

SLT as first line treatment modality in Primary Open Angle Glaucoma

Uma Eye Clinic

Aim of the study

- To study the efficacy of SLT as a first line modality of treatment in patients with POAG.

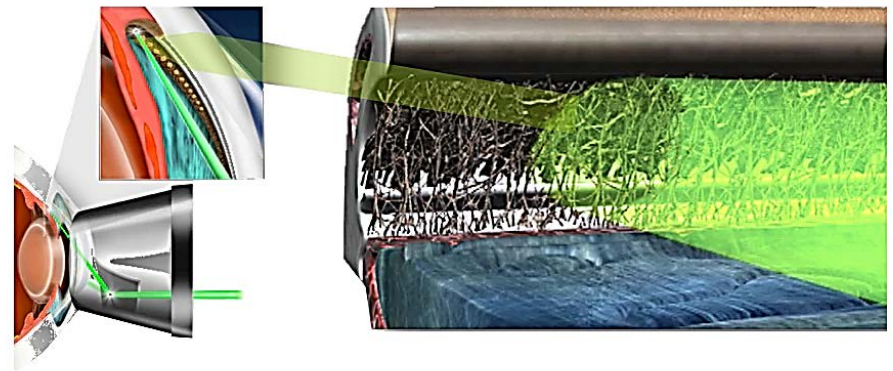
Introduction

- Selective Laser Trabeculoplasty (SLT) has proven to be an effective first line therapy for patients with Primary Open Angle Glaucoma(POAG).
- Works on the principle of selective photo sensitisation of cells in the pigmented Trabecular meshwork and evacuation of debris in the outflow channel.

Materials & Methods

Inclusion	Exclusion
Primary open angle glaucoma	Angle closure glaucoma
Mild to moderate glaucoma	Inflammatory / Neo vascular Glaucoma
Follow up compliant	Non compliant to follow up
Clear visibility on gonioscopy	Hazy view on gonioscopy

- All patients (average age of 55 years) were subject to SLT after application of pilocarpine.
- 105 eyes (72 treatment naïve eyes and 33 treated with Anti Glaucoma medication)
- Mean CCT 519.46 ± 34.387
- Spot size (400 microns) Laser duration 3 ns
- 120-130 shots applied over 360°
- Energy adjusted to 1.1-1.4 mJ
(suprathreshold)



