|  |  |  |  |
| --- | --- | --- | --- |
|  | **Object** | **W** | **p value** |
| 1 | Age | 0.954 | 0.001 |
| 2 | Preoperative BCVA (logMAR) | 0.93 | 0.001 |
| 3 | Postoperative BCVA (logMAR) | 0.79 | 0.001 |
| 4 | ERM Detection (weeks) | 0.961 | 0.319 |
| 5 | BCVA after ERM surgery (logMAR) | 0.951 | 0.211 |
| 6 | CSFT (microns) | 0.888 | 0.001 |
| 7 | Follow-up period (months) | 0.959 | 0.001 |
| The variables that do not follow a normal distribution are in bold writing. (p < 0.05)  W (Shapiro-Wilk normality test); BCVA: Best Corrected Visual Acuity; CSFT: Central Subfoveal Thickness | | | |

**Table S1**: Shapiro-Wilk normality tests results in the Buckled group.

**Table S2**. Descriptive statistics for the numeric variables in the Buckle group

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Object** | **Mean** | **Min** | **Max** | **Standard Deviation** | **Length of Sample (n=125)** |
| 1 | Age (years) | 44.34 | 18 | 76 | 15.94 | 125 |
| 2 | Preoperative macula-off (weeks) | 3.6 | 1 | 12 | 2.47 | 125 |
| 3 | Preoperative BCVA (logMAR) | 1.03 | 0.48 | 1.6 | 0.28 | 125 |
| 4 | Postoperative BCVA (logMAR) | 0.4 | 0.1 | 1.3 | 0.33 | 125 |
| 5 | ERM detection (weeks) | 11.93 | 5 | 22 | 4.59 | 125 |
| 6 | BCVA after ERM surgery(logMAR) | 0.43 | 0.18 | 0.7 | 0.14 | 125 |
| 7 | CSFT (microns) | 243.57 | 32 | 402 | 41.95 | 125 |
| 8 | Follow-up period (months) | 26.11 | 2 | 73 | 13.42 | 125 |
| Non-parametric Mann-Whitney U-test. min: minimum; max: maximum; BCVA: Best Corrected Visual Acuity;  ERM: Epiretinal Membrane; CSFT: Central Subfoveal Thickness | | | | | | |

**Table S3**. Summarized statistics for the categorical variables in the Buckle group

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Value** | **n** | **Freq** |
| **Sex** | Female | 75 | 0.6 |
|  | Male | 50 | 0.4 |
| Eye | Left | 59 | 0.472 |
|  | Right | 66 | 0.528 |
| Preop Lens Status | Phakic | 98 | 0.784 |
|  | Pseudophakic | 27 | 0.216 |
| Preop BCVA | 20/100 | 26 | 0.208 |
|  | 20/160 | 14 | 0.112 |
|  | 20/200 | 35 | 0.28 |
|  | 20/300 | 12 | 0.096 |
|  | 20/400 | 21 | 0.168 |
|  | 20/60 | 1 | 0.008 |
|  | 20/70 | 3 | 0.024 |
|  | 20/80 | 2 | 0.016 |
|  | 20/800 | 11 | 0.088 |
| Postop BCVA | 20/100 | 11 | 0.088 |
|  | 20/120 | 1 | 0.008 |
|  | 20/160 | 1 | 0.008 |
|  | 20/200 | 4 | 0.032 |
|  | 20/25 | 16 | 0.128 |
|  | 20/30 | 35 | 0.28 |
|  | 20/300 | 3 | 0.024 |
|  | 20/40 | 31 | 0.248 |
|  | 20/400 | 6 | 0.048 |
|  | 20/50 | 4 | 0.032 |
|  | 20/60 | 8 | 0.064 |
|  | 20/70 | 1 | 0.008 |
|  | 20/80 | 4 | 0.032 |
| Redetachment | No | 114 | 0.912 |
|  | Yes | 11 | 0.088 |
| Additional Surgery |  | 114 | 0.912 |
|  | Buckle Revision | 4 | 0.032 |
|  | Phako-Vitrectomy | 3 | 0.024 |
|  | Phako-Vitrectomy-Erm Peeling | 1 | 0.008 |
|  | Vitrectomy | 2 | 0.016 |
|  | Vitrectomy-Erm Peeling | 1 | 0.008 |
| Postop ERM proliferations | No | 96 | 0.768 |
|  | Yes | 29 | 0.232 |
| ERM Surgery | No | 98 | 0.784 |
|  | Yes | 27 | 0.216 |
| BCVA after ERM surgery |  | 97 | 0.776 |
|  | 20/100 | 2 | 0.016 |
|  | 20/30 | 2 | 0.016 |
|  | 20/40 | 7 | 0.056 |
|  | 20/50 | 6 | 0.048 |
|  | 20/60 | 4 | 0.032 |
|  | 20/70 | 4 | 0.032 |
|  | 20/80 | 3 | 0.024 |
| Retinal perforation | No | 118 | 0.944 |
|  | Yes | 7 | 0.056 |
| Submacular blood | No | 120 | 0.96 |
|  | Yes | 5 | 0.04 |
| Through and through scleral drainage complication phenomenon | No | 117 | 0.936 |
|  | Yes | 8 | 0.064 |
| Retinal entrapment | No | 122 | 0.976 |
|  | Yes | 3 | 0.024 |
| Foveal contour OCT alterations | Normal | 14 | 0.112 |
|  | Abnormal | 19 | 0.152 |
|  | Normal | 92 | 0.736 |
| Ellipsoid band OCT alterations |  | 14 | 0.112 |
|  | Disrupted | 25 | 0.2 |
|  | Normal | 86 | 0.688 |
| DONFL OCT defects |  | 14 | 0.112 |
|  | Not Present | 80 | 0.64 |
|  | Present | 31 | 0.248 |
| ELM line OCT alterations |  | 15 | 0.12 |
|  | Abnormal | 24 | 0.192 |
|  | Normal | 86 | 0.688 |
| mfERG registration |  | 26 | 0.208 |
|  | Abnormal | 54 | 0.432 |
|  | Normal | 45 | 0.36 |
| Microperimetry results |  | 18 | 0.144 |
|  | Abnormal | 51 | 0.408 |
|  | Normal | 56 | 0.448 |
| Fisher’s exact test. freq: frequency; preop: preoperative: postop: postoperative: BCVA: Best Corrected Visual Acuity; CSFT: Central Subfoveal Thickness; ERM: Epiretinal Membrane; DONFL: Diffuse Optic Nerve Fiber Layer; ELM: External Limiting Membrane: mfERG: Multifocal Electroretinography | | | |

