

Table S1: Detailed summary of all the estimated parameters in the final model in section 3.1

Model parameters				Baseline	Estimate (SD)	p value
Fixed Effects	Intercept				300.0442 (5.4680)	0.0000
	Indicator variable for spatial locations	SI	CS		56.9670 (1.0986)	0.0000
		TI			45.8307 (1.0986)	0.0000
		II			52.7216 (1.0986)	0.0000
		NI			59.5254 (1.0986)	0.0000
		SO			14.9707 (1.3451)	0.0000
		TO			-3.0782 (1.2823)	0.0165
		IO			3.4038 (1.3136)	0.0096
		NO			27.7981 (1.2823)	0.0000
	Diagnosis	M1	M0		4.4969 (1.9584)	0.0235
	Age				-0.2678 (0.0965)	0.0063
Random effects	SD between individuals				16.0664	
	SD between one individual's two eyes				7.9863	
Spatial range	Exponential correlation structure				1.5081	
Residuals	SD				22.5997	
Heteroscedasticity scale among diagnosis group	M1				1.0000	
	M0				0.5792	

Note that in this table, CS, SI, TI, II, NI, SO, TO, IO, NO represent the nine subfields in ETDRS grid (figure 1); M1, M0 represent maculopathy and no-maculopathy group, respectively; SD represents standard deviation

Table S2: Detailed summary of all the estimated parameters in the final model in section 3.2

Model parameters				Baseline	Estimate (SD)	p value
Fixed Effects	Intercept				295.7871 (4.1325)	0.0000
	Indicator variable for spatial locations	SI	CS	57.6132 (0.8545)	0.0000	
		TI		46.176 (0.8545)	0.0000	
		II		53.3176 (0.8545)	0.0000	
		NI		60.4843 (0.8545)	0.0000	
		SO		14.8498 (1.0171)	0.0000	
		TO		-2.9623 (0.9902)	0.0028	
		IO		2.0268 (1.0041)	0.0436	
		NO		28.8265 (0.9919)	0.0000	
	Diagnosis	M1	M0	7.3989 (1.9293)	0.0002	
		MH		-2.4351 (3.1261)	0.4366	
	Age				-0.1984 (0.0727)	0.0067
	Interaction term between spatial locations and diagnosis group	SI : M1	CS : M0	-4.7799 (2.1369)	0.0253	
		TI : M1		-5.1856 (2.1369)	0.0153	
		II : M1		-5.1748 (2.1369)	0.0155	
		NI : M1		-3.8509 (2.1369)	0.0716	
		SO : M1		-4.4757 (2.5294)	0.0769	
		TO : M1		-1.7996 (2.4763)	0.4674	
		IO : M1		-4.5821 (2.5092)	0.0679	
		NO : M1		-5.1170 (2.4770)	0.0389	
		SI : MH		6.2401 (1.5800)	0.0001	
		TI : MH		3.6781 (1.5800)	0.0200	
		II : MH		7.0782 (1.5800)	0.0000	
		NI : MH		5.4324 (1.5800)	0.0006	
		SO : MH		2.9523 (1.8456)	0.1097	
		TO : MH		2.9519 (1.8310)	0.1070	
		IO : MH		4.9837 (1.8385)	0.0067	
		NO : MH		6.1839 (1.8319)	0.0007	
Random effects	SD between individuals			18.3409		
	SD between one individual’s two eyes			1.4544		
Spatial range	Exponential correlation structure			1.4487		
Residuals	SD			23.7962		
Heteroscedasticity scale among diagnosis group	M1			1.0000		
	M0			0.5369		
	MH			0.4588		

Note that in this table, CS, SI, TI, II, NI, SO, TO, IO, NO represent the nine subfields in ETDRS grid (figure 1); M1, M0, MH represent maculopathy, no-maculopathy and healthy group, respectively; SD represents standard deviation.