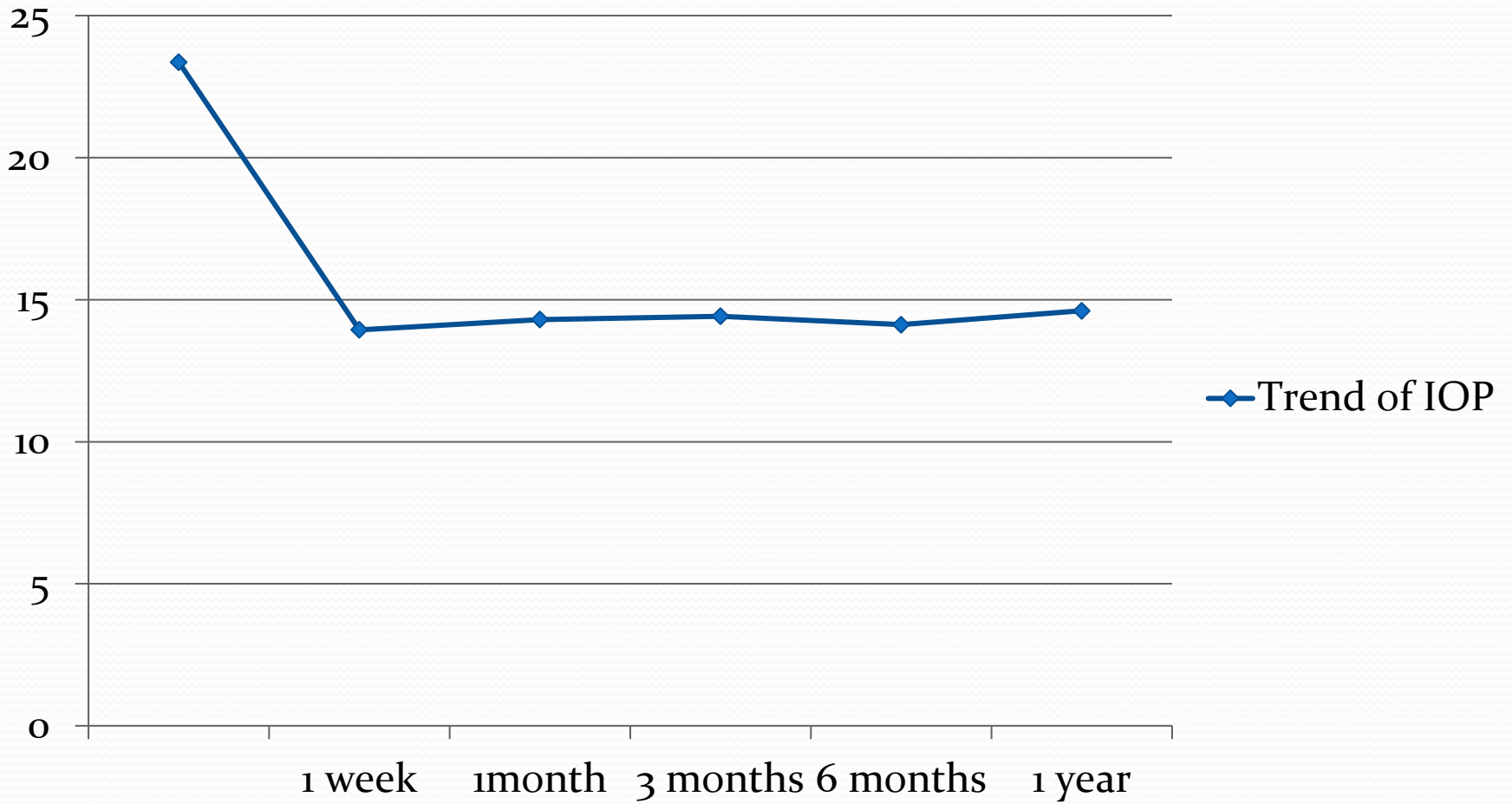
Applying the SLT Laser on Trabecular Meshwork (TM)

Results

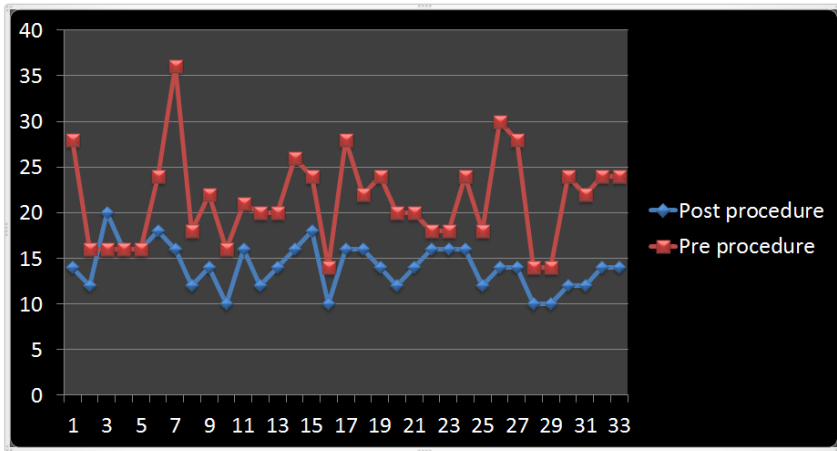
<u>Previous AGM use</u>	<u>Mean</u>	<u>Std. Deviation</u>	<u>P value</u>
Pre SLT IOP	21.36	5.159	<0.0001
1 week	13.94	1.836	
Pre SLT IOP	21.36	5.159	<0.0001
1 month	14.30	1.944	
Pre SLT IOP	21.36	5.159	<0.0001
3 months	14.42	1.921	
Pre SLT IOP	21.36	5.159	<0.0001
6 months	14.12	2.497	
Pre SLT IOP	21.36	5.159	<0.0001
1 year	14.61	1.836	

