Six-Year Incidence and Risk Factors for Age-Related Macular Degeneration in a Rural Chinese Population: The Handan Eye Study

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Purpose. To describe the 6-year incidence of early and late age-related macular degeneration (AMD) and its associated factors in a representative large rural Chinese population.

Methods. A population-based longitudinal study was conducted in rural China from 2006 to 2007. In total, 6830 persons aged 30 years or older participated in the study. The 6-year follow-up study was performed between 2012 and 2013. The modified Wisconsin Age-Related Maculopathy Grading System (WARMGS) protocol in the Blue Mountains Eye Study was used as the AMD grading standard.

Results. Excluding 509 deceased subjects, 5394 (follow-up rate 85.3%) completed the follow-up. Among them, 5048 participants had gradable photographs of at least one eye at both examinations. The incidence of early and late AMD over 6 years was 4.2% (95% CI, 3.8%–4.7%) and 0.2% (95% CI, 0.2%–0.3%), respectively. In the multivariable analysis, per-year increase in age ($P < 0.001$; OR = 1.06; 95% CI, 1.04–1.07), male sex ($P = 0.006$; OR = 0.64; 95% CI, 0.47–0.88), and per-millimeter increase in axial length ($P = 0.010$; OR = 0.78; 95% CI, 0.63–0.94) at baseline were significantly associated with incident early AMD. Early AMD was not associated with systolic blood pressure, diastolic blood pressure, hypertension, diabetes, history of stroke, history of heart disease, body mass index, total cholesterol, high density lipoprotein cholesterol, low density lipoprotein cholesterol, triglycerides, smoking status, refractive error, or corneal curvature radius. There were too few cases of late AMD for a valid statistical analysis of the risk factors.

Conclusions. The incidence of early and late AMD over 6 years in a rural Chinese population was 4.2% (95% CI, 3.8%–4.7%) and 0.2% (95% CI, 0.2%–0.3%), respectively. Age, sex, and axial length are relevant risk factors for early AMD in rural China.

Keywords: age-related macular degeneration, incidence, risk, axial length

Age-related macular degeneration (AMD) is an ocular disease that leads to severe visual impairment in the adult population globally.[1] It has been estimated that the number of AMD patients will reach 196 million in 2020 and increase to 288 million by 2040.[2] Knowledge of the population-specific incidence and risk factors of AMD is essential to the planning of adequate health care provisions for the aging population. Population-based studies have been performed on AMD all over the world, which have documented the incidence of early and late AMD over 4 to 6 years.[3–11] However, none of these studies have focused on a rural Chinese population. Studies indicate that the prevalence of early and late AMD varies among different races and ethnicities. Therefore, the incidence of early and late AMD might be different in Chinese, Japanese, Singaporean, and Caucasian populations. The objective of this study was to investigate the 6-year incidence of early and late AMD and the associated factors of early AMD in a representative large rural Chinese population-based cohort.

Methods

Population

The Handan Eye Study was a population-based longitudinal study in rural China, which was conducted in Handan, Hebei Province, northern China. Details of the survey methods and procedures, as well as the baseline characteristics, have been previously described.[12,13] The study protocol was approved by the Beijing Tongren Hospital Ethics Committee (TREC2006-22). All participants signed informed consents in accordance with the guidelines of the Declaration of Helsinki. In 2006–2007, a total of 6830 subjects aged 30 years and above participated in the baseline study, of which 6581 (96.4%) had gradable fundus

photographs, including 4049 aged ≥50 years. The 6-year follow-up study was performed between 2012 and 2013.

All examinations were carried out by following a standardized examination procedure that included the measurement of uncorrected and best-corrected visual acuity (BCVA), and a detailed clinical and eye examination. Height, weight, blood pressure, and waist and hip circumference were recorded. Body mass index (BMI) was calculated by using weight and height measurements. Additional examinations such as blood sampling for biochemical analysis were also carried out. The total cholesterol, triglyceride, high-density lipoprotein cholesterol (HDL-C), and low-density lipoprotein cholesterol (LDL-C) in the blood plasma were measured.

