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Highlights



SLT News from ARVO 2007 Annual Meeting

by Michael Belkin

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What Part Can SLT Play in a Busy Clinic?

Mr. Ejaz Ansari, The Eye Ear and Mouth Unit (EEMU), Maidstone Hospital, United Kingdom

When a new treatment is evaluated for a clinical study, the working conditions are optimized to achieve the best results, and to enable the clear definition of guidelines and recommendations for its future use in routine practice. This has certainly been the case with various clinical studies, including randomized controlled trials (Nagar et al, Melamed et al) that have established the significant role of SLT in the treatment of primary open angle glaucoma (POAG) and ocular hypertension (OHT).

But in real life, and in a busy clinic setting, it is sometimes difficult to apply all of these recommendations, and guidelines are sometimes difficult to adapt. During the last European Association for Vision and Eye Research (EVER) meeting in Lisbon, Mr. Ejaz Ansari presented the preliminary results of an interesting study entitled "Efficacy and safety of selective laser trabeculoplasty in a busy clinic setting."

In this study, Mr. Ansari evaluated the short-term efficacy and safety of SLT in the treatment of POAG in the "real-life" setting of a busy glaucoma clinic, where there is no resource for randomization, or washout periods for eye drops.

The patients were recruited from general and glaucoma clinics at Maidstone Hospital and Pembury Hospital. The indications for treatment were for patients with POAG, who require further IOP reduction to target level, and who develop drop intolerance or opt against filtering surgery. Patients with primary angle closure glaucoma (PACG) and inflammatory glaucoma were excluded.

"We systematically treated 360 degrees with a mean of 108 applications (range 90-120), and we precisely titrated the power from 0.5-1.1mJ in steps of 0.1mJ,

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Korean Symposium

In April 2007, an SLT symposium was held at Imperial Palace Hotel in Seoul, Korea. The meeting featured a panel of SLT experts, including Professor Michael Belkin, Israel; Yasuaki Kuwayama, MD, Japan; and Youngjae Hong, MD, and Jungil Moon, MD, South Korea.

Belkin opened the symposium with a discussion of the basic mechanisms of SLT, followed by highlights of international studies that attest to SLT's efficacy.

Next, Kuwayama shared data comparing 180-degree treatment with sub-threshold energy versus 360-degree treatment with threshold energy on Japanese patients.



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Clinical Tips

David Gosiengfiao, MD, Makati Medical Center, Philippines



David Gosiengfiao, MD, is an associate consultant at the Makati Medical Center, Philippines, specializing in glaucoma management. Gosiengfiao's strong interest in SLT stems from his work with Mark Latina, MD, during his fellowship at the Massachusetts Eye and Ear Infirmary.

His clinical tips follow:

Tips for Use of Selective Laser Trabeculoplasty

- **Pre-op medications:** Exposure is everything. Give pilocarpine to patients with convex irises. A drop of brimonidine or apraclonidine an hour before SLT will help blunt post-operative IOP spikes.
- **Anesthetize well:** Often, the discomfort that patients feel during the procedure can be blunted by adequate anesthesia. Loading the patient pre-operatively with topical anesthetics will minimize squeezing, and make the entire experience more pleasant for the patient.
- **Start at 12 o'clock for each 180 degrees of treatment:** Trabecular meshwork (TM) pigmentation is often lightest superiorly and darkest at the opposite pole. Because the endpoint in SLT is invisible, maintaining the appropriate energy levels throughout the treatment session can be difficult. Starting at 12 o'clock ensures that you begin at the maximum energy requirement, and as the threshold is crossed because of increasing pigmentation, you are able to titrate down.
- **Follow a routine:** If you choose to treat only 180 degrees, treat the same 180 degrees first routinely, whether it is temporal or nasal, 12 to 6 o'clock or 6 to 12 o'clock. Should the patient's records be misplaced, knowing how many treatments he or she has undergone will be enough to know which half to treat next.
- **Stay in the center of the mirror:** The Latina SLT lens is a special gonio lens with unity gain, and provides a non-astigmatic view. Lasing through the center of the gonio lens mirror induces the least beam distortion and ensures reproducible energy delivery. Turning the gonio lens frequently also makes following landmarks easier.
- **Focus on target tissue at all times:** Maintain slit lamp focus of the TM when performing treatment and do not use the aiming spot to focus.
- **Watch where the bubbles are coming from:** Sometimes, the laser beam glances off the iris when the lens is poorly positioned, causing bubbles to form. The beam may also overlap onto the iris root, causing bubbles to form. In both cases, you should not titrate the power down, but should instead reposition the lens and adjust your aim to avoid those structures.
- **Understand the role of the bubbles:** The bubbles are formed because of the photoacoustic effect of the laser – microcavitation. Too much of this can cause damage to the trabecular beams. In some cases, this actually results in improved drainage, almost like the old YAG goniopuncture. However, the goal is NOT to damage the beams but to induce cellular repair and repopulation.
- **When in doubt, give post-operative steroids:** The risk of post-operative spikes increases with highly pigmented meshworks, 360-degree treatments, and high baseline IOP. Giving post-operative steroids for a few days can help avoid this complication.
- **Do not taper meds too quickly:** There is often an immediate decrease in IOP following treatment, followed by a return to near baseline levels within a few days, and then a more gradual reduction in IOP. Some patients do not show a response until four weeks after treatment. In general, wait six weeks before making any decisions about changes in therapy.