<u>Treatment Naive</u>	<u>Mean</u>	<u>Std. Deviation</u>	<u>P value</u>
Pre SLT IOP	24.65	3.578	<0.0001
1 week	14.80	2.627	
Pre SLT IOP	24.65	3.578	<0.0001
1 month	14.62	2.779	
Pre SLT IOP	24.65	3.578	<0.0001
3 months	14.28	2.491	
Pre SLT IOP	24.65	3.578	<0.0001
6 months	14.06	2.216	
Pre SLT IOP	24.65	3.578	<0.0001
1 year	14.34	2.138	

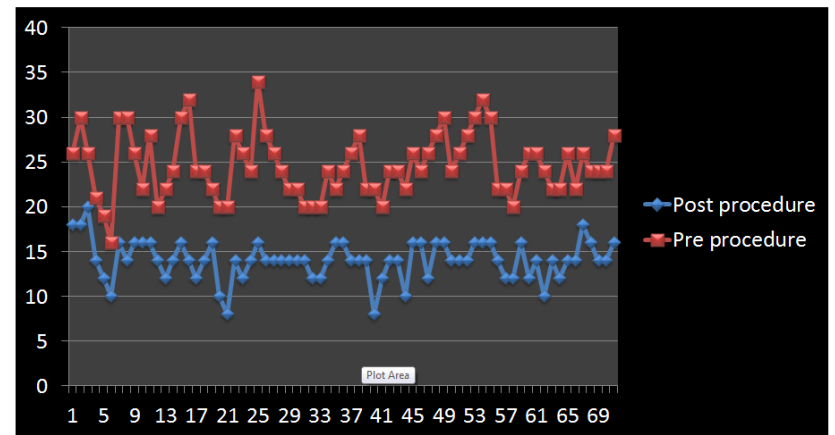
Trend of IOP



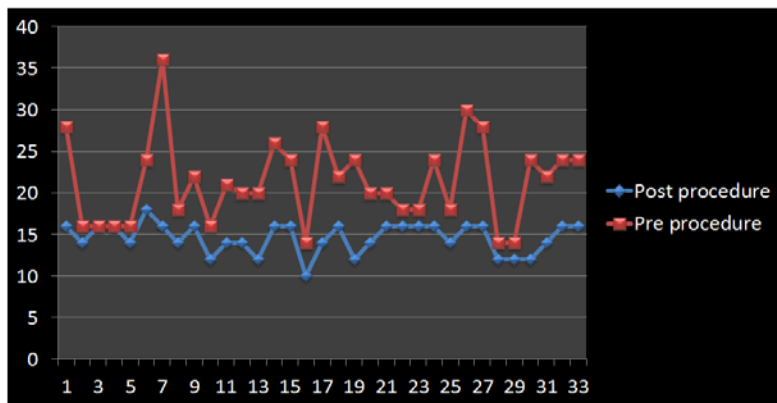
6 months



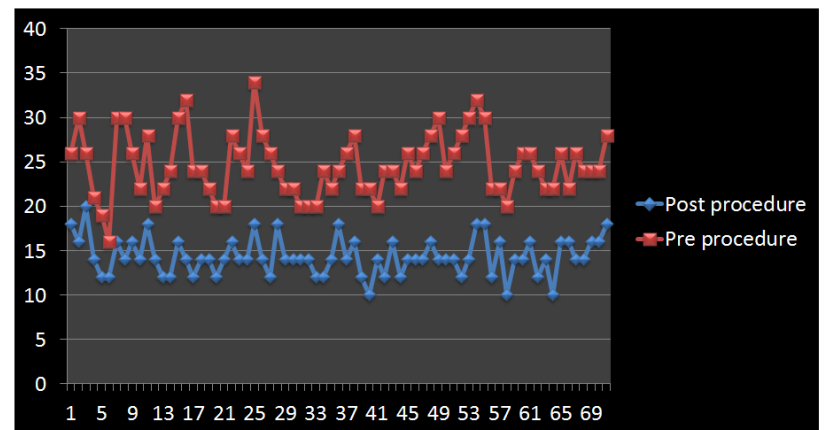
6 months



12 months



12 months



Discussion

- SLT is an effective, compliance-free, repeatable, cost-effective and safe therapeutic modality having only minor, transient, self-limiting side effects with no sequelae.
- SLT is as efficacious as AGM in OAG.
- SLT can be considered as first line therapy for OAG.

