

1 Supplemental table

2 Table S1. Comparison of the pRNFL thickness, GC-IPL thickness, VD and PD in

3 NMO and POAG eyes compared with the healthy controls

OCTA Parameters		NMO	P Value*		POAG	P Value*	Healthy controls
pRNFL Thickness, μm							
Average	82.28 \pm 19.89	NMO-ON:96.68 \pm 14.33	0.061	74.54 \pm 16.58	G-E:89.73 \pm 6.59	<0.0001	100.80 \pm 7.61
		NMO+ON:68.99 \pm 14.27	<0.0001		G-A:62.40 \pm 11.23	<0.0001	
Superior	100.14 \pm 28.82	NMO-ON:118.28 \pm 21.57	0.017	93.41 \pm 28.88	G-E:117.35 \pm 12.08	0.001	126.04 \pm 14.63
		NMO+ON:83.40 \pm 24.21	<0.0001		G-A:74.26 \pm 23.60	<0.0001	
Temporal	60.64 \pm 20.26	NMO-ON:73.01 \pm 19.16	0.103	61.28 \pm 15.33	G-E:73 \pm 11.82	0.051	78.14 \pm 13.27
		NMO+ON:49.23 \pm 13.43	<0.0001		G-A:51.90 \pm 10.67	<0.0001	
Inferior	106.31 \pm 32.87	NMO-ON:128.41 \pm 23.90	0.691	78.71 \pm 22.11	G-E:97.82 \pm 16.73	<0.0001	127.26 \pm 16.77
		NMO+ON:85.93 \pm 26.20	<0.0001		G-A:63.42 \pm 11.33	<0.0001	
Nasal	62.28 \pm 11.90	NMO-ON:67.16 \pm 11.63	0.041	64.93 \pm 11.24	G-E:71.1 \pm 10.39	0.673	71.90 \pm 13.49
		NMO+ON:57.78 \pm 10.30	<0.0001		G-A:60.00 \pm 9.36	<0.0001	
Vertical C/D	0.4945 \pm 0.1781	NMO-ON:0.4352 \pm 0.1677	<0.0001	0.7562 \pm 0.1268	G-E:0.6835 \pm 0.1247	<0.0001	0.5457 \pm 0.1246
		NMO+ON:0.5492 \pm 0.1703	0.25		G-A:0.8144 \pm 0.0837	<0.0001	
GC-IPL Thickness, μm							
Average	70.26 \pm 14.07	NMO-ON:80.53 \pm 9.44	0.004	68.26 \pm 11.12	G-E:77.10 \pm 7.02	<0.0001	84.93 \pm 5.17
		NMO+ON:60.79 \pm 10.54	<0.0001		G-A:61.18 \pm 8.39	<0.0001	
Minimum	64.30 \pm 15.96	NMO-ON:76.18 \pm 10.84	<0.0001	59.13 \pm 11.84	G-E:68.85 \pm 9.41	<0.0001	82.67 \pm 4.80
		NMO+ON:53.35 \pm 11.435	<0.0001		G-A:51.36 \pm 6.73	<0.0001	
Superior	70.80 \pm 14.40	NMO-ON:80.89 \pm 9.73	0.001	71.52 \pm 13.20	G-E:80.90 \pm 8.61	0.004	85.66 \pm 5.63
		NMO+ON:61.49 \pm 11.43	<0.0001		G-A:64.02 \pm 11.33	<0.0001	
Temporal-superior	70.26 \pm 13.27	NMO-ON:79.11 \pm 8.77	0.006	68.34 \pm 13.06	G-E:78.43 \pm 8.05	0.001	83.30 \pm 4.98
		NMO+ON:62.11 \pm 11.37	<0.0001		G-A:60.28 \pm 10.44	<0.0001	
Temporal-inferior	71.35 \pm 13.26	NMO-ON:80.29 \pm 9.09	0.014	60.94 \pm 9.72	G-E:68.65 \pm 8.39	<0.0001	84.28 \pm 5.12
		NMO+ON:63.10 \pm 10.96	<0.0001		G-A:54.78 \pm 5.37	<0.0001	
Inferior	69.47 \pm 13.48	NMO-ON:79.04 \pm 9.56	0.009	63.82 \pm 9.87	G-E:71.30 \pm 7.70	<0.0001	83.03 \pm 5.61
		NMO+ON:60.64 \pm 10.13	<0.0001		G-A:57.84 \pm 6.89	<0.0001	
Nasal-inferior	69.41 \pm 16.05	NMO-ON:81.41 \pm 11.33	0.011	70.90 \pm 12.80	G-E:80.03 \pm 8.17	<0.0001	85.9 \pm 5.55
		NMO+ON:58.35 \pm 11.03	<0.0001		G-A:63.6 \pm 11.05	<0.0001	
Nasal-superior	70.92 \pm 16.21	NMO-ON:82.82 \pm 11.04	0.006	74.64 \pm 14.00	G-E:83.5 \pm 8.56	0.013	87.54 \pm 5.77
		NMO+ON:59.95 \pm 11.89	<0.0001		G-A:67.56 \pm 13.50	<0.0001	
VD, mm^{-1}							
Whole	14.47 \pm 3.45	NMO-ON:15.35 \pm 3.24	<0.0001	16.83 \pm 1.51	G-E:17.63 \pm 0.98	<0.0001	18.26 \pm 0.89

