

Supplementary material

Supplementary Table 1 Participant characteristics by presence of colour, OCT and ultra-widefield grading.

Participant characteristics	Colour fundus photography			Optical Coherence Tomography			Ultra-wide field imaging		
	At least 1 gradable eye n=3265	No images or both ungradable n=121	P*	At least 1 gradable eye n=3344	No images or both ungradable n=42	P*	At least 1 gradable eye n=3214	No images or both ungradable n=172	P*
Age (SD)	63.5 (8.9)	69.3 (9.6)	<0.001	63.6 (9)	68.6 (11.4)	0.007	63.4 (8.9)	68.6 (9.8)	<0.001
Female (%)	1706 (52.3)	59 (48.8)	0.508	1744 (52.2)	21 (50.0)	0.903	1669 (51.9)	96 (55.8)	0.360
Genetic Risk Score (SD)	10.9 (1.2)	11.1 (1.2)	0.120	10.9 (1.2)	10.9 (1.3)	0.822	10.9 (1.2)	11.1 (1.1)	0.25
Waist Hip Ratio (SD)	0.9 (0.1)	1 (0.8)	0.234	0.9 (0.1)	1.1 (1.3)	0.328	0.9 (0.1)	1 (0.6)	0.29
Body Mass Index (SD)	28.9 (5)	29.2 (5.8)	0.485	28.9 (5.1)	28.6 (4.8)	0.743	28.9 (5)	28.8 (5.6)	0.78
Systolic Blood Pressure mmHg (SD)	133.8 (32.3)	138.9 (43.6)	0.202	133.8 (31.3)	152 (94.4)	0.217	133.6 (30.7)	141.1 (59.5)	0.11
Diastolic Blood Pressure mmHg (SD)	83.3 (31.1)	84.5 (43.8)	0.781	83.2 (29.8)	100.8 (99.3)	0.257	83.1 (29.2)	88 (61.7)	0.30
Pulse 10's beats per minute (SD)	7.8 (7.3)	7.7 (4.4)	0.888	7.7 (7.2)	9.6 (10)	0.227	7.7 (7.1)	8.4 (9.4)	0.33

Spherical Equivalent (Diopters) (SD)	0.7 (2.4)	0.5 (2.7)	0.469	0.7 (2.4)	1 (1.6)	0.434	0.8 (2.3)	0.2 (3.1)	0.03
Self-report									
Cardiovascular Disease (%)	455 (13.9)	23 (19.0)	0.150	467 (14.0)	11 (26.2)	0.042	444 (13.8)	34 (19.8)	0.038
Chronic lung disease (%)	109 (3.3)	5 (4.1)	0.827	112 (3.3)	2 (4.8)	0.941	104 (3.2)	10 (5.8)	0.108
Asthma (%)	309 (9.5)	14 (11.6)	0.537	320 (9.6)	3 (7.1)	0.789	301 (9.4)	22 (12.8)	0.175
Cognitive problems (%)	19 (0.6)	3 (2.5)	0.048	20 (0.6)	2 (4.8)	0.018	18 (0.6)	4 (2.3)	0.020
Arthritis (%)	912 (27.9)	46 (38.0)	0.021	946 (28.3)	12 (28.6)	1.000	904 (28.1)	54 (31.4)	0.401
Cancer (%)	260 (8.0)	11 (9.1)	0.781	263 (7.9)	8 (19.0)	0.018	254 (7.9)	17 (9.9)	0.430
Parkinson's (%)	10 (0.3)	0 (0.0)	1.000	10 (0.3)	0 (0.0)	1.000	9 (0.3)	1 (0.6)	1.000
Diabetes (%)	290 (8.9)	16 (13.2)	0.140	301 (9.0)	5 (11.9)	0.703	282 (8.8)	24 (14.0)	0.030
Education									
Primary or less (%)	463 (14.2)	27 (22.3)	0.081	480 (14.4)	10 (23.8)	0.357	456 (14.2)	34 (19.8)	0.134
Secondary (%)	2027 (62.1)	71 (58.7)		2076 (62.1)	22 (52.4)		2004 (62.4)	94 (54.7)	
Degree or higher (%)	772 (23.6)	23 (19.0)		785 (23.5)	10 (23.8)		751 (23.4)	44 (25.6)	
Missing (%)	3 (0.1)	0 (0.0)		3 (0.1)	0 (0.0)		3 (0.1)	0 (0.0)	
Smoker									
Never (%)	1725 (52.8)	63 (52.1)	0.980	1769 (52.9)	19 (45.2)	0.545	1696 (52.8)	92 (53.5)	0.706
Former (%)	1210 (37.1)	45 (37.2)		1235 (36.9)	20 (47.6)		1196 (37.2)	59 (34.3)	

