What is MIGS?

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Minimally Invasive Glaucoma Surgery or Micro-Incisional Glaucoma Surgery is an emerging category that shares the following characteristics articulated by Ike Ahmed MD: ab interno microincision, minimal trauma, efficacy, high safety profile, and rapid recovery. (Saheb & Ahmed, 2012) There are currently 2 procedures (Glaukos iStent, Trabectome) that meet the definition of MIGS and can currently be performed in the United States.

I believe MIGS will dramatically alter the landscape of glaucoma surgery largely because of its favorable safety profile, which is similar to cataract surgery. Our current options for glaucoma surgery have a high morbidity rate which prevents most surgeons from using surgical options early in the disease. (Gedde:2012cn) (Gedde et al., 2012; 2012) By safely treating glaucoma earlier in the disease course we can slow progression and hopefully obviate the need for less safe glaucoma surgeries in the future. Another major advantage of MIGS is that it preserves future surgical glaucoma options, since the ab-interno approach leaves precious conjunctiva unharmed. Some MIGS procedures, like the iStent, will allow the surgeon to go back at a future date and place additional stents if the target IOP is not achieved.

Perhaps the most exciting part of the MIGS category is that this is the first step toward an array of new devices for glaucoma surgery. The new standard will become the efficacy of a trabeculectomy, with the safety profile of cataract surgery. Most new devices and procedures will aim to exploit schlemms canal, the suprachoroidal space, or the subconjunctival space from an ab-interno approach, sparing variable healing response of the conjunctiva and preserving future more invasive options.

Depending on the experience of surgeons, the safety profile, and more accumulation of efficacy data, MIGS has the potential to be offered as an alternative to medications as first line therapy. First line treatment with MIGS could be especially helpful in patients with drop intolerance or if compliance is a problem. Some MIGS procedures may be elegant enough to occur in the office or minor room which could prevent costly trips to the operating room.

We are at the brink of a real change in the surgical treatment of glaucoma. We have recently watched our cornea colleagues transform corneal transplantation with DSEK and DMEK, Retina specialists can now treat wet AMD successfully with anti-vegf injections, Cataract surgeons are adopting femtosecond lasers and intraoperative aberrometry to achieve unprecedented outcomes, and now glaucoma surgeons are going to be able to offer a safe effective surgery early in the disease course to slow the progression of
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