**Table S4**. Correlations among the numeric variables in the Buckle group (sample size N=125 eyes)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Age | Preoperative macula-off (weeks) | Preoperative BCVA (logMAR) | Postoperative BCVA (logMAR) | ERM Detection (weeks) | BCVA After ERM Surgery (logMAR) | Follow-up Period (months) |
| Age | 1 (p=NA) |  |  |  |  |  |  |
| Preoperative macula-off (weeks) | 0.12 (p=0.17) | 1 (p=NA) |  |  |  |  |  |
| Preoperative BCVA (logMAR) | 0.01 (p=0.88) | 0.04 (p=0.63) | 1 (p=NA) |  |  |  |  |
| Postoperative BCVA (logMAR) | -0.06 (p=0.48) | -0.02 (p=0.78) | 0.02 (p=0.85) | 1 (p=NA) |  |  |  |
| ERM detection (weeks) | -0.27 (p=0.15) | -0.19 (p=0.31) | -0.19 (p=0.31) | 0.06 (p=0.74) | 1 (p=NA) |  |  |
| BCVA after ERM surgery (logMAR) | 0.05 (p=0.79) | -0.21 (p=0.28) | 0.26 (p=0.17) | 0.57 (p=0.00) | 0.04 (p=0.82) | 1 (p=NA) |  |
| CSFT (microns) | 0.01 (p=0.9) | 0.01 (p=0.93) | 0.09 (p=0.37) | 0.13 (p=0.17) | 0.04 (p=0.85) | -0.06 (p=0.78) |  |
| Follow-up period (months) | -0.17 (p=0.06) | -0.17 (p=0.06) | 0.03 (p=0.71) | -0.2 (p=0.03) | 0.08 (p=0.68) | -0.05 (p=0.79) | 1 (p=NA) |
| Spearman’s rank correlation coefficient test. The significant correlations are in bold text. BCVA: Best Corrected Visual Acuity;  ERM: Epiretinal Membrane; CSFT: Central Subfoveal Thickness; NA: Not Applicable | | | | | | | |

**Table S5**. Mann-Whitney U tests results A) Preop BCVA, B) Postop BCVA C) BCVA after ERM surgery in the Buckle group (N=125 eyes)

|  |  |  |
| --- | --- | --- |
| **A. preoperative BCVA (logMAR) Mann-Whitney U tests results** |  |  |
| **Object** | **U** | **p value** |
| Age | 7875 | 0.001 |
| Preoperative macula-off (weeks) | 7140 | 0.001 |
| Postoperative BCVA (logMAR) | 201.5 | 0.001 |
| ERM detection (weeks) | 465 | 0.001 |
| BCVA after ERM surgery (logMAR) | 0 | 0.001 |
| CSFT (microns) | 6105 | 0.001 |
| Follow-up period (months) | 7875 | 0.001 |
| **B. postoperative BCVA (logMAR) Mann-Whitney U tests results** |  |  |
| **Object** | **U** | **p value** |
| Age | 7875 | 0.001 |
| Preoperative macula-off (weeks) | 7866 | 0.001 |
| Preoperative BCVA (logMAR) | 7301.5 | 0.001 |
| ERM detection (weeks) | 465 | 0.001 |
| BCVA after ERM surgery (logMAR) | 0 | 0.001 |
| CSFT (microns) | 6105 | 0.001 |
| Follow-up period (months) | 7875 | 0.001 |
| **C. BCVA after ERM surgery (logMAR) Mann–Whitney U tests results** |  |  |
| **Object** | **U** | **p value** |
| Age | 406 | 0.001 |
| Preoperative macula-off (weeks) | 406 | 0.001 |
| Preoperative BCVA (logMAR) | 378 | 0.001 |
| Postoperative BCVA (logMAR) | 406 | 0.001 |
| ERM detection (weeks) | 406 | 0.001 |
| CSFT (microns) | 406 | 0.001 |
| Follow-up period (months) | 406 | 0.001 |
| Mann-Whitney U tests. The statistically significant variables (p<0.05) are in bold text. U test  BCVA: best corrected visual acuity; ERM: epiretinal membrane; CSFT: central subfoveal thickness | | |

