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MODEL SURGICAL TREATMENT FOR WORKING INSIDE THE ANGLE

The safety and consistently good outcomes achieved with the iStent make it ideal for experienced surgeons and residents.

BY ARSHAM SHEYBANI, MD

My role as an assistant professor at Washington University School of Medicine in St. Louis puts me in a unique position to evaluate surgical procedures and devices. As an experienced surgeon, I can gauge their utility in my operating room, and as a teacher of residents and fellows, I can assess ease of adoption and quality and consistency of outcomes in the hands of less experienced surgeons.

Such was the case with the iStent Trabecular Micro-Bypass Stent (Glaukos), which we now use as our model surgical treatment to familiarize residents and fellows with working inside the angle. The iStent is an ab interno device that accesses the natural drainage system and reproduces physiology. It has been fantastic for learning angle surgery, even for surgeons who are not yet skillful with phacoemulsification.

In this article, I discuss some of the key benefits of this device.

SAFETY

Theoretically, adding another step to a surgery should increase the risk; however, stenting in the angle is one of the safer procedures in glaucoma surgery. Although we are working in a small space adjacent to fragile structures, the iStent has been proven safe and effective in thousands of patients in multiple clinical studies.

Furthermore, prospective studies have shown that iStent has an excellent overall safety profile, similar to cataract surgery alone.[1,2]

CONSISTENTLY GOOD OUTCOMES

We recently began a formal study of iStent outcomes at our institution, and our initial results appear to be better than the FDA trial data reported in the literature. Several factors may explain this.

1) The prospective FDA study was performed by a group of surgeons learning how to implant the iStent.[1] Since that time, we have learned a great deal about proper placement of the device, and we have passed along that information so that even residents and fellows are performing their initial cases more consistently.

2) We take care to select cases in the mild to moderate spectrum of disease, where there may be a better chance of patent collector channels.

3) We also try to place these stents in locations where we think the collectors are entering Schlemm canal.

TISSUE PRESERVATION

My bias is towards a stenting procedure over any type of stripping or tissue-destructive procedure. In milder disease states ranging from carotid endarterectomy to hepatic biliary obstructions to aortic obstructions, stenting is preferred over some of the more invasive procedures.

In glaucoma cases, I would rather insert a device that holds a space open than remove tissue and risk scarring. Remember also that when we remove tissue, we will not be able work in that space again, and this would prevent us from using any new devices or procedures that may

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be introduced in the future. My preference will always be stenting. It is controlled flow, less destructive, and it leaves an avenue open for future therapeutics.

MIGS/iSTENT ADOPTION TIPS

My favorite topic for discussion, particularly with our residents, is how to adopt microinvasive glaucoma surgery (MIGS) into their practice. By the time they complete their residency, I want our residents to feel as comfortable performing angle surgery as they are performing cataract surgery. These skills will be paramount as the number of patients with glaucoma increases.

In my opinion, the key to successful MIGS is choosing appropriate patients. I recommend starting with patients who need cataract surgery and whose glaucoma is well controlled with one or two medications.

I also recommend developing a good relationship with your manufacturer's representative. While not physicians, these professionals are skilled trainers who can share tips and pointers gleaned from the various practices they serve. For example, performing gonioscopy intraoperatively is quite different from performing it in clinic. Your representative can provide practical advice on how to turn the patient's head and line up the patient's eye and the angle with your surgical view.

Online videos can be helpful adjuncts to hands-on MIGS experience. Surgeons who post on YouTube and Eyetube do so to help others perform these surgeries correctly. While viewing these surgeries, you can learn how to place devices properly, as well as how to avoid any pitfalls you may encounter. In my opinion, watching videos, which can be paused, rewound, and zoomed, can often be more informative than viewing live surgery through a teaching microscope.

CONCLUSION

My experience with the iStent and other trabecular meshwork-based surgeries is extensive, but I have never marketed myself as a surgeon who performs MIGS. I prefer a more organic approach whereby patients and referring doctors learn about and experience this type of surgery in my practice and then talk about it among themselves.

I believe eventually patients will go to physicians who are performing safer procedures and taking a stepwise approach to treating glaucoma, keeping in mind that not everyone needs the exact same type of treatment every time. Implanting the iStent during cataract surgery is our opportunity to attack glaucoma surgically and help reduce patients' medication burden.

In my opinion, any glaucoma specialist who is not offering MIGS is doing a disservice to patients and to referring doctors. I have heard that comment from ophthalmologists and other physicians for whom I have performed MIGS.

As for our practice, we have been in the forefront with many of these surgeries and very quickly built a credible glaucoma service. Having options like iStent and other MIGS devices/surgeries available has been a great opportunity not only for our patients but also for referring doctors and even our residents and fellows. ■

1. Samuelson TW, Katz LJ, Wells JM, et al; US iStent Study Group. Randomized evaluation of the trabecular micro-bypass stent with phacoemulsification in patients with glaucoma and cataract. *Ophthalmology*. 2011;118:459-467.
2. Craven ER, Katz LJ, Wells JM, Giamporcaro JE; iStent Study Group. Cataract surgery with trabecular micro-bypass stent implantation in patients with mild-to-moderate open-angle glaucoma and cataract: two-year follow-up. *J Cataract Refract Surg*. 2012;38:1339-1345.

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