Current (%)	327 (10.0)	13 (10.7)		337 (10.1)	3 (7.1)		319 (9.9)	21 (12.2)	
Missing (%)	3 (0.1)	0 (0.0)		3 (0.1)	0 (0.0)		3 (0.1)	0 (0.0)	
Physical Activity									
≥150 minutes per week (%)	2164 (66.3)	68 (56.2)	0.028	2209 (66.1)	23 (54.8)	0.219	2130 (66.3)	102 (59.3)	0.169
< 150 minutes per week (%)	1071 (32.8)	53 (43.8)		1105 (33.0)	19 (45.2)		1056 (32.9)	68 (39.5)	
Cataract									
Never (%)	2645 (81.0)	75 (62.0)	<0.001	2696 (80.6)	24 (57.1)	<0.001	2622 (81.6)	98 (57.0)	<0.001
Present (%)	403 (12.3)	26 (21.5)		421 (12.6)	8 (19.0)		382 (11.9)	47 (27.3)	
Surgery (%)	200 (6.1)	18 (14.9)		212 (6.3)	6 (14.3)		194 (6.0)	24 (14.0)	
Missing (%)	17 (0.5)	2 (1.7)		15 (0.4)	4 (9.5)		16 (0.5)	3 (1.7)	
Hypertension category									
SBP<120 & DBP<80 (%)	742 (22.7)	22 (18.2)	0.013	755 (22.6)	9 (21.4)	0.803	725 (22.6)	39 (22.7)	0.880
120≤SBP<130 & DBP<80 (%)	366 (11.2)	10 (8.3)		370 (11.1)	6 (14.3)		357 (11.1)	19 (11.0)	
130≤SBP<140 Or 80≤DBP< 90 (%)	1399 (42.8)	45 (37.2)		1424 (42.6)	20 (47.6)		1376 (42.8)	68 (39.5)	
SBP≥140 Or DBP≥90 (%)	744 (22.8)	44 (36.4)		781 (23.4)	7 (16.7)		743 (23.1)	45 (26.2)	
Missing (%)	14 (0.4)	0 (0.0)		14 (0.4)	0 (0.0)		13 (0.4)	1 (0.6)	

Diabetes									
No (%)	2844 (87.1)	102 (84.3)	0.445	2912 (87.1)	34 (81.0)	0.346	2808 (87.4)	138 (80.2)	0.0095
Yes (%)	421 (12.9)	19 (15.7)		432 (12.9)	8 (19.0)		406 (12.6)	34 (19.8)	
Alcohol intake									
0 units/day (%)	987 (30.2)	43 (35.5)	0.359	1012 (30.3)	18 (42.9)	0.209	965 (30.0)	65 (37.8)	0.097
0 < units/day < 4 (%)	2018 (61.8)	67 (55.4)		2064 (61.7)	21 (50.0)		1990 (61.9)	95 (55.2)	
≥ 4 units/day (%)	260 (8.0)	11 (9.1)		268 (8.0)	3 (7.1)		259 (8.1)	12 (7.0)	
Cognitive									
MMSE Score < 24 (%)	64 (2.0)	2 (1.7)	1.000	65 (1.9)	1 (2.4)	1.000	61 (1.9)	5 (2.9)	0.516
MOCA Score < 26 (%)	1340 (41.0)	58 (47.9)	0.0011	1377 (41.2)	21 (50.0)	0.223	1310 (40.8)	88 (51.2)	0.0061
MOCA Score missing (%)	22 (0.7)	4 (3.3)		25 (0.7)	1 (2.4)		23 (0.7)	3 (1.7)	
Serum									
hsCRP mg/L (SD)	3.2 (5.3)	4.6 (7.7)	0.057	3.3 (5.4)	4.2 (4.6)	0.227	3.3 (5.4)	3.3 (4.7)	1.00
LDL mmol/L (SD)	3.4 (1.1)	3 (1)	<0.001	3.4 (1.1)	3.3 (1)	0.574	3.4 (1.1)	3.2 (1.1)	0.01
HDL mmol/L (SD)	1.6 (0.4)	1.6 (0.5)	0.720	1.6 (0.4)	1.6 (0.4)	0.365	1.6 (0.4)	1.6 (0.4)	0.87
Vitamin D ng/mL (SD)	22.2 (10.6)	23.3 (10.6)	0.308	22.2 (10.7)	21.4 (9.1)	0.578	22.2 (10.6)	23.2 (10.9)	0.24
Lpa mg/dL (SD)	20.6 (22.4)	16.9 (18)	0.043	20.5 (22.3)	23.6 (23.7)	0.457	20.6 (22.4)	19 (19.9)	0.37

Triglyceride mmol/L (SD)	3.7 (2.1)	3.6 (1.7)	0.371	3.7 (2.1)	3.8 (2.4)	0.837	3.7 (2.1)	3.5 (1.6)	0.08
Creatinine mg/dL (SD)	0.9 (0.3)	1 (0.6)	0.066	0.9 (0.3)	0.9 (0.3)	0.262	0.9 (0.3)	1 (0.5)	0.07
ApoA1 g/L (SD)	1.7 (0.3)	1.7 (0.3)	0.993	1.7 (0.3)	1.7 (0.3)	0.439	1.7 (0.3)	1.7 (0.3)	0.72
ApoB g/L (SD)	1 (0.3)	1 (0.2)	0.002	1 (0.3)	1 (0.3)	0.776	1 (0.3)	1 (0.2)	0.07

* Statistical comparisons performed using independent sample t-tests (continuous variables) or Chi-squared tests (categorical variables).

