Saßmannshausen et al.: "Longitudinal analysis of structural and functional changes in presence of reticular pseudodrusen associated with age-related macular degeneration"

**Supplemental Table 1**

| Retinal Layer | Region | Baseline Mean (in µm) | SD | 95% CI | | FU 1 Mean (in µm) | SD | 95% CI | | FU 2 Mean (in µm) | SD | 95% CI | | FU 3 Mean (in µm) | SD | 95% CI | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Retina | RPD | 302.97 | 17.31 | 296.51 | 309.44 | 302.03 | 18.02 | 293.59 | 310.46 | 296.01 | 23.23 | 281.25 | 310.77 | 301.60 | 19.83 | 288.27 | 314.92 |
| | New RPD | | | | | 298.37 | 20.29 | 281.41 | 315.34 | 295.34 | 19.97 | 278.64 | 312.03 | 292.07 | 20.18 | 276.56 | 307.58 |
| | Non RPD | 292.42 | 16.24 | 280.81 | 304.04 | 295.27 | 16.19 | 282.83 | 307.71 | 287.64 | 12.33 | 278.16 | 297.12 | 291.02 | 15.74 | 279.76 | 302.28 |
| Inner Retina | RPD | 165.88 | 15.21 | 160.20 | 171.56 | 163.65 | 13.15 | 157.50 | 169.80 | 161.60 | 18.52 | 149.84 | 173.37 | 169.08 | 17.97 | 157.00 | 181.15 |
| | New RPD | | | | | 160.06 | 15.69 | 146.95 | 173.18 | 159.24 | 15.28 | 146.47 | 172.02 | 155.83 | 13.92 | 145.13 | 166.53 |
| | Non RPD | 155.03 | 12.38 | 146.17 | 163.89 | 157.05 | 10.79 | 148.76 | 165.35 | 152.47 | 9.40 | 145.24 | 159.70 | 154.12 | 11.15 | 146.14 | 162.10 |
| RPED-Complex | RPD | 66.88 | 3.80 | 65.46 | 68.30 | 66.87 | 3.54 | 65.22 | 68.53 | 66.71 | 4.18 | 64.06 | 69.37 | 66.94 | 4.60 | 63.85 | 70.03 |
| | New RPD | | | | | 62.06 | 1.56 | 60.75 | 63.37 | 61.21 | 2.00 | 59.54 | 62.88 | 62.64 | 2.64 | 60.61 | 64.67 |
| | Non RPD | 59.92 | 2.90 | 57.85 | 61.99 | 60.28 | 1.98 | 58.76 | 61.81 | 60.10 | 2.84 | 57.92 | 62.29 | 60.87 | 3.74 | 58.19 | 63.54 |
| pORL | RPD | 70.21 | 7.09 | 67.56 | 72.86 | 71.50 | 7.92 | 67.80 | 75.21 | 67.69 | 7.87 | 62.69 | 72.69 | 65.58 | 9.80 | 59.00 | 72.17 |
| | New RPD | | | | | 76.25 | 9.99 | 67.90 | 84.61 | 74.88 | 8.36 | 67.89 | 81.87 | 73.60 | 10.39 | 65.61 | 81.58 |
| | Non RPD | 77.47 | 5.02 | 73.88 | 81.06 | 77.94 | 6.68 | 72.80 | 83.07 | 75.07 | 4.72 | 71.44 | 78.70 | 76.03 | 6.69 | 71.25 | 80.82 |

**Table S1** shows the absolute mean, the standard deviation (SD) and the 95% confidence interval (95% CI) of retinal layer thickness for each retinal layer at baseline (Baseline) and follow-up visits (FU 1, FU 2, FU 3) in the different retinal regions of reticular pseudodrusen (RPD), new arising areas of RPD (New RPD) and areas with unremarkable pathological alterations (Non RPD).

