Supplemental material

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance placed on this supplemental material which has been supplied by the author(s)

Br J Ophthalmol

Supplementary material

Supplementary Table 1. UK Biobank showcase variables used in the paper.

Measurements	Field ID	Time	Description
Incident retinal vascular occlusion and stroke events			
Incident retinal artery occlusion	41270 (code H340-H342)	From the date of baseline assessment to the date of onset retinal artery occlusion	Hospital in-patient records with retinal artery occlusion as main or any secondary diagnoses based on the 10th edition of the WHO International Classification of Diseases (ICD-10).
Incident ischemic stroke	41270 (code I63)	From the date of baseline assessment to the date of onset stroke	Hospital in-patient records with ischemic stroke as main or any secondary diagnoses based on the 10th edition of the WHO International Classification of Diseases (ICD-10).
Incident transient ischemic attack	41270 (code G45, G458, G459)	From the date of baseline assessment to the date of onset transient ischemic attack	Hospital in-patient records with transient ischemic attack as main or any secondary diagnoses based on the 10th edition of the WHO International Classification of Diseases (ICD-10).
Risk factors			
High-sensitivity C-reactive protein	30710	Baseline assessment	Blood high-sensitivity C-reactive protein level Measured by enzymatic methodology on a Beckman Coulter AU5800 (mg/L).
Smoking status	20116	Baseline assessment	This field summarizes the current/past smoking status of the participant.

Alcohol drinker status	20117	Baseline assessment	This field summarizes the current/past alcohol drinker status of the participant.
Diabetes mellitus	2443	Baseline assessment	Doctor-diagnosed diabetes mellitus. Touchscreen question "Has a doctor ever told you that you have diabetes?"
	20003		The use of anti-hyperglycemic medications.
	6153 (code 3)		The use of insulin.
	30750		Glycated hemoglobin level measured by HPLC analysis on a Bio-Rad VARIANT II Turbo ($\geq$ 48 mmol/mol).
Hypertension	20002 (code 1065, 1072)	Baseline assessment	Self-reported hypertension.
	6153 (code 2)		Use of antihypertensive drugs.
	4080		Average systolic blood pressure of at least 130mmHg.
	4079		Average diastolic blood pressure of at least 80mmHg.
Hyperlipidemia	20002 (code 1473)	Baseline assessment	Self-reported hyperlipidemia.
	6153		The use of statins.
	20003		The use of hyperlipidemia-related medication.
	30690		Blood cholesterol level Measured by CHO-POD analysis on a Beckman Coulter AU5800 ($\geq$ 6.21 mmol/L).
Family history of stroke	20107 (code 2)	Baseline assessment	Illnesses of father. Touchscreen question "Has/did your father ever suffer from? (You can select more than one answer)".
	20110 (code 2)		Illnesses of mother. Touchscreen question "Has/did your mother ever suffer from? (You can select more than one answer)".
	20111 (code 2)		Illnesses of siblings. Touchscreen question "Have any of your brothers or sisters suffered from any of the following diseases? (You can select more than one answer)".
Body mass index	21002	Baseline assessment	Weight. Body mass index was computed as weight in kilograms divided by height squared in meters.

	12144	Baseline assessment	Height. Body mass index was computed as weight in kilograms divided by height squared in meters.
Demographic information			
Age	21003	Baseline assessment	Refer to the age of the participant on the day they attended an Assessment Centre, year.
Sex	31	Baseline assessment	Sex of participant.
Ethnic background	21000	Baseline assess-ent	Recorded as white and non-white.
Education attainment	6138	Baseline assessment	Touchscreen question "Which of the following qualifications do you have? (You can select more than one)".
Townsend deprivation index	189	Baseline assessment	Townsend deprivation index calculated immediately prior to participant joining UK Biobank based on the preceding national census output areas. Each participant is assigned a score corresponding to the output area in which their postcode is located.
Physical activity levels	22036	Baseline assessment	Indicates whether a person met the 2017 UK Physical activity guidelines of 150 minutes of walking or moderate activity per week or 75 minutes of vigorous activity.

Supplemental material

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance placed on this supplemental material which has been supplied by the author(s)

Br J Ophthalmol

Supplemental Table 2. Multivariable-adjusted hazard ratios (95% confidence interval) for the association of hs-CRP and incident retinal artery occlusion, ischemic stroke, and transient ischemic attack stratified by gender and age.

		Retinal Artery Occlusion		Ischemic Stroke		Transient Ischemic Attack	
		HR (95%CI)	*P* for interaction	HR (95%CI)	*P* for interaction	HR (95%CI)	*P* for interaction
Gender	Female	1.26 (0.77-2.06)	0.840	**1.22 (1.09-1.37)**	0.807	1.01 (0.83-1.24)	0.134
	Male	1.38 (0.99-1.92)		**1.26 (1.16-1.35)**		**1.19 (1.05-1.35)**	
Age	<60 years	**1.63 (1.13-2.34)**	0.202	**1.29 (1.13-1.47)**	0.172	**1.60 (1.30-1.99)**	0.149
	≥60 years	1.17 (0.77-1.78)		**1.25 (1.16-1.34)**		1.06 (0.83-1.35)	

Abbreviations: hs-CRP (high-sensitivity C-reactive protein). The model is adjusted for age, gender, ethnicity, education, Townsend deprivation index, physical activity, body mass index, cigarette smoking, alcohol drinking, family history of stroke, diabetes mellitus, hypertension, and hyperlipidemia.

BOLDED items are significant statistically significant (P < 0.05).