Supplementary Table 2 Prevalence of AMD % (95% CI) using the Beckman Clinical Classification by age category (Person level analysis). Unweighted and weighted estimates are included.

Unweighted						
Age	Number at risk	0	1	2	3	4
Males						
<55	228	60.1 (53.4, 66.5)	24.1 (18.7, 30.2)	11.0 (7.2, 15.8)	4.8 (2.4, 8.5)	0.0
55-64	564	63.3 (59.2, 67.3)	19.7 (16.5, 23.2)	11.2 (8.7, 14.1)	5.9 (4.1, 8.1)	0.0
65-74	556	62.6 (58.4, 66.6)	15.5 (12.6, 18.7)	11.7 (9.1, 14.7)	9.0 (6.7, 11.7)	1.3 (0.5, 2.6)
75-84	182	51.1 (43.6, 58.6)	16.5 (11.4, 22.7)	15.4 (10.5, 21.5)	14.3 (9.5, 20.2)	2.7 (0.9, 6.3)
≥85	29	51.7 (32.5, 70.6)	10.3 (2.2, 27.4)	10.3 (2.2, 27.4)	17.2 (5.8, 35.8)	10.3 (2.2, 27.4)
Females						
<55	347	65.1 (59.9, 70.1)	23.3 (19.0, 28.2)	8.4 (5.7, 11.8)	3.2 (1.6, 5.6)	0.0
55-64	693	65.7 (62.0, 69.2)	17.5 (14.7, 20.5)	13.0 (10.6, 15.7)	3.8 (2.5, 5.4)	0.1 (0.0, 0.8)
65-74	505	55.6 (51.2, 60.0)	16.6 (13.5, 20.2)	18.4 (15.1, 22.1)	8.5 (6.2, 11.3)	0.8 (0.2, 2.0)
75-84	143	59.4 (50.9, 67.6)	7.0 (3.4, 12.5)	18.9 (12.8, 26.3)	11.9 (7.1, 18.4)	2.8 (0.8, 7.0)

Unweighted						
Age	Number at risk	0	1	2	3	4
≥85	18	55.6 (30.8, 78.5)	11.1 (1.4, 34.7)	5.6 (0.1, 27.3)	16.7 (3.6, 41.4)	11.1 (1.4, 34.7)

Supplementary Table 3 Prevalence of AMD features by age category and sex (Eye level analysis, weighted).

En face grading								OCT grading						
Age	Number at risk	Pigmentary Irregularities	Drusen (any size)	Drusen ≥63µm	Drusen ≥125µm	Reticular Drusen	GA	Number at risk	Classical Drusen	SDD	Focal Atrophy	CNV	Vitelliform	Any AMD
Males														
<55	447	1.1 (0.4, 2.6)	28.4 (23.5, 33.7)	9.2 (6.3, 12.8)	1.8 (0.7, 3.8)	0.9 (0.2, 2.7)	0.0	462	19.7 (15.5, 24.4)	15.6 (12.0, 19.8)	5.0 (2.8, 8.0)	0.0	0.0	9.8 (6.9, 13.5)
55-64	1087	1.7 (0.9, 2.7)	24.9 (22.0, 28.0)	9.9 (8.0, 12.2)	2.0 (1.2, 3.2)	1.4 (0.7, 2.4)	0.0	1144	20.9 (18.2, 23.8)	19.8 (17.2, 22.6)	2.3 (1.4, 3.4)	0.0	0.1 (0.0, 0.5)	11.0 (9.0, 13.4)
65-74	1046	3.1 (1.9, 4.6)	27.9 (24.7, 31.3)	13.8 (11.4, 16.4)	4.2 (2.9, 5.9)	2.5 (1.5, 3.9)	0.9 (0.3, 1.9)	1126	27.2 (24.0, 30.5)	25.6 (22.6, 28.7)	5.2 (3.7, 6.9)	0.1 (0.0, 0.5)	0.6 (0.2, 1.5)	15.5 (13.0, 18.3)
75-84	329	1.8 (0.7, 3.9)	40.7 (34.2, 47.5)	24.6 (19.0, 31.0)	9.7 (6.1, 14.5)	7.3 (4.1, 11.8)	0.9 (0.2, 2.6)	371	46.1 (39.5, 52.8)	44.7 (38.4, 51.2)	7.0 (4.2, 10.8)	1.2 (0.3, 3.1)	0.5 (0.0, 3.0)	27.1 (21.2, 33.6)
≥85	52	7.7 (1.4, 22.0)	38.5 (22.7, 56.2)	23.1 (10.0, 41.5)	11.5 (3.7, 25.5)	15.4 (4.2, 35.2)	0.0	60	55.0 (37.2, 71.9)	50.0 (32.9, 67.1)	21.7 (10.0, 38.0)	5.8 (1.2, 16.0)	3.3 (0.1, 17.7)	28.8 (14.9, 46.4)