Spanish User Group Meeting and German Symposium Raise Awareness of SLT

The first Spanish SLT User Group convened in Sevilla, Spain in April 2007.



Members of the Spanish SLT User Group Meeting, Sevilla 2007.

One of the new group's members is Benitez del Castillo, MD, an SLT user who published results for his study "SLT in previously operated eyes for Cataracts and/or Glaucoma" at the recent International Glaucoma Symposium. Castillo commented that "SLT in previously operated eyes is as effective and safe as in non-operated eyes, and is equally effective and safe in previously cataract operated eyes than in previously trabeculectomy operated eyes." Another member is González Rodríguez, MD, an experienced SLT user who has used his Ellex Tango system to treat over 350 patients in the past three years. During the meeting, Rodríguez recounted how he was able to amortize his investment in the Ellex Tango system in less than three years.

The general conclusions of this user group meeting were that SLT works, and is well accepted by patients. While users agreed that SLT is not the final solution, their consensus was that it is the best weapon available today to fight against POAG, OHT, pigmentary glaucoma and pseudoexfoliative glaucoma.

In addition, they concurred that SLT is easier to perform, given the large non-focusing laser beam, does not create any thermal effect or burn, is as effective as ALT, and can be repeated.

SLT symposium held at AAD in Germany.

During the recent German Academy of Ophthalmologists (AAD) meeting in Düsseldorf, Ellex's German distributor TriLas Medizintechnik hosted their first symposium addressing the treatment and management of glaucoma using SLT.

The symposium featured presentations from several European SLT experts who discussed their treatment experiences and attitudes concerning SLT. First, Professor Thomas Dietlein, University of Cologne, Germany presented scientific background and clinical experience regarding the mechanisms of the TM, and explained how SLT works, using histological samples.

Next, Günther Wohlmuth, MD, from Vienna discussed his experience with SLT in a general ophthalmic practice, spanning 200 patients in nine months. Among his results was that 82 percent of post-SLT patients no longer required any medicine, which significantly reduced costs for medication.

Professor Torsten Schlote from Basel, Switzerland gave a presentation on how to integrate SLT into the modern armamentarium of glaucoma therapies. Schlote's presentation showed favorable comparisons between Latanoprost and SLT, showing that SLT provides the same results without the side effects of anti-glaucoma drugs. According to Schlote's findings, SLT is especially effective in patients with a high baseline IOP.

Finally, H. Ferdinand A. Duijm, MD, from Zwolle, Netherlands presented three years of data that showed 70 percent of his patients no longer require glaucoma medication. Duijm concluded that he sees SLT as a first line option for treatment of the disease.

What Part Can SLT Play in a Busy Clinic?, continued



Mr. Ejaz Ansari

depending on the degree of trabecular pigmentation," Mr. Ansari explained. "We arranged the follow-up of our patients at one week, one month and three months post-treatment, and success was regarded as reaching the target IOP with or without reduction in topical medications."