**Abbreviations:** Total Retina (full retinal thickness), Inner Retina (inner retinal thickness), RPED-Complex (Retinal-Pigment-Epithelium Drusen-Complex), pORL (partial outer retinal layer)
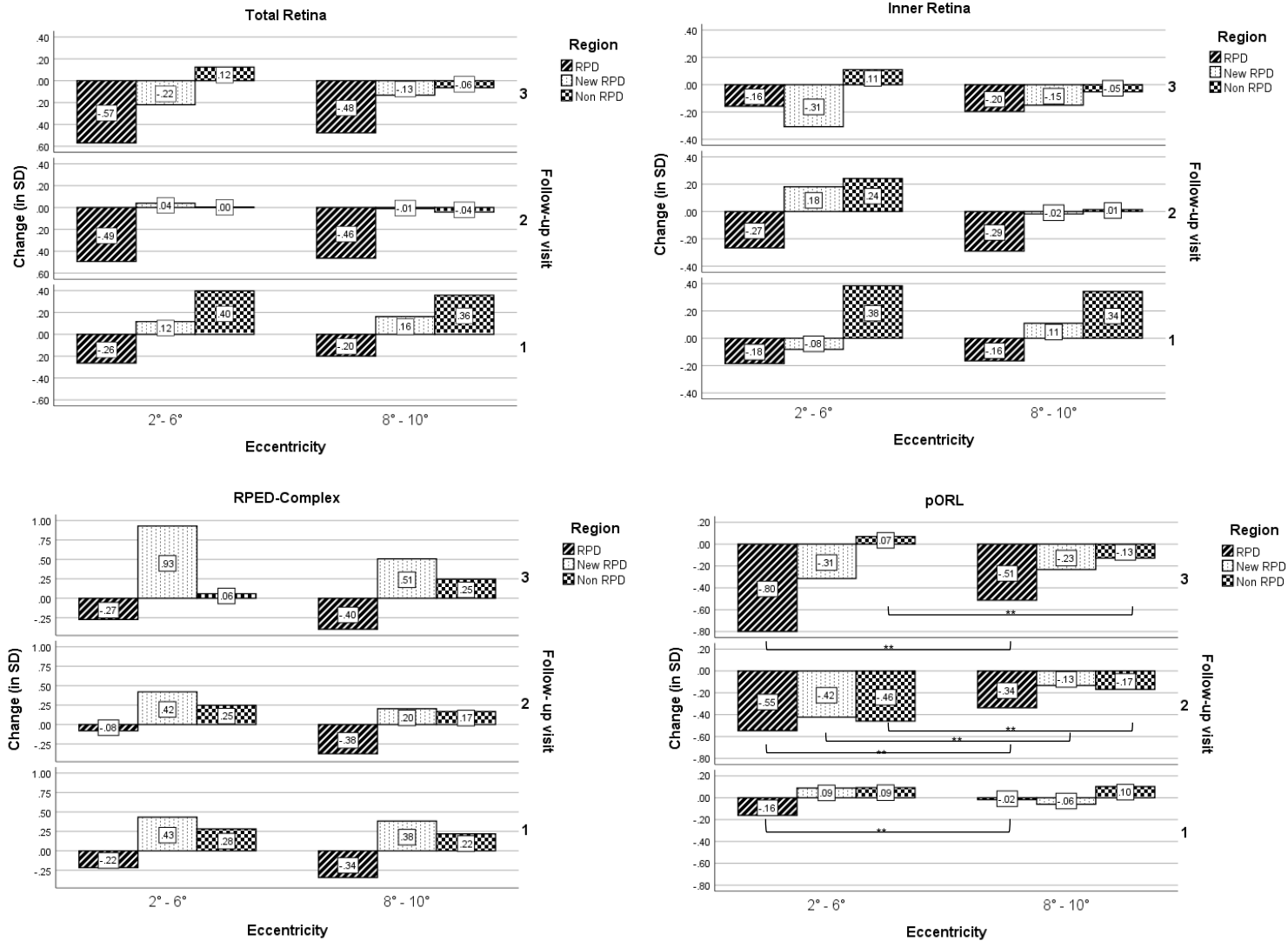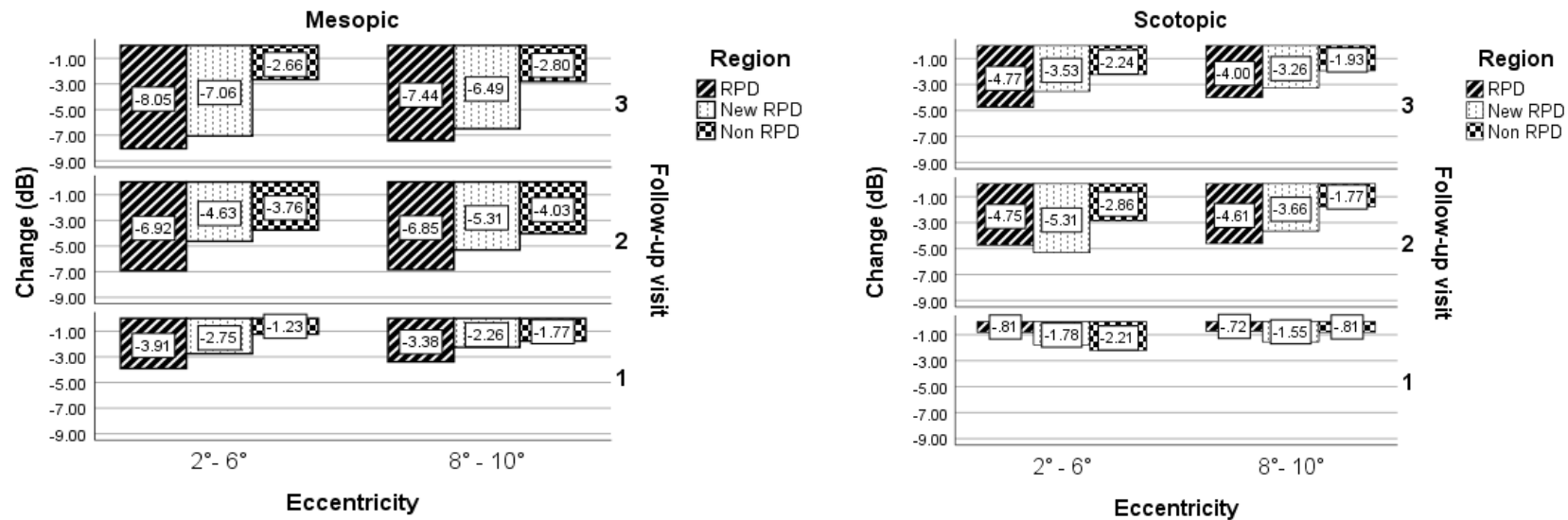
**Supplemental Table S2**