En face grading								OCT grading						
Age	Number at risk	Pigmentary Irregularities	Drusen (any size)	Drusen ≥63µm	Drusen ≥125µm	Reticular Drusen	GA	Number at risk	Classical Drusen	SDD	Focal Atrophy	CNV	Vitelliform	Any AMD
Females														
<55	684	0.9 (0.3, 1.9)	24.4 (20.7, 28.5)	7.0 (4.9, 9.6)	1.0 (0.3, 2.5)	1.6 (0.6, 3.4)	0.0	689	14.1 (11.2, 17.4)	11.3 (8.8, 14.3)	0.9 (0.3, 2.1)	0.0	0.0	7.3 (5.2, 9.9)
55-64	1360	0.5 (0.2, 1.2)	24.5 (21.8, 27.4)	10.4 (8.6, 12.4)	1.8 (1.1, 2.8)	1.0 (0.5, 1.7)	0.0	1390	19.9 (17.5, 22.6)	17.1 (14.8, 19.5)	3.4 (2.3, 4.7)	0.1 (0.0, 0.4)	0.0	10.7 (8.9, 12.8)
65-74	957	1.7 (0.9, 2.8)	33.5 (30.0, 37.2)	19.3 (16.3, 22.6)	5.2 (3.6, 7.3)	5.3 (3.6, 7.5)	0.1 (0.0, 0.6)	1018	32.0 (28.5, 35.7)	29.3 (26.0, 32.8)	4.1 (2.8, 5.8)	0.4 (0.1, 1.3)	0.5 (0.1, 1.5)	20.6 (17.5, 23.9)
75-84	266	4.9 (2.3, 9.1)	36.5 (28.9, 44.6)	24.8 (18.5, 32.0)	6.4 (3.3, 10.9)	10.2 (6.0, 15.7)	1.5 (0.3, 4.6)	304	42.1 (35.1, 49.3)	43.4 (36.3, 50.7)	6.6 (3.6, 10.9)	0.4 (0.0, 2.1)	0.7 (0.0, 3.6)	27.4 (20.9, 34.8)
≥85	31	12.9 (2.4, 34.9)	41.9 (19.7, 66.9)	22.6 (6.1, 49.4)	6.5 (0.1, 32.1)	6.5 (0.1, 32.1)	0.0	37	54.1 (31.2, 75.7)	59.5 (36.1, 80.0)	8.1 (0.8, 28.4)	6.5 (0.7, 22.0)	0.0	29.0 (10.8, 54.2)

Supplementary Table 4 Risk factor associations with AMD (Beckman 2,3,4) versus Controls (Beckman 0,1).

Participant characteristics			Univariate		Age-sex adjusted models		Multivariable models		AMD Risk Score excluded	
	No AMD n=2590	AMD n=675	OR	P	OR	P	OR	P	OR	P
Age (SD)	62.7 (8.7)	66.2 (9.2)	1.04 (1.03, 1.05)	<0.001	1.07 (0.95, 1.19)	0.261	1.06 (0.95, 1.19)	0.297	1.06 (0.94, 1.18)	0.346
Age^2					1.00 (1.00, 1.00)	0.712	1.00 (1.00, 1.00)	0.742	1.00 (1.00, 1.00)	0.827
Female (%)	1355 (52.3)	351 (52.0)	0.99 (0.83, 1.17)	0.883	1.08 (0.91, 1.28)	0.383	1.01 (0.83, 1.22)	0.959	1.00 (0.82, 1.22)	0.977
Genetic Risk Score (SD)	0.4 (1.1)	0.7 (1.2)	1.20 (1.11, 1.30)	<0.001	1.20 (1.11, 1.30)	<0.001	1.21 (1.11, 1.31)	<0.001		
Waist Hip Ratio (SD)	0.9 (0.1)	0.9 (0.1)	0.87 (0.34, 2.19)	0.763	0.45 (0.13, 1.55)	0.206				
Body Mass Index (SD)	28.9 (5)	28.8 (5.3)	1.00 (0.98, 1.01)	0.616	1.00 (0.98, 1.02)	0.992				
Resting heart rate (beats per minute) (SD)	7.7 (7.2)	7.8 (7.6)	1.00 (0.99, 1.01)	0.716	1.00 (0.99, 1.01)	0.858				
Self-report										
Cardiovascular Disease (%)	346 (13.4)	109 (16.1)	1.25 (0.99, 1.58)	0.063	1.01 (0.79, 1.29)	0.946				