Supplemental material

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance placed on this supplemental material which has been supplied by the author(s)

Br J Ophthalmol

Supplemental Table 3. Multivariable-adjusted hazard ratios (95% confidence interval) for the association of hs-CRP and incident retinal artery occlusion, ischemic stroke, and transient ischemic attack after excluding individuals who had a prior history of related brain, cardiovascular diseases, and eye diseases.

CRP concentration		Incident Retinal Artery Occlusion (n=102)		Incident Ischemic Stroke (n=2,680)		Incident Transient Ischemic Attack (n=1,254)	
		Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
per 10 mg/L		1.07 (0.71-1.63)	1.03 (0.61-1.74)	**1.35 (1.28-1.42)**	**1.24 (1.16-1.33)**	**1.25 (1.14-1.37)**	1.13 (1.00-1.27)
category	low	reference	reference	reference	reference	reference	reference
	median	**2.19 (1.31-3.68)**	**1.93 (1.06-3.52)**	**1.44 (1.30-1.60)**	1.10 (0.98-1.24)	**1.34 (1.15-1.55)**	1.07 (0.91-1.27)
	high	1.70 (0.99-2.92)	1.27 (0.64-2.51)	**2.01 (1.82-2.2**1)	**1.45 (1.29-1.63)**	**1.75 (1.52-2.01)**	**1.32 (1.17-1.57)**

Abbreviations: hs-CRP (high-sensitivity C-reactive protein). Model 1 is the crude model; Model 2 is adjusted for age, gender, ethnicity, education, Townsend deprivation index, physical activity, body mass index, cigarette smoking, alcohol drinking, family history of stroke, diabetes mellitus, hypertension, and hyperlipidemia.

BOLDED items are significant statistically significant (P < 0.05).

Supplemental Table 4. Multivariable-adjusted hazard ratios (95% confidence interval) for the association of hs-CRP and incident retinal artery occlusion, ischemic stroke and transient ischemic attack after excluding participants with hs-CRP levels more than 10 mg/L.

CRP concentration		Incident Retinal Artery Occlusion (n=125)		Incident Ischemic Stroke (n=2,996)		Incident Transient Ischemic Attack (n=1,414)	
		Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
per 10 mg/L		**1.19 (0.47-3.02)**	0.56 (0.16-2.02)	**3.30 (2.81-3.87)**	**2.25 (1.83-2.76)**	**2.77 (2.18-3.52)**	**1.98 (1.46-2.68)**
category	low	reference	reference	reference	reference	reference	reference
	median	**1.89 (1.20-2.96)**	1.53 (0.91-2.54)	**1.41 (1.28-1.55)**	1.08 (0.97-1.21)	**1.40 (1.22-1.60)**	1.51 (0.99-1.34)
	high	**1.61 (1.00-2.59)**	1.12 (0.62-2.00)	**1.96 (1.79-2.15)**	**1.41 (1.27-1.58)**	**1.81 (1.59-2.07)**	**1.43 (1.22-1.67)**

Abbreviations: CRP (C-reactive protein). Model 1 is the crude model; Model 2 is adjusted for age, gender, ethnicity, education, Townsend deprivation index, physical activity, body mass index, cigarette smoking, alcohol drinking, family history of stroke, diabetes mellitus, hypertension, and hyperlipidemia.

BOLDED items are significant statistically significant ($P < 0.05$).

Supplemental material

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance placed on this supplemental material which has been supplied by the author(s)

Br J Ophthalmol

Supplemental Table 5. Multivariable-adjusted odd ratios (95% confidence interval) for the association of hs-CRP and retinal artery occlusion, ischemic stroke, and transient ischemic attack after additional adjustment for statin therapy.

CRP concentration		Incident Retinal Artery Occlusion (n=125)	Incident Ischemic Stroke (n=2,996)	Incident Transient Ischemic Attack (n=1,414)
		HR (95% CI)	HR (95% CI)	HR (95% CI)
per 10 mg/L		**1.34 (1.02-1.76)**	**1.25 (1.17-1.33)**	**1.13 (1.01-1.26)**
category	low	reference	reference	reference
	median	1.54 (0.92-2.56)	1.09 (0.98-1.22)	1.16 (0.99-1.35)
	high	1.35 (0.78-2.35)	**1.49 (1.34-1.66)**	**1.43 (1.22-1.67)**

Abbreviations: CRP (C-reactive protein). The model is adjusted for age, gender, ethnicity, education, Townsend deprivation index, physical activity, body mass index, cigarette smoking, alcohol drinking, family history of stroke, diabetes mellitus, hypertension, hyperlipidemia, and statin therapy.

BOLDED items are significant statistically significant (P < 0.05).

Supplemental material

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance placed on this supplemental material which has been supplied by the author(s)

Br J Ophthalmol

Supplemental Table 6. Multivariable-adjusted odd ratios (95% confidence interval) for the association of hs-CRP and retinal artery occlusion, ischemic stroke,

and transient ischemic attack in the local Chinese cohort.

CRP concentration	Retinal Artery Occlusion (n=24)		Ischemic Stroke (n=138)		Transient Ischemic Attack (n=112)	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
per 1 mg/L	**1.40 (1.14-1.72)**	**1.43 (1.15-1.78)**	**1.17 (1.06-1.30)**	**1.13 (1.03-1.24)**	**1.12 (1.03-1.22)**	1.06 (0.97-1.16)

Abbreviations: CRP (C-reactive protein). Model 1 is the crude model; Model 2 is adjusted for age, gender, body mass index, diabetes mellitus, and hypertension.

BOLDED items are significant statistically significant (P < 0.05).