		NMO+ON:13.66±3.46	<0.0001		G-A:16.19±1.57	<0.0001	
Central	5.79±3.33	NMO-ON:6.56±3.66	<0.0001	8.48±2.91	G-E:8.43±2.68	0.112	8.98±2.60
		NMO+ON:5.08±2.84	<0.0001		G-A:8.51±3.10	0.231	
Superior- inner	14.51±4.21	NMO-ON:15.03±4.12	<0.0001	18.21±1.30	G-E:18.37±1.05	0.529	18.43±1.08
		NMO+ON:14.03±4.25	<0.0001		G-A:18.09±1.46	0.131	
Temporal- inner	14.16±4.34	NMO-ON:14.74±4.23	<0.0001	17.79±1.31	G-E:17.97±1.06	0.164	18.20±1.25
		NMO+ON:13.63±4.39	<0.0001		G-A:17.64±1.48	0.016	
Inferior- inner	14.20±4.09	NMO-ON:15.07±3.99	<0.0001	17.47±1.78	G-E:18.10±1.08	0.225	18.29±1.11
		NMO+ON:13.39±4.05	<0.0001		G-A:16.98±2.07	<0.0001	
Nasal- inner	14.96±4.00	NMO-ON:15.59±3.92	<0.0001	18.36±1.36	G-E:18.41±1.18	0.885	18.28±1.41
		NMO+ON:14.39±3.99	<0.0001		G-A:18.31±1.49	0.873	
Superior- outer	14.90±3.77	NMO-ON:15.88±3.30	<0.0001	17.15±2.02	G-E:18.36±1.21	0.159	18.64±0.89
		NMO+ON:14.01±3.98	<0.0001		G-A:16.18±2.03	<0.0001	
Temporal- outer	13.34±4.04	NMO-ON:13.82±3.87	<0.0001	16.10±1.85	G-E:16.69±1.58	0.001	17.47±1.50
		NMO+ON:12.90±4.16	<0.0001		G-A:15.62±1.92	<0.0001	
Inferior- outer	14.48±3.63	NMO-ON:15.76±3.27	<0.0001	15.15±2.54	G-E:16.51±1.86	<0.0001	18.39±1.14
		NMO+ON:13.30±3.56	<0.0001		G-A:14.07±2.48	<0.0001	
Nasal- outer	16.76±3.66	NMO-ON:18.18±2.79	<0.0001	18.77±1.72	G-E:19.64±1.20	0.17	19.87±0.86
		NMO+ON:15.45±3.89	<0.0001		G-A:18.08±1.76	<0.0001	
PD, mm⁻¹							
Whole	0.3504±0.0870	NMO-ON:0.3731±0.0796	<0.0001	0.4149±0.0384	G-E:0.4339±0.0267	0.003	0.4470±0.0230
