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| Table 5. Numeric Summary of Forest Plots | | | | | | | | |
| Outcome | Number of Eyes (Studies) | Relative Effect: WMD/RR [95% CI] | P Value | Heterogeneity | | μ F/U Length (Range) | SB (μ ± σ *or* Event Rate) | PPV (μ ± σ *or* Event Rate) |
| I2 | P Value |
| A. Efficacy Analysis of All Available Data | | | | | | | | |
| Final BCVA [1] | 3204 (7) | -0.11 [-0.29, 0.07] | 0.23 | 96% | < 0.00001 | 7.29 (3 − 12) | 0.28 ± 0.44 LogMAR | 0.52 ± 0.58 LogMAR |
| Primary Reattachment Rate [2] | 6738 (15) | 0.99 [0.94, 1.04] | 0.74 | 76% | < 0.00001 | 5.93 (3 − 12) | 87.42% | 87.47% |
| Final Reattachment Rate [2] | 3962 (13) | 1.03 [1.00, 1.06] | 0.04 | 70% | < 0.0001 | 6.15 (3 − 12) | 97.40% | 93.86% |
| Macular Hole [3] | 307 (3) | 1.80 [0.29, 11.22] | 0.53 | 0% | = 0.99 | 6.67 (6 − 8) | 1.58% | 0.00% |
| ERM/Macular Pucker [3] | 2521 (8) | 0.75 [0.38, 1.46] | 0.4 | 73% | = 0.001 | 7.00 (3 − 12) | 5.82% | 8.96% |
| Macular Edema [3] | 1206 (7) | 0.69 [0.47, 1.00] | 0.05 | 9% | = 0.36 | 6.21 (1.5 − 12) | 11.97% | 19.23% |
| Elevated IOP/Ocular Hypertension [3] | 2295 (6) | 0.88 [0.37, 2.13] | 0.78 | 85% | < 0.0001 | 6.00 (3 − 12) | 13.93% | 23.59% |
| Residual SRF [3] | 186 (2) | 6.53 [0.83, 51.66] | 0.08 | 0% | = 0.80 | 3.00 (3 − 3) | 6.80% | 0.00% |
| PVR Development or Progession [3] | 313 (5) | 1.52 [0.79, 2.93] | 0.21 | 1% | = 0.40 | 4.60 (3 − 8) | 14.74% | 8.94% |
| Cataract Development or Progression [3] | 1583 (6) | 0.34 [0.12, 0.96] | 0.04 | 97% | < 0.00001 | 5.50 (3 − 12) | 16.05% | 48.58% |
| Diplopia, Strabismus, and/or Other EOM Dysfunction [3] | 517 (2) | 0.78 [0.05, 12.64] | 0.86 | 44% | = 0.18 | 4.50 (3 − 6) | 1.00% | 1.26% |
| B. Efficacy Analysis of Eyes in Studies Published In/After 2010 | | | | | | | | |
| Final BCVA [1] | 2424 (6) | -0.16 [-0.28, -0.04] | 0.009 | 88% | < 0.00001 | 7.50 (3 − 12) | 0.29 ± 0.46 LogMAR | 0.52 ± 0.58 LogMAR |
| Primary Reattachment Rate [2] | 6495 (12) | 1.01 [0.96, 1.07] | 0.67 | 78% | < 0.00001 | 6.27 (3 − 12) | 87.78% | 87.38% |
| Final Reattachment Rate [2] | 3062 (9) | 1.02 [1.01, 1.03] | 0.003 | 7% | = 0.38 | 6.33 (3 − 12) | 98.00% | 95.01% |
| Macular Hole [3] | 250 (2) | 1.96 [0.21, 18.40] | 0.56 | 0% | = 1.00 | 6.00 (6 − 6) | 1.32% | 0.00% |
| ERM/Macular Pucker [3] | 2278 (5) | 0.78 [0.31, 1.97] | 0.6 | 84% | = 0.0002 | 8.40 (6 − 12) | 5.13% | 8.47% |
| Macular Edema [3] | 1020 (5) | 0.60 [0.45, 0.79] | 0.0003 | 0% | = 0.65 | 7.50 (1.5 − 12) | 12.93% | 22.25% |
| Elevated IOP/Ocular Hypertension [3] | 2245 (5) | 1.01 [0.35, 2.93] | 0.98 | 89% | < 0.00001 | 6.60 (3 − 12) | 13.92% | 23.40% |
| PVR Development or Progession [3] | 70 (2) | 0.70 [0.23, 2.10] | 0.53 | 0% | = 0.55 | 4.50 (3 − 6) | 12.24% | 19.05% |
| Cataract Development or Progression [3] | 1574 (5) | 0.36 [0.12, 1.07] | 0.07 | 98% | < 0.00001 | 6.00 (3 − 12) | 16.14% | 48.57% |
| Diplopia, Strabismus, and/or Other EOM Dysfunction [3] | 517 (2) | 0.78 [0.05, 12.64] | 0.86 | 44% | = 0.18 | 4.50 (3 − 6) | 1.00% | 1.26% |
| C. Efficacy Analysis of Eyes Without Significant PVR (i.e., Exclusion of Eyes with PVR ≥ C) | | | | | | | | |
| Final BCVA [1] | 2026 (4) | -0.03 [-0.23, 0.17] | 0.79 | 96% | < 0.00001 | 6.75 (3 − 12) | 0.43 ± 0.47 LogMAR | 0.53 ± 0.58 LogMAR |