Selective laser trabeculoplasty: a new treatment option for open angle glaucoma Latina MA¹, Tumbocon JA Curr Opin Ophthalmol. 2002 Apr;13(2):94-6.

Waisbourd M, Katz LJ. Selective laser trabeculoplasty as a first-line therapy: a review. Can J Ophthalmol. 2014 Dec;49(6):519-22. doi: 10.1016/j.jcjo.2014.10.003. PMID: 25433741.

New Kid on the block – Nano SLT



Nano SLT study

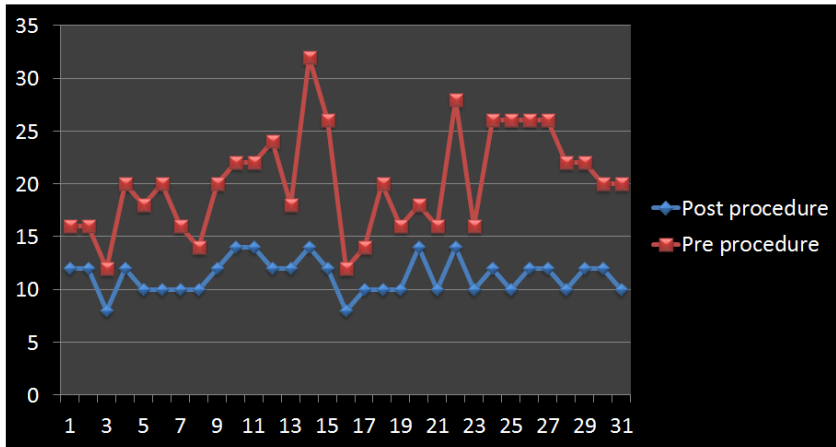
- Sample size : 52 eyes
- 31 eyes on previous AGM.
- 21 eyes treatment naïve.

Results

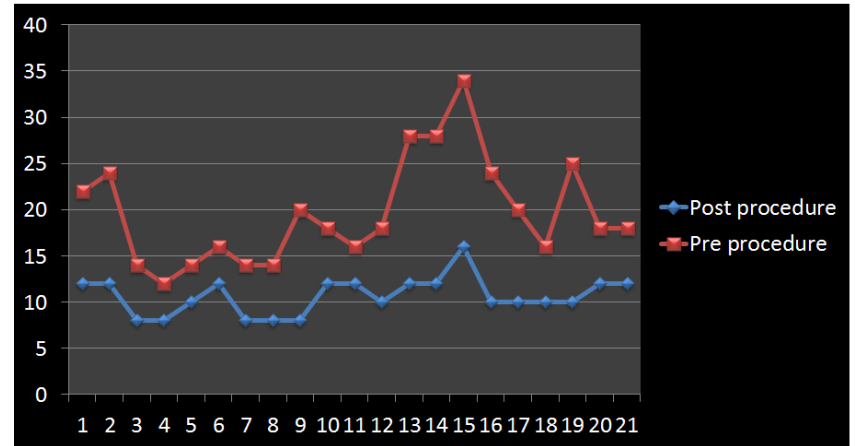
<u>Previous AGM use</u>	<u>Mean</u>	<u>Std. Deviation</u>	<u>P value</u>
Pre SLT IOP	19.67	5.721	<0.0001
1 week	11.43	1.434	
Pre SLT IOP	19.67	5.721	<0.0001
1 month	11.81	1.778	
Pre SLT IOP	19.67	5.721	<0.0001
3 months	11.14	1.852	
Pre SLT IOP	19.67	5.721	<0.0001
6 months	10.67	2.033	
Pre SLT IOP	19.67	5.721	<0.0001
1 year	11.52	1.537	