		NMO+ON:0.3295±0.0887	<0.0001		G-A:0.3996±0.0397	<0.0001	
Central	0.1262±0.0768	NMO-ON:0.1444±0.0848	<0.0001	0.1885±0.0666	G-E:0.1875±0.0624	0.123	0.2003±0.0601
		NMO+ON:0.1094±0.0647	<0.0001		G-A:0.1893±0.0704	0.239	
Superior- inner	0.3436±0.1048	NMO-ON:0.3566±0.1020	<0.0001	0.4378±0.0486	G-E:0.4461±0.0270	0.64	0.4416±0.0281
		NMO+ON:0.3317±0.1063	<0.0001		G-A:0.4312±0.0601	0.217	
Temporal- inner	0.3302±0.1081	NMO-ON:0.3441±0.1053	<0.0001	0.4267±0.0323	G-E:0.4283±0.0254	0.499	0.4304±0.0316
		NMO+ON:0.3173±0.1095	<0.0001		G-A:0.4255±0.0371	0.047	
Inferior- inner	0.3343±0.1015	NMO-ON:0.3549±0.0984	<0.0001	0.4235±0.0480	G-E:0.4371±0.0278	0.91	0.4354±0.0294
		NMO+ON:0.3152±0.1010	<0.0001		G-A:0.4126±0.0574	0.005	
Nasal- inner	0.3490±0.0997	NMO-ON:0.3634±0.0969	<0.0001	0.4385±0.0340	G-E:0.4361±0.0323	0.52	0.4300±0.0358
		NMO+ON:0.3357±0.1009	<0.0001		G-A:0.4405±0.0356	0.23	
Superior- outer	0.3665±0.0970	NMO-ON:0.3894±0.0850	<0.0001	0.4287±0.0519	G-E:0.4588±0.0326	0.253	0.4652±0.0252
		NMO+ON:0.3454±0.1029	<0.0001		G-A:0.4046±0.0521	<0.0001	
Temporal- outer	0.3226±0.1029	NMO-ON:0.3343±0.0990	<0.0001	0.3959±0.0477	G-E:0.4105±0.0428	0.004	0.4293±0.0402
		NMO+ON:0.3118±0.1057	<0.0001		G-A:0.3842±0.0485	<0.0001	
Inferior- outer	0.3550±0.0929	NMO-ON:0.3864±0.0851	<0.0001	0.3830±0.0655	G-E:0.4156±0.0510	<0.0001	0.4597±0.0311
		NMO+ON:0.3260±0.0907	<0.0001		G-A:0.3569±0.0645	<0.0001	
Nasal-	0.4066±0.0947	NMO-ON:0.4404±0.0736	<0.0001	0.4632±0.0429	G-E:0.4826±0.0332	0.447	0.4858±0.0237