Ophthalmic Examination and AMD Grading

Dilated-pupil retinal examination was performed with tropicamide phenylephrine eye drops. At baseline, retinal photographs were obtained by using two digital retinal cameras. A Topcon TRC-NW6S/7S camera (Topcon, Tokyo, Japan) was used for approximately one-third of study participants, and a Canon CR-DGi with a 20D SLR back (Canon, Tokyo, Japan) was used for the other two-thirds of subjects. All the fundus pictures were taken with a Canon CR 2 with a 20D SLR back in the follow-up study. Binocular fundus stereo photographs, including two 45° digital retinal photographs (one disc- and one macula-centered), were taken from each subject, according to the Early Treatment Diabetic Retinopathy Study field.

The modified Wisconsin Age-Related Maculopathy Grading System (WARMGS) protocol in the Blue Mountains Eye Study was used as an AMD grading standard, which was also used in the baseline examination.[13,14] Two trained graders (FM and XY) initially graded photographs of each eye in a masked manner. For the second step, the photographs of the baseline and follow-up were graded side by side for each eye that had lesions at either examination. In case of disagreement, the eye would be regraded for the specific lesion by a senior grader (KY). The unweighted κ statistic was calculated on the basis of the graders' agreement from a random sample of 100 participants. Good agreement was found for the presence of early and late AMD, hypopigmentation, and hyperpigmentation ($\kappa = 0.89$, 1.0, 0.75, and 0.8, respectively). All patients with late AMD were further adjudicated by a senior researcher (XC).

Early AMD was defined as the absence of late AMD and the presence of either indistinct soft or reticular drusen or the copresence of both large (>125 μm) distinct soft drusen and retinal pigmentary abnormalities (hyperpigmentation or hypopigmentation). Late AMD was defined as the presence of neovascular AMD or geographic atrophy (GA). The minimum area of GA was 175 μm in diameter. Neovascular AMD included serous or hemorrhagic detachment of the retinal pigment epithelium or sensory retina, and the presence of subretinal or sub-RPE hemorrhages or subretinal fibrous scar tissue.[15] Incident late AMD was defined by the appearance of neovascular AMD or GA involving the macular area in either eye at follow-up of persons in whom no late AMD was present at baseline. If both eyes were gradable, case definitions would be based on the eye with more severe conditions. Incident early AMD was defined by the appearance at follow-up of either both large distinct soft drusen and retinal pigmentary abnormalities, or large indistinct soft or reticular drusen in either eye of persons in whom no early or late AMD was present at baseline. Incidence of a specific lesion was defined as the development of a lesion that was not present at baseline. For example, incident soft indistinct was defined by the appearance at follow-up of these lesions in either eye with only soft, or hard, or without drusen at baseline.

Assessment of Risk Factors

Smoking status was classified as never smoker, past smoker, or current smoker. Autorefraction data were obtained with an Autorefractor (KR8800; Topcon). The axial length (AL) was measured by using a 10-MHz A/B-mode ultrasound device (Cine Scan, Auvergne, France). The spherical equivalent (SE) was calculated as the spherical dioptric power plus half the cylindrical dioptric power. Myopia was defined as SE <−0.50 D, hyperopia as >+0.50 D, and emmetropia as −0.50 D to +0.50 D. BMI was classified as underweight, normal, overweight, and obesity according to guidelines recommended by the World Health Organization, which defined underweight as <18.5 kg/m^2, overweight as BMI ≥25 kg/m^2, and obesity as BMI ≥30 kg/m^2. All of these data were measured at baseline.

Statistical Analysis

All data analysis was conducted by using SPSS 25.0 (IBM, Inc., Armonk, NY, USA). Baseline characteristics were compared between individuals who had ungradable retinal photographs or did not return for the follow-up examination and those who followed up. Differences in the measurement data were detected by analysis using *t*-test, χ^2 test, or Mann-Whitney *U* test. Analyses of associations were calculated by using univariable logistic regression analysis to determine risk factors at baseline associated with the incidence of AMD. Multivariable logistic regression analysis would be conducted if there were factors with $P < 0.1$ in the univariable analysis. Eye parameters, such as the SE, AL, and corneal curvature radius were taken from the right eyes of each subject. A difference was considered statistically significant at $P < 0.05$.

Results

Of the 6830 subjects who participated in the baseline study, 387 (5.6%) had moved away and 507 (7.4%) had died before the follow-up examination from 2012 to 2013. After excluding the 507 deceased subjects, 5394 (follow-up rate 85.3%) participated in the follow-up study, with 5048 participants having gradable photographs of at least one eye at both examinations. In total, 5048 was the real study population in this study.

