To quantify ANK 6 months after surgery for RD

Prospective case series

To describe horizontal and vertical ANK occurring 6 months after surgery in patients with unilateral ERM.

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Retrospective case

Results of measurement, other visual symptoms, retinal imaging, intervention and outcomes.

Author, Publication

Year, Study Type and Purpose

Table A2. Summary of studies assessing retinally induced aniseikonia for patients with various retinal disorders, showing patient demographics, magnitude of aniseikonia (positive aniseikonia values indicate macroopia and negative values indicate micropia) and method of measurement, other visual symptoms, retinal imaging, intervention and outcomes.

<table>
<thead>
<tr>
<th>Retinal disorder</th>
<th>Demographics</th>
<th>Aniseikonia method and findings</th>
<th>Other visual findings and/or symptoms reported</th>
<th>Retinal Imaging Findings (OCT)</th>
<th>Intervention</th>
<th>Outcome</th>
<th>Key points and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERM (flu)</td>
<td>n = 42 mean age 63.5 ± 9.8 yrs 20M, 24F FU S &amp; B</td>
<td>NAT: 40% (12/30)</td>
<td>BCVA: logMAR 0.35 ± 0.20 (20/43)</td>
<td>Preoperative ANK was significantly correlated with postoperative INL thickness.</td>
<td>Surgical</td>
<td>ERM: logMAR 0.17 ± 0.20 (20/30)</td>
<td>Most patients with ERM had ANK. ANK was not reduced 6 months after surgery. Preoperative INL thickness was a good indicator of the severity of ANK and can be used to predict its magnitude in patients that have undergone ERM surgery.</td>
</tr>
<tr>
<td>ERM (flu)</td>
<td>n = 106 mean age 56 ± 10.9 yrs 68M, 38F FU S &amp; B</td>
<td>NAT: 45% (42/93)</td>
<td>BCVA: logMAR 0.51 ± 0.76 (20/685)</td>
<td>Approximately 1/3 of eyes had microopia and macropsia affecting the retina.</td>
<td>Surgical</td>
<td>ERM: logMAR 0.04 ± 0.18 (20/22)</td>
<td>Nearly half of patients with successful RD surgery had clinically significant ANK at 6 months follow-up. The amount and type of ANK was associated with best corrected visual acuity and the area of RD. Microopia was mainly observed in patients with macula-off RD and macropsia mainly observed in patients with macula-on RD.</td>
</tr>
<tr>
<td>ERM (flu)</td>
<td>n = 50 mean age 36 ± 6.7 yrs 15M, 15F FU S &amp; B</td>
<td>NAT: 16 (60%)</td>
<td>BCVA: logMAR 0.24 ± 0.19 (20/30)</td>
<td>Positive correlation between ANK and difference in central retinal thickness between the operated and unoperated eyes at 3, 6, and 12 mos post-operatively.</td>
<td>Surgical</td>
<td>ERM: logMAR 0.04 ± 0.18 (20/22)</td>
<td>Ankylosing retinal RD for RD is likely related to the preoperative macular status. Patients with macula-off RD had a higher incidence of ANK postoperatively than patients with macula-on RD (88.2% vs. 23.1%).</td>
</tr>
<tr>
<td>ERM (flu)</td>
<td>n = 98 mean age 60 ± 12.9 yrs 15M, 15F FU S &amp; B</td>
<td>NAT: 38% (37/98)</td>
<td>BCVA: logMAR 0.17 ± 0.05 (20/30)</td>
<td>More severe retinal INL thickness correlated with an increased severity of vertical ANK but not with horizontal ANK.</td>
<td>Surgical</td>
<td>ERM: logMAR 0.04 ± 0.04 (20/20)</td>
<td>Most patients with ERM had ANK. INL thickness change may be one of the important etiologies of aniseikonia occurring with ERM. Measurement of ANK in ERM patients should be done on initial examination.</td>
</tr>
<tr>
<td>ERM (flu)</td>
<td>n = 46 mean age 64 ± 8.6 yrs, 16M, 29F FU S &amp; B</td>
<td>NAT: 37/46 (80%)</td>
<td>BCVA: logMAR 0.17 ± 0.05 (20/30)</td>
<td>Central retinal thickness, retinal thickness, GCL + IPL thickness, INL thickness, ONL + OPL thickness, 6 mos and 12 mos after surgery were significantly smaller than at baseline.</td>
<td>Surgical</td>
<td>ERM: logMAR 0.04 ± 0.04 (20/20)</td>
<td>Ankylosing retinal RD for RD is likely related to the preoperative macular status. Patients with macula-off RD had a higher incidence of ANK postoperatively than patients with macula-on RD (88.2% vs. 23.1%).</td>
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earlier.

undergone successful ERM surgery 3 months

disorders.

patients undergoing vitrectomy for various retinal findings in age

Idiopathic MH and to undergoing vitrectomy for idiopathic unilateral ERM following early surgery.

Rutstein

NAT = aniseikonia (ANK = baseline, ANK<sub>baseline</sub> = 3 mos, ANK<sub>6 mos</sub> = 6 mos, ANK<sub>12 mos</sub> = 12 mos), V ANK = vertical aniseikonia, H ANK = horizontal aniseikonia, H = horizontal, V = vertical, BCVA = best corrected visual acuity in affected eye (BCVA<sub>baseline</sub>, BCVA<sub>6 mos</sub>, BCVA<sub>12 mos</sub>, 6 months), NAT = New Aniseikonia Test, AI = Aniseikonia Inspector, OCT = optical coherence tomography, FU = follow up, NR = not reported, ERM = epiretinal membrane, RD = retinal detachment, M-on RD = macula on retinal detachment, M-off RD = macula off retinal detachment, MH = macular hole, ME = macular edema, CME = cystoid macular edema, BRVO - CME = cystoid macular edema with branch venous occlusion, CRVO-CME = cystoid macular edema with central venous occlusion, DME = diabetic macular edema, IMT = idiopathic macular telangiectasia, ARM/D = age related macular degeneration, INL = inner nuclear layer, ONL = outer nuclear layer, ELM = external limiting membrane, IS/OS line = photoreceptor inner and outer segment junction, GCL = ganglion cell layer, OPL = outer plexiform layer.

ANK <i>unt</i> ANK<sub>baseline</sub> = 3 mos, ANK<sub>6 mos</sub> = 6 mos, ANK<sub>12 mos</sub> = 12 mos)

To compare best corrected visual acuity, metamorphopsia, and ANK in patients with unilateral, idiopathic ERM.

To compare best corrected visual acuity, metamorphopsia, and ANK in patients with unilateral, idiopathic ERM.

To compare the severity of ANK in patients undergoing vitrectomy for idiopathic MH and to examine any relationship between aniseikonia and foveal microstructure.

Two Prospective case series

To evaluate ANK and other visual functions in patients with unilateral, idiopathic ERM.

To compare the severity of ANK in patients undergoing vitrectomy for various retinal disorders.

To quantify and compare the severity of ANK in patients undergoing vitrectomy for idiopathic MH and to examine any relationship between aniseikonia and foveal microstructure.

To quantify the severity of ANK in patients undergoing vitrectomy for idiopathic MH and to examine any relationship between aniseikonia and foveal microstructure.

To quantitate the severity of ANK type 1.

To compare ANK in patients with idiopathic MH type 1. Compare findings in age-matched controls, and determine the effect of intraretinal bevazzumab on these visual functions.

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