SLT Treatment Guidelines - Asia

ellex

SLT PHOTOREGENERATION

The following treatment guidelines are based on the results of clinical studies and are provided for information purposes only. It is the operating ophthalmologists' responsibility to familiarize themselves with the latest recommended techniques.

Patient Selection

One of the key elements in achieving good Selective Laser Trabeculoplasty (SLT) results is selecting the right patients. Generally, SLT is best for early to moderate stage glaucoma cases where existing patients may be on 1, 2 or 3 glaucoma drops where the intraocular pressure (IOP) is uncontrolled, compliance issues exists, and as a primary treatment for newly-diagnosed glaucoma patients. Success rate reduces when used on advanced or end-stage glaucoma cases.

Patients with most types of glaucoma and those who conform to the following criteria are suitable candidates:

- Require lowering of IOP as either primary or secondary therapy
- Unlikely to comply and/or persist with drug therapy
- Have difficulty administering eye drops
- Suffer from drug therapy induced side effects
- Complain of reduced quality of life due to the need to administer eye drops daily
- Failed drug therapy or non-responsive to drug therapy
- Pigmentary or pseudoexfoliation glaucoma (Proceed with caution as there is a risk of post-SLT IOP spike)
- Normal tension glaucoma
- Ocular hypertension

SLT has not been shown to be suitable for the following conditions:

- Juvenile or pediatric glaucoma
- Primary or secondary angle-closure glaucoma
- Inflammatory or uveitic glaucoma
- Any disease process or malformation that blocks the angle
- Unclear view of the trabecular meshwork (TM)

Pre-treatment

Pre-operative medications typically include an alpha-agonist, such as brimonidine tartrate and topical anesthesia, such as proxymetacaine hydrochloride. Also, consider applying Pilocarpine to tighten the TM or for convex irides – this facilitates the treatment.

Treatment

The treatment regime is evolving and protocols vary from treatment of 360° and 180° of the TM. It has been highlighted that the more aggressive (360°) the treatment, the higher the risk of inducing abnormal pressure spike. If a 360° treatment is required, it is recommended that this be done in two separate 180° sessions.

A Latina SLT Gonio laser lens (Ocular Instruments, USA) with no image magnification to avoid changes to the spot size, is used to perform the treatment.

The treatment spot size is fixed at 400µm, which is large enough to irradiate the whole width of the meshwork with some overspill. This provides a comfortable margin for treatment as the overspill is of no clinical significance.

It is important to obtain a clear view of the TM – focus and good visual clarity must be maintained on the target tissue and do not use the aiming spot to focus.

180° treatment involves treatment of a 180° area per treatment period. Treatment is undertaken in single shot mode, placing approximately 50 contiguous but not overlapping energy spots along the meshwork.

Treatment Steps:

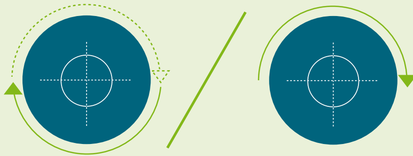
1. To determine the optimal level of energy for each patient, the laser is initially set at 0.6mJ (lower for highly-pigmented angles) and the energy level increased in 0.1mJ steps until the threshold energy level for small bubble formation (micro cavitations) is observed.
2. After the threshold level is found (when small bubble formation occurs) the energy level is decreased in 0.1mJ steps as treatment continuous until bubble formation ceases. This energy is then used for treatment.
3. After the threshold level is found (when small bubble formation occurs) the energy level

Treatment Steps continued

3 is decreased in 0.1mJ steps as treatment continuous until bubble formation ceases. This energy is then used for treatment.

4 The process should be monitored and adjusted as neccessary as pigment variation alters energy uptake at a lower threshold. Generally, the TM is more heavily pigmented inferiorly than superiorly. With this in mind, two options are possible:

A Nasal half for first 180° treatment (direction is towards the inferior). Enhance treatment will target temporal half. Repeat treatment can target either half.



B Inferior half for the first 180° treatment. Enhance treatment will target superior half. Repeat treatment can target either half.

Pigmentation varies significantly between the superior and inferior half and it is necessary to titrate the energy levels according to pigmentation. More so if treating the nasal half and temporal half, compared to the inferior half and superior half.

Follow-up visits should be scheduled according to the perceived risk of a post-SLT pressure spike and patient access to the treating ophthalmologist. In practice, for patients who do not present a specific risk of pressure spikes, follow-up visits can be scheduled at one week, one month, three months and six months thereafter to measure IOP.

Post-treatment

Non steroidal anti-inflammatory drops such as Ketorolac or Acular drops four times daily for three to five days.

Note: An increasing number of physicians are electing not to prescribe post-op medications.

Observable Side Effects

There are minimal observable side effects resulting from SLT treatment; these include mild discomfort during the procedure and tender eyes, perhaps with mild photophobia, for 2-3 days. The absence of adverse side effects is one of the major benefits of SLT treatment.

In a small percentage of cases (<10%) some post-operative increase in IOP has been observed, usually appearing within the first 24 hours and disappearing within a further 24 hours. However, a few cases of sustained IOP increase requiring follow-up treatments have been reported.

Supplemental Notes:

To minimize potential alarm and anxiety, patients should understand what is being done, how and why, and should know what reactions may follow.

The higher the pre-op IOP, the larger the IOP reduction.

For angles that are narrow or not widely open, apply Pilocarpine or perform iridoplasty procedure using a photocoagulator laser.

Highly pigmented angles require less energy and less pigmented angles require more energy.

For pigmentary glaucoma or highly pigmented angles – use lower starting energy (0.3 - 0.4mJ), apply shots sparingly across the angle (approx. 30 shots over 180° angle). Never perform 360° treatment.

For normal tension glaucoma cases, there is increase of success for pre-op IOP of ≥ 16mmHg. Note that a small reduction or any reduction in IOP at all is still significant.

On average, SLT response occurs in 2-4 weeks after treatment.

© 2007, Ellex. E&OE. SB0009A

ellex.com

Headquarters
82 Gilbert Street
Adelaide, SA, 5000 AUSTRALIA
+61 8 8104 5200

Japan
4-3-7 Miyahara 4F, Yodogawa-ku
Osaka 532-0003 JAPAN
+81 6 6396 2250

USA
7138 Shady Oak Road
Minneapolis, MN, 55344 USA
1 800 824 7444

Europe Support Center
108, avenue Marx Dormoy
63000 Clermont-Ferrand FRANCE
+33 4 73 34 18 55