Point/Counterpoint: SHOULD CATARACT SURGEONS PERFORM MIGS?

Arguments for and against the practice.

BY CATHLEEN M. MCCABE, MD; AND ROBERT J. WEINSTOCK, MD

REFRACTIVE CATARACT SURGEONS SHOULD LEARN AND PERFORM MIGS

Let's broaden the goals of surgery once again, this time to include glaucoma care.

Cataract surgery has evolved over the past decade, and thus our goals of surgery have shifted over time. Surgeons used to focus mainly on removing the dysfunctional lens and replacing it with a clear implant, allowing us to solve the problem of light scatter from the cataract, which caused our patients' glare and blurry vision. As technology for the diagnosis and treatment of concomitant problems such as astigmatism and loss of near focus have improved, however, we have broadened our goals to include quality of vision and independence from glasses.

We now take a more holistic view of cataract surgery, striving to measure more accurately and refine our techniques and treatment strategies to address all of the visual needs of the patient. We also take time to more fully evaluate the health of the cornea, retina, and optic nerve so that the procedure can address the future visual health of the eye as well as the patient's refractive needs at the time of the surgery. With the advent of MIGS, I believe we are now obligated—and have the opportunity—to broaden the goals of cataract surgery once again.

Glaucoma increases in prevalence with age and affects a significant percentage of patients presenting for cataract surgery. As the US population ages, greater numbers of

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LEAVE MIGS FOR THE GLAUCOMA SPECIALISTS

Cataract surgeons don't need to step outside their comfort zones to adopt these procedures.

In 2012, shortly after the FDA approval of the iStent Trabecular Micro-Bypass Stent (Glaukos), a sales representative for the company asked me if I would start using the device in my cataract patients with glaucoma. Much of the conversation that ensued was focused on the financial benefits to the practice, and there was also some communication around the data and the ease of use of the device.

My initial reaction was admittedly a bit skeptical, with questions arising such as, "Doesn't cataract surgery alone decrease the pressure?" "Since I don't typically treat or manage glaucoma, should I be doing this procedure?" "Do I really want to take on the risk of hemorrhage, trauma, or a low or excessively high postoperative IOP in my refractive cataract surgery patients?"

GIVING IT A TRY

Nonetheless, as I typically do with a new procedure, I decided to identify a few patients who were likely good candidates for the iStent and try it.

Unfortunately it was not a super-amazing experience for me, but then again I don't typically try to place a gonioscopic mirror on the eye in the OR. After a few cases and some frustrations with the previously mentioned

complications, I stopped and decided this procedure was not for me.

Fast forward 8 years, and the MIGS space—despite my sideline approach—has blossomed significantly. Several new products for pseudophakic MIGS procedures have appeared, such as the Kahook Dual Blade (New World Medical) and the Omni Glaucoma Treatment System (Sight Sciences), and more products have received FDA approval, such as the Hydrus Microstent (Ivantis) and the iStent inject (Glaukos).

At the same time, however, MIGS has had a few hiccups. Most recent was the voluntary recall of all Xen Gel Stent products (Allergan)[1] and, in 2018, there was a full recall of the CyPass Micro-Stent (Alcon).[2]

ONGOING DEBATE

One of the interesting aspects for me about this dynamic space is the number of debates that are happening and the diversity of opinions and perspectives being expressed. Refractive and cataract surgeons who typically don't treat or follow glaucoma patients are suddenly being pressured by industry to become glaucoma surgeons. Meanwhile, fellowship-trained glaucoma practitioners who are true experts in this area are debating the effectiveness and value propositions for the expanding options in MIGS.

For me and my unique situation, MIGS is a tough sell. In our practice, we have fellowship-trained glaucoma specialists who manage our glaucoma patients over their lifetimes. This is in stark contrast to my own refractive cataract surgery practice, where I spend most of my time focusing on entirely different diseases—ametropia, astigmatism, and presbyopia—as well as performing complex cataract surgery.

On self-reflection, it's not that I'm afraid of learning a new surgical procedure or experiencing its learning curve; it's more that I am concerned about my involvement in a complex disease process that should be treated by a specialist who can handle all aspects of glaucoma management. I would feel awful if I had a complication with one of these patients and then had to return the patient to the primary glaucoma doctor for him or her to clean up my problems. Even with my limited experience using the most recently approved devices, I have seen significant hyphemas with increased IOP in the postoperative period requiring additional intervention.

I also am not sure, with all the procedures and devices now available, how to decide which is the right one for which patient. I feel that we do not have adequate imaging diagnostics of the angle that can allow us to differentiate which procedure or device would be best suited for a given patient. In my own world, I can compare this to deciding which particular multifocal, accommodating, or monofocal optic might match a given patient's lifestyle or ocular comorbidities without talking to the patient or having topography and macular OCT to guide the decision-making process.

