



“SLT as First Line Therapy & Long Term Results”

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No Financial Interests

Ideal Rx for Glaucoma

- ❖ Offers sufficient reduction in IOP
- ❖ Provides IOP reduction on long term basis
- ❖ Associated with minimal IOP fluctuations
- ❖ Independent of the compliance factor
- ❖ Tolerable systemic & local side effects or be devoid of S/E.
- ❖ Economically sound

Question is

Do we have an ideal treatment in our armamentarium?

Ideal Rx for Glaucoma

How does Medications, Laser and Surgery compare to each other?

No treatment for Glaucoma has a better Risk / Benefit ratio than

Laser Trabeculoplasty

Selective Laser Trabeculoplasty

- ❖ Where does it fit in the treatment paradigm?
First Line / Adjunctive Rx / Replacement therapy?
- ❖ Long term results of SLT ??
- ❖ Is it a repeatable treatment ??

Selective Laser Trabeculoplasty

Retrospective review of case notes of all the patients treated from Jan 2000

5 years of SLT experience (UK)

- ❖ Long-term results
- ❖ Efficacy of Re-treatment

Distribution : Diagnosis

(n = 722 eyes of 451 patients)

Diagnosis	Primary Rx	Adjunctive/ Replacement Therapy	Total No. of Eyes Rxed
OAG	151	210	361 (50%)
OHT	184	99	283 (39%)
NTG	45	33	78 (11%)
Total	380 (52%)	342 (48%)	722 eyes

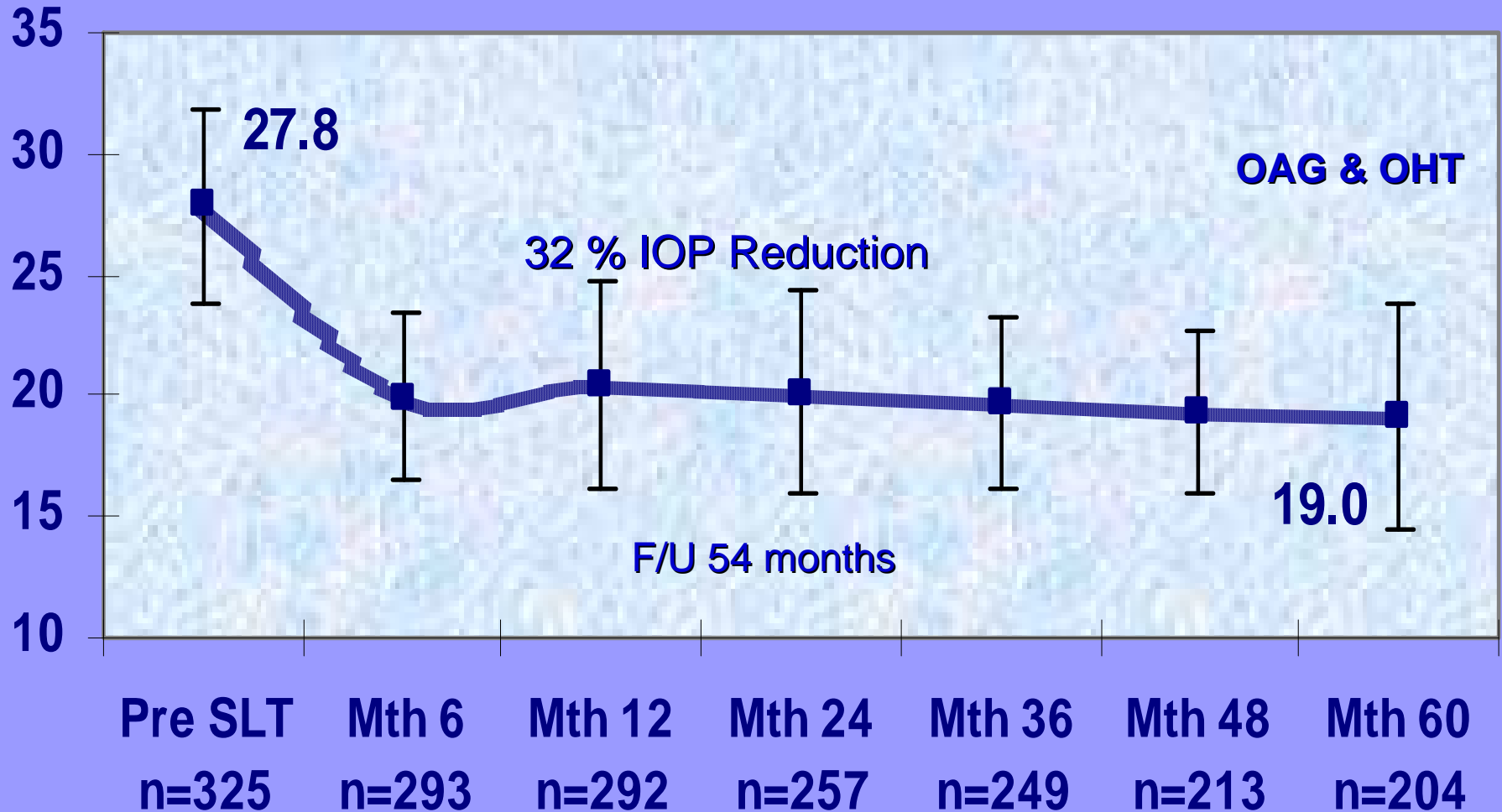
Primary group 25 and Adjunctive group 38 – Not analysed

