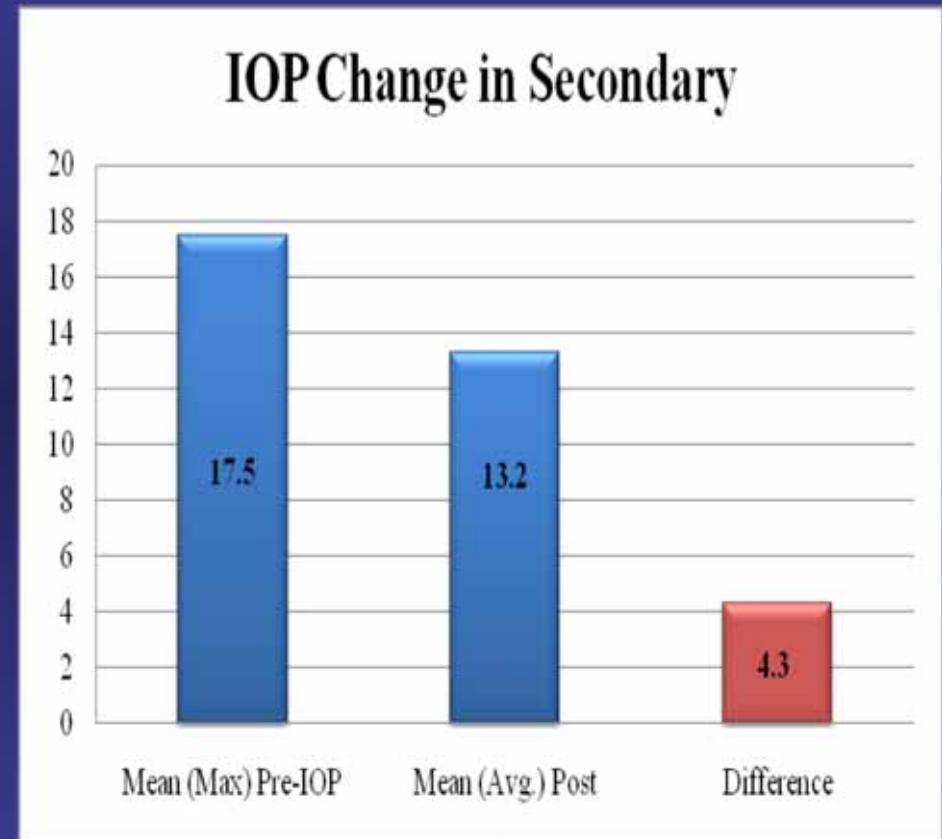


- There was significant decrease in IOP ($p < 0.01$).



Results: Secondary

- There were 15 eyes
- Mean follow-up was 855 days
- Mean decrease in IOP was 24%

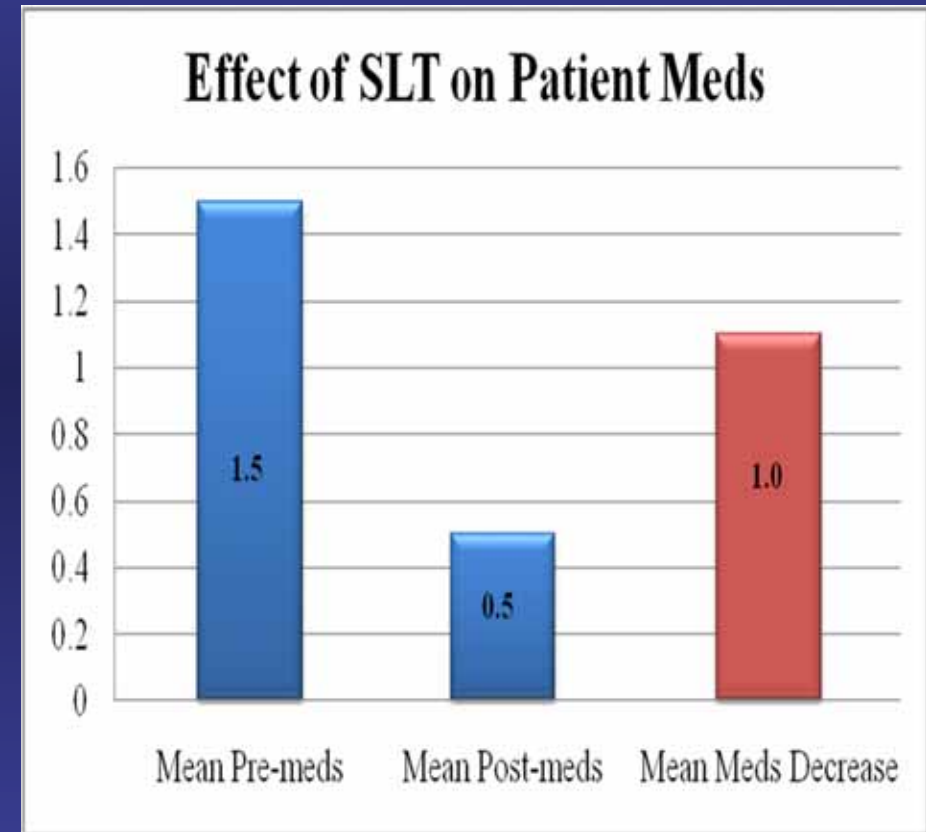


- There was significant decrease in IOP ($p < 0.01$).



Results: Secondary

- There were 15 eyes
- Mean follow-up was 855 days
- Mean decrease in meds was 69%



- There was significant decrease in meds ($p < 0.01$).



Results: Summary



Treatment	N-value (eyes)	Mean Follow-Up (days)	Mean IOP Decrease (mmHg)	Mean IOP Decrease (%)	Mean Reduction in Meds (meds)	Mean Reduction in Meds (%)
Primary	16	818	5.2	31%		
Secondary	15	855	4.3	24%	1.0	69%

➤ There was significant difference in results ($p < 0.01$) for mean decrease in IOP.



Discussion

➤ The Glaucoma Laser Trial

- Established efficacy of laser trabeculoplasty in lowering IOP in previously untreated glaucoma patients¹.

➤ The Ocular Hypertensive Treatment Study and

➤ Early Manifest Glaucoma Trial

- Established efficacy of early and effective treatment to preserve long-term visual function in glaucoma patients^{2,3}.

➤ Our findings build on these and suggest that in patients of East Asian Race, after treatment with SLT, there was significant decrease in IOP and in reduction of the number of meds used.

➤ Further study with controlled clinical trials is indicated.

1. The GLT Research Group. GLT. *Ophthalmology*. 1990;97:1403-1413.

2. Kass MA, et al. OHTS. *Arch Ophthalmol*. 2002;120:701-713.

3. Heijl A, et al. EMGT. *Arch Ophthalmol*. 2002;120:1268-1279.



Conclusion

- In this large, long-term clinical series, in patients of the East Asian race, Selective Laser Trabeculoplasty, as primary or secondary therapy, decreased intraocular pressure and reduced the number of medications used in patients with glaucoma.