Chronic lung disease (%)	75 (2.9)	34 (5.0)	1.78 (1.17, 2.70)	0.006	1.60 (1.04, 2.44)	0.030	1.63 (1.06, 2.51)	0.026	1.52 (0.99, 2.34)	0.054
Asthma (%)	240 (9.3)	69 (10.2)	1.11 (0.84, 1.48)	0.450	1.14 (0.85, 1.52)	0.379				
Cognitive problems (%)	14 (0.5)	5 (0.7)	1.37 (0.49, 3.85)	0.544	1.18 (0.42, 3.36)	0.752				
Arthritis (%)	701 (27.1)	211 (31.3)	1.23 (1.02, 1.47)	0.031	1.05 (0.86, 1.27)	0.639				
Cancer (%)	209 (8.1)	51 (7.6)	0.93 (0.68, 1.28)	0.661	0.79 (0.57, 1.10)	0.162				
Parkinson's (%)	4 (0.2)	6 (0.9)	5.80 (1.62, 20.74)	0.007	5.12 (1.40, 18.67)	0.013	5.23 (1.44, 19.09)	0.012	5.03 (1.38, 18.31)	0.014
Diabetes (%)	230 (8.9)	60 (8.9)	1.00 (0.74, 1.35)	0.994	0.92 (0.68, 1.24)	0.575				
Education										
Primary or less (%)	351 (13.6)	112 (16.6)	1.00		1.00					
Secondary (%)	1617 (62.4)	410 (60.7)	0.79 (0.62, 1.01)	0.056	1.00 (0.78, 1.29)	0.976				
Degree or higher (%)	620 (23.9)	152 (22.5)	0.77 (0.58, 1.01)	0.059	0.99 (0.74, 1.32)	0.939				
Missing (%)	2 (0.1)	1 (0.1)								
Smoker										
Never (%)	1367 (52.8)	358 (53.0)	1.00		1.00					

Former (%)	954 (36.8)	256 (37.9)	1.02 (0.85, 1.23)	0.803	0.99 (0.82, 1.19)	0.897				
Current (%)	267 (10.3)	60 (8.9)	0.86 (0.63, 1.17)	0.327	0.97 (0.71, 1.33)	0.871				
Missing (%)	2 (0.1)	1 (0.1)								
Physical Activity										
≥150 minutes per week (%)	1740 (67.2)	424 (62.8)	1.00		1.00					
< 150 minutes per week (%)	828 (32.0)	243 (36.0)	1.20 (1.01, 1.44)	0.042	1.14 (0.95, 1.37)	0.164				
Cataract										
Never (%)	2122 (81.9)	523 (77.5)	1.00		1.00					
Present (%)	305 (11.8)	98 (14.5)	1.29 (1.01, 1.66)	0.042	0.88 (0.67, 1.14)	0.324				
Surgery (%)	149 (5.8)	51 (7.6)	1.38 (0.99, 1.94)	0.056	0.83 (0.57, 1.19)	0.309				
Missing (%)	14 (0.5)	3 (0.4)								
Hypertension category										
SBP<120 & DBP<80 (%)	609 (23.5)	133 (19.7)	1.00		1.00		1.00		1.00	
120≤SBP<130 & DBP<80 (%)	267 (10.3)	99 (14.7)	1.70 (1.26, 2.29)	<0.001	1.45 (1.07, 1.98)	0.017	1.43 (1.05, 1.95)	0.023	1.42 (1.04, 1.94)	0.025
130≤SBP<140 Or 80≤DBP< 90 (%)	1109 (42.8)	290 (43.0)	1.20 (0.95, 1.51)	0.121	1.11 (0.88, 1.41)	0.380	1.11 (0.87, 1.40)	0.406	1.10 (0.87, 1.39)	0.445

SBP≥140 Or DBP≥90 (%)	595 (23.0)	149 (22.1)	1.16 (0.89, 1.50)	0.266	1.03 (0.79, 1.35)	0.823	1.02 (0.77, 1.33)	0.908	1.00 (0.76, 1.31)	0.992
Missing (%)	10 (0.4)	4 (0.6)								
Diabetes										
No (%)	2259 (87.2)	585 (86.7)	1.00		1.00					
Yes (%)	331 (12.8)	90 (13.3)	1.05 (0.82, 1.35)	0.702	0.90 (0.70, 1.16)	0.417				
Alcohol intake										
0 units/day (%)	755 (29.2)	232 (34.4)	1.00		1.00					
0 < units/day < 4 (%)	1617 (62.4)	401 (59.4)	0.81 (0.67, 0.97)	0.022	0.90 (0.75, 1.09)	0.291				
≥ 4 units/day (%)	218 (8.4)	42 (6.2)	0.63 (0.44, 0.90)	0.011	0.76 (0.52, 1.11)	0.153				
Cognitive										
MMSE Score < 24 (%)	53 (2.0)	11 (1.6)	0.79 (0.41, 1.53)	0.488	0.61 (0.31, 1.20)	0.153				
MOCA Score < 26 (%)	1037 (40.0)	303 (44.9)	1.21 (1.02, 1.44)	0.027	1.03 (0.86, 1.23)	0.756				
MOCA Score missing (%)	20 (0.8)	2 (0.3)								
Serum										
hsCRP mg/L (SD)	3.2 (5.3)	3.4 (5)	1.09 (1.00, 1.18)	0.045	1.07 (0.99, 1.16)	0.099	1.08 (0.99, 1.18)	0.065	1.09 (1.00, 1.19)	0.045

