Supplementary Table S1. The association between logMAR and quantitative parameters in the FAZ and intercapillary spaces in 110 eyes with DR.

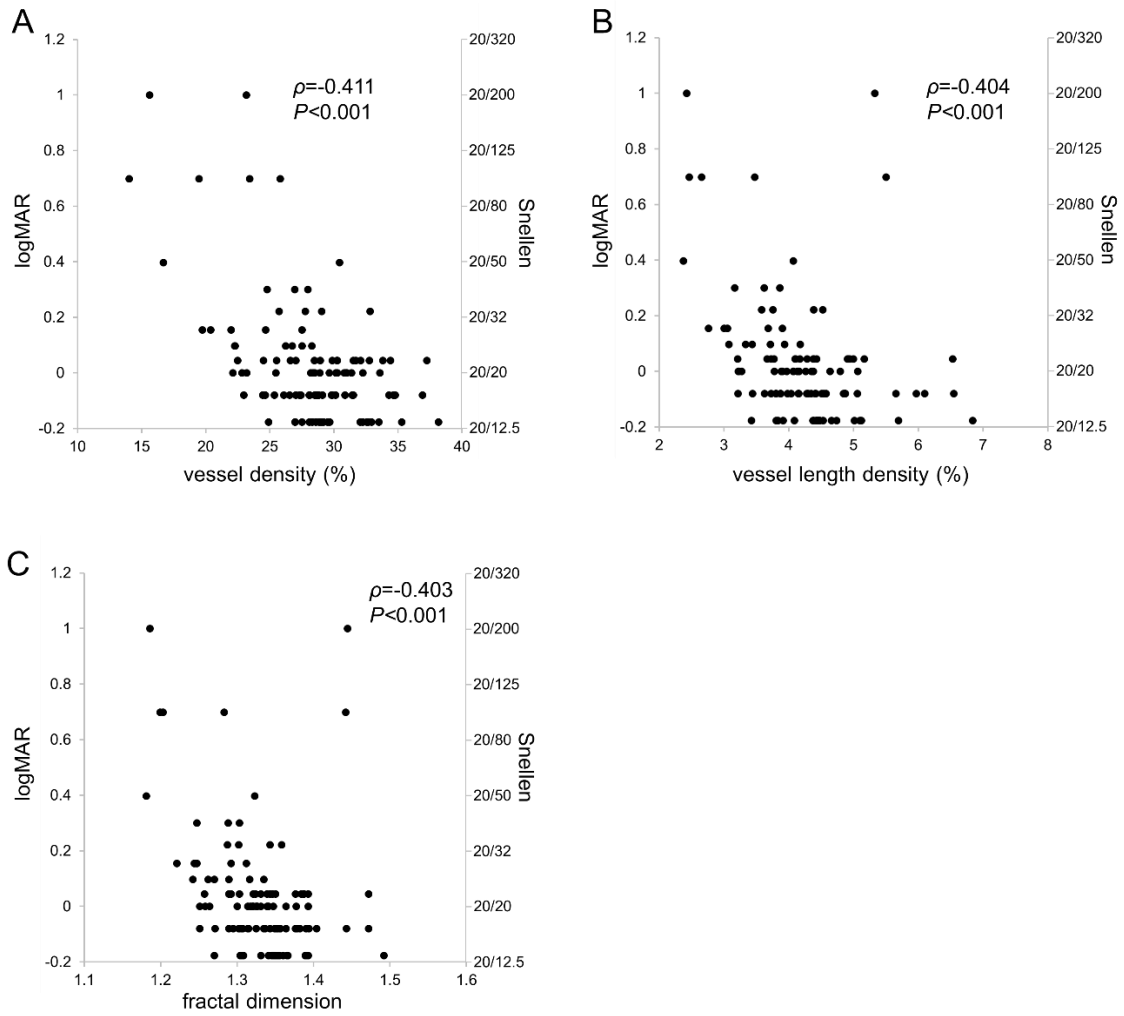|	Association with logMAR
FAZ	
Area	$\rho=0.252, P=0.010$
Minimum diameter	$\rho=0.232, P=0.019$
Maximum diameter	$\rho=0.247, P=0.012$
Perimeter	$\rho=0.251, P=0.010$
Intercapillary spaces	
Mean area	$\rho=0.301, P=0.002$
Mean minimum diameter	$\rho=0.253, P=0.011$
Mean maximum diameter	$\rho=0.275, P=0.006$
Mean perimeter	$\rho=0.243, P=0.014$

Supplementary Figure S1. The relationship between the counts of intercapillary spaces and the typical perfusion indices in the superficial layer of the en-face OCTA images.