Results: Primary Group (OAG & OHT)

- ❖ The primary group included data from 335 eyes (380)
- ❖ The IOP ↓↓ from a mean of 27.8 mmHg +/- 3.9 mmHg to 19.0 mmHg +/- 4.7 mmHg.
- ❖ This represents a 32 % ↓↓ in IOP or 8.8 mmHg (CI: 95%)
- ❖ The results were significant with a p-value < 0.001.
- ❖ Mean Follow up: 54 months (Range 6 - 72 months)

Primary SLT & IOP Drop

Clinically & Statistically Significant, p value <0.001, CI 95%

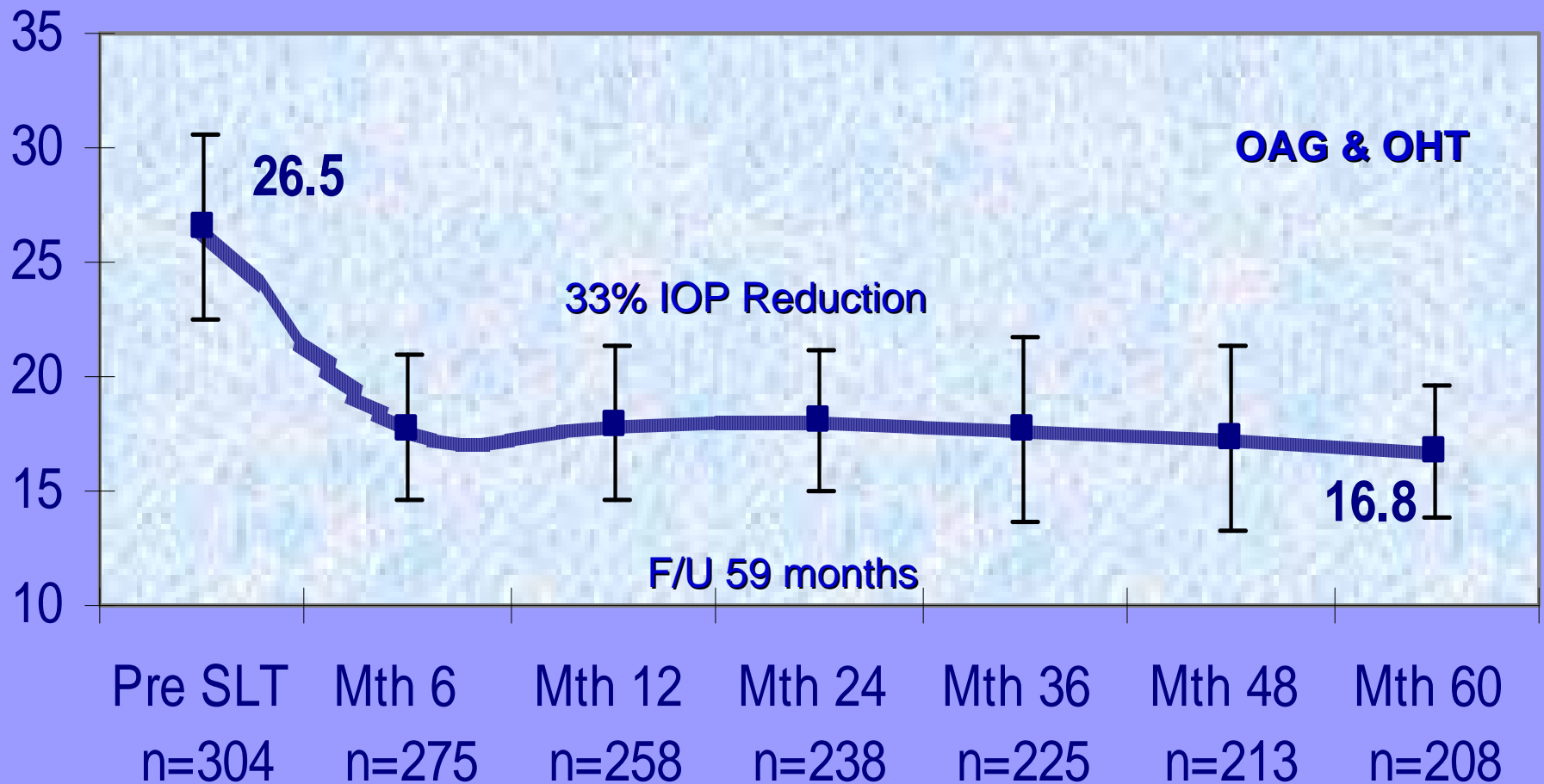


