Anterior Chamber Angle Measurements After Multiple Anti-VEGF Intravitreal Injections in Age-Related Macular Degeneration

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Anti-VEGF Therapies in AMD
IOP Elevation

**HIGH-MOLECULAR-WEIGHT AGGREGATES IN REPACKAGED BEVACIZUMAB**
Kahook, Malik Y MD; Liu, Lu MS; Ruzycki, Philip BS; Mandava, Naresh MD; Carpenter, John F PhD; Pettrash, J Mark PhD; Ammar, David A PhD

**Intravitreal Anti-VEGF Injections Reduce Aqueous Outflow Facility in Patients With Neovascular Age-Related Macular Degeneration**

**VEGF as a Paracrine Regulator of Conventional Outflow Facility**
Anterior Segment OCT

https://business-lounge.heidelbergeengineering.com/
Study Design

• Single center, case control design
  • Recruited from Washington University in St. Louis Eye Clinic

• Inclusion criteria
  • Diagnosis of macular degeneration
  • Any three classes of anti-VEGF

• Exclusion criteria
  • Diseases that would preclude measurement of IOP, pre-existing glaucoma or use of IOP-lowering eye drops, use of topically or intravitreally corticosteroids, history of intraocular surgery other than cataract extraction
  • Asian ethnicity
Methods

• Complete ophthalmic examination

• Imaging with Spectralis Anterior Segment Optical Coherence Tomography (AS-OCT)

• Nasal and temporal anterior chamber angles measured using Spectralis software

• Binary logistic regression model
  • Forced entry of number of injections
  • Automated forward selection by likelihood ratio of: age, sex, dilation status, maximum IOP, initial IOP, and phakic status
## Results

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<tbody>
<tr>
<td><strong>Age, mean (SD)</strong></td>
<td>57.82 (7.79)</td>
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<tr>
<td><strong>Number of injections, mean (SD)</strong></td>
<td>9.25 (11.76)</td>
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<tr>
<td><strong>Number of injections, median (range)</strong></td>
<td>4 (0 – 43)</td>
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<tr>
<td><strong>Sex</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>20 (32.8%)</td>
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<tr>
<td>Female</td>
<td>41 (67.2%)</td>
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<td><strong>Phakic status</strong></td>
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<tr>
<td>Phakic</td>
<td>37 (60.7%)</td>
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<tr>
<td>Pseudophakic</td>
<td>24 (39.3%)</td>
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</tbody>
</table>
Results
Phakic Status

A

B

nasal angle (degrees)

p < 0.001

temporal angle (degrees)

p < 0.001
Conclusion

• No statistically significant correlation between number of intravitreal injections and anterior chamber angle

• Pseudophakia is associated with larger anterior chamber angles compared to phakia
  • In line with prior data reporting 6-12° enlargement
Thank You

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