Of the total 128 patients (137 eyes) treated, SLT produced a statistically significant reduction of IOP at each follow

up point ($p < 0.05$). "The mean IOP reduction at three months was 4.6 mmHg (24 percent reduction), compared to baseline, and all patients reached the desired target IOP. Eighty percent of patients had a subsequent reduction in the number of drops taken for glaucoma," Mr. Ansari reported. During the study, eight patients (29 percent) reported some mild and temporary discomfort lasting less than 24 hours.

Mr. Ansari said that the IOP reduction at three months compared favorably with other studies. "All our patients reached the desired target IOP. For some, however, a combination of SLT and medication was required to maintain the level of IOP."

He concluded, **"We are really satisfied by our results. For us, SLT is a safe and effective adjunctive treatment for POAG that is easy to administer – even in a typical, busy clinic situation."**

SLT at the ARVO 2007 Annual Meeting

Michael Belkin, MA, MD, Professor of Ophthalmology at Tel Aviv University, Israel



The recent Association for Research in Vision and Ophthalmology (ARVO) 2007 Annual Meeting provided a major forum for discussion regarding the role of SLT. Joined in Fort Lauderdale, Florida by more than 10,000 colleagues from around the world, I took part in several presentations highlighting the mechanisms of SLT, and previewed study results which concluded the following:

- SLT is effective in Angle Closure Glaucoma
- SLT is more effective than ALT
- SLT is effective when repeated
- Inflammation suppression is not necessary after SLT

The highlights of these presentations and studies are summarized below.

Mechanisms of SLT

An in-vitro study showed that SLT irradiation kills pigmented TM cells immediately by necrosis and later by apoptosis, with the extent of tissue damage related directly to the level of laser energy. This study by Wood et al, Australia, supports one of the suggested mechanisms of IOP reduction by SLT, namely replacement of defective cells by properly functioning ones. One of the more interesting reported studies was by Weinstein et al., University of Texas at Dallas, who showed that SLT reduces pressure in the fellow, untreated eye. In the treated eye at six months, the pressure was reduced by 3.9 mmHg (18.8 percent), while in the untreated eye, IOP was reduced by 2.1 mmHg (11.2 percent). These results indicate that SLT results in the production of a diffusible substance that reaches the untreated eye, presumably via circulation, and in turn leads to IOP reduction.

One last item of interest regarding SLT mechanisms involved Prasad and Latina, who used a pneumotonograph to measure the aqueous outflow facility in nine eyes after successful SLT. The facility improved in eight eyes, showing that increased trabecular outflow is the probable main mechanism by which SLT reduces IOP.

SLT is Effective in Angle Closure Glaucoma

A multinational prospective study has proven for the first time that SLT is effective in reducing IOP by 21.9 percent (at six months follow up) in eyes with PACG that have undergone the standard treatment of laser iridotomy, and in which over 90 degrees of the angle is visible. This result is of considerable importance, since PACG is very common (and is a major cause of blindness) in Asian and Indian populations. Furthermore, PACG is more difficult to treat than POAG, even in communities with adequate access to ophthalmic facilities.

SLT is More Effective Than ALT

The results of a retrospective chart review of 372 eyes that underwent secondary SLT (i.e., after drug therapy failure), and 22 eyes that underwent secondary ALT were contrary to the accepted view that ALT and SLT produced similar IOP lowering. Dr. Jindra and associates from Columbia University in New York found that SLT reduces IOP by 27.6 percent, while ALT reduced it by only 6.8 percent, although the pre-SLT pressure was lower. The reduction in numbers of drugs used was 75 percent and 15.2 percent, respectively, and all results were significant with $p < 0.005$.

Inflammation Suppression is Not Necessary After SLT

In a 25-patient prospective study, Realini and colleagues from West Virginia University found that although prednisolone reduced the incidence of inflammation after SLT, this suppression did not change the pressure-lowering effect, and the inflammation in both treated and untreated eyes was minor, transitory and without side effects.