Results: Secondary Group (OAG & OHT)

- ❖ The secondary group included data from **309 eyes (342)**.
- ❖ The IOP ↓↓ from a mean of **26.5 mmHg +/- 3.9 mmHg** to **16.8 mmHg +/- 2.8 mmHg**.
- ❖ This represents a **33% ↓↓** in IOP or **8.8 mmHg** (CI 95%).
- ❖ The results were significant with a p-value < 0.001.
- ❖ Mean Follow up: **59 months** (Range 6 - 84 months).

Secondary SLT & IOP Drop

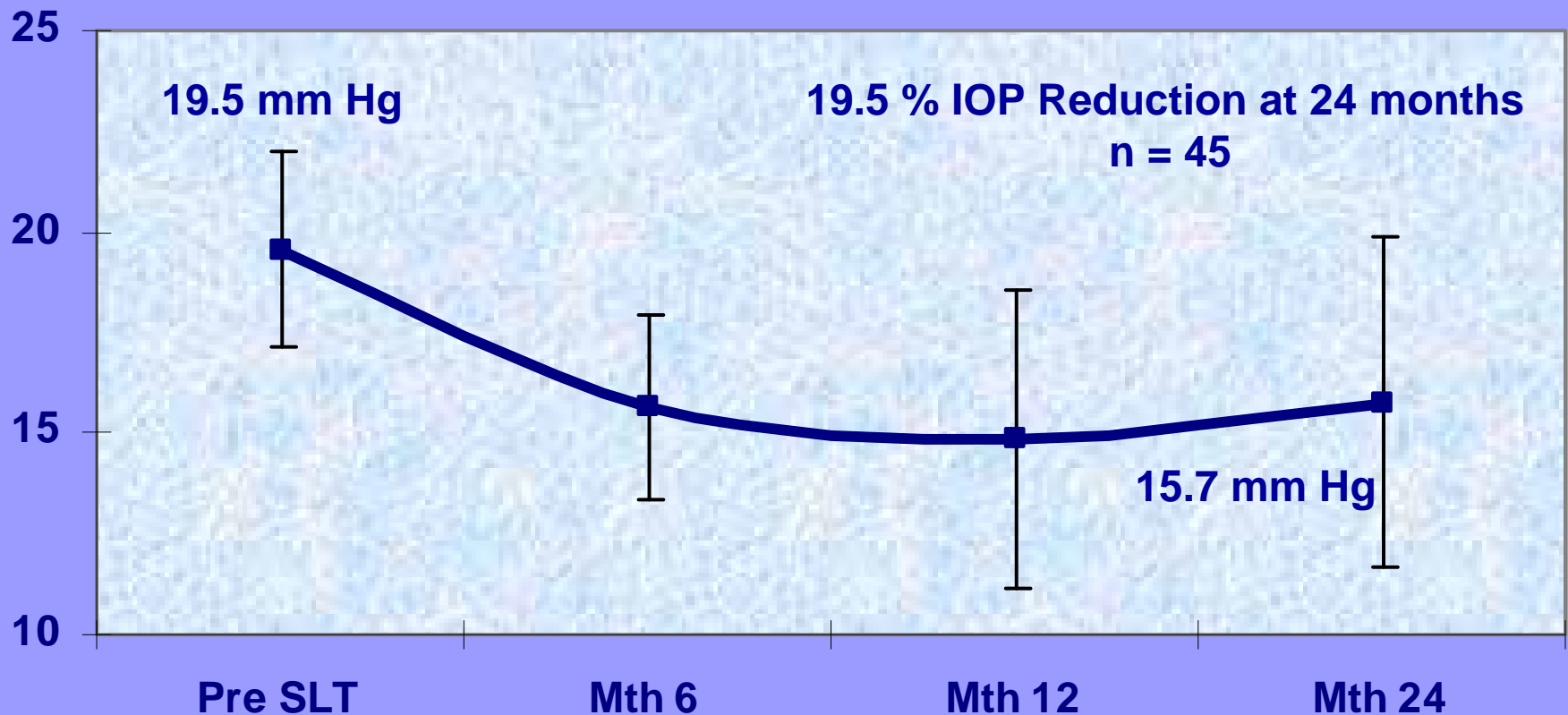
Clinically & Statistically Significant, p value <0.001, CI 95%