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>
> —Robert J. Weinstock, MD

Another interesting facet to me is that the cataract and refractive surgery world seems somehow to be adopting and accepting the MIGS procedures as an integral part of practice much more quickly than traditional fellowship-trained glaucoma doctors are embracing them. In my mind, this raises questions as to the validity of the science behind these devices, the motivation behind the adoption of these treatments, and whether or not they make sense in the broader scope of the disease process. I often overhear surgeons talking more about the financial benefit to the practice than the benefit to the patient.

OPEN COMMUNICATION IS KEY

Despite my misgivings expressed here, I have dabbled in MIGS a little bit over the past year, and I most likely will continue to do the procedure in selected cases and in conjunction and with open communication with the doctor who has been managing the patient's glaucoma. With my limited experience so far, however, I have encountered complications with the devices that I have tried. To me, taking a cataract out and not putting

a MIGS device in is not a failure; it is a conservative approach that focuses on the task and problem at hand and ensures that a good refractive visual outcome is achieved first and foremost. With the patient then in the pseudophakic state, if there is progression of glaucoma or issues with his or her use of topical medications, I am all in favor of the patient's glaucoma specialist having additional tools in his or her toolbox that are less invasive than a trabeculectomy or tube shunt.

I love the idea of more elegant, simpler mid-tier glaucoma treatments, but it seems wiser to have these done by fellowship-trained glaucoma specialists who are more intimate with the patient and his or her disease progression, who are used to working in the angle, and who know how to manage the postoperative complications. Ideally, in the future, we will see more devices approved for use in the pseudophakic state, which may shed more light on the value of the intervention.

CONCLUSION

Ophthalmology is becoming a specialized and complicated space, with the ever-evolving world of refractive cataract surgery and now a similar explosion in the glaucoma arena. Each surgeon needs to figure out his or her own comfort level with combining the two. More important, each surgeon needs to consider what is best for each individual patient and in whose hand the best chance of success lies.

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2. Alcon Research Ltd. recalls CyPass micro-stent systems due to risk of endothelial cell loss. US Food and Drug Administration. August 29, 2018. https://www.fda.gov/medical-devices/medical-device-recalls/alcon-research-ltd-recalls-cypassr-micro-stent-systems-due-risk-endothelial-cell-loss. Accessed December 2, 2019.

ROBERT J. WEINSTOCK, MD
- Private practice, The Eye Institute of West Florida, Largo, Florida
- Chief Medical Editor, *CRST*
- rjweinstock@yahoo.com
- Financial disclosure: None acknowledged

"I BELIEVE A DISCUSSION OF MIGS AS A TREATMENT OPTION ... SHOULD BE PART OF THE EDUCATION OF EVERY GLAUCOMA PATIENT AT THE TIME OF CATARACT SURGERY."

—Cathleen M. McCabe, MD

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patients with both diseases will require management. The ability to treat both diseases at the same time with minimal increased surgical risk provides several advantages:

- Less dependence on drops—and therefore less ocular surface compromise, less concern regarding compliance due to cost or difficulty instilling drops, fewer potential side effects, and fewer problems with changing reimbursement;
- Less risk, with one intraocular surgery rather than two;
- More treatment options remaining before incisional glaucoma surgery such as a tube shunt or trabeculectomy is needed in the future;
- Less risk of immediate postoperative increase in IOP; and
- More efficient delivery of care in an era in which there will be increasingly limited numbers of providers of eye surgery.

Many MIGS procedures are currently covered by payers only when they are performed in conjunction with cataract surgery, so it is worthwhile considering and discussing these procedures with patients with glaucoma during the process of evaluation and counseling for cataract surgery.

SAVING THE OCULAR SURFACE

In the setting of refractive cataract surgery outcomes, the effect of chronic use of preservative-containing glaucoma drops on the health of the ocular surface, and therefore the quality of postoperative vision, is of critical importance.

Some MIGS devices, particularly trabecular meshwork bypass stents such as the Hydrus Microstent and the iStent and iStent inject, have been shown to significantly decrease the burden of medication after cataract surgery. In one study, more than 80% of patients with mild to moderate primary open-angle glaucoma (POAG) on one medication prior to surgery were medication-free at 3 years after Hydrus implantation.[1] In another study, 63% were medication-free at 2 years after iStent inject implantation.[2] If MIGS can decrease the medication burden for patients with glaucoma undergoing cataract surgery, it may contribute to better visual results and, therefore, happier patients postoperatively.