**Table S6A**: Kruskal-Wallis test results of the preoperative best-corrected visual acuity (BCVA) with the categorical variables.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Object** | **Kruskal-Wallis x2** | **df** | **p value** | **Number of eyes** | **No of NAs** |
| 1 | Male | 3.12 | 1 | 0.077 | 125 | 0 |
| 2 | Eye | 2.13 | 1 | 0.144 | 125 | 0 |
| 3 | Preoperative Lens Status | 0.13 | 1 | 0.718 | 125 | 0 |
| 4 | Preoperative BCVA | 124 | 8 | 0 | 125 | 0 |
| 5 | Postoperative BCVA | 5.34 | 12 | 0.946 | 125 | 0 |
| 6 | Re-Detachment | 1.02 | 1 | 0.313 | 125 | 0 |
| 7 | Additional surgery | 1.24 | 4 | 0.872 | 125 | 114 |
| 8 | Postoperative ERM proliferations | 0.04 | 1 | 0.851 | 125 | 0 |
| 9 | ERM surgery | 0.09 | 1 | 0.764 | 125 | 0 |
| 10 | BCVA after ERM surgery | 4.76 | 6 | 0.575 | 125 | 97 |
| 11 | Retinal perforation | 0.22 | 1 | 0.638 | 125 | 0 |
| 12 | Submacular blood | 1.06 | 1 | 0.304 | 125 | 0 |
| 13 | Through and through | 2.83 | 1 | 0.093 | 125 | 0 |
| 14 | Retinal entrapment | 0 | 1 | 0.98 | 125 | 0 |
| 15 | Foveal contour | 0.01 | 1 | 0.936 | 125 | 14 |
| 16 | Ellipsoid | 0.24 | 1 | 0.627 | 125 | 14 |
| 17 | DONFL | 1.58 | 1 | 0.209 | 125 | 14 |
| 18 | ELM | 0.38 | 1 | 0.535 | 125 | 15 |
| 19 | mfERG | 0.24 | 1 | 0.623 | 125 | 26 |
| 20 | Microperimetry | 0.65 | 1 | 0.419 | 125 | 18 |

**Table S6B**. Kruskal-Wallis results of the postoperative BCVA with the categorical variables.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Object** | **Kruskal-Wallis x2** | **df** | **p value** | **Number of eyes** | **No of NAs** |
| 1 | Male | 0.026 | 1 | 0.871 | 125 | 0 |
| 2 | Eye | 0.047 | 1 | 0.828 | 125 | 0 |
| 3 | Preoperative Lens Status | 0.234 | 1 | 0.629 | 125 | 0 |
| 4 | Preoperative BCVA | 3.95 | 8 | 0.862 | 125 | 0 |
| 5 | Postoperative BCVA | 124 | 12 | 0 | 125 | 0 |
| 6 | Re-Detachment | 7.484 | 1 | 0.006 | 125 | 0 |
| 7 | Additional surgery | 5.331 | 4 | 0.255 | 125 | 114 |
| 8 | Postoperative ERM proliferations | 68.187 | 1 | 0 | 125 | 0 |
| 9 | ERM surgery | 63.098 | 1 | 0 | 125 | 0 |
| 10 | BCVA after ERM surgery | 13.048 | 6 | 0.042 | 125 | 97 |
| 11 | Retinal perforation | 1.214 | 1 | 0.271 | 125 | 0 |
| 12 | Submacular blood | 9.449 | 1 | 0.002 | 125 | 0 |
| 13 | Through and Through | 0.357 | 1 | 0.55 | 125 | 0 |
| 14 | Retinal Entrapment | 0.612 | 1 | 0.434 | 125 | 0 |
| 15 | Foveal contour | 15.821 | 1 | 0 | 125 | 14 |
| 16 | Ellipsoid | 3.479 | 1 | 0.062 | 125 | 14 |
| 17 | DONFL | 18.677 | 1 | 0 | 125 | 14 |
| 18 | ELM | 0.303 | 1 | 0.582 | 125 | 15 |
| 19 | mfERG | 20.558 | 1 | 0 | 125 | 26 |
| 20 | Microperimetry | 11.826 | 1 | 0.001 | 125 | 18 |

