

OFFERING SLT: LOW RISK, HIGH REWARD



Selective laser trabeculoplasty can be offered as a first-line treatment for appropriate patients.

BY REBECCA EDWARDS MAYHEW, MD, PHD

I am frequently asked by my patients, friends, or family members, with a bemused smile, “Why eyes?” To go through all the hurdles of medical training and then limit one’s practice to such a small and, frankly, kind of weird organ seems bizarre to them.

I usually answer by saying that ophthalmology is unique in its self-sufficiency: We see our patients in clinic, interpret their advanced imaging ourselves, make the diagnosis, perform the operation (if indicated), and longitudinally observe the patient.

This is a long-winded answer that overcomplicates matters. For many of us, pursuing a career in ophthalmology represents the culmination of a desire not only to help people but also to fix things. We became addicted to the specialty in medical school after watching our first cataract surgery, when we saw the attending surgeon elegantly remove the opacified lens of a poorly sighted patient, improving that person’s quality of life in the span of a few minutes.

For those who love to fix things, glaucoma can represent a daunting disease. Its chronic, progressive nature makes it challenging for both the physician and the patient to manage. Patients are expected to use one or more eye drops daily (or several times per day), endure a variety of side effects, and budget

for the significant cost of long-term therapy—theoretically for a lifetime.

Often the benefits of these efforts are not perceivable to the patient. It is no wonder that rates of compliance range from low to abysmal, depending on the study. Furthermore, patients with mild to moderate glaucoma and younger patients are less likely to be adherent than patients with severe disease and those who are older.^{1,2}

AN EASY FIX?

Is there an easy fix for younger patients who are at an earlier stage of glaucoma? The results of the landmark Laser in Glaucoma and Ocular Hypertension (LIGHT) trial suggests an answer. This large, randomized controlled trial of treatment-naïve patients with ocular hypertension or primary open-angle glaucoma compared the efficacy of selective laser trabeculoplasty (SLT) to that of eye drops with 3 years of follow-up.³

The LIGHT investigators found that most eyes (74.2%) treated with SLT required no additional eye drops to maintain their target IOP and were within their target IOP at 93% of visits. Rates of progression and need for glaucoma surgery were also lower in the SLT group, suggesting that IOP lowering via SLT resulted in meaningfully better clinical outcomes. SLT may provide improved control of

diurnal variation of IOP. It can obviate the need for patient compliance and is cost-effective. Many patients may also find that being free of the annoyance, cost, and side effects of daily eye drops leads to an improvement in quality of life.

PLUSES AND MINUSES

When I started residency, my practice was initially to recommend drops to patients newly starting therapy. Usually these are people I have just met, and it can be difficult to take the time to break the news that they have glaucoma, educate them about the disease, explain why it is important to start treatment, and at the same visit convince them to undergo a laser procedure. What’s more, once SLT is introduced, patients are often fearful that the laser will hurt, will threaten their vision if treatment is performed incorrectly, or will be expensive.

In this light, starting a once-daily eye drop seems benign. Patients may not consider at first the difficulties of administering a drop daily, essentially forever, when they elect medical therapy. On the physician’s side, the process of SLT, which includes obtaining signed informed consent, instilling drops, moving to a laser room, performing the procedure, and waiting for a postlaser IOP check, may eat away at scarce clinic time.

“BY DEFUSING SOME OF THE ALARM THAT THE WORD *LASER* IN CONNECTION WITH *YOUR EYE* MAY CAUSE IN PATIENTS, WE GAIN THE OPPORTUNITY TO OFFER A HIGHLY EFFECTIVE AND SAFE TREATMENT, ONE THAT TAKES THE BURDEN OF DAILY MEDICATION OFF THE PATIENT’S SHOULDERS.”

In other words, starting a drop may be easier for both parties in the clinic, but the patient may experience the negative consequences of that choice daily at home in the long term.

DEFUSING THE LASER ALARM

Given the results of the LIGHT trial and the example set by the attending faculty of the glaucoma service here at the University of Colorado, I have started taking more care with how I present SLT as a therapeutic option to my treatment-naïve patients with ocular hypertension or primary open-angle glaucoma. I let them know that we can either start drops or do what I describe as a “5-minute, painless treatment with a gentle laser here in the office.” For older patients who already take many medications or younger patients who wish to avoid starting a daily medication, this is usually a very appealing option.

I take care to inform patients of the risks of SLT, including postlaser

IOP rise. This is particularly important if one is considering offering SLT to patients with pigmentary or pseudoexfoliation glaucoma. Patients with glaucoma related to intraocular inflammation often are not good candidates for SLT because the procedure can increase inflammation. I explain potential shortcomings, such as the procedure’s not working from the start (as seen in about 25% of eyes) or waning efficacy over time. I also mention that, if it were my eye, I would choose the laser. This is a comment I have heard my attendings say, and I believe it.

By defusing some of the alarm that the word *laser* in connection with *your eye* may cause patients, we gain the opportunity to offer a highly effective and safe treatment, one that takes the burden of daily medication off the patient’s shoulders. Although SLT will not solve the chronic problem of glaucoma, it can provide the same type of elegant, high-yield fix as other ophthalmic

procedures, buying patients time free of medication and surgery, time when they do not have to worry daily about their eyes. ■

1. Ung C, Zhang E, Alfaro T, et al. Glaucoma severity and medication adherence in a county hospital population. *Ophthalmology*. 2013;120(6):1150-1157.
2. Sleath BL, Blalock SJ, Muir KW, et al. Determinants of self-reported barriers to glaucoma medicine administration and adherence: a multisite study. *Ann Pharmacother*. 2014;48(7):856-862.
3. Gazzard G, Konstantakopoulou E, Garway-Heath D, et al. Selective laser trabeculoplasty versus eye drops for first-line treatment of ocular hypertension and glaucoma (LIGHT): a multicentre randomised controlled trial. *Lancet*. 2019;393(10180):1505-1516.

ALBERT S. KHOURI, MD | SECTION EDITOR

- Associate Professor of Ophthalmology and Director of Glaucoma Division and Ophthalmology Residency, Rutgers New Jersey Medical School, Newark
- Member, *Glaucoma Today* Editorial Advisory Board
- khourias@njms.rutgers.edu

REBECCA EDWARDS MAYHEW, MD, PHD

- Ophthalmology resident, University of Colorado, Aurora
- becca.edwards@cuanschutz.edu
- Financial disclosure: None