Primary SLT & IOP Drop in NTG

Clinically & Statistically Significant, p value <0.001, CI 95%

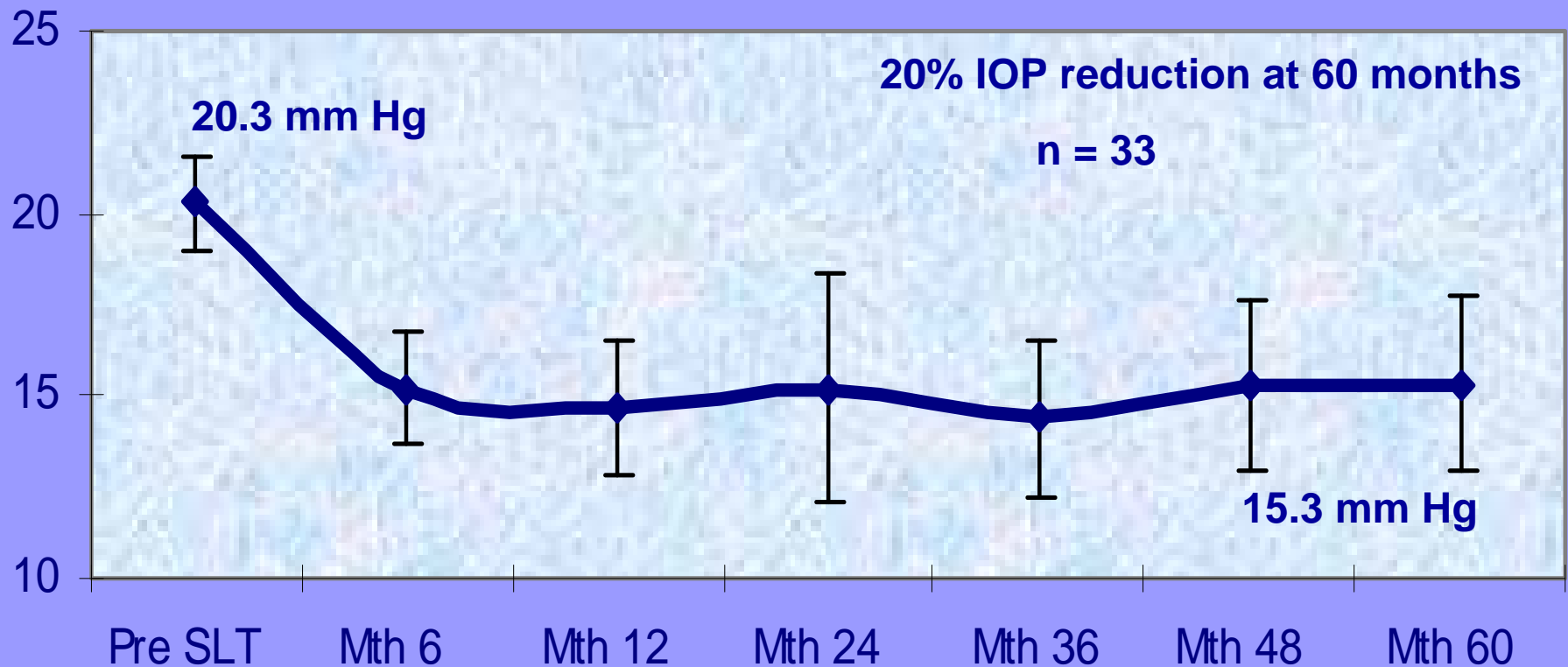