<u>Treatment Naive</u>	<u>Mean</u>	<u>Std. Deviation</u>	<u>P value</u>
Pre SLT IOP	20.13	4.924	<0.0001
1 week	11.42	1.728	
Pre SLT IOP	20.13	4.924	<0.0001
1 month	11.23	1.765	
Pre SLT IOP	20.13	4.924	<0.0001
3 months	11.48	1.786	
Pre SLT IOP	20.13	4.924	<0.0001
6 months	11.29	1.677	
Pre SLT IOP	20.13	4.924	<0.0001
1 year	11.10	1.535	

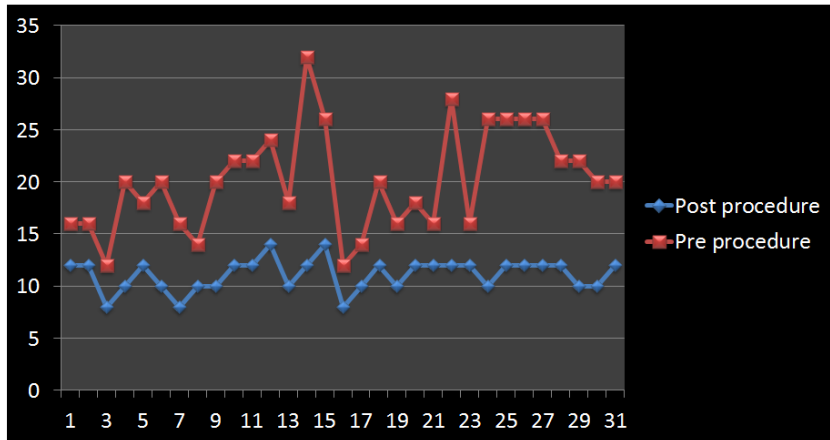
6 months



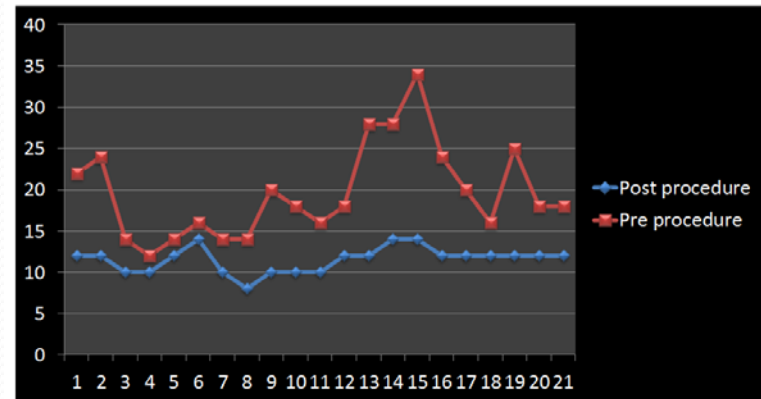
6 months



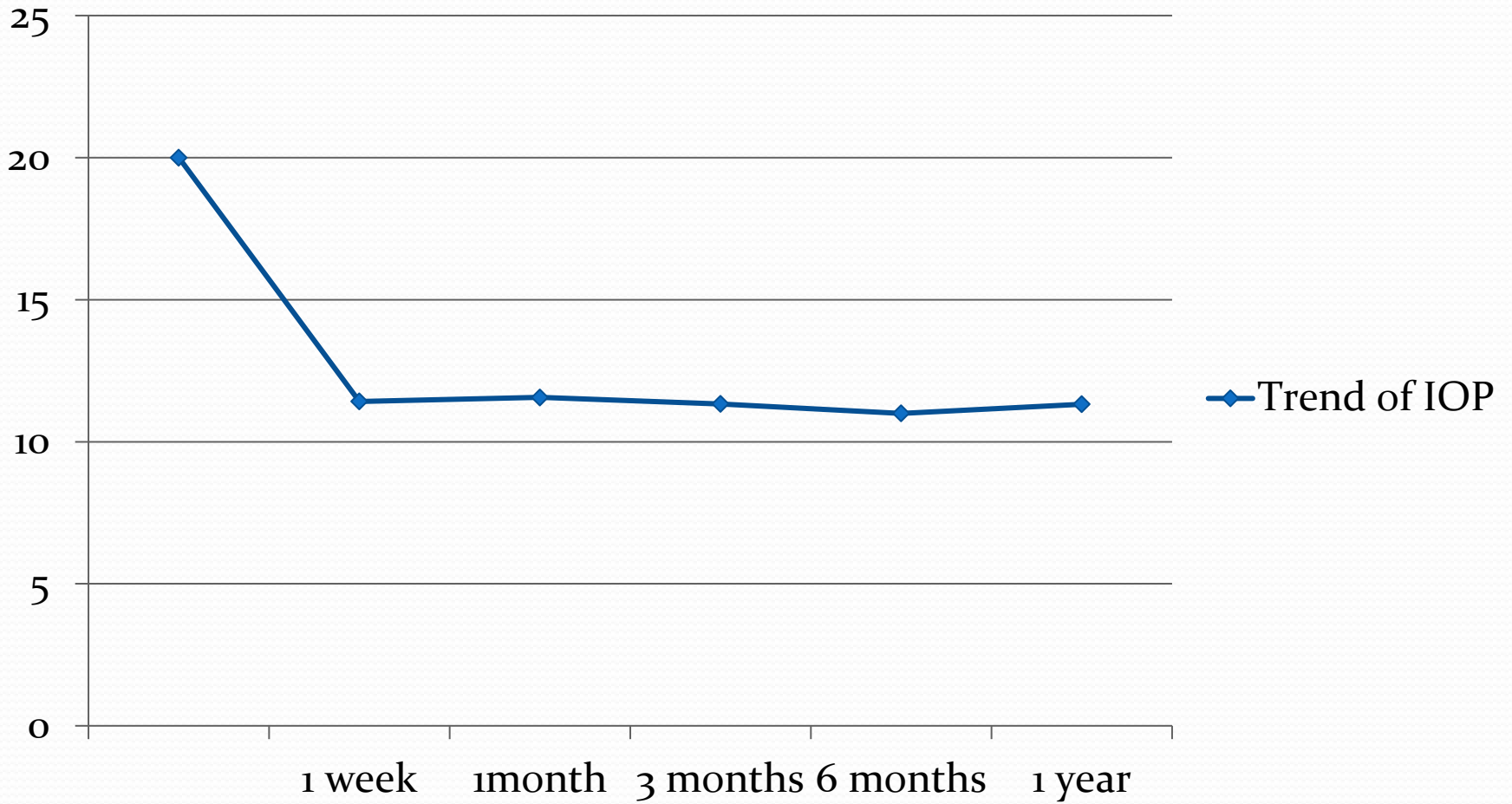