**Table S6C**. Kruskal-Wallis results of the BCVA after ERM surgery with the categorical variables

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Object** | **Kruskal-Wallis x2** | **df** | **p value** | **Number of eyes** | **No of NAs** |
| 1 | Male | 0.499 | 1 | 0.48 | 125 | 0 |
| 2 | Eye | 0.967 | 1 | 0.325 | 125 | 0 |
| 3 | Preoperative Lens Status | 1.07 | 1 | 0.301 | 125 | 0 |
| 4 | Preoperative BCVA | 6.587 | 7 | 0.473 | 125 | 0 |
| 5 | Postoperative BCVA | 11.572 | 6 | 0.072 | 125 | 0 |
| 6 | Re-Detachment | 0.428 | 1 | 0.513 | 125 | 0 |
| 7 | Additional surgery | 1.716 | 3 | 0.633 | 125 | 114 |
| 8 | Postoperative ERM proliferations | 0.063 | 1 | 0.801 | 125 | 0 |
| 9 | ERM surgery | 0.063 | 1 | 0.801 | 125 | 0 |
| 10 | BCVA after ERM surgery | 27 | 6 | 0 | 125 | 97 |
| 11 | Retinal perforation | 1.847 | 1 | 0.174 | 125 | 0 |
| 12 | Submacular blood | 2.783 | 1 | 0.095 | 125 | 0 |
| 13 | Through and Through | 1.144 | 1 | 0.285 | 125 | 0 |
| 14 | Retinal entrapment | 0.776 | 1 | 0.378 | 125 | 0 |
| 15 | Foveal contour | 0.178 | 1 | 0.673 | 125 | 14 |
| 16 | Ellipsoid | 1.235 | 1 | 0.266 | 125 | 14 |
| 17 | DONFL | 1.23 | 1 | 0.267 | 125 | 14 |
| 18 | ELM | 0.138 | 1 | 0.71 | 125 | 15 |
| 19 | mfERG | 0.115 | 1 | 0.734 | 125 | 26 |
| 20 | Microperimetry | 1.033 | 1 | 0.31 | 125 | 18 |
| The statistically significant variables (p<0.05) are in bold text. df: Difference no: number; NA: not applicable; BCVA: Best Corrected Visual Acuity; ERM: Epiretinal Membrane; DONFL: Diffuse Optic Nerve Fiber Layer;  ELM: External Limiting Membrane; mfERG: Multifocal Electroretinography | | | | | | |

**Table S7.** Generalized Linear Model results of the preoperative best-corrected visual acuity (BCVA), postoperative (BCVA), and BCVA after ERM surgery in the Buckle group (n=125 eyes)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Preoperative BVCA** | **Estimate** | **Std. Error** | **t value** | **Pr(>|t|)** |  |
| (Intercept) | 0.972 | 0.033 | 29.046 | <2e-16 | \*\*\* |
| Sex Male | 0.106 | 0.051 | 2.07 | 0.04 | \* |
| Through and Through scleral drainage complication phenomenon | 0.164 | 0.102 | 1.605 | 0.111 |  |
| Generalized |  |  |  |  |  |
| **Postoperative BCVA** | **Estimate** | **Std. Error** | **t value** | **Pr(>|t|)** |  |
| (Intercept) | 0.218 | 0.056 | 3.854 | 0.001 | \*\*\* |
| Postop ERM proliferations | 0.676 | 0.035 | 19.055 | < 2e-16 | \*\*\* |
| Retinal entrapment | -0.206 | 0.097 | -2.112 | 0.036 | \* |
| Preop BCVA logMAR | 0.029 | 0.052 | 0.567 | 0.572 |  |
| **BCVA after ERM surgery** | **Estimate** | **Std. Error** | **t value** | **Pr(>|t|)** |  |
| (Intercept) | -0.17 | 0.13 | -1.303 | 0.206 |  |
| Post BCVA logMAR | 0.323 | 0.08 | 4.003 | 0.001 | \*\*\* |
| Preop BCVA logMAR | 0.194 | 0.072 | 2.694 | 0.013 | \* |
| Retinal perforation | 0.151 | 0.067 | 2.251 | 0.034 | \* |
| Age | 0.002 | 0.001 | 1.712 | 0.1 |  |
| Sex Male | -0.021 | 0.043 | -0.498 | 0.623 |  |
| The statistically significant variables (p<0.05) are in bold text and marked with \*. Pr: Probabilities using the t distribution, gives the p-value for that t-test; BCVA: Best Corrected Visual Acuity;  Postop: Postoperative; Preop: Preoperative: ERM: Epiretinal Membrane | | | | | |

**Table S8** Shapiro-Wilk normality tests results in the Vitrectomy group (n=105 eyes).

|  |  |  |
| --- | --- | --- |
| **Object** | **W** | **P value** |
| Age (years) | 0.974 | 0.039 |
| Macula-off (weeks) | 0.924 | 0.001 |
| Preoperative BCVA (logMAR) | 0.923 | 0.001 |
| Follow-up period (days) | 0.971 | 0.023 |
| BCVA before ERM-ILM removal (logMAR) | 0.888 | 0.001 |
| Final postoperative BCVA (logMAR) | 0.924 | 0.001 |
| CSFT (microns) | 0.939 | 0.008 |
| Follow-up period (months) | 0.97 | 0.023 |
| The variables that do not follow a normal distribution are in bold text (p<0.05). BCVA: Best Corrected Visual Acuity; ERM: Epiretinal Membrane; ILM: Internal Limiting Membrane; CSFT: Central Subfoveal Thickness | | |