The baseline characteristics of the participants who had gradable photographs at both examinations, as well as those who did not attend the follow-up examination or had no gradable images, are listed in Table 1. Individuals who did not participate or were not included in the follow-up analysis were older (56.11 vs. 51.00 years, $P < 0.001$), with a higher ratio of males (49.8% vs. 45.1%, $P < 0.001$), or displayed higher hypertension (22.7% vs. 19.4%, $P = 0.005$) and diabetes (3.7% vs. 1.6%, $P < 0.001$), lower BMI (24.30 vs. 24.56 kg m^2, $P < 0.033$), and higher systolic blood pressure (140.89 vs. 137.90 mm Hg, $P < 0.001$).

Table 2 shows the incidence of early and late AMD stratified by age and sex. The incidence of early and late AMD over the 6 years was 4.2% (95% CI, 3.8%–4.7%) and 0.2% (95% CI, 0.2%–0.3%), respectively. Age showed a strong correlation with the incidence of early AMD. After stratification by age and sex, the incidence of early AMD was 0.4% (95% CI, 0.3%–0.7%) among subjects aged <40 years, increasing to 8.8% (95% CI, 5.9%–12.2%) among those aged ≥70 years. The incidence of early AMD was 3.7% (95% CI, 3.1%–4.3%) in women and 4.9% in men (95% CI, 4.2%–5.7%) ($P = 0.042$). Of the 11 persons with incident late AMD, four had GA and seven had neovascular AMD. There was no significant difference between men and women in the late AMD incidence (0.2% vs. 0.2%) ($P = 0.980$).

Table 1. The Baseline Characteristics of Participants Who Had Gradable Photographs at Both Examination As Well As Those Who Did Not Attend the Follow-up Examination or Had No Gradable Images

Variable	Nonparticipants or Not Included in Analysis ($n = 1782$)	Follow-up Included in Analysis ($n = 5048$)	P
Age, y	56.11 ± 14.69	51 ± 10.80	<0.001
Sex, male	49.8	45.1	<0.001
Marriage status, married	84.5	90.6	<0.001
BMI, kg m^2	24.30 ± 4.24	24.56 ± 3.60	0.033
Systolic blood pressure, mm Hg	140.89 ± 24.92	137.90 ± 21.56	<0.001
Diastolic blood pressure, mm Hg	77.05 ± 12.95	77.49 ± 11.86	0.205
BCVA	0.8 (0.63, 1.0)	1.0 (0.8, 1.0)	<0.001
SE, D	−0.13 (−0.63, 0.50)	0 (−0.50, 0.50)	0.028
AL, mm	22.84 ± 0.95	22.80 ± 0.85	0.205
DM, %	3.7	1.6	<0.001
HBP, %	22.7	19.4	0.005
CHD, %	6.2	4.9	0.095
Stroke, %	4.1	2.2	<0.001
Smoking			
Current smoker	27.2	27.5	0.06
Past smoker	6	4.1	
Never smoker	66.8	68.4	
Drinking			
Current drinker	17.7	18.9	0.08
Past drinker	3.7	2.7	
Never drank	78.6	78.3	

CHD, coronary heart disease; DM, diabetes mellitus; HBP, high blood pressure.

The incidence rates of early AMD lesions by age and sex are shown in Table 2. The incidence of distinct drusen (men 4.4% vs. women 3.3%) ($P = 0.028$) and hypopigmentation (men 4.4% vs. women 3.4%) ($P = 0.047$) was higher in men than in women, whereas the incidence of indistinct drusen and hyperpigmentation did not differ significantly in women and men.

As shown in Table 3, univariate analysis and multivariate regression analysis were applied to identify potential risk factors at baseline related to early AMD. In the univariate analysis, the incidence of early AMD was strongly associated with age ($P < 0.001$), sex ($P = 0.042$), systolic blood pressure ($P < 0.001$), hypertension ($P = 0.001$), hyperopia ($P < 0.001$), AL ($P = 0.013$), and corneal curvature radius ($P = 0.033$). Incident early AMD was not associated with diastolic blood pressure, BMI, diabetes, history of stroke, history of heart disease, smoking status, drinking status, total cholesterol HDL-C, LDL-C, or triglycerides.

