READY OR NOT?

Deliberations on whether certain approaches are ready for prime time.

On the following pages, interventional glaucoma specialists take assigned stances to deliberate whether certain procedures are ready for prime time. Although their argument may not reflect the approach each contributor supports or practices, these types of debates are taking place in the greater ophthalmic community. We hope this exercise helps shed light on efforts to advance glaucoma care and the limitations—real or perceived—that may be holding them back.

SELECTIVE LASER TRABECULOPLASTY AS FIRST-LINE THERAPY

Can this approach gain full acceptance over IOP-lowering drops?

BY EMILY M. SCHEHLEIN, MD, AND BRIAN M. SHAFER, MD

READY

EMILY M. SCHEHLEIN, MD

Selective laser trabeculoplasty (SLT) is—and has been—ready for use as first-line glaucoma therapy based on the efficacy, safety, adherence, and cost-effectiveness associated with the treatment.

EFFICACY

The Laser in Glaucoma and Ocular Hypertension (LIGHT) trial compared primary eye drops and primary 360° SLT in patients with open-angle glaucoma or ocular hypertension. At 3 years, 74.2% of patients treated with SLT were medication- and surgery-free while maintaining their target IOP.[1] At 6 years, 69.8% of patients treated with SLT were medication- and surgery-free, and 90% of them had undergone only one or two SLT treatments.[2] Overall, patients in the medication arm had more disease progression (26.8% vs 19.6%), more moderate or fast visual field progression (26.2% vs 16.9%),[3] and higher rates of trabeculectomy (32 vs 13 eyes) and cataract surgery (95 vs 57 eyes). Clearly, SLT is effective for IOP lowering, but the procedure also plays a role in slowing disease progression and delaying glaucoma surgery.

SAFETY

SLT is a safe procedure. No sight-threatening complications of SLT occurred in the LIGHT trial. A small proportion of SLT-treated eyes (n = 10) experienced an IOP spike, but only one of these eyes required treatment. About 34% of patients in the SLT arm experienced discomfort, blurry vision, photophobia, and hyperemia, but these effects were transient.

Patients in the medication arm of the LIGHT trial reported more ocular adverse events than those in the SLT arm. This is consistent with real-world patient experience: A cross-sectional study found that more than 50% of patients with glaucoma experienced side effects from glaucoma drops.[4,5] In a questionnaire-based study, at least half of the patients with glaucoma reported ocular surface disease, but signs of the condition were found in almost 80% of the patients.[4]

ADHERENCE

The rate of patient nonadherence to topical glaucoma therapy can be up to 60% for several reasons, including cost, side effects, difficulty of drop instillation,

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forgetfulness, lack of motivation, and regimen complexity.[6-8] Up to 90% of patients do not refill their prescriptions continuously.[9] By moving treatment out of the patient's hands and into the surgeon's, SLT solves the problem of treatment nonadherence.

COST-EFFECTIVENESS

The LIGHT trial showed that, over 3 years, SLT was more cost-effective than eye drops.[1] Additionally, a study by Patel et al[10] concluded that multidrop therapies yielded shorter-lasting benefits with each additional IOP-lowering agent and were associated with increased clinical and economic burdens. Medical glaucoma therapy has financial implications for the entire health care system as well as for the individual patient.

CLEARING THE BARRIERS

Several organizations, including the AAO, European Glaucoma Society, and United Kingdom National Institute for Health and Care Excellence, support the use of SLT as a first-line therapy for glaucoma. Of course, not every practice can offer first-line SLT. Barriers can include procedural complexity and duration as well as patients' fear of gonioscopy.

I would argue, however, that the laser's large spot size and the basic gonioscopy skills required are manageable for most users. I find that SLT takes, on average, about 5 to 7 minutes to complete. In my experience, the biggest barrier to first-line SLT is the patient's fear of intervention. I have found that appropriately framing the procedure can help. I talk to my patients about the data. Specifically, I explain that SLT can reduce their need for eye drops, delay their need for glaucoma surgery, and help prevent disease progression. I also tell them that I am going to use a gentle light-pulsed procedure to increase the natural outflow of drainage from their eyes.