**Table S9**. Descriptive statistics for the numeric variables in the Vitrectomy group

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Object** | **Mean** | **Min** | **Max** | **Standard Deviation** |
| Age (years) | 47.92 | 18 | 76 | 14.6 |
| Macula-off (weeks) | 4.42 | 1 | 12 | 2.56 |
| Preoperative BCVA (logMAR) | 1.06 | 0.54 | 1.6 | 0.27 |
| Follow-up period (months) | 24.2 | 1 | 58.66 | 13.02 |
| BCVA before ERM-ILM removal (logMAR) | 0.52 | 0.1 | 1.3 | 0.36 |
| ERM detection (weeks) | 13.75 | 5 | 30 | 5.33 |
| Final postoperative BCVA (logMAR) | 0.37 | 0.1 | 1 | 0.2 |
| CSFT (microns) | 256.55 | 198 | 320 | 35.16 |
| Follow-up period (months) | 23.42 | 1 | 57 | 12.98 |
| Wilcoxon rank sum test. Min: Minimum; Max: Maximum; BCVA: Best Corrected Visual Acuity;  ERM: Epiretinal Membrane; ILM: Internal Limiting Membrane; CSFT: Central Subfoveal Thickness | | | | |

**Table S10.** Summarized statistics for the categorical variables in the vitrectomy group (peeling and nonpeeling groups)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable** | **Group** | **n** | **freq** | **%freq** |
| **Additional Surgery** | Buckle revision | 3 | 0.03 | 2.90% |
|  | No | 92 | 0.88 | 87.60% |
|  | Phako vitrectomy erm peeling | 1 | 0.01 | 1.00% |
|  | Vitrectomy | 2 | 0.02 | 1.90% |
|  | Vitrectomy revision | 7 | 0.07 | 6.70% |
| **DONFL** | Absent | 34 | 0.32 | 32.40% |
|  | Present | 60 | 0.57 | 57.10% |
|  | NA | 11 | 0.1 | 10.50% |
| **Ellipsoid** | Disrupted | 29 | 0.28 | 27.60% |
|  | Normal | 76 | 0.72 | 72.40% |
| **ELM** | Disrupted | 27 | 0.26 | 25.70% |
|  | Normal | 74 | 0.7 | 70.50% |
|  | NA | 4 | 0.04 | 3.80% |
| **ERM 2nd Surgery** | VIT and Macula revision | 1 | 0.01 | 1.00% |
|  | Vit revision erm-ilm removal | 45 | 0.43 | 42.90% |
|  | Vit revision erm-ilm removal | 5 | 0.05 | 4.80% |
|  | Vit revision erm-ilm removal | 1 | 0.01 | 1.00% |
|  | NA | 53 | 0.5 | 50.50% |
| **Eye** | Left | 50 | 0.48 | 47.60% |
|  | Right | 55 | 0.52 | 52.40% |
| **First Surgery** | Buckle | 27 | 0.26 | 25.70% |
|  | Only vitrectomy | 68 | 0.65 | 64.80% |
|  | Vit erm-ilm removal | 10 | 0.1 | 9.50% |
| **Foveal contour** | Abnormal | 24 | 0.23 | 22.90% |
|  | Normal | 77 | 0.73 | 73.30% |
|  | NA | 4 | 0.04 | 3.80% |
| **Sex** | Female | 37 | 0.35 | 35.20% |
|  | Male | 68 | 0.65 | 64.80% |
| **mfERG** | Abnormal | 43 | 0.41 | 41.00% |
|  | Normal | 30 | 0.29 | 28.60% |
|  | NA | 32 | 0.3 | 30.50% |
| **Microperimetry** | Abnormal | 35 | 0.33 | 33.30% |
|  | Normal | 42 | 0.4 | 40.00% |
|  | NA | 28 | 0.27 | 26.70% |
| **Postoperative ERM proliferations** | No | 54 | 0.51 | 51.40% |
|  | Yes | 51 | 0.49 | 48.60% |
| **Preoperative ERM proliferations** | No | 55 | 0.52 | 52.40% |
|  | Yes | 50 | 0.48 | 47.60% |
| **Preop Lens Status** | Phakic | 68 | 0.65 | 64.80% |
|  | Pseudophakic | 37 | 0.35 | 35.20% |
| **Recurrent RRD** | No | 92 | 0.88 | 87.60% |
|  | Yes | 13 | 0.12 | 12.40% |
| Fisher’s exact test. freq: frequency; ERM: Epiretinal Membrane; DONFL: Diffuse Optic Nerve Fiber Layer;  ELM: External Limiting Membrane; VIT: Vitrectomy; ILM: Internal Limiting Membrane;  mfERG: Multifocal Electroretinography; RRD: Rhegmatogenous Retinal Detachment | | | | |