outer		NMO+ON:0.3755±0.1013	<0.0001		G-A:0.4476±0.0438	<0.0001	
FAZ area, mm²	0.2473±0.1210	NMO-ON:0.2448±0.1163	0.033	0.2956±0.1282	G-E:0.3252±0.1448	0.025	0.2858±0.1064
		NMO+ON:0.2496±0.1257	0.032		G-A:0.2718±0.1090	0.682	
Signal quality	8.76±1.33	NMO-ON: 9.42±0.67	0.762	9.36±0.58	G-E: 9.77±0.63	0.523	9.55±0.21
		NMO+ON: 8.47±1.58	0.028		G-A: 9.12±0.47	0.358	

4 Values are presented as mean ± SD.

5 *By generalized estimating equations (GEEs) models

6 **Table S2a. Diagnostic ability of optical coherence tomography angiography parameters**
 7 **to distinguish between groups**

Diagnostic parameters		Structural Indices (pRNFL + Vertical C/D + GC-IPL)	Structural Indices + VD	Structural Indices + VD + FAZ	Specific Structural Indices + VD + FAZ
NMOSD	AUC	0.895 (0.859–0.924)	0.933 (0.902–0.956)	0.935 (0.905–0.958)	0.945 (0.917–0.966)
	<i>P</i>	-	0.0003	0.1611	0.0054
	Sensitivity	0.853	0.899	0.914	0.864
	Specificity	0.828	0.867	0.845	0.889
	Correct indices	0.681	0.766	0.759	0.753
POAG	AUC	0.924 (0.882–0.954)	0.937 (0.898–0.964)	0.950 (0.914–0.974)	0.973 (0.943–0.989)
	<i>P</i>	-	0.0354	0.0138	0.0498
	Sensitivity	0.878	0.900	0.833	0.900
	Specificity	0.847	0.844	0.924	0.910
	Correct indices	0.725	0.744	0.757	0.810

8

9 **Table S2b. Diagnostic ability of optical coherence tomography angiography parameters**
 10 **to distinguish between subgroups**

Diagnostic parameters		Structural Indices (pRNFL + Vertical C/D + GC-IPL)	Structural Indices + VD	Structural Indices + VD + FAZ	Specific Structural Indices + VD + FAZ
NMO-ON	AUC	0.833 (0.792–0.869)	0.850 (0.810–0.884)	0.858 (0.819–0.892)	0.867 (0.828–0.899)
	<i>P</i>	-	0.0924	0.0830	0.1447
	Sensitivity	0.705	0.789	0.821	0.800
	Specificity	0.824	0.226	0.760	0.813
	Correct indices	0.529	0.563	0.581	0.613
NMO+ON	AUC	0.925 (0.893–0.949)	0.930 (0.899–0.953)	0.930 (0.900–0.954)	0.941 (0.913–0.963)
	<i>P</i>	-	0.1973	0.603	0.0021
	Sensitivity	0.903	0.835	0.854	0.854
	Specificity	0.814	0.891	0.877	0.920
	Correct indices	0.717	0.726	0.731	0.774
G-E	AUC	0.834 (0.793–0.871)	0.844 (0.804–0.879)	0.856 (0.817–0.890)	0.889 (0.852–0.918)
	<i>P</i>	-	0.1255	0.3753	0.0207
	Sensitivity	0.875	0.900	0.950	0.775
	Specificity	0.689	0.713	0.660	0.870
	Correct indices	0.564	0.613	0.610	0.645
G-A	AUC	0.966 (0.942–0.982)	0.973 (0.951–0.987)	0.976 (0.955–0.989)	0.981 (0.961–0.992)
	<i>P</i>	-	0.0995	0.1253	0.3149
	Sensitivity	0.920	0.940	0.940	0.980
	Specificity	0.905	0.899	0.899	0.884
	Correct indices	0.825	0.839	0.839	0.864

11 95% CI is shown below. *P* values were evaluated with the AUC on the left. The diagnostic
 12 parameter to differentiate between a single subgroup and the others was derived from logistic
 13 regression. OCTA, optical coherence tomography angiography; NMOSD, neuromyelitis
 14 optica spectrum disorder; AUC, area under the curve; GC-IPL, ganglion cell-inner plexiform
 15 layer; pRNFL, peripapillary nerve fiber layer; C/D, cup-to-disc ratio; ON, optic neuritis; FAZ,
 16 foveal avascular zone; VD, vessel density. In the specific structural OCT parameters, temporal
 17 pRNFL and nasal GC-IPL were selected for NMOSD; inferior pRNFL and nasal GC-IPL

18 were selected for POAG; temporal pRNFL and nasal GC-IPL were selected for the NMO+ON
19 group, inferior pRNFL and nasal GC-IPL were selected for the NMO-ON group, inferior
20 pRNFL and temporal GC-IPL were selected for the G-A group, and superior pRNFL and
21 inferior GC-IPL were selected for the G-E group.