LDL mmol/L (SD)	3.4 (1.1)	3.3 (1.1)	0.78 (0.61, 1.00)	0.045	1.03 (0.79, 1.33)	0.839				
HDL mmol/L (SD)	1.6 (0.4)	1.6 (0.5)	1.29 (0.92, 1.81)	0.134	1.48 (1.02, 2.15)	0.039	1.57 (1.07, 2.31)	0.022	1.58 (1.08, 2.32)	0.019
Vitamin D ng/mL (SD)	22 (10.6)	22.6 (10.8)	1.13 (0.94, 1.36)	0.179	1.09 (0.91, 1.31)	0.350				
Lpa mg/dL (SD)	20.3 (22.3)	21.8 (22.8)	1.04 (0.95, 1.13)	0.369	1.03 (0.95, 1.13)	0.450				
Triglyceride mmol/L (SD)	1.7 (0.9)	1.6 (0.8)	0.84 (0.71, 1.01)	0.065	0.87 (0.72, 1.05)	0.143				
Creatinine mg/dL (SD)	0.9 (0.2)	0.9 (0.3)	1.31 (0.88, 1.95)	0.176	0.96 (0.59, 1.54)	0.859				
ApoA1 g/L (SD)	1.7 (0.3)	1.7 (0.3)	1.26 (0.70, 2.24)	0.439	1.48 (0.78, 2.80)	0.234				
ApoB g/L (SD)	1 (0.3)	1 (0.3)	0.65 (0.47, 0.90)	0.009	0.91 (0.64, 1.27)	0.565				

For continuous variables, the mean and standard deviation is reported. For categorical variables, the number of individuals in each level (category) is given along with the column percentage. Variables that were not included in the regression modelling stage have missing values for all of the Odds Ratio (OR) and associated P value columns. Variables that were considered as candidates for the multiple regression model also have entries in the age and sex adjusted column. Results reported for all regressions are pooled estimates from models fitted to each of the multiple imputed datasets. Therefore, odds ratios are not reported for the “Missing” category of categorical variables because these gaps have been filled in during the multiple imputation procedure. Similarly, missing values in continuous variables have also been filled. SBP=systolic blood pressure, DBP=diastolic blood pressure, MMSE=Mini-mental state examination, MOCA=The Montreal Cognitive Assessment hsCRP=high sensitivity C reactive protein, LDL=low density lipoprotein, HDL= high density lipoprotein, LPA= Lysophosphatidic acid, ApoA1= Apolipoprotein A1 ApoB= Apolipoprotein B. Beckman (0,1)= no signs of retinal aging or druplets $\leq 63 \mu\text{m}$

Supplementary Table 5 Risk factor associations for presence vs absence of AMD features on color/en face imaging

Participant characteristics	Hyperpigmentation		Drusen (any size)		Drusen ≥63µm		Drusen ≥125µm		Reticular Drusen	
	N=111		N=1775		N=833		N=213		N=181	
	OR	P	OR	P	OR	P	OR	P	OR	P
Age	1.00 (0.79, 1.28)	0.993	0.95 (0.87, 1.03)	0.197	1.10 (0.98, 1.24)	0.116	1.28 (1.03, 1.59)	0.027	1.06 (0.83, 1.35)	0.660
Age^2	1.00 (1.00, 1.00)	0.696	1.00 (1.00, 1.00)	0.091	1.00 (1.00, 1.00)	0.394	1.00 (1.00, 1.00)	0.104	1.00 (1.00, 1.00)	0.835
Female	0.66 (0.42, 1.05)	0.080	0.95 (0.81, 1.12)	0.540	1.04 (0.84, 1.28)	0.731	0.77 (0.52, 1.13)	0.181	1.27 (0.83, 1.92)	0.268
Genetic Risk Score			1.17 (1.09, 1.27)	<0.001	1.24 (1.13, 1.37)	<0.001	1.52 (1.27, 1.81)	<0.001	1.47 (1.23, 1.75)	<0.001
Resting heart rate (beats per minute) (SD)	1.02 (1.00, 1.04)	0.094								
Spherical Equivalent (Diopters)			1.07 (1.04, 1.11)	<0.001	1.08 (1.03, 1.13)	<0.001				
Self-report										
Arthritis			1.15 (0.99, 1.34)	0.062						
Parkinson's	Excluded		2.47 (0.89, 6.82)	0.080	4.18 (1.46, 12.00)	0.007			Excluded	