**Table S11.** Descriptive statistics with respect to the Vitrectomy (preoperative ERM proliferations) group (non-peeling and peeling)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Vitrectomy groups** | **Non-peeling** | **Peeling** | **p** |  |
|  | (N=55) | (N=50) |  |  |
| Age | 50.455 ± 13.52 | 45.140 ±15.36 | 0.054 |  |
| Sex |  |  | 1 |  |
| - Female | 19 (34.545%) | 18 (36.0%) |  |  |
| - Male | 36 (65.455%) | 32 (64.0%) |  |  |
| Eye |  |  | 0.698 |  |
| - Left | 25 (45.455%) | 25 (50.0%) |  |  |
| - Right | 30 (54.545%) | 25 (50.0%) |  |  |
| Preoperative Lens Status |  |  | 0.068 |  |
| - Phakic | 31 (56.364%) | 37 (74.0%) |  |  |
| - Pseudophakic | 24 (43.636%) | 13 (26.0%) |  |  |
| Macula-off (weeks) | 4.527 ±2.403 | 4.300 ±2.750 | 0.425 |  |
| Preoperative BCVA (logMAR) | 1.036 ±0.258 | 1.077 ±0.277 | 0.386 |  |
| Follow-up period (days) | 768.6 ±373.01 | 679.90 ±407.98 | 0.131 |  |
| First Surgery |  |  | 0 | \*\*\* |
| - Buckle | 0 (0.0%) | 27 (54.0%) |  |  |
| - Only vitrectomy | 55 (100.000%) | 13 (26.0%) |  |  |
| - VIT ERM and ILM removal | 0 (0.0%) | 10 (20.0%) |  |  |
| BCVA Before ERM-ILM removal (logMAR) | 0.297 ±0.23 | 0.756 ±0.319 | 0.001 | \*\*\* |
| Recurrent RRD |  |  | 0.001 | \*\*\* |
| - No | 54 (98.182%) | 38 (76.0%) |  |  |
| - Yes | 1 (1.818%) | 12 (24.0%) |  |  |
| Additional Surgery |  |  | 0.004 | \*\*\* |
| - Buckle revision | 0 (0.0%) | 3 (6.0%) |  |  |
| - No | 54 (98.182%) | 38 (76.0%) |  |  |
| - Phako vitrectomy erm peeling | 0 (0.0%) | 1 (2.0%) |  |  |
| - Vitrectomy | 0 (0.0%) | 2 (4.0%) |  |  |
| - Vitrectomy revision | 1 (1.818%) | 6 (12.0%) |  |  |
| ERM Detection (weeks) | 18.00 ±6.45 | 12.575 ±4.385 | 0.009 | \*\*\* |
| ERM 2nd Surgery |  |  | 0 | \*\*\* |
| - VIT and macula revision | 0 (0.0%) | 1 (2.439%) |  |  |
| - VIT revision ERM and ILM | 5 (45.455%) | 40 (97.561%) |  |  |
| - VIT revision ERM and ILM removal | 5 (45.455%) | 0 (0.0%) |  |  |
| - Vit revision erm.ilm removal | 1 (9.091%) | 0 (0.0%) |  |  |
| Final Postoperative BCVA (logMAR) | 0.280 ±0.192 | 0.477 ±0.161 | 0.001 | \*\*\* |
| CSFT (microns) | 266.71 ±32.75 | 253.073 ±35.66 | 0.173 |  |
| Foveal Contour |  |  | 0.002 | \*\*\* |
| - Abnormal | 6 (11.321%) | 18 (37.5%) |  |  |
| - Normal | 47 (88.679%) | 30 (62.5%) |  |  |
| Ellipsoid integrity |  |  | 0.828 |  |
| - Disrupted | 16 (29.091%) | 13 (26.0%) |  |  |
| - Normal | 39 (70.909%) | 37 (74.0%) |  |  |
| DONFL defects |  |  | 0 | \*\*\* |
| - Absent | 39 (88.63%) | 21 (42.0%) |  |  |
| - Present | 5 (11.36%) | 29 (58.0%) |  |  |
| ELM line appearance |  |  | 0.654 |  |
| - Disrupted | 16 (29.091%) | 11 (23.913%) |  |  |
| - Normal | 39 (70.909%) | 35 (76.087%) |  |  |
| mfERG result |  |  | 0 | \*\*\* |
| - Abnormal | 13 (33.333%) | 30 (88.235%) |  |  |
| - Normal | 26 (66.667%) | 4 (11.765%) |  |  |
| Microperimetry evaluation |  |  | 0 | \*\*\* |
| - Abnormal | 11 (25.581%) | 24 (70.588%) |  |  |
| - Normal | 32 (74.419%) | 10 (29.412%) |  |  |
| Follow-up period (months) | 24.80 ±12.34 | 21.880 ±13.324 | 0.133 |  |
| The p-values (p) are the results from the Wilcoxon rank sum test for the numerical variables and Fisher's Exact test for the categorical variables. The variables that showed a statistically significant difference (p<0.05) among the groups of the peeling (preoperative ERM proliferation) are in bold text and marked with \*. sig: significance ;  BCVA: best corrected visual acuity; VIT: Vitrectomy; ERM: Epiretinal Membrane; ILM: Internal Limiting Membrane; RRD: Rhegmatogenous Retinal Detachment; CSFT: Central Subfoveal Thickness; DONFL: Diffuse Optic Nerve Fiber Layer; ELM: External Limiting Membrane; mfERG: Multifocal Electroretinography. | | | | |