Repeat SLT is Effective

Mequio et al, Kresge Eye Institute, Detroit, reported the effects of repeat SLT treatment on 29 eyes, including 25 African Americans. After one year, 59 percent had IOP reduction to 18 mmHg or less, and 64 percent reduction by 3 mmHg or more without additional therapy. Also, Franco and colleagues from the Mount Sinai School of Medicine, New York, retrospectively reviewed the effects of repeat SLT at an average of one year in 38 eyes with various types of glaucoma. Repeat SLT produced a 8.3 percent IOP reduction, attesting to the efficacy of repeat SLT, and to the fact that the reduction is smaller in eyes with relatively low IOP than in eyes with high pressure.

Factors influencing IOP reduction by SLT:

SLT is effective after ALT

Vishnu et al, Indiana University, reported the IOP-lowering effect of SLT in POAG eyes who responded poorly to medical treatment, could not undergo surgery and did not respond adequately to ALT. Even in such severe conditions, SLT reduced IOP by 13 percent.

Experience with SLT

Ms. Madhu Nagar FRCS Ophth, MS Ophth, Clayton Eye Center, United Kingdom



First introduced about a decade ago, SLT is gaining popularity as a treatment modality for glaucoma. It has now been accepted not only as an adjunctive treatment but also as primary treatment and replacement for anti-glaucoma medication.

I had the opportunity to meet some SLT users during the American Academy of Ophthalmology in November 2006. It was interesting

to listen to ophthalmologists from different parts of the world, including their views and reasons to go ahead with SLT, reasons to recommend SLT to their patients, and also variations in operative technique.

I would like to share the conversation I had with one of the ophthalmologists. I had met him about a year ago and he was very excited about SLT, had bought the laser and treated his first few patients. A year later he was not sure if he had made the correct decision. His disappointment was because of his low success rate with SLT. We discussed the procedure at great length – his operative technique was no different to mine – and also discussed his inclusion and exclusion criteria.

In one year, he had treated 35 OAG patients, of which 20 have been followed up for six months or more. Eight of his patients were on maximum tolerated medical treatment (MTMT), three were on MTMT and had undergone trabeculectomy a few years ago, three were on two drops, and six were newly diagnosed glaucoma patients on no anti-glaucoma treatment.

Response to SLT after 6 months of follow up:

Newly diagnosed patients – out of six patients, three achieved more than 30 percent IOP reduction, two achieved more than 20 percent, and one was a non-responder to SLT.

Patients on MTMT – out of eight patients, three achieved more than 20 percent IOP reduction, two achieved 18 percent IOP drop, and three did not respond to SLT i.e., IOP reduction was less than 20 percent from pre-SLT IOP.

Patients on MTMT and with previous trabeculectomy – out of three patients, two achieved 20 percent IOP reduction and one had a pressure drop of about 10 percent, and was labelled as a non-responder.

Patients on two anti glaucoma drops – out of three patients, two responded with a 25 percent drop and one was a non-responder.

My Impression:

Twenty patients were treated, and if success criteria are 20 percent or more IOP reduction, then seven were non-responders. This is slightly higher than average. In my experience, 25–30 percent of patients do not respond to SLT, but there are various other factors to be considered – especially if we are treating patients with advanced glaucoma and MTMT.

None of the available treatment modalities (drops, laser or surgery) work for all patients.

New patients with virgin TM respond better to treatment.

Patients already on anti-glaucoma treatment have lower baseline IOP. Reduction in IOP is directly proportional to baseline IOP i.e., the higher the baseline IOP, the better the drop in response to SLT or any other treatment. Hence, a group with lower baseline IOP may respond poorly to SLT.

Non-compliance may be an issue if a patient is on anti-glaucoma drops. The patient may discontinue drops following SLT without discussing it with the ophthalmologist.

Last but not least, what medications were patients on prior to SLT? Despite limited clinical evidence, the response to SLT may differ between aqueous suppressants and medications designed to increase outflow.

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SLT at the ARVO 2007 Annual Meeting, continued

Factors influencing IOP reduction by SLT

SLT is effective in phakic and pseudophakic eyes

A report by Kim et al, Cleveland University, stated that SLT has similar IOP lowering effects both before and after cataract surgery and IOL implantation. This was tested on 41 phakic eyes and 14 pseudophakic ones. At 6 months the IOP was reduced by 5.31 mmHg in the phakic eyes and 6.09 mmHg in the pseudophakic ones. The reduction in medication was by 31.7 percent and 14.3 percent respectively.