NTG - Primary SLT



Secondary SLT & IOP Drop

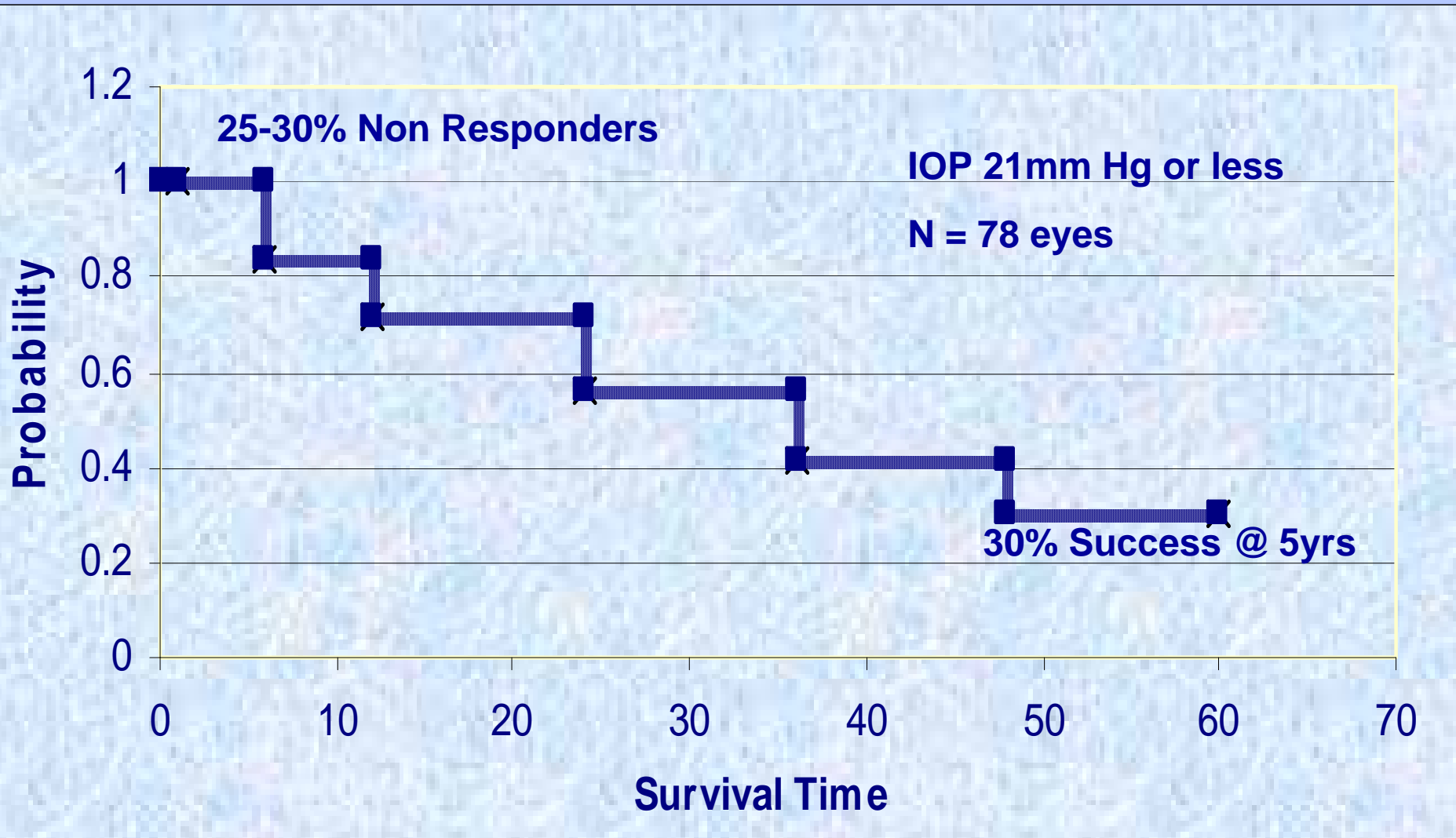
Clinically & Statistically Significant, p value <0.001, CI 95%

