Supplementary Table 1: Baseline systemic and ocular characteristics between non-glaucoma and glaucoma subjects by axial length groups

Variables	Short AL Non-Glaucoma	Long AL Non-Glaucoma	p-value Non-Glaucoma	Short AL Glaucoma	Long AL Glaucoma	p-value Glaucoma
Total Subjects (N)	511	523		28	40	
Total Eyes (N)	703	704		37	48	
Female gender[†]	378 (78%)	289 (55%)	< 0.001	18 (64%)	25 (63%)	0.67
Age (years)	58.0 ± 9.7 (40 - 87)	58.0 ± 9.9 (40 – 91)	0.86	67.2 ± 8.1 (53 - 87)	64.6 ± 9.6 (45 – 90)	0.16
IOP (mm Hg)	15.2 ± 3.0 (8 - 28)	15.2 ± 2.9 (7 – 27.7)	0.48	17.2 ± 6 (8 - 35)	18.4 ± 5.6 (10.7 – 34)	0.65
AL (mm)	22.8 ± 0.5 (20.6 - 23.4)	24.3 ± 0.7 (23.5 – 27.5)	**< 0.001**	22.8 ± 0.4 (22 – 23.4)	24.4 ± 0.7 (23.5 – 27.7)	**< 0.001**
RNFL (microns)	93.7 ± 11.2 (52 – 138)	90.8 ± 10.5 (60 – 127)	**0.0003**	77 ± 15.5 (51 – 109)	71.6 ± 13.6 (48 – 93)	0.178
pVD	0.36 ± 0.04 (0.18 – 0.45)	0.339 ± 0.04 (0.22 - 0.44)	**<0.001**	0.284 ± 0.1 (0.18 – 0.41)	0.249 ± 0.6 (0.11 - 0.37)	**0.048**
SS	9.49 ± 0.76 (7 - 10)	9.15 ± 0.84 (7 - 10)	**<0.001**	9.05 ± 0.8 (7 - 10)	8.56 ± 0.87 (7 - 10)	**0.009**

All variables denoted as mean ± standard deviation except for gender[†] which is expressed as frequency (percent). Range from minimum to maximum is given in the parenthesis. "P-value non-glaucoma" was calculated by comparing the short axial length non-glaucoma subjects versus long axial length non-glaucoma subject. The same was done for "p-value glaucoma" except that glaucoma subjects with short and long axial lengths were compared. P-value calculated for gender was determined by chi-square, age determined by simple wilcox t-test per subject. All other p-values generated from mixed linear effects model to control for inter-eye correlation. Significance level was 0.05. IOP=intraocular pressure; AL = axial length; RNFL = retinal nerve fiber layer thickness; pVD = peripapillary vessel density; SS = signal strength (on a scale of 1-10).

Supplementary Table 2: Multivariable mixed linear regressions of determinants of peripapillary vessel density (pVD) of non-glaucomatous eyes with IOP ≥ 20 with short versus long axial length.

Variable	IOP ≥ 20 Non-glaucoma Short AL (N = 55)			IOP ≥ 20 Non-glaucoma Long AL (N = 55)		
	β	CI	p-value	β	CI	p-value
Age (years)	-0.00154	(-0.00239, -0.00070)	**<0.001**	-0.00039	(-0.00136, 0.00059)	0.438
IOP (mm Hg)	-0.00177	(-0.00548, -0.00194)	0.350	0.00060	(-0.00391, 0.00511)	**0.794**
RNFL (micron)	0.00241	(0.00170, 0.00311)	**<0.001**	0.00262	(0.00197, 0.00326)	**<0.001**
SS	0.01300	(0.00421, 0.02179)	**0.004**	0.02129	(0.01429, 0.02829)	**<0.001**

Beta-estimate, CI and p-value generated from mixed linear effects model controlling for inter-eye correlation. Significance level was 0.05. IOP=intraocular pressure; RNFL = retinal nerve fiber layer thickness; SS = signal strength. Longer axial length was defined as ≥ 23.46 mm, the median for the study population.