The effect of SLT is directly related to height of pre-SLT IOP

Mao et al, Ivey Eye Institute, Canada, reported pre-laser IOP as the main factor determining the extent of IOP reduction by SLT, following a large study (220 patients). Other factors, such as angle pigmentation, were not found to influence the results. The novel factor shown by this study to affect the results adversely somewhat is the highest ever recorded IOP of the treated patient.

Class of hypotensive drugs monotherapy affects subsequent SLT

Jindra and colleagues from Columbia University found in a retrospective study that SLT works best in patients who have previously been treated with carbonic anhydrase inhibitors and alpha agonists, compared to those treated with beta blockers and prostanoids.

SLT Comes into Focus at the IGS 2007

More than 2,600 glaucoma specialists congregated at the recent International Glaucoma Symposium (IGS), held in Athens. SLT figured prominently during the congress, with two symposia focused on the efficacy of SLT in managing elevated IOP, and a total of 15 papers that further supported the role of SLT in glaucoma management. The Ellex-hosted symposium called, "SLT: Today and Tomorrow," focused on future clinical applications of SLT.

Ellex IGS Symposium

Professor Shlomo Melamed of Israel and Ivan Goldberg, MD, Australia, led a panel of experts at the Ellex IGS SLT symposium, which hosted over 300 participants from 41 countries. Panel highlights included:

Israeli Professor Michael Belkin's interesting analysis of the most recent publications pertaining to SLT: Belkin highlighted the well-documented efficacy of SLT, including over 40 clinical trials (seven of which are randomized, controlled studies) that attest to the efficacy of SLT for the treatment of OAG. Many study results have also determined that SLT is as effective as single medication in managing elevated IOP, solving the inherent compliance problems associated with anti-glaucoma medications. Belkin also pointed to several studies that evaluate the efficacy of SLT on various forms of OAG with excellent success rates (Melamed Arch. Ophthalmol. 2003;121:957; Gracner EJO 2002;12:287).

The long-term efficacy of SLT was also highlighted through the studies of Weinand, EJO 2006;16:100-4, who reported that in 29.3 percent of the 52 subjects pressure drop was sustained for four years, as well as Juzych, Ophthalmology 2004;111:1853-59, which showed a pressure reduction of 27.1 percent (N=20) for five years. To demonstrate the repeatability of SLT, Belkin cited results from a paper presented by Bournais at AAO 2007, in which a 90 percent (N=52) success rate of repeat SLT ([IOP > 3 mmHg & IOP < 21 mmHg] was achieved.

Professor Enping Chen of Sweden's presentation of a five-year retrospective study analyzing the repeatability of 90-degree SLT treatment: In this study, 78 eyes of 78 patients underwent repeated sessions of 90-degree treatment; SLT was performed twice in 48 eyes, and three times in 21 eyes. The time elapsed between laser treatments was recorded, as was the loss in IOP control, and the results of the different patient groups were then compared with a Kaplan-Meier survival analysis. This study demonstrated that age, previous ALT, exfoliation and the pigmentation of the TM do not influence the long-term efficacy of SLT.

Serbian Professor Miroslav Vukosavljevic's analysis of the hypotensive effects of SLT on different subgroups: The efficacy of SLT was evaluated in 106 eyes of 64 patients, in which 72 eyes (39 patients) were diagnosed with capsular glaucoma, eight eyes (four patients) with pigmentary glaucoma, 23 eyes (18 patients) with secondary glaucoma caused by silicon oil post-operatively, and three eyes (three patients) with increased IOP due to post uveitic reaction. The results were excellent, with every patient group achieving an overall reduction in IOP, ranging from 18 to 35 percent, with only four eyes remaining without effect. One particular highlight was that the best results were obtained when SLT was used as a primary therapy with capsular and pigmentary glaucoma, achieving a pressure drop of 33 percent without anti-glaucoma medications.

Prin Rojanapongpun, MD, of Thailand's presentation of the final results of the Ellex multi-center study, "SLT for the Treatment of PACG": In this study, SLT was used to treat the visible part of the TM in 67 eyes of patients with PACG who presented a clear view of at least 90 degrees of the angle after peripheral iridotomy. From a mean baseline IOP of 24.7 ± 2.5 mmHg, SLT achieved a reduction in IOP of 21.9 percent to 19.3 mmHg in the 64 eyes that reached the three-month follow-up. In the 56 eyes that reached the six-month mark, the mean IOP was 19.2 ± 2.5 mmHg (22.2 percent reduction). Rojanapongpun concluded that SLT appears to be an effective and safe method of treating eyes with PACG and a patent iridotomy if at least a quarter of the angle is visible.