**Table S12**. Correlations among the numeric variables in the Vitrectomy group (peeling and non-peeling groups)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Age** | **Preoperative Macula-Off (weeks)** | **Preoperative BCVA (logMAR)** | **BCVA Before ERM and ILM removal (logMAR)** | **ERM Detection (Weeks)** | **Final Postoperative BCVA (logMAR)** | **CSFT (microns)** | **Follow-up period (months)** |
| Age | 1 |  |  |  |  |  |  |  |
| Preoperative Macula-off (weeks) | 0.03 (p=0.78) | 1 |  |  |  |  |  |  |
| Preoperative BCVA (logMAR) | -0.07 (p=0.47) | 0.04 (p=0.68) | 1 |  |  |  |  |  |
| BCVA Before ERM and ILM removal (logMAR) | -0.18 (p=0.07) | -0.16 (p=0.1) | -0.10 (p=0.33) | 1 |  |  |  |  |
| ERM Detection (weeks) | -0.18 (p=0.21) | 0.03 (p=0.83) | -0.29 (p=0.04) | -0.16 (p=0.26) | 1 |  |  |  |
| Final Postoperative BCVA (logMAR) | -0.04 (p=0.72) | -0.05 (p=0.62) | 0.10 (p=0.3) | 0.78  (p=0) | 0.04 (p=0.76) | 1 |  |  |
| CSFT (microns) | 0.15 (p=0.28) | 0.32 (p=0.02) | 0.02 (p=0.89) | -0.14 (p=0.32) | 0.02 (p=0.89) | 0.02 (p=0.88) | 1 |  |
| Follow-up period (months) | -0.14 (p=0.18) | -0.08 (p=0.42) | 0.09 (p=0.36) | -0.2 (p=0.05) | 0.12 (p=0.42) | -0.05 (p=0.61) | -0.08 (p=0.6) | 1 |
| Wilcoxon rank sum test. The p-values in parenthesis (p); significant correlations (p<0.05) are in bold text. BCVA: Best Corrected Visual Acuity; ERM: Epiretinal Membrane; ILM: Internal Limiting Membrane; CSFT: Central Subfoveal Thickness.  Spearman Rank Test nonpeeling sample=55 eyes. Peeling sample=50 eyes. | | | | | | | | |

**Table S13**. Mann-Whitney U tests results A) Preoperative, B) postoperative, and C) final BCVA in the Vitrectomy group (peeling and nonpeeling groups)

|  |  |  |
| --- | --- | --- |
| **A. preoperative BCVA (logMAR) Mann-Whitney U tests results** |  |  |
| **Object** | **U** | **p-value** |
| Age | 5565 | 0.001 |
| Macula-off (weeks) | 5341 | 0.001 |
| Follow-up period (days) | 5565 | 0.001 |
| BCVA before ERM-ILM removal (logMAR) | 238 | 0.001 |
| ERM detection (weeks) | 1326 | 0.001 |
| Final postoperative BCVA (logMAR) | 0 | 0.001 |
| CSFT (microns) | 1540 | 0.001 |
| Follow-up period (months) | 4950 | 0.001 |
| **B. postoperative BCVA (logMAR) Mann-Whitney U tests results** |  |  |
| **Object** | **U** | **p-value** |
| Age | 5565 | 0.001 |
| Macula-off (weeks) | 5556 | 0.001 |
| Preoperative BCVA (logMAR) | 4712 | 0.001 |
| Follow-up period (days) | 5565 | 0.001 |
| ERM detection (weeks) | 1326 | 0.001 |
| Final postoperative BCVA (logMAR) | 101.5 | 0.001 |
| CSFT (microns) | 1540 | 0.001 |
| Follow-up period (months) | 5049 | 0.001 |
| **C. final BCVA after ERM proliferation removal (logMAR)** |  |  |
| **Object** | **U** | **p-value** |
| Age | 5565 | 0.001 |
| Macula-off (weeks) | 5565 | 0.001 |
| Preoperative BCVA (logMAR) | 5460 | 0.001 |
| Follow-up period (days) | 5565 | 0.001 |
| BCVA before ERM-ILM removal (logMAR) | 1074.5 | 0.001 |
| ERM detection (weeks) | 1326 | 0.001 |
| CSFT (microns) | 1540 | 0.001 |
| Follow-up period (months) | 5050 | 0.001 |
| The statistically significant variables (p<0.05) are in bold text. BCVA: Best Corrected Visual Acuity;  ERM: Epiretinal Membrane; ILM: Internal Limiting Membrane; CSFT: Central Subfoveal Thickness | | |

**Table S14**. Kruskal-Wallis test results A) preoperative, B) postoperative, and C) final BCVA in the Vitrectomy group (peeling and non-peeling groups)