| FCP | Parameter | Baseline | | FU 1 | | FU2 | | FU3 | |
|---|---|---|---|---|---|---|---|---|---|
| | | Mean ± SD (in dB) | 95% CI | Mean ± SD (in dB) | 95% CI | Mean ± SD (in dB) | 95% CI | Mean ± SD (in dB) | 95% CI |
| Mesopic | RPD | 17.49 ± 2.34 | 16.61 - 18.36 | 14.54 ± 2.14 | 13.53 - 15.54 | 11.38 ± 2.13 | 10.02 - 12.73 | 10.36 ± 3.71 | 7.87 - 12.86 |
| | New RPD | | | 16.49 ± 1.53 | 15.20 - 17.77 | 13.67 ± 1.72 | 12.23 - 15.12 | 12.24 ± 3.24 | 9.75 - 14.74 |
| | Non RPD | 19.24 ± 1.29 | 18.31 - 20.16 | 17.98 ± 0.85 | 17.32 - 18.64 | 15.51 ± 2.07 | 13.91 - 17.11 | 14.96 ± 5.92 | 10.72 - 19.20 |
| Scotopic | RPD | 14.03 ± 2.97 | 12.92 - 15.14 | 13.54 ± 2.54 | 12.35 - 14.73 | 9.97 ± 2.89 | 8.12 - 11.81 | 9.70 ± 3.71 | 7.87 - 12.86 |
| | New RPD | | | 17.07 ± 2.11 | 15.30 - 18.83 | 14.69 ± 2.21 | 12.83 - 16.55 | 15.35 ± 2.15 | 13.69 - 17.01 |
| | Non-RPD | 18.35 ± 2.94 | 16.31 - 20.38 | 18.35 ± 1.29 | 16.31 - 20.38 | 17.32 ± 2.41 | 15.60 - 18.96 | 17.11 ± 3.34 | 14.72 - 19.50 |