12 months



12 months



Trend of IOP



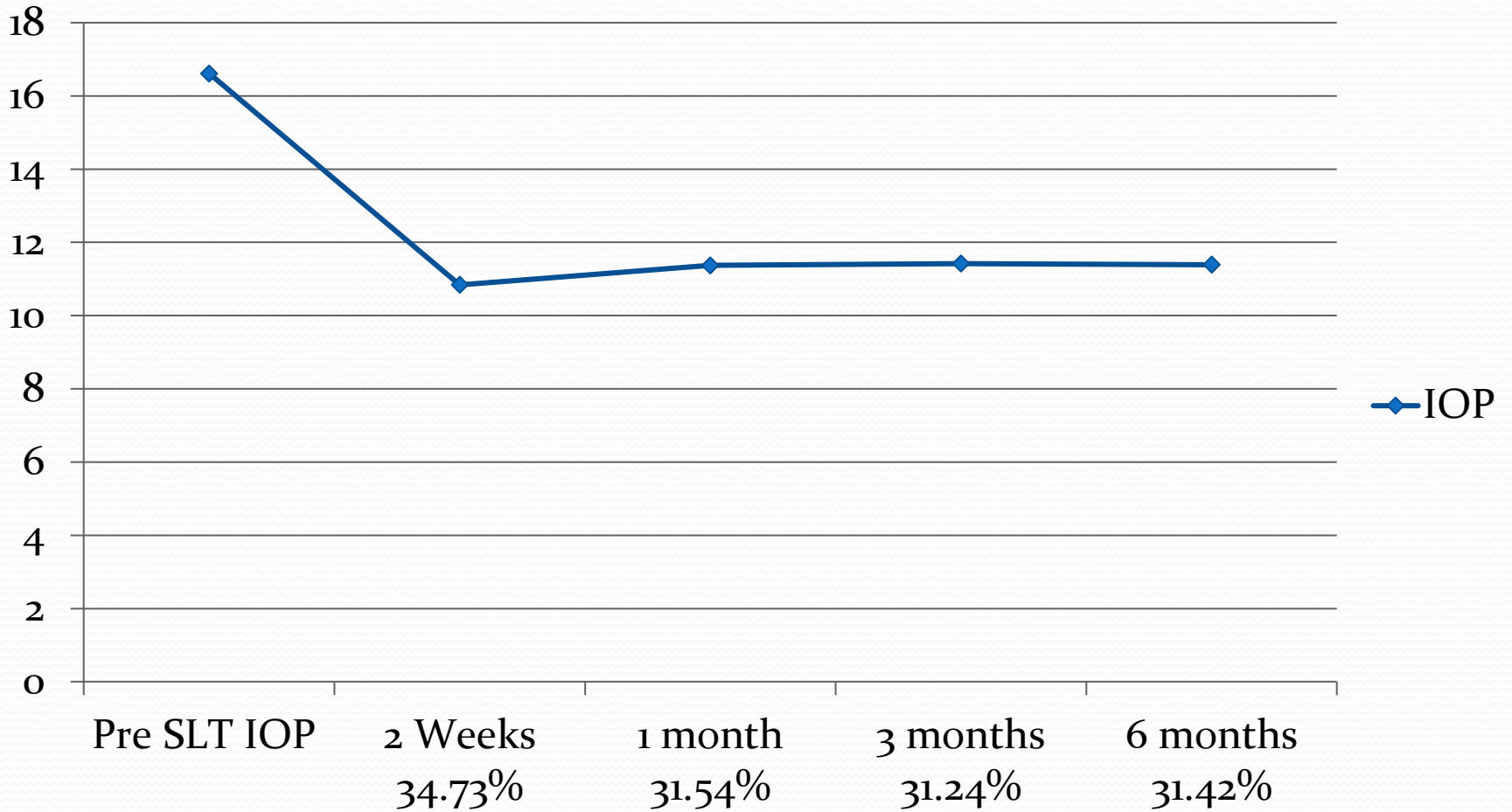
NTG STUDY

- Sample Size -13 eyes

Results :

- Average pre SLT IOP =16.61mm of Hg
- Average IOP at 1 week = 10.84 mm of Hg(34.73%)
- Average IOP at 1 month =11.37 mm of Hg(31.54%)
- Average IOP at 3 months =11.42 mm of Hg (31.24%)
- Average IOP at 6 months =11.39mm of Hg(31.42%)

Trend of IOP



How it differs

- Shorter-than-standard laser pulse duration of **just 1 ns.**
- Smaller spot size
- More number of shots
- More stable and efficient solid-state diode-pumped laser technology

What was known

- SLT is an effective procedure for control of IOP.
- SLT provides superior IOP stability to drops.

What this study adds

- Suprathreshold energy is efficacious in better IOP control.
- Effective treatment choice in NTG
- Nano SLT provides as predictable results as with conventional SLT.

Thank you for your attention.

