Case-Matched Results of Trabectome Ab Interno Trabeculectomy versus Ahmed Glaucoma Implant

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Background
- Intraocular Pressure (IOP) outcomes for ab interno trabeculectomy with the Trabectome (T), a minimally invasive glaucoma surgery, have had relatively similar IOP results to trabeculectomy.[I,II]
- T rarely causes serious complications and has about 10 times less non-serious complications compared to trabeculectomy or aqueous shunts and serious complications occur in <1%.[II]
- Because of the above, we are now using T also in moderate to very advanced glaucoma for initial surgeries.
- No manuscript has yet compared IOP outcomes of T to Ahmed Glaucoma Implant (AGI).

Methods

<table>
<thead>
<tr>
<th># Days Post-Op</th>
<th>T, n</th>
<th>T Delta IOP (mmHg)</th>
<th>AGI, n</th>
<th>AGI Delta IOP (mmHg)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>32</td>
<td>10.7±8.1</td>
<td>33</td>
<td>11.4±10.1</td>
<td>p&gt;0.05</td>
</tr>
<tr>
<td>180</td>
<td>24</td>
<td>9.3±7.4</td>
<td>19</td>
<td>11.2±8.6</td>
<td>p&gt;0.05</td>
</tr>
<tr>
<td>270</td>
<td>10</td>
<td>8.8±0.0</td>
<td>7</td>
<td>14.6±11.7</td>
<td>p&gt;0.05</td>
</tr>
<tr>
<td>360</td>
<td>14</td>
<td>11.7±6.8</td>
<td>11</td>
<td>15.2±7.2</td>
<td>p&lt;0.01</td>
</tr>
</tbody>
</table>

Results
- Prior to matching, T had a preoperative IOP of 20.8±8.1 mmHg on 2.7±1.8 medications. After 1 year, the number of medications decreased to 1.9±1.7.
- Prior to matching, AGI had a preoperative IOP of 30.0±13.4 mmHg on 3.0±1.4 medications. After 1 year, the number of medications increased to 4.2±1.6.
- After matching, there was no significant difference in IOP between AIT and AGI at 1 week, 1 month, 3 months and 6 months (all p>0.05).
- At 1 year, matched T (n=14) had a baseline IOP of 28.1±9.2 mmHg that decreased to 11.7±6.8 mmHg (57% decrease, p<0.01).
- In T, transient cystoid macular edema (CME) occurred in 0.8% and 16% required further surgery. In AGI, there were choroidal effusions in 7% and 41% required further surgery.

Discussion
- T and AGI had similar IOPs for the first 6 months.
- At 12 months, the IOP was 4.7 mmHg lower with AGI than with T, p<0.01 but with twice as many medications.
- This further IOP decrease with AGI had a reintervention rate that was 5.9 times more frequent.
- In contrast to AGI, patients who underwent T had no serious complications.
- T offered a safer alternative to a mean final IOP of 16.4±6.2 mmHg, 42% lower than baseline.

Conclusions
- After 12 months, AGI had a lower average IOP. AGI required more secondary interventions.
- Results of this study will allow informed design of RCTs or larger studies that can also match for medication strategies and justify crossover in case of failure.

Disclosures
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References
[I]: [II]: [III]