|  |  |  |  |
| --- | --- | --- | --- |
| **A. preoperative BCVA (logMAR) Kruskal-Wallis tests results** |  |  |  |
| **Object** | **Kruskal-Wallis x2** | **df** | **p-value** |
| Male | 0.458 | 1 | 0.499 |
| Eye | 1.878 | 1 | 0.171 |
| Preoperative Lens Status | 1.64 | 1 | 0.2 |
| Preoperative ERM proliferations | 0.76 | 1 | 0.383 |
| First Surgery | 1.055 | 2 | 0.59 |
| BCVA Before ERM-ILM removal | 9.412 | 12 | 0.667 |
| Recurrent RRD | 0.208 | 1 | 0.649 |
| Additional surgery | 1.36 | 4 | 0.851 |
| Postoperative ERMs | 0.038 | 1 | 0.846 |
| ERM 2nd surgery | 3.135 | 3 | 0.371 |
| Final Postoperative BCVA | 11.718 | 10 | 0.304 |
| Foveal contour abnormalities | 0.385 | 1 | 0.535 |
| Ellipsoid disruption | 4.175 | 1 | 0.041 |
| DONFL defects | 1.402 | 1 | 0.236 |
| ELM line alterations | 0.144 | 1 | 0.704 |
| mfERG alterations | 0.109 | 1 | 0.741 |
| Microperimetry alterations | 1.623 | 1 | 0.203 |
| **B. postoperative BCVA (logMAR) Kruskal-Wallis tests results** |  |  |  |
| **Object** | **Kruskal-Wallis x2** | **df** | **p-value** |
| Male | 0.355 | 1 | 0.552 |
| Eye | 0.001 | 1 | 0.979 |
| Preoperative Lens Status | 6.083 | 1 | 0.014 |
| Preoperative BCVA | 12.845 | 8 | 0.117 |
| Preoperative ERM proliferations | 50.177 | 1 | 0.001 |
| First surgery | 47.013 | 2 | 0 |
| Recurrent RRD | 11.364 | 1 | 0.001 |
| Additional surgery | 12.324 | 4 | 0.015 |
| Postoperative ERM proliferations | 68.366 | 1 | 0.001 |
| ERM 2nd surgery | 5.469 | 3 | 0.141 |
| Foveal Contour abnormalities | 10.021 | 1 | 0.002 |
| Ellipsoid disruption | 1.091 | 1 | 0.296 |
| DONFL defect | 19.206 | 1 | 0.001 |
| ELM line alterations | 0.746 | 1 | 0.388 |
| mfERG alterations | 31.253 | 1 | 0.001 |
| Microperimetry alterations | 19.749 | 1 | 0.001 |
| **C. final BCVA after ERM proliferation removal (logMAR)** |  |  |  |
| **Object** | **Kruskal-Wallis x2** | **df** | **p-value** |
| Male | 1.561 | 1 | 0.211 |
| Eye | 0.121 | 1 | 0.728 |
| Preoperative Lens Status | 1.855 | 1 | 0.173 |
| Preoperative ERM proliferations | 33.337 | 1 | 0.001 |
| First surgery | 13.877 | 2 | 0.001 |
| Recurrent RRD | 9.223 | 1 | 0.002 |
| Additional surgery | 10.697 | 4 | 0.03 |
| Postoperative ERM proliferations | 38.068 | 1 | 0.001 |
| ERM 2nd surgery | 1.113 | 3 | 0.774 |
| Foveal contour abnormalities | 6.168 | 1 | 0.013 |
| Ellipsoid disruption | 0.894 | 1 | 0.344 |
| DONFL defect | 16.777 | 1 | 0.001 |
| ELM line alterations | 0.375 | 1 | 0.54 |
| mfERG alterations | 16.522 | 1 | 0.001 |
| Microperimetry alterations | 13.15 | 1 | 0.001 |
| The statistically significant variables (p<0.05) are in bold text. df: degrees of freedom: BCVA: Best Corrected Visual Acuity; ERM: Epiretinal Membrane; ILM: Internal Limiting Membrane; RRD: Rhegmatogenous Retinal Detachment;  DONFL: Diffuse Optic Nerve Fiber Layer; ELM: External Limiting Membrane: mfERG: Multifocal Electroretinography | | | |

**Table S15**. Generalized Linear Model results A) Preoperative, B) Postoperative, and C) final BCVA in the Vitrectomy group (peeling and non-peeling groups)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **A. preoperative BCVA (logMAR) GLM results** |  |  |  |  |
|  | **Estimate** | **SE** | **t value** | **p** |
| (Intercept) | 1.055 | 0.026 | 41 | 0 |
| **B. postoperative BCVA (logMAR) GLM results** |  |  |  |  |
|  | **Estimate** | **SE** | **t value** | **p** |
| (Intercept) | 0.515 | 0.067 | 7.7 | 0 |
| Postoperative ERM proliferations | 0.448 | 0.05 | 9 | 0 |
| First surgery – Only Vitrectomy | -0.235 | 0.055 | -4 | 0 |
| First surgery - VIT ERM and ILM removal | 0.034 | 0.09 | 0.4 | 1 |
| Macula-off (weeks) | -0.019 | 0.008 | -3 | 0 |
| Recurrent RRD | 0.118 | 0.061 | 1.9 | 0 |
| **C. final BCVA after ERM proliferation removal (logMAR) GLM results** |  |  |  |  |
|  | **Estimate** | **SE** | **t value** | **p** |
| (Intercept) | -0.213 | 0.07 | -3 | 0 |
| BCVA Before ERM-ILM removal (logMAR) | 0.552 | 0.046 | 12 | 0 |
| First Surgery – Only Vitrectomy | 0.201 | 0.038 | 5.2 | 0 |
| First Surgery - VIT ERM and ILM removal | 0.275 | 0.051 | 5.4 | 0 |
| Preoperative BCVA (logMAR) | 0.106 | 0.046 | 2.3 | 0 |
| Gender - Male | 0.052 | 0.026 | 2 | 0 |
| The statistically significant variables (p<0.05) are in bold text. BCVA: Best Corrected Visual Acuity; GLM: Generalized Linear Models; SE: Standard Error; ERM: Epiretinal Membrane; VIT: Vitrectomy; ILM: Internal Limiting Membrane; mfERG: Multifocal Electroretinography; RRD: Rhegmatogenous Retinal Detachment | | | | |