Diabetes					0.51 (0.20, 1.26)	0.143
Physical Activity						
≥150 minutes per week			1.00			
< 150 minutes per week			1.20 (0.99, 1.45)	0.058		
Cataract						
Never					1.00	
Present					1.60 (0.98, 2.62)	0.059
Surgery					0.83 (0.38, 1.84)	0.651
Hypertension category						
SBP<120 & DBP<80	1.00		1.00		1.00	
120≤SBP<130 & DBP<80	1.31 (1.03, 1.67)	0.026	1.49 (1.10, 2.03)	0.011	2.42 (1.24, 4.75)	0.010
130≤SBP<140 Or 80≤DBP< 90	1.16 (0.97, 1.38)	0.106	1.14 (0.90, 1.46)	0.276	1.65 (0.93, 2.92)	0.086
SBP≥140 Or DBP≥90	1.08 (0.88, 1.33)	0.478	1.14 (0.86, 1.52)	0.372	1.60 (0.86, 2.97)	0.138
Alcohol intake						
0 units/day	1.00	1.00				

0 < units/day < 4	0.60 (0.39, 0.94)	0.026	0.81 (0.70, 0.95)	0.007						
≥ 4 units/day	0.66 (0.30, 1.45)	0.299	0.82 (0.62, 1.09)	0.166						
Serum										
HDL mmol/L			1.27 (0.92, 1.76)	0.138	3.12 (0.99, 9.84)	0.051	1.35 (0.12, 15.32)	0.807	0.44 (0.04, 4.61)	0.493
Vitamin D ng/mL							1.35 (0.95, 1.94)	0.094	1.61 (1.02, 2.52)	0.039
Triglyceride mmol/L			0.83 (0.71, 0.97)	0.023	0.94 (0.74, 1.19)	0.596	0.77 (0.49, 1.22)	0.262		
ApoA1 g/L					0.34 (0.06, 2.02)	0.234	1.82 (0.04, 89.73)	0.762	9.97 (0.19, 514.12)	0.251
Ocular										
Normal Choroid 201-400µm	1.00		1.00		1.00		1.00		1.00	
Thick Choroid ≥401µm	1.49 (0.60, 3.69)	0.389	1.79 (1.39, 2.29)	<0.001	1.51 (1.09, 2.10)	0.012	2.15 (1.26, 3.67)	0.005	2.58 (1.35, 4.92)	0.004
Thin Choroid ≤200µm	1.78 (1.10, 2.88)	0.019	1.05 (0.88, 1.26)	0.595	0.92 (0.72, 1.17)	0.510	1.04 (0.69, 1.55)	0.866	1.28 (0.83, 1.96)	0.260

Results report the fully adjusted multivariable model for each feature. Results reported for all regressions are pooled estimates from models fitted to each of the multiple imputed datasets. Therefore, odds ratios are not reported for the “Missing” category of categorical variables because these gaps have been filled in during the multiple imputation procedure. Similarly, missing values in continuous variables have also been filled. SBP=systolic blood pressure, DBP=diastolic blood pressure, MMSE=Mini-mental state examination, MOCA=The Montreal Cognitive Assessment hsCRP=high sensitivity C reactive protein,

LDL=low density lipoprotein, HDL= high density lipoprotein, LPA= Lysophosphatidic acid, ApoA1= Apolipoprotein A1 ApoB= Apolipoprotein B, GA=geographic atrophy. Only variables retained in final model are listed in the table, the following were excluded: Waist Hip Ratio, Body Mass Index, self-report cardiovascular disease, self-report chronic lung disease, self-report asthma, self-report cognitive problems, education, smoking, diabetes, cognitive scores, hsCRP, LDL, Lpa, ApoB, creatinine, evidence of epiretinal membrane, evidence of vitreomacular adhesion.

Supplementary Table 6 Eye level risk factor associations with presence vs absence of OCT based AMD features.