**Table S2** shows the absolute mean, the standard deviation (SD) and the 95% confidence interval (95% CI) of mesopic and scotopic retinal sensitivity values of the overall study group at baseline (Baseline) and follow-up visits (FU 1, FU 2, FU 3) in the different retinal regions of reticular pseudodrusen (RPD), new arising areas of RPD (New RPD) and areas with unremarkable pathological alterations (Non-RPD).

# Supplemental Table S3 A/B

## A

**B**



**Table S3 A/B** demonstrate the longitudinal changes of the retinal layer thicknesses **(A)** and retinal sensitivities **(B)** within central (2° - 6°) and peripheral (8° - 10°) eccentricity of the retina for each region (RPD, New RPD and Non RPD) at each follow-up visit (FU 1, FU 2 and FU 3) compared to the baseline visit Significant retinal layer thickness changes (**) between the central and the peripheral retina were only shown for the partial outer retinal layer (pORL) in areas of RPD, New RPD and Non RPD. No significant sensitivity changes between the center and the periphery were shown for mesopic and scotopic sensitivity changes.

**Abbreviations:** Total Retina (full retinal thickness), Inner Retina (inner retinal thickness), RPED-Complex (Retinal-Pigment-Epithelium Drusen Complex), pORL (partial outer retinal layer), RPD (reticular pseudodrusen), Non RPD (no reticular pseudodrusen).

**Supplemental Table 4**

| Model | Fixed effects | Mesopic | | | Scotopic | | |
|---|---|---|---|---|---|---|---|
| | | Estimate | Standard Error | p-value | Estimate | Standard Error | p-value |
| Total Retina | Intercept [dB]<br>Layer thickness [dB/Z-score]<br>Non-RPD vs. RPD [dB] | 16.39<br>0.25<br>0.99 | 0.44<br>0.19<br>0.12 | <0.001<br>0.192<br><0.001 | 9.88<br>-0.134<br>3.90 | 0.50<br>0.32<br>0.20 | <0.001<br>0.670<br><0.001 |
| Inner Retina | Intercept [dB]<br>Layer thickness [dB/Z-score]<br>Non-RPD vs. RPD [dB] | 16.53<br>-0.09<br>0.93 | 0.44<br>0.15<br>0.12 | <0.001<br>0.547<br><0.001 | 9.98<br>-0.35<br>3.87 | 0.50<br>0.25<br>0.17 | <0.001<br>0.174<br><0.001 |
| RPEDC | Intercept [dB]<br>Layer thickness [dB/Z-score]<br>Non-RPD vs. RPD [dB] | 16.85<br>-0.34<br>0.79 | 0.45<br>0.11<br>0.13 | <0.001<br>0.002<br><0.001 | 11.43<br>-0.94<br>3.09 | 0.52<br>0.18<br>0.22 | <0.001<br><0.001<br><0.001 |
| pORL | Intercept [dB]<br>Layer thickness [dB/Z-score]<br>Non-RPD vs. RPD [dB] | 16.82<br>0.67<br>0.79 | 0.43<br>0.17<br>0.12 | <0.001<br><0.001<br><0.001 | 10.68<br>1.16<br>3.47 | 0.49<br>0.27<br>0.20 | <0.001<br><0.001<br><0.001 |

**Table S4**: Results of the mixed model analysis on structure-function correlation with mesopic or scotopic retinal sensitivity at baseline visit as dependent variable and the presence/absence as well as the respective layer thicknesses as independent variables.

Abbreviations: Total Retina (full retinal thickness), Inner Retina (inner retinal thickness), RPEDC (Retinal-Pigment-Epithelium Drusen Complex), pORL (partial outer retinal layer), RPD (reticular pseudodrusen), Non-RPD (no reticular pseudodrusen).