Mastering the Management of MIGS

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Financial Disclosure

Glaukos
Bausch + Lomb
Alcon
Allergan
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Johnson & Johnson

Reichert
TearScience
Aerie
Shire
Equinox

WHY MIGS
Minimally Invasive Glaucoma Surgery (MIGS)

Procedures that have an ab-interno approach, are minimally atraumatic, with at least modest efficacy, extremely high safety and rapid recovery.

Cataract surgery alone......

may be the most common glaucoma surgery today.
Cataract Surgery and Rate of Visual Field Progression in Primary Open-Angle Glaucoma.

Methods: To test the hypothesis that cataract surgery slows the apparent rate of visual field (VF) decay in primary open-angle glaucoma patients compared with rates measured during cataract progression.

Results: Consecutive open-angle glaucoma patients who underwent cataract surgery and who had ≥4 VFPs and ≥5 years of follow-up before and after surgery were retrospectively reviewed. Mean deviation (MD) rate, visual field index (VFI) rates, pointwise linear regression (PLR), pointwise rate of change (PRC), and the Glaucoma Rate Index (GRI) were compared before and after cataract surgery.

Conclusions: Although all VFP parameters improved after cataract surgery, VFPs continued to progress. Cataract surgery does not slow the apparent rate of glaucomatous VF decay as compared to rates measured during the progression of the cataract.

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MIGS

Safety First
Many as Safe as Cataract
Similar Recovery
Combine with FLACS

Efficacy a Close 2nd
Hengerer (3 Year)
Long-term IOP Reduction at 3 Years

Consecutive case series with Stent injected in primarily OAG eyes in Germany
- n=81 eyes of 55 patients
- Patients followed through 3 years; longer follow-up continuing
- Preoperative mean IOP was 22.6 ± 9.2 mmHg on an average of 2.5 medications

Diagram: Graph showing IOP reduction over time under different conditions.
Hydrus Microstent

HORIZON Trial

<table>
<thead>
<tr>
<th></th>
<th>Control (n=108)</th>
<th>Control Only (n=68)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline IOP (mmHg) after washout</td>
<td>15.5 (±3.0)</td>
<td>15.4 (±3.0)</td>
</tr>
<tr>
<td>2-year IOP (mmHg) after washout</td>
<td>17.4 (±8.3)</td>
<td>19.1 (±8.4)</td>
</tr>
<tr>
<td>Subclinical at 2 years</td>
<td>5.5%</td>
<td>5.6%</td>
</tr>
<tr>
<td>1 year postinsertion</td>
<td>2.5%</td>
<td>2.5%</td>
</tr>
<tr>
<td>2 year postinsertion</td>
<td>3.0%</td>
<td>3.0%</td>
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Aqueous Angiography Before and After Stenting
Alex Huang, MD, PhD

Ideal Patient Candidate

Kahook Dual Blade
Ab Interno Canaloplasty (ABIc)

<table>
<thead>
<tr>
<th>TABLE 3. CANALOPLASTY MULTI-CENTER TRIAL - THREE YEAR RESULTS</th>
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<tbody>
<tr>
<td>Cornea</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>1.00</td>
</tr>
<tr>
<td>1.50</td>
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<tr>
<td>2.00</td>
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<td>2.50</td>
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Ideal Patient Candidate

CyPass Micro-Stent
COMPASS XT

~ 27%

5 years

> 30% ECL

CYPASS TRIM

JOHN BERGAHL, MD, DAVID STEPHENS MD
Xen 45 Gel Stent: US Pivotal Clinical Trial

<table>
<thead>
<tr>
<th>Visits – IOP and Medications</th>
<th>Mean</th>
</tr>
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<tbody>
<tr>
<td>Baseline</td>
<td></td>
</tr>
<tr>
<td>Medicated IOP</td>
<td>25.1 (4.7)</td>
</tr>
<tr>
<td>Glaucoma Meds</td>
<td>3.5 (1.0)</td>
</tr>
<tr>
<td>12 Month</td>
<td></td>
</tr>
<tr>
<td>IOP</td>
<td>15.9 (7.2)</td>
</tr>
<tr>
<td>Glaucoma Meds</td>
<td>1.7 (1.3)</td>
</tr>
</tbody>
</table>

76.3% of patients reported a mean diurnal IOP reduction of ≥ 20% from medicated baseline at 12 months.
Postoperative Adverse Events

Hypotony 16 (24.6%)
(IOP < 6 mmHg at any time)
- Anterior chamber shallow 1 (1.9%)
  with peripheral irido-corneal touch
- Anterior chamber tilt 3 (5.0%)

Bleb Needling 21 (32.3%)
Post-operative Considerations with MIGS
1. Stopping GLC Meds
2. IOP Fluctuations
3. IOP Spikes
4. Hyphema
5. Hypotony
6. Establish New Baselines

Stopping Glaucoma Medications

Preoperative IOP vs. Postoperative IOP
IOP progression over time

IOP Fluctuations

<table>
<thead>
<tr>
<th>36</th>
<th>31</th>
<th>26</th>
<th>21</th>
<th>16</th>
<th>11</th>
<th>6</th>
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<tr>
<td>16</td>
<td>13</td>
<td>12</td>
<td>11</td>
<td>10</td>
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Pre-op | 1 day | 1 week | 2 weeks | 3 weeks | 3 months | 6 months

- OD
- OS
Hyphema

IOP Spikes

Ocular Hypotony

- Is AC formed? – If so just monitor
- Choroidal detachment 2nd to choroidal effusion
- Typically monitored unless visually threatening or “leaking” choroidals
- Resolution as IOP increases
- r/o RD
Establish New Baselines

PAS to Stents

Not common

YAG laser considered to open stent

In Conclusion...