For the multivariable analysis, all of the factors with $P < 0.1$ were included in the multivariate regression analysis. In this adjusted model, age (OR = 1.06, $P < 0.001$), sex (OR = 0.64, $P = 0.006$), and AL (OR = 0.78, $P = 0.010$) were significantly associated with incident early AMD.

There were too few cases of late AMD for a valid statistical analysis of the risk factors.

We estimated the 5-year incidence, using a method in the Singapore Malay Eye Study, by assuming a constant incidence rate over time.[10] Table 4 summarizes the incident AMD in Caucasian and Asian populations after age standardization for each study population. The incidence of AMD in our study was lower than that in the Beaver Dam Eye Study (early/late AMD, 4.46%/0.27% vs. 8.19%/0.91%), Blue Mountain Eye Study (early/late AMD, 4.91%/0.32% vs. 8.74%/1.10%), Hisayama Study (early/late AMD, 4.94%/0.33% vs. 7.95 %/0.84%), and Singapore Malay Eye Study (early/late AMD, 4.22%/0.24% vs. 5.09%/0.72%). Incident AMD in the Beijing Eye Study did not differ significantly from what was observed in our study (early/late AMD, 4.20%/0.10% vs. 4.22%/0.24%).

Discussion

In previous studies, it has been shown that incident early and late AMD is more prevalent in Europeans and Americans than in Asians. Our study also provided strong evidence to support this view. The 5-year incidence of AMD in our study was markedly lower than in the Beaver Dam Eye Study (early/late AMD, 4.46%/0.27% vs. 8.19%/0.91%) and Blue Mountain Eye Study (early/late AMD, 4.91%/0.32% vs. 8.74%/1.10%) after age standardization. In accordance with the prevalence of AMD, the incidence of AMD in China was lower than that in the Singapore Malay Eye Study and Japanese Hisayama Study. This result could be due to heterogeneity contributed by various ethnic groups within each region.[2,16]

Female sex was associated with a higher incidence of early AMD in Caucasians. In Asians, men had a significantly higher incidence of early AMD in the Hisayama Study and Singapore Malay Eye Study. However, men and women did not differ in terms of incident AMD in the Beijing Eye Study. In our study, male sex was significantly associated with incident AMD after the adjustment for age and other risk factors.

Smoking has been reported as a risk factor for incident early AMD in some studies. In our study, we found no correlation between smoking and early AMD. The Beijing Eye Study had the same result.

A strong correlation was found between incident AMD and AL in our study. A per-millimeter increase in AL was associated with a lower risk of incident AMD after adjustment for age, sex, and other risk factors ($P = 0.010$; OR = 0.78; 95% CI, 0.63–0.94). AL has been previously reported to be associated with early AMD.[17,18]

There are some possible explanations for the correlation between AL and AMD. First, increased scleral rigidity may be a significant risk factor for the development of AMD because of metabolic problems.[19,20] Longer eyeballs have thinner sclera and less scleral rigidity than shorter eyeballs,[21] resulting in a greater risk of developing AMD. Second, a meta-analysis indicates that individuals with more sunlight exposure are at a significantly increased risk of AMD.[22] Quigley et al.[23] have

Table 2. Incidence of Early and Late AMD Stratified by Age and Sex in the Handan Eye Study