To conclude the symposium, Goldberg commented: *"SLT represents a significant advance in potential advantages of laser trabecular surgery. While effectiveness is comparable with earlier techniques involving Argon and diode lasers, histological safety [with appropriate technique] and potential reproducibility appear to be improved. In the overall management of chronic open-angle glaucoma, SLT offers clinicians greater flexibility in the timing of laser trabecular modification..."*



IGS delegates at the Ellex SLT symposium SLT: Today and Tomorrow.

"... best results were obtained when SLT was used as a primary therapy... achieving a pressure drop of 33 percent without anti-glaucoma medications."

How I Present SLT as a Good Therapeutic Option to My Glaucoma Patients

Audrey Kaplan-Messas, MD, Assaf Harofe Medical Center, Israel

Audrey Kaplan-Messas, MD, is Director of the Glaucoma Unit at Assaf Harofe Medical Center in Zrifin, Israel. She has been using SLT to treat glaucoma patients since 2005, and in 2007 purchased her own laser. As she gets a better feel for SLT, including which patients respond well, she is progressively expanding her indications from patients who show drug intolerance, or with uncontrolled IOP on maximum tolerated medications, to primary cases.



Whenever I review treatment options with my glaucoma patients, I engage in a short conversation that includes information and advice about SLT, and culminates in a joint decision about if and when to perform SLT. This four-step process is summarized below:

Step One: I interview my patient about several topics, including

- His or her daily occupations and lifestyle, and also about his or her expectations from glaucoma treatment.
- How tolerant and compliant he or she is (or can be) to ongoing or not yet initiated topical treatment.
- How the disease and treatment impacts his or her quality of life and psychology.

Step Two: I provide information about glaucoma and therapeutic options, including the following considerations

- Glaucoma is a progressive, irreversible disease of the optic nerve. Late large-scale studies have shown that, at all stages of the disease, reduction in IOP preserves visual function.
- Prognosis relies on commitment from both patient and physician to optimal treatment.
- Therapeutic options in glaucoma are medical treatment, laser treatment and surgery.
- With a substantial intrinsic risk ratio, incisional surgery is held in reserve for cases where glaucoma progresses despite medical and laser treatment.
- Until recently, topical medications were the initial treatment for the majority of glaucoma patients. Because of its excellent safety profile, SLT is shifting to replace medication at early and later stages of glaucoma. Medical treatment is not as innocuous as it seems, for several reasons:

Chronic use of topical treatment is known to be time consuming and a psychological burden. Efficacy of topical medication is highly dependent on compliance.

Local side effects of drops are very common, and include redness of the eye, burning, itching, pigmentation of the eyelid, darkening of the iris, and acceleration of cataract formation.

General side effects include fatigue, sleepiness, depression, impotence, and can, less frequently, be dreadful (syncope, respiratory obstruction).

Step Three: I provide information about SLT

- It has been long established that laser trabeculoplasty reduces IOP and preserves visual function (at least as well as medication).
- The two options are traditional ALT and innovative SLT. ALT works by coagulating the tissues of the angle of the eye, creates scars and is not repeatable. SLT is a cold laser. It specifically activates cells containing melanin, and enhances the filtration of liquid from the eye through the angle. Unlike ALT, SLT does not cause scarring to the tissues of the angle, which makes it possible to repeat the procedure.
- More than 170 publications and thousands of patients treated show that:

SLT reduces IOP by 25 percent in about 85 percent of patients. Reduction is on average 7 mmHg in primary cases. It significantly reduces medication use.

Like any other treatment, some patients do not respond to SLT, and the effect usually lessens with the years. The unique characteristic of SLT is that it is repeatable.

SLT is extremely safe. No major complications have been described to date. Manageable possible complications include occurrence of a peak of IOP immediately after the procedure or discomfort of the eye for a few days. We routinely treat these preventively.