Aside from MIGS, another way to decrease the need for topical medications in glaucoma patients may lie with the growing number of depot medication options. Often, in addition to their IOP-lowering drops, glaucoma patients are also using lubricating drops and possibly even dry

eye prescription medications that contain preservatives. Two depot medication options for postoperative steroids are currently available, the dexamethasone injectable suspension 9% (Dexycu, EyePoint Pharmaceuticals) and the dexamethasone ophthalmic insert 0.4 mg (Dextenza, Ocular Therapeutix). Two extended-release glaucoma medications are in clinical trial stages of investigation: iDose Travoprost (Glaukos) and Bimatoprost SR (Allergan). If approved, these durable drug-delivery options could help patients and practitioners avoid many of the complications of daily topical drop instillation.

NEW SKILLS

The skills needed to perform MIGS procedures are compatible with those necessary for successful standalone cataract surgery. The biggest challenge is in becoming comfortable with viewing the angle for angle-based procedures such as trabecular meshwork bypass stents including the aforementioned iStent, iStent inject, and Hydrus; the Kahook Dual Blade; and the Omni Glaucoma Treatment System, among others.

The capital investment needed to practice the skill of visualization is only the purchase of a gonioprism. The disposable gonioprisms now available from Katena are easy to use and minimize the initial investment. For practice, cataract surgeons have an opportunity to look at the angle and move an instrument such as a cannula or Sinskey hook in the area of the trabecular meshwork at the end of cataract surgery. Additionally, model eyes for dry lab training such as the SimulEYE (InsEYEt) and several products from Phillips Studio have become increasingly representative of the intraoperative experience.

Other MIGS options that do not require angle visualization but still provide good efficacy include transscleral procedures such as micropulse cyclophotocoagulation with the Cyclo G6 Glaucoma Laser System (Iridex) or endocyclophotocoagulation with the Endo Optiks E4 (Beaver-Visitec International) laser and endoscope.

COMPELLING REASONS AND FURTHER DISCUSSION

One of the most compelling reasons to add MIGS to your treatment options for patients with concomitant cataracts and glaucoma is the recently reported reduced risk of the need for secondary incisional glaucoma surgery. In patients implanted with a Hydrus trabecular meshwork bypass stent at the time of cataract surgery, there was an 85% reduction in the risk of secondary surgery at 3 years, compared with patients who underwent cataract surgery alone.[1] Considering that these were patients with mild to moderate POAG, that reduction is even more striking. The short- and long-term complications of glaucoma drainage tubes and trabeculectomies are well known,[3] and we want to avoid these surgeries when possible.

Discussion of astigmatism management and presbyopia-correcting options has become a routine and vital part of the management of the refractive needs of patients undergoing cataract surgery, even for cataract surgeons who do not offer these services themselves. I believe that, going forward, a discussion of MIGS as a treatment option for control of IOP should be part of the education of every glaucoma patient at the time of cataract surgery—again, even if the surgeon does not offer these procedures himself or herself.

MIGS procedures are not appropriate for every patient, and not every surgeon will be, nor needs to be, facile with all MIGS procedures. But it is important to know that these options exist, to know when they might be appropriate for an individual patient, and to inform that patient of the options. And because the most common options for the majority of patients presenting with both cataracts and glaucoma—trabecular meshwork bypass stents in patients with mild to moderate POAG—are those with the fewest postoperative complications and the most straightforward implantation skills needed, I believe these options should be part of the treatment armamentarium of all cataract surgeons.

CONCLUSION

We now have many MIGS devices available, other options in development for durable drug delivery, and new techniques and devices for even more advanced disease such as the Xen Gel Stent (Allergan) and PreserFlo Microshunt (formerly InnFocus Microshunt, Santen). As a refractive cataract surgeon, I can now adopt a more holistic treatment strategy that includes a view focused toward future IOP control and lifelong visual health for my patients. ■

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CATHLEEN M. MCCABE, MD
- Medical Director, The Eye Associates in Bradenton and Sarasota, Florida
- Chief Medical Officer, Eye Health America, Roswell, Georgia
- Member, *CRST* Editorial Advisory Board
- cmccabe13@hotmail.com; Twitter @cathyeye
- Financial disclosure: Consultant (Alcon, Allergan, Bausch + Lomb, Carl Zeiss Meditec, EyePoint Pharmaceuticals, Glaukos, Ivantis, Johnson & Johnson Vision, Novartis, Ocular Innovations, Ocular Therapeutix, Omeros, Sight Sciences, Sun Pharmaceuticals); Research (Alcon, Allergan, Bausch + Lomb, Ivantis, Glaukos, Johnson & Johnson Vision, Novartis, Sun Pharmaceuticals)