| Primary Reattachment Rate [2] | 2870 (6) | 0.97 [0.92, 1.02] | 0.27 | 67% | = 0.01 | 5.50 (3 − 12) | 87.38% | 90.19% |
| Final Reattachment Rate [2] | 2182 (5) | 1.02 [1.01, 1.04] | 0.003 | 0% | = 0.57 | 6.00 (3 − 12) | 96.09% | 94.69% |
| ERM/Macular Pucker [3] | 2373 (5) | 0.77 [0.33, 1.79] | 0.54 | 85% | = 0.0002 | 7.80 (3 − 12) | 5.53% | 8.79% |
| Macular Edema [3] | 1115 (5) | 0.75 [0.44, 1.29] | 0.3 | 34% | = 0.21 | 6.90 (1.5 − 12) | 12.32% | 20.16% |
| Elevated IOP/Ocular Hypertension [3] | 1115 (5) | 0.75 [0.44, 1.29] | 0.3 | 34% | = 0.21 | 6.90 (1.5 − 12) | 12.32% | 20.16% |
| Residual SRF [3] | 2175 (3) | 1.11 [0.29, 4.19] | 0.88 | 93% | < 0.00001 | 8.00 (6 − 12) | 14.07% | 23.49% |
| Cataract Development or Progression [3] | 1555 (4) | 0.36 [0.12, 1.07] | 0.07 | 98% | < 0.00001 | 6.75 (3 − 12) | 16.46% | 48.64% |
| D. Efficacy Analysis of Eyes With Phakic Lens Status | | | | | | | | |
| Final BCVA [1] | 558 (2) | 0.06 [-0.36, 0.48] | 0.77 | 97% | < 0.00001 | 4.50 (3 − 6) | 0.38 ± 0.33 LogMAR | 0.33 ± 0.45 LogMAR |
| Primary Reattachment Rate [2] | 2308 (5) | 1.07 [0.96, 1.18] | 0.21 | 81% | = 0.0003 | 4.20 (3 − 6) | 90.76% | 88.18% |
| Final Reattachment Rate [2] | 1537 (4) | 1.03 [1.01, 1.05] | 0.002 | 0% | = 0.89 | 3.75 (3 − 6) | 98.58% | 96.11% |
| E. Efficacy Analysis of Eyes With Pseudophakic Lens Status | | | | | | | | |
| Final BCVA [1] | 130 (2) | 0.11 [-0.06, 0.29] | 0.21 | 64% | = 0.09 | 9.00 (6 − 12) | 0.69 ± 0.28 LogMAR | 0.58 ± 0.30 LogMAR |
| Primary Reattachment Rate [2] | 556 (5) | 1.01 [0.86, 1.20] | 0.87 | 69% | = 0.01 | 5.80 (3 − 8) | 83.71% | 82.53% |
| Final Reattachment Rate [2] | 527 (5) | 1.00 [0.96, 1.03] | 0.83 | 0% | = 0.79 | 7.00 (3 − 12) | 94.90% | 94.12% |
| F. Efficacy Analysis of Eyes With Macula On Detatchment Status | | | | | | | | |
| Primary Reattachment Rate [2] | 797 (4) | 1.14 [0.89, 1.46] | 0.32 | 74% | = 0.009 | 3.75 (3 − 6) | 92.65% | 83.33% |
| Final Reattachment Rate [2] | 294 (3) | 1.02 [0.99, 1.05] | 0.31 | 0% | = 0.79 | 3.00 (3 − 3) | 99.29% | 97.39% |
| G. Efficacy Analysis of Eyes With Macula Off Detatchment Status | | | | | | | | |
| Primary Reattachment Rate [2] | 756 (4) | 1.06 [0.89, 1.26] | 0.54 | 89% | < 0.00001 | 3.75 (3 − 6) | 88.98% | 85.07% |
| Final Reattachment Rate [2] | 262 (2) | 1.04 [1.00, 1.09] | 0.04 | 0% | = 0.92 | 3.00 (3 − 3) | 100.00% | 94.90% |
| 95% CI = 95% confidence interval; μ = mean; σ = standard deviation; BCVA = corrected distance visual acuity; EOM = extraocular muscle; ERM = epiretinal membrane; F/U = follow-up; IOP = intraocular pressure; LogMAR = logarithm of the minimal angle of resolution; PPV = pars plana vitrectomy; PVR = proliferative vitreoretinopathy; RR = risk ratio; SB = scleral buckling; SB+PPV = scleral buckling in combination with pars plana vitrectomy; SRF = subretinal fluid; WMD = weighted mean difference | | | | | | | | |
| [1] Using SB as the comparator group, a WMD < 0 LogMAR indicates a better final BCVA in SB eyes while a WMD > 0 LogMAR indicates a worse final BCVA in SB eyes. [2] Using SB as the comparator group, a RR < 1 indicates a lower reattachment rate in SB eyes while a RR > 1 indicates a higher reattachment rate in SB eyes. [3] Using SB as the comparator group, a RR < 1 indicates a lower incidence of the adverse event in SB eyes while a RR > 1 indicates a higher incidence of the adverse event in SB eyes. | | | | | | | | |