NTG - Secondary SLT



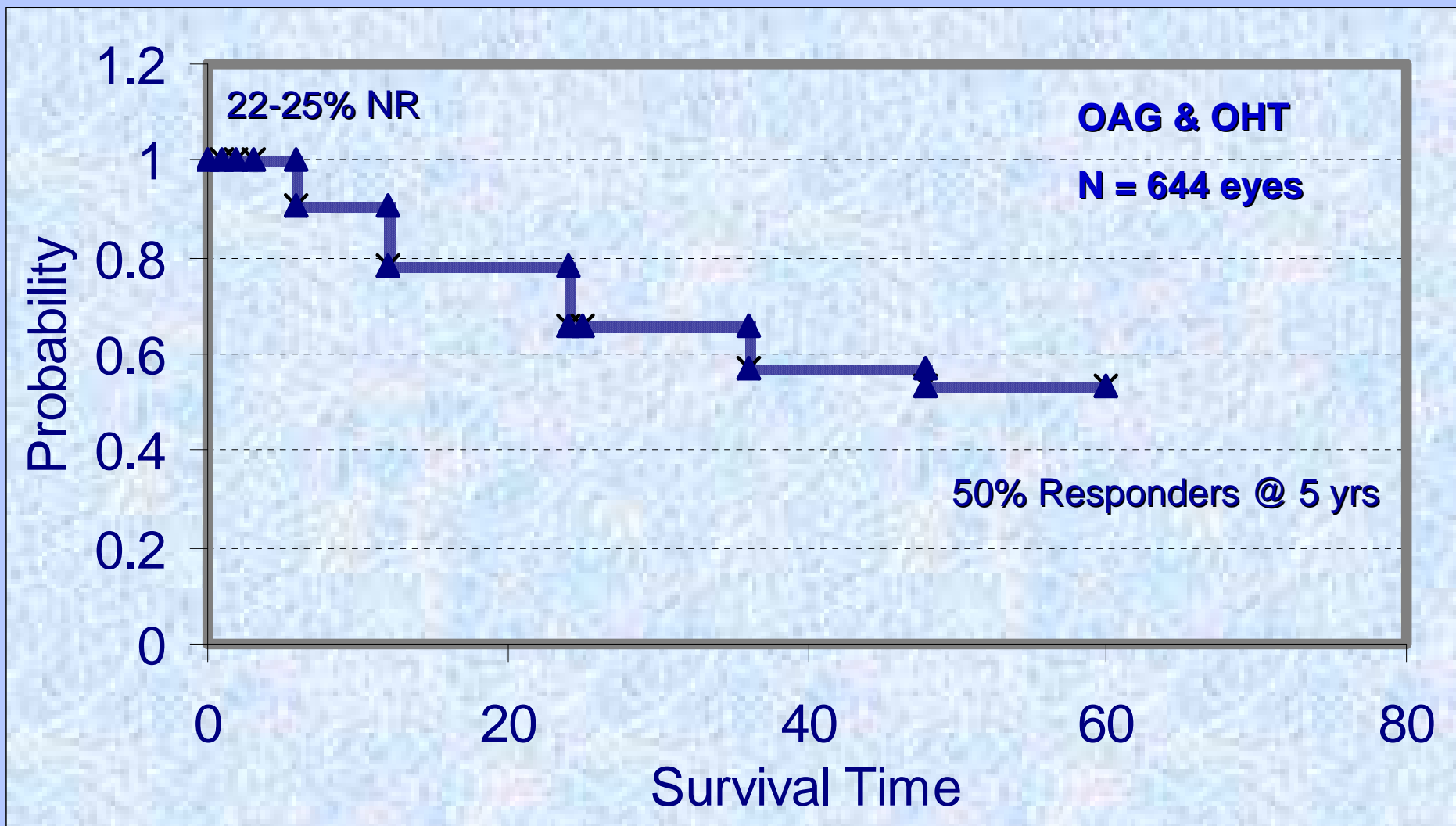
Survival Curve – NTG

Success Criteria 20% drop



Survival Curve – OAG & OHT

Success Criteria 20% drop



Re-treatment results

Re-treatment:

Enhancement : Treating 180° virgin TM following initial 180° Rx

Repeat Treatment : Retreating the TM that has been treated previously

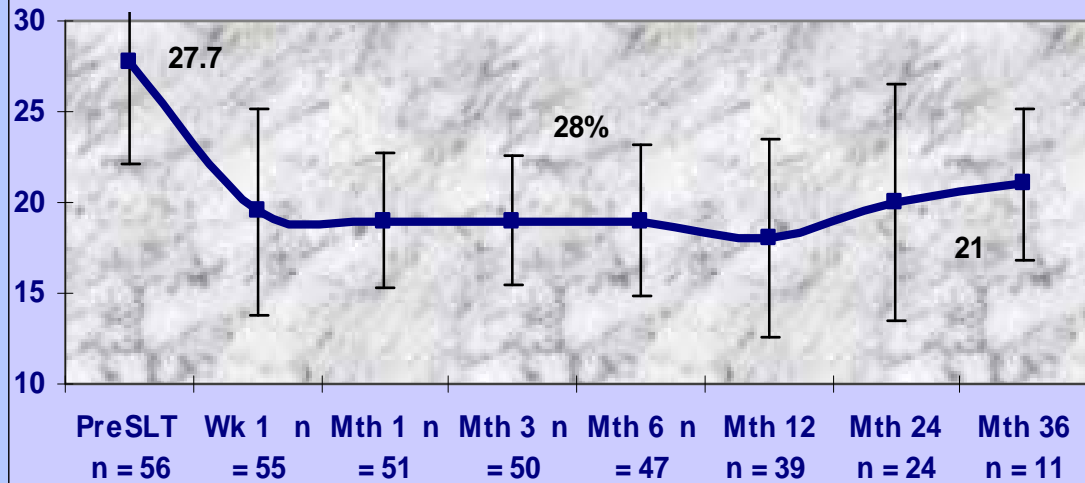
Results: Retreatment with SLT

The retreatment group includes data from 110 eyes.

- ❖ Enhancement – 56 eyes - IOP ↓↓ from 26 to 20 mmHg. This represents a 23% decrease in IOP.
Mean Follow up: 24.7 months
- ❖ Repeat – 54 eyes - IOP ↓↓ from 25.3 to 18.3 mmHg. This represents a 25 % decrease in IOP.
Mean Follow up: 19.4 months
- ❖ The results were significant with a p-value < 0.001.

IOP Drop with Enhancement

SLT 1st Rx



Eyes: 66 Rxed 56 analysed

Initial Rx: Inferior half of TM

NR: 10 Eyes

40% NR again

Eyes : 56

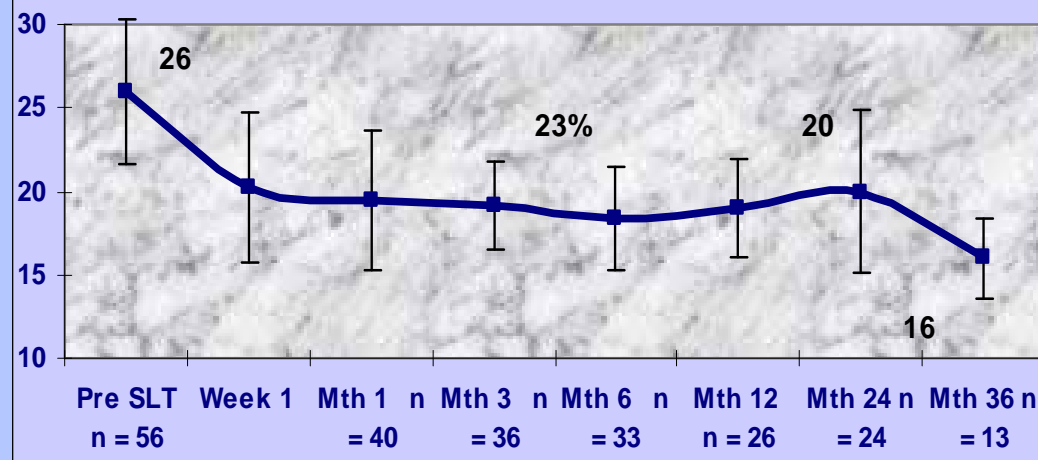
Enhancement: Superior half of TM

NR: 7 Eyes

4/10 NR to 1st Rx were NR again

2 F @ 6/12, 2 F @ 12/12, 2 R @ 24/12

SLT Enhancement



IOP Drop with Repeat SLT

Eyes: 54 (Following 360° Rx)

NR: 19

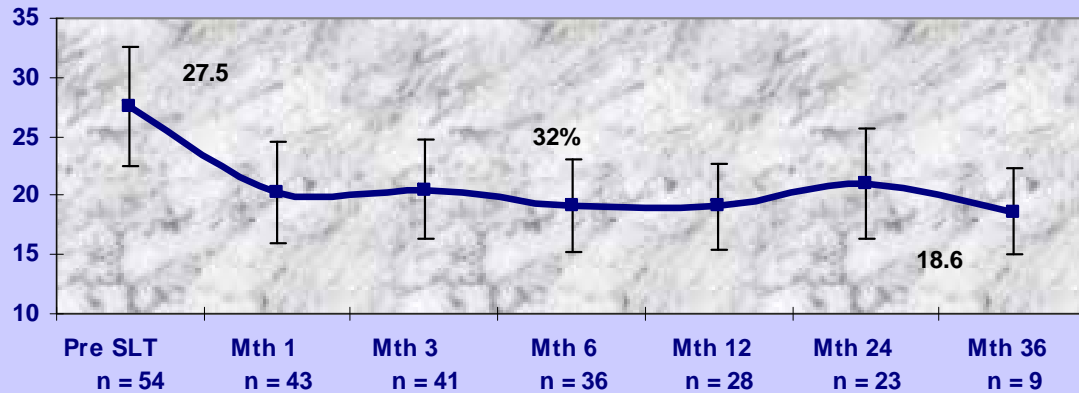
Eyes: 54 ReRx 360° Rx

NR: 14 Eyes

12/19 NR again – 63%

5/19 F @ 6/12 – 26%

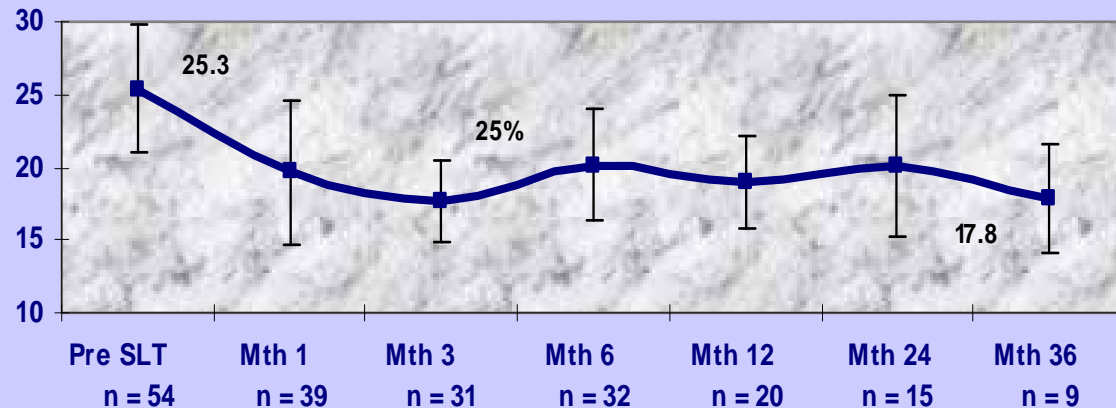
SLT Initial Rx



Non Responder to 360° Rx

Consider Medical Rx or Surgery

SLT ReRx/Redo



Predictors for Success

- Baseline IOP
- Treatment Area 180 vs 360 degree Rx
- Patient Selection: OAG, Pigmentary, PEX glaucoma, Angle recession glaucomas, Narrow angles
- Poorly compliant to medical therapy
 - Rx completely washed off prior to SLT ??
 - ?? On outflow drugs
 - Still on Medical Rx
- Previous failed ALT / SLT
 - Primary Rx works better than Retreatment

Correlation: Baseline IOP and IOP Drop

Baseline IOP	Year 1	Year 2	Year 3	Year 4	Year 5
< 21 mmHg	- 4.35	- 3.0	- 4.3	- 4.5	-3.8 20%
22 – 25 mmHg	- 5.8	- 5.4	- 6.4	- 5.6	-4.8 22%
26 – 30 mmHg	- 7.7	- 7.7	- 8.6	- 9.7	-9.8 30%
31 – 35 mmHg	- 10.4	- 10.0	- 13.0	- 10.7	-13.7 35-40%
> 36 mmHg	- 16.0	- 19.2	- 22.7	- 24.6	-20.6 40-50%

Success is proportional to Rx Area

Treatment	>20% IOP Reduction	>30% IOP Reduction
90 degree	12 eyes (34%)	4 eyes (11%)
180 degree	32 eyes (65%)	21 eyes (48%)
360 degree	36 eyes (82%)	26 eyes (59%)

It is a **Dose Response**, 360 better than 180. Bilateral Rx better than unilateral

- Response to Rx is better
- Response Rate increases
- Rx Effect lasts longer.

Nagar et al: BJO 2005;89 1413-1417

Predictors for Success

- Baseline IOP
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 - ?? On outflow drugs
 - Still on Medical Rx

EGS Guidelines

Wash off medical Rx prior to SLT

- ❖ Beta blockers 2-5 weeks
- ❖ Sympathomimetics 2 weeks
- ❖ Direct acting miotics 1-3 days
- ❖ Indirect acting miotics 1 month
- ❖ Topical CAI 1 week
- ❖ Oral CAI 1 week
- ❖ Prostaglandins 4-6 weeks

Selective Laser Trabeculoplasty

- ❖ Where does it fit in the treatment paradigm?

First line Rx / Adjunctive Rx / Replacement therapy

- ❖ Long term results of SLT - Good
- ❖ Is it a repeatable treatment - Yes

Current Profile (New pts)

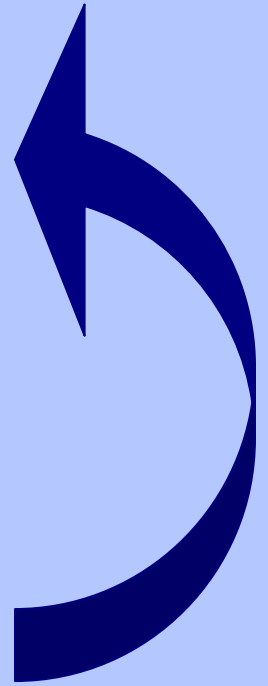
1. Medical therapy
2. Maximally tolerated medical therapy
3. Laser trabeculoplasty
4. Surgical filtering

My Current Profile (New pts)

1. A new number one
2. Medical therapy
3. Maximally tolerated medical therapy

Laser trabeculoplasty (SLT)

4. Surgical filtering



My Current Profile (pts on Rx)

Medical therapy / Maximally tolerated medical therapy

- Wash medical treatment
- Laser trabeculoplasty
- Restart medical Rx if required
- Surgical filtering

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