The significant associations of the total counts of intercapillary spaces with the vessel density (A), vessel length density (B), and fractal dimension (C) within central 2 mm.
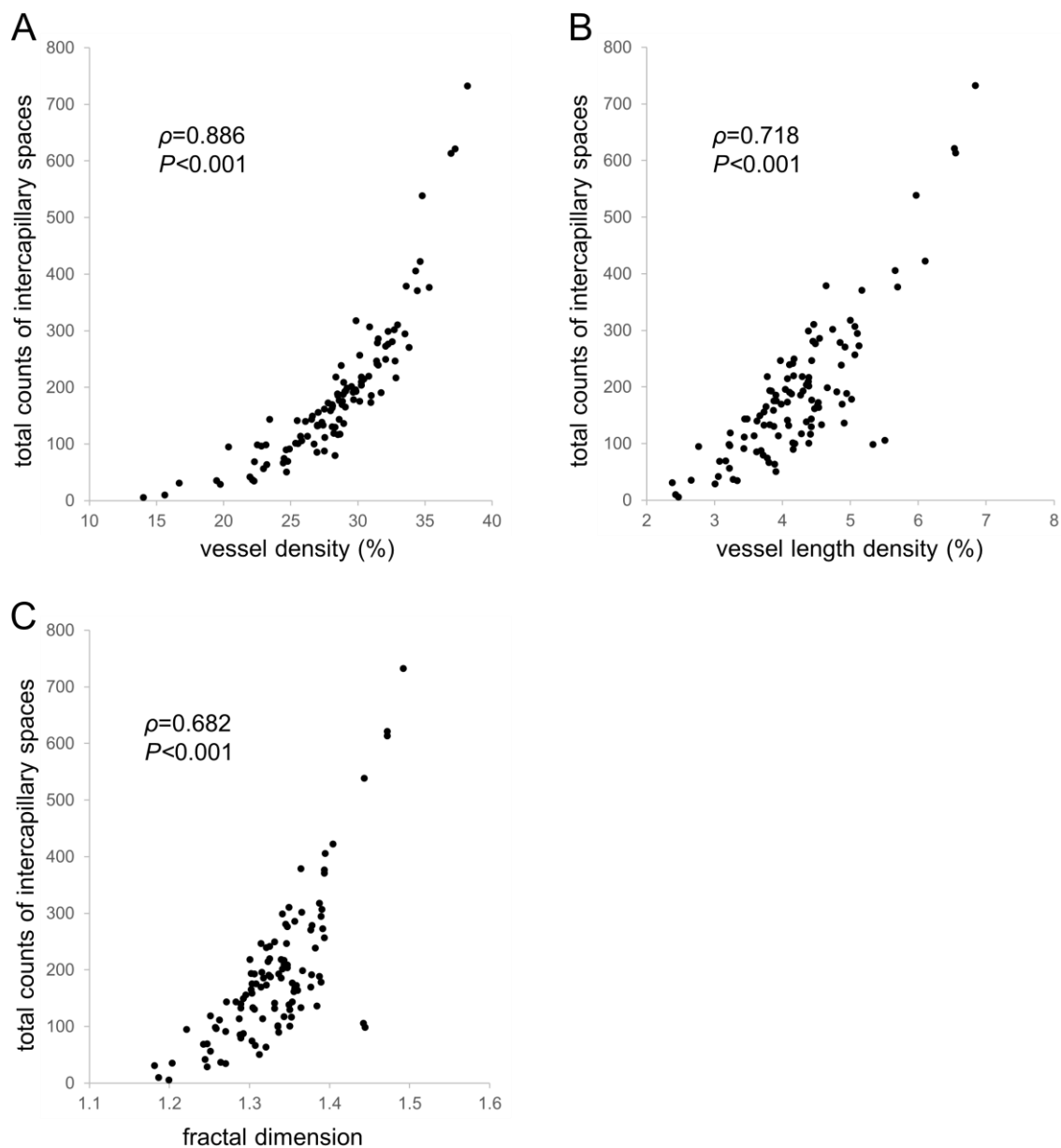
Supplementary Figure S2. The relationship between logMAR and the typical perfusion indices in the superficial layer of the en-face OCTA images.

The modest associations of logMAR with the vessel density (A), vessel length density (B), and fractal dimension (C) within central 2 mm.

Supplementary Table S2. Association between logMAR and the number of intercapillary spaces with each size threshold.

Size threshold	Number of intercapillary spaces	Association with logMAR
<0.01 mm^2	136 (89-207)	ρ=-0.408, *P*<0.001
<0.02 mm^2	154 (96-221)	ρ=-0.413, *P*<0.001
<0.03 mm^2	162 (98-229)	ρ=-0.415, *P*<0.001
<0.04 mm^2	167 (100-233)	ρ=-0.417, *P*<0.001
<0.05 mm^2	168 (100-233)	ρ=-0.416, *P*<0.001

Supplementary Figure S3. Pseudocolor map of the correlation between logMAR and the number of intercapillary spaces in each sector which was divided by different patterns of the rings.