Sex	Age Group, y	No. at Risk	Early AMD (95% CI)	Late AMD (95% CI)	Soft Distinct Drusen (95% CI)	Soft Indistinct Drusen/Reticular Drusen (95% CI)	Hyperpigmentation (95% CI)	Hypopigmentation (95% CI)	Pigment Abnormalities (95% CI)
Male	≤39	392	0.26 (0.08–0.52)	0.00 (0.00–0.00)	0.77 (0.35–1.33)	0.26 (0.08–0.52)	0.51 (0.21–0.94)	1.28 (0.67–2.07)	1.28 (0.67–2.07)
	40–49	493	3.45 (2.30–4.81)	0.00 (0.00–0.00)	3.45 (2.30–4.81)	2.84 (1.84–4.04)	1.83 (1.10–2.72)	4.46 (3.09–6.07)	4.67 (3.25–6.32)
	50–59	884	5.77 (4.52–7.16)	0.34 (0.18–0.54)	5.43 (4.23–6.77)	4.19 (3.18–5.32)	2.04 (1.44–2.74)	6.00 (4.72–7.42)	6.11 (4.81–7.55)
	60–69	389	8.48 (6.13–11.18)	0.26 (0.08–0.53)	6.43 (4.47–8.72)	8.48 (6.13–11.18)	2.06 (1.18–3.16)	3.60 (2.29–5.19)	3.86 (2.48–5.52)
	≥70	118	7.63 (3.90–12.46)	0.85 (0.16–2.07)	6.78 (3.35–11.30)	5.93 (2.81–10.12)	3.39 (1.32–6.38)	5.93 (2.81–10.12)	5.93 (2.81–10.12)
	Total	2276	4.88 (4.17–5.64)	0.22 (0.15–0.31)	4.44 (3.77–5.16)	4.04 (3.42–4.72)	1.80 (1.45–2.19)	4.44 (3.77–5.16)	4.57 (3.89–5.30)
	P for trend		<0.001	0.323	<0.001	<0.001	0.215	0.004	0.004
Female	≤39	512	0.59 (0.29–0.99)	0.00 (0.00–0.00)	0.59 (0.29–0.99)	0.78 (0.41–1.27)	0.00 (0.00–0.00)	0.59 (0.29–0.99)	0.59 (0.29–0.99)
	40–49	619	1.94 (1.26–2.76)	0.00 (0.00–0.00)	1.94 (1.26–2.76)	1.62 (1.02–2.34)	0.65 (0.35–1.03)	2.75 (1.87–3.79)	2.75 (1.87–3.79)
	50–59	1095	4.29 (3.37–5.32)	0.46 (0.28–0.68)	4.20 (3.29–5.22)	3.38 (2.60–4.26)	2.19 (1.62–2.85)	4.02 (3.14–5.00)	4.38 (3.45–5.43)
	60–69	403	6.70 (4.72–9.00)	0.25 (0.08–0.50)	4.47 (2.96–6.26)	6.70 (4.72–9.00)	2.23 (1.32–3.38)	4.22 (2.77–5.95)	4.71 (3.15–6.57)
	≥70	143	9.79 (5.74–14.78)	0.00 (0.00–0.00)	7.69 (4.24–12.06)	10.49 (6.25–15.66)	5.59 (2.83–9.23)	8.39 (4.73–12.98)	9.79 (5.74–14.78)
	Total	2272	3.72 (3.18–4.29)	0.22 (0.15–0.30)	3.25 (2.76–3.77)	3.35 (2.85–3.89)	1.62 (1.32–1.95)	3.35 (2.85–3.89)	3.64 (3.11–4.21)
	P for trend		<0.001	0.222	<0.001	<0.001	<0.001	<0.001	<0.001
Both	≤39	904	0.44 (0.25–0.68)	0.00 (0.00–0.00)	0.66 (0.41–0.98)	0.55 (0.33–0.84)	0.22 (0.11–0.37)	0.88 (0.56–1.28)	0.88 (0.56–1.28)
	40–49	1112	2.61 (1.96–3.34)	0.00 (0.00–0.00)	2.61 (1.96–3.34)	2.16 (1.59–2.81)	1.17 (0.81–1.59)	3.51 (2.71–4.40)	3.60 (2.79–4.51)
	50–59	1979	4.95 (4.19–5.78)	0.40 (0.28–0.55)	4.75 (4.00–5.56)	3.74 (3.11–4.43)	2.12 (1.70–2.59)	4.90 (4.14–5.72)	5.15 (4.37–6.00)
	60–69	792	7.58 (6.01–9.31)	0.25 (0.12–0.43)	5.43 (4.17–6.84)	7.58 (6.01–9.31)	2.15 (1.49–2.92)	3.91 (2.91–5.06)	4.29 (3.22–5.51)
	≥70	261	8.81 (5.92–12.22)	0.38 (0.11–0.83)	7.28 (4.73–10.33)	8.43 (5.62–11.75)	4.60 (2.74–6.91)	7.28 (4.73–10.33)	8.05 (5.32–11.28)
	Total	5048	4.24 (3.80–4.70)	0.22 (0.17–0.28)	3.78 (3.38–4.21)	3.66 (3.27–4.08)	1.70 (1.47–1.95)	3.84 (3.43–4.28)	4.06 (3.63–4.51)
	P for trend		<0.001	0.094	<0.001	<0.001