MIGS: Changing Glaucoma Treatment Algorithms

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A Glass Half Full: Historical Perspective

- Cataract surgeon’s perspective:
  - A chance to cut is a chance to cure

- Glaucomatologist’s perspective:
  - A chance to cut has a risk of a choroidal hemorrhage, stay on medications!
MIGS: A New Perspective on Glaucoma Surgery

- Who is a candidate?
- What justifies the procedure?
- How to start implanting?
MIGS: What is it?

- Minimally Invasive Glaucoma Surgery
- Ab interno micro-incision procedures
- Lower risk
- Earlier intervention
- Minimal additional technology
- Does not preclude other glaucoma surgery
Glaucoma Surgery Profile

MIGS

- Mild to moderate disease
- Open angles
- Modest IOP target (15-16)
- Low risk
- Long term data lacking
## Glaucoma Surgery Profiles

<table>
<thead>
<tr>
<th>MIGS</th>
<th>Trab or Tube</th>
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<tbody>
<tr>
<td>- Mild to moderate disease</td>
<td>- More advanced disease</td>
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<tr>
<td>- Open angles</td>
<td>- Open or closed angles</td>
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<tr>
<td>- Modest IOP target (15-16)</td>
<td>- Lower IOP target (&lt;13)</td>
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<tr>
<td>- Low risk</td>
<td>- Higher risk</td>
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<tr>
<td>- Long term data lacking</td>
<td>- Recognized long term effect</td>
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MIGS: Mechanism of Action

1. Subconjunctival
   - AqueSys (Xen)

2. Canal
   - Glaukos (iStent)
   - Ivantis (Hydrus)

3. Suprachoroidal
   - Transcend (CyPass)
   - Glaukos (G3)

Trabectome is disruptive to the TM/canal and, thus, not a MIGS procedure
Variables to Consider

1. Efficacy
2. Risk/complications
3. Technical ease
4. Duration
5. Cost to physician/ASC/hospital
6. Reimbursement
Canal-based, non disruptive MIGS Procedures

- Dilates and preserves Schlemm’s canal by channel reconstruction and trabecular meshwork bypass
- Re-establish flow to collector channel system
- May be performed with or without cataract surgery
- Options:
  1. iStent (Glaukos)
  2. Hydrus (Ivantis)
iStent
A Subconjunctival MIGS

Traditional Bleb
- Tenon adhesions are fully dissected from sclera
- Significant tissue trauma
- MMC used intra-op

AqueSys Intra-Tenon Drainage
- No dissection of Tenons and conjunctiva
- Minimal conjunctival tissue trauma
- No MMC used intra-op
XEN Implant
Justification for iStent

Current Documentation Criteria

Medicated IOP $\leq 24\text{mmHg} (1-3\text{meds})$

Documented History

Focus on Medicare Beneficiary

One Stent
Prevalence of Glaucoma and Cataract

- Of the 3.5 million annual cataract procedures performed in the US, 20.5%* of these patients are on a glaucoma medication.

A Large Percentage of your Patient Population fits the Approved Indication

* Medicare data analysis 2003 - 2007
What is Mild to Moderate OAG?

Gonioscopy is back!

- Get comfortable in the office with gonioprism
  - Seldom done yet billable
  - Gonioscopy.org – great source

- Practice **before** a scheduled case
  - Use a gonioprism in one hand and Sinsky hook in the other
Glaucoma Imaging - Angle Structures

Normal angle - inferior view

Schwalbe’s Line
Trabecular Meshwork
Scleral Spur
Ciliary Body Band
Tumor in the Anterior Chamber
Conventional OAG Treatment

- Complexity of disease management
- Up to 90% rate of non-compliance with anti-glaucoma medications¹
- Less durability in laser treatments
- Risks associated with major surgery
- Cost burden to patients & system

AAO Preferred Practice Pattern; Primary Open Angle Glaucoma. AAO committee 2003, 2010 update.
Non compliance and risks are associated with current treatment algorithms

Large percentage of the patient population presents with mild-to-moderate glaucoma + cataract

iStent is the only FDA approved device for the treatment of mild-to-moderate open-angle glaucoma in combination with cataract surgery

Get comfortable with the gonioprism!