(A) The pseudocolor map in octant sectors of four rings (ring 1 [0.2 to 0.4 mm from the center], ring 2 [0.4 to 0.6 mm], ring 3 [0.6 to 0.8 mm], and ring 4 [0.8 to 1 mm]). (B) The map in octant sectors of three rings (ring 1 [0.25 to 0.5 mm from the center], ring 2 [0.5 to 0.75 mm], ring 3 [0.75 to 1 mm]).
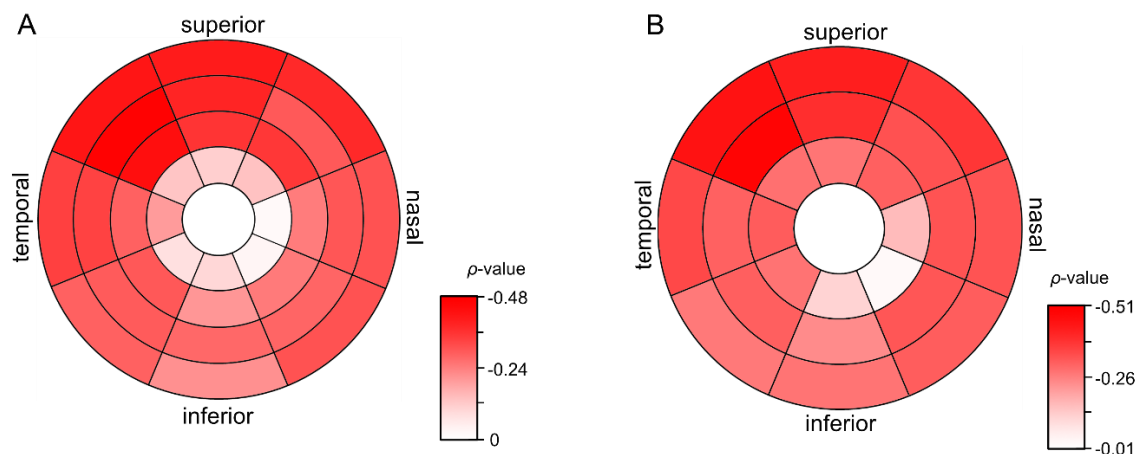
Supplementary Table S3. Multivariate regression analyses to investigate the factors associated with logMAR in 82 eyes of the nonperfusion group.

Variables	Univariate			Multivariate		
	Unstandardized β	Standardized β	*P*-value	Unstandardized β	Standardized β	*P*-value
Age (years)	0.002	0.089	0.427	-	-	-
Gender (male)	-0.009	-0.016	0.887	-	-	-
Hemoglobin A1c (%)	-0.011	-0.073	0.538	-	-	-
Duration of diabetes (years)	-0.004	-0.184	0.132	-	-	-
Systemic hypertension	-0.014	-0.027	0.807	-	-	-
Dyslipidemia	-0.109	-0.218	0.050	-0.056	-0.145	0.135
Pseudophakia	0.059	0.119	0.287	-	-	-
PDR	-0.031	-0.061	0.589	-	-	-
FAZ area (mm^2)	0.169	0.370	0.001	0.067	0.148	0.189
Number of intercapillary spaces in the *highly significant sectors*	-0.006	-0.535	<0.001	-0.005	-0.443	<0.001
Prior panretinal photocoagulation	0.137	0.274	0.013	0.029	0.075	0.450

Supplementary Table S4. Characteristics of eyes of two subgroups in 82 eyes of the nonperfusion group.

	Severe subgroup (34 eyes)	Mild subgroup (48 eyes)	*P*-value
Age (years)	56 (48-69)	64 (51-73)	0.230
Gender (male/female)	26/8	35/13	0.801
Hemoglobin A1c (%)	7.8 (7.2-8.5)	7.4 (6.4-8.3)	0.095
Duration of diabetes (years)	14 (9-22)	17 (10-21)	0.994
Systemic hypertension	19	30	0.649
Dyslipidemia	14	26	0.270
LogMAR	0.097 (0.000−0.205)	-0.079 (-0.103−0.046)	0.001
Phakia/pseudophakia	16/18	26/22	0.654
International DR severity scale			0.312
Mild NPDR	1	3	
Moderate NPDR	8	18	
Severe NPDR	3	6	
PDR	22	21	
FAZ			
Area (10^{-3}mm^2)	1187 (831-1540)	705 (523-864)	<0.001
Minimum diameter (10^{-1} mm)	14.88 (12.11-16.48)	10.68 (8.82-12.14)	<0.001
Maximum diameter (10^{-1} mm)	19.42 (16.70-19.92)	15.46 (13.65-16.59)	<0.001
Perimeter (10^{-1} mm)	229.0 (173.5-275.3)	143.8 (104.5-199.9)	<0.001
Intercapillary spaces			
Total counts	87 (53-101)	175 (144-193)	<0.001
Mean area (10^{-3}mm^2)	9.31 (7.86-13.54)	6.13 (5.49-7.13)	<0.001
Mean minimum diameter (10^{-1} mm)	0.685 (0.615-0.784)	0.591 (0.544-0.626)	<0.001
Mean maximum diameter (10^{-1} mm)	1.394 (1.257-1.663)	1.150 (1.032-1.225)	<0.001
Mean perimeter (10^{-1} mm)	5.08 (4.31-6.04)	3.84 (3.52-4.63)	<0.001
Prior panretinal photocoagulation	23	19	0.015