Participant characteristics	Classical Drusen		SDD		SDD only		Focal Atrophy		CNV	
	N=1688		N=1549		N=382		N=264		N=16	
	OR	P	OR	P	OR	P	OR	P	OR	P
Age	0.97 (0.89, 1.06)	0.486	0.95 (0.86, 1.04)	0.266	0.93 (0.79, 1.11)	0.445	0.89 (0.75, 1.04)	0.139	1.04 (0.53, 2.04)	0.916
Age ²	1.00 (1.00, 1.00)	0.069	1.00 (1.00, 1.00)	0.016	1.00 (1.00, 1.00)	0.187	1.00 (1.00, 1.00)	0.048	1.00 (1.00, 1.01)	0.659
Female	0.99 (0.86, 1.15)	0.910	0.92 (0.79, 1.07)	0.287	1.02 (0.80, 1.29)	0.885	0.82 (0.61, 1.10)	0.190	1.95 (0.59, 6.43)	0.271
Genetic Risk Score	1.33 (1.24, 1.43)	<0.001	1.35 (1.26, 1.44)	<0.001	1.15 (1.02, 1.28)	0.017	1.26 (1.08, 1.46)	0.003	2.07 (1.29, 3.33)	0.003
Spherical Equivalent (Diopters)	1.07 (1.04, 1.11)	<0.001	1.07 (1.03, 1.10)	<0.001						
Self-report										
Chronic lung disease							1.96 (1.05, 3.68)	0.034	Excluded	
Cancer							0.50 (0.26, 0.96)	0.037	Excluded	
Parkinson's	3.34 (1.10, 10.15)	0.033							Excluded	
Education										
Primary or less	1.00		1.00				1.00		1.00	

Secondary	0.90 (0.73, 1.10)	0.294				
Degree or higher	0.89 (0.70, 1.12)	0.311				
Smoker						
Never	1.00	1.00		1.00	1.00	
Former				1.38 (1.01, 1.88)	0.041	2.47 (0.76, 8.09) 0.133
Current				1.21 (0.72, 2.04)	0.458	3.19 (0.32, 32.26) 0.323
Hypertension Category						
SBP<120 & DBP<80	1.00	1.00	1.00	1.00	1.00	
120≤SBP<130 & DBP<80	1.29 (1.00, 1.65)	0.047	1.28 (0.99, 1.65)	0.058	1.41 (0.89, 2.24)	0.141
130≤SBP<140 Or 80≤DBP<90	1.08 (0.89, 1.30)	0.427	1.06 (0.88, 1.29)	0.517	1.37 (0.98, 1.92)	0.060
SBP≥140 Or DBP≥90	1.11 (0.90, 1.37)	0.344	1.14 (0.91, 1.41)	0.247	1.34 (0.93, 1.93)	0.118
Cognitive						
MOCA Score < 26			0.84 (0.73, 0.98)	0.024		
Serum						

hsCRP mg/L	1.06 (0.99, 1.13)	0.105					1.11 (0.97, 1.28)	0.138	1.72 (1.01, 2.94)	0.047
Lpa mg/dL			0.90 (0.80, 1.01)	0.077					1.77 (0.96, 3.24)	0.068
Triglyceride mmol/L	0.83 (0.71, 0.96)	0.014								
ApoA1 g/L			1.53 (0.93, 2.50)	0.090						
Ocular factors										
Evidence of epiretinal membrane	0.83 (0.66, 1.05)	0.122	0.76 (0.60, 0.95)	0.014	0.62 (0.39, 0.96)	0.032	1.36 (0.87, 2.12)	0.179	2.83 (0.80, 10.10)	0.106
Evidence of vitreomacular adhesion					1.21 (0.92, 1.59)	0.176	0.72 (0.53, 0.99)	0.040		
Normal Choroid 201-400µm	1.00		1.00		1.00		1.00		1.00	
Thick Choroid ≥401µm	1.84 (1.42, 2.37)	<0.001	1.34 (1.01, 1.77)	0.041	1.55 (0.90, 2.66)	0.109			5.00 (0.71, 35.09)	0.104
Thin Choroid ≤200µm	0.89 (0.74, 1.07)	0.210	1.09 (0.91, 1.31)	0.361	1.67 (1.26, 2.22)	<0.001			1.93 (0.60, 6.16)	0.265

For continuous variables, the mean and standard deviation is reported. For categorical variables, the number of individuals in each level (category) is given along with the column percentage. Results reported are from the fully adjusted regression models. Results reported for all regressions are pooled estimates from models fitted to each of the multiple imputed datasets. Therefore, odds ratios are not reported for the “Missing” category of categorical variables because these gaps have been filled in during the multiple imputation procedure. Similarly, missing values in continuous variables have also been filled. SBP=systolic blood pressure, DBP=diastolic blood pressure, MMSE=Mini-mental state examination, MOCA=The Montreal Cognitive Assessment hsCRP=high sensitivity C reactive protein, LDL=low density lipoprotein, HDL= high density lipoprotein, LPA= Lysophosphatidic acid, ApoA1= Apolipoprotein

A1 ApoB= Apolipoprotein B, SDD=subretinal drusenoid deposits, CNV=choroidal neovascular membrane. Only variables retained in final model are listed in the table, the following were excluded: Waist hip ratio, Body Mass Index, Resting heart rate, self-report cardiovascular disease, self-report asthma, self-report arthritis, self-report cognitive problems, self-report arthritis, self-report diabetes, cataract, diabetes, alcohol intake, MMSE Score <24, LDL, HDL, Vitamin D, creatinine, Apo B.