**Supplementary Material**

**Interplay between Macular Retinal Changes and White Matter Integrity in Early Alzheimer’s Disease**

**Supplementary Table 1.** Absolute mean retinal layer thickness (µm, mean ± SD) of all participants.

|  |  |  |  |
| --- | --- | --- | --- |
| **Retinal** | **HC** | **AD** | **p\*** |
| **Layer** | **(n=23)** | **(n=17)** |
| **RNFL** | 32.00 ± 3.01 | 30.85 ± 2.92 | 1.00 |
| **GCL** | 36.63 ± 4.00 | 36.36 ± 2.59 | 1.00 |
| **IPL** | 35.26 ± 3.24 | 35.02 ± 2.08 | 1.00 |
| **INL** | 33.92 ± 3.04 | 34.31 ± 1.70 | 0.156 |
| **OPL** | 27.60 ± 2.59 | 26.13 ± 1.54 | 0.084 |
| **ONL** | 80.49 ± 7.05 | 83.53 ± 7.17 | 1.00 |

HC, healthy controls; AD, patients with Alzheimer’s disease; SD, standard deviation;

RNFL, retinal nerve fiber layer; GCL, ganglion cell layer; IPL, inner plexiform layer; INL, inner nuclear layer; OPL, outer plexiform layer; ONL, outer nuclear layer.

\* p-values < 0.05 were considered statistically significant (corrected for age and multiple comparisons by using post-hoc Bonferroni correction for the number of layers considered).

**Supplementary Table 2 -** White matter tracts’ DA regional differences between groups, with the largest effects in terms of spatial extent.

|  |  |  |
| --- | --- | --- |
| WM tracts | p\* | Significant voxels (%)\*\* |
| Tapetum R | 0.026 | 88.89 |
| Tapetum L | 0.041 | 85.71 |
| Superior fronto-occipital fasciculus R | 0.036 | 66.67 |
| Superior corona radiata R | 0.027 | 58.23 |
| Posterior corona radiata R | 0.029 | 49.49 |
| Fornix (column and body of fornix) | 0.039 | 45.19 |
| Superior longitudinal fasciculus R | 0.030 | 42.13 |
| Sagittal stratum R | 0.035 | 37.05 |
| Retrolenticular part of internal capsule R | 0.028 | 34.10 |
| Sagittal stratum L | 0.035 | 32.46 |
| Posterior thalamic radiation (include optic radiation) L | 0.037 | 26.41 |
| Posterior corona radiata L | 0.041 | 23.48 |
| External capsule R | 0.032 | 23.09 |
| Posterior thalamic radiation (include optic radiation) R | 0.031 | 21.74 |
| External capsule L | 0.039 | 18.44 |
| Superior longitudinal fasciculus L | 0.039 | 17.04 |
| Anterior limb of internal capsule R | 0.036 | 15.26 |
| Retrolenticular part of internal capsule L | 0.042 | 13.99 |
| Anterior corona radiata R | 0.032 | 10.43 |

\* p-values < 0.05 were considered statistically significant.

\*\* percentage of statistically significant voxels within each labelled tract.