Some patients are reluctant to have anything touch their eye. In these scenarios, verbal anesthesia is important and effective. I tell the patient that I am putting a type of contact lens on their eye and it should not cause discomfort. If the patient remains fearful, direct SLT (Voyager, Alcon) is an option. This noncontact procedure does not require the use of a gonioscopy lens and can be completed in 2.4 seconds with eye-tracking technology. The laser system is designed to accommodate a variety of body types, and the surgeon does not need to look through the oculars, which is ergonomically advantageous. The GLAURIOUS trial[11] showed that direct SLT was safe and effective. With the right approach, patients are likely to accept SLT as a first-line treatment.

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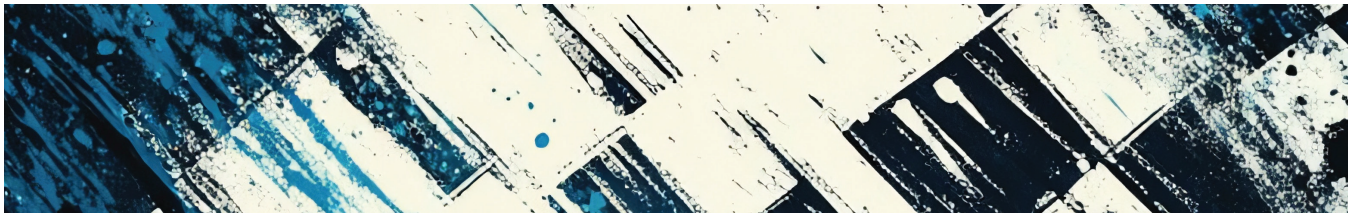

OR NOT?

BRIAN M. SHAFER, MD

Although a safe and effective procedure, SLT may not be ready for prime-time use as a first-line treatment for several reasons.

"THE CARE OF MANY PATIENTS WITH GLAUCOMA WILL REMAIN IN THE OPTOMETRIC ARENA, MAKING DROPS A MORE VIABLE FIRST-LINE OPTION."

DROPS WORK

In the LIGHT trial, approximately 70% of patients treated with primary SLT were medication- and surgery-free at 6 years.[1] In contrast, a 6-month randomized clinical trial showed that about 89% of patients treated with bimatoprost drops achieved a 20% reduction in IOP.[2] Topical therapy works.

The concern with drops is not that the agents themselves are ineffective but that patients will not use them as prescribed. Fortunately, advances in sustained-release drug delivery are helping to eliminate the compliance factor. The intracameral bimatoprost implant (Durysta, AbbVie) enables direct administration of the drug into the eye, where it works to lower IOP in most cases.[2] The same approach can be taken with the travoprost intracameral implant (iDose, Glaukos).

ALL TALK, NO ACTION

According to recent data from Market Scope, 77% of ophthalmologists believe in early intervention.[3] However, interventions represent only 6% of annual glaucoma treatments, meaning that 94% of glaucoma treatments are topical. Eye drops are an established approach.

Further, ophthalmologists do not have the capacity to manage the care of all patients with glaucoma. An estimated 4.22 million people in the United States have the disease, and that number is expected to rise as the aging population grows.[4] Optometrists are often the first-line eye care providers, and most of them do not have laser treatments in their toolkits. The care of many patients with glaucoma will remain in the optometric arena, making drops a more viable first-line option.

ANOTHER WAY FORWARD?

Beyond lasers and drops, perhaps an even more convincing treatment for IOP reduction is in the pipeline. The FSYX Ocular Pressure Adjusting Pump (Balance Ophthalmics) is a non-invasive, nonpharmaceutical system that applies negative pressure to the anterior orbital rim to lower IOP. Of all eyes studied (n = 634), 100% achieved a lower IOP, and 97% experienced more than a 20% reduction in IOP at night.[5] A mean IOP reduction of 39% was achieved, with no serious adverse events. Why use a laser or rely on drops as a first-line treatment when IOP could be lowered by applying negative pressure to the patient's anterior orbital rim at bedtime? Additionally, this is the first device specifically approved for the treatment of normal-tension glaucoma. ■

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