The procedure itself takes less than five minutes and is not painful. The laser is performed at the slit lamp like a regular ophthalmic examination, under the same anesthetic drops. One hour later, the patient is checked again, and discharged. All daily activities can be resumed immediately after the procedure.

Step Four: I help the patient make a decision about SLT

- I routinely provide the patient with an information brochure in his or her language and ask him or her to read it.
- Thirty minutes later, I answer questions and make sure that their expectations can be met.
- Together we decide if, and when, to perform the procedure.

Events

Symposia

WGC SLT Symposium

Singapore, Friday July 20

WGC SLT User Group Meeting

Singapore, Saturday July 21

Egyptian SLT Symposium Series

All major cities, July 20 - 26

ESCRS SLT Symposium

Stockholm, Monday September 10

Polish SLT Symposium

Warsaw, Saturday September 22

Spanish SLT User Group Meeting

Las Palmas, Thursday September 27

Austrian SLT Symposium

Salzburg, Friday October 12

Register at ellex.com/events

Korean Symposium, continued

Despite his findings that both 180- and 360-degree treatments significantly reduce IOP, the efficacy of 360-degree SLT was found to be significantly greater.

Kuwayama also addressed the treatment of normal tension glaucoma (NTG) in Japanese patients. The prevalence of POAG is 3.9 percent among people over 40 in Japan, and over 90 percent have NTG, compared to 15-20 percent in Caucasian populations. Recommending a 360-degree treatment regime, Kuwayama reported an average 2.5 mmHg drop in IOP following SLT. Given the high incidence of NTG in Korean patients, Kuwayama's NTG results were of particular relevance to the Korean audience.

Moon presented his study results comparing 90-degree and 180-degree treatments with sub-threshold energy in Korean patients. In all, 24-27 spots were applied during the 90-degree treatment; while 50-56 spots were applied during the 180-degree treatment. Energy ranged from 0.6-0.7 mJ, with success defined as an IOP reduction greater than 3 mmHg or 20 percent. Over the six-month follow-up, the IOP lowering effect of SLT was found to be better with 180-degree treatment.

Hong presented results from a study following SLT treatment in 115 eyes of 84 patients over a six-month period. Success was defined as a greater than 3 mmHg reduction in IOP, the elimination of one medication, or a combination of both. 74 percent of cases were deemed successful.

The symposium concluded with a panel discussion that generated many questions from the audience. In particular, the usage of anti-inflammation drugs was questioned, with some doctors indicating their preference to avoid anti-inflammatory agents so as not to inhibit cytokine release. On the other hand, others reported they choose to administer these agents, given their very apparent benefits following 360-degree and highly pigmented treatments.

Experience with SLT, continued

My Suggestions:

Wash off anti-glaucoma drops prior to SLT:

Response to SLT is better – firstly, due to higher baseline IOP and secondly, compliance is better with one or two drops. I follow the EGS guidelines (refer to table).

Talk to patients: It is extremely important that they understand the importance of instilling their anti-glaucoma drops following SLT. SLT lowers IOP by 20-30 percent, but if greater IOP reduction is required, drops may still be needed. At times, patients assume the laser will control IOP and stop taking anti-glaucoma drops.

Keep expectations in check: I do perform SLT prior to trabeculectomy, due to the higher safety margin of SLT as compared to trabeculectomy, but do not expect 70-75 percent success in this group.

Washout Period	Class of Medication	Standard Drug
3 days	cholinergics	pilocarpine
1 week	carbonic anhydrase inhibitors	dorzolamide (Trusopt®)
up to 4 weeks	beta-blockers	timolol
up to 5 weeks	alpha2-agonists	brimonidine (Alphagan®)
up to 8 weeks	prostaglandin analogues	latanoprost (Xalatan®)

In a nutshell, patient selection is extremely important – and so are our expectations.

Register to receive this newsletter

Welcome to the Ellex SLT newsletter, **Regenerate** - a customer-focused initiative dedicated to sharing information on SLT.

Through **Regenerate**, Ellex provides insights on SLT covering literature reviews and clinical study updates, drawing on the expertise of experienced SLT users.

Regenerate is published quarterly, and can be received via email.

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Yodogawa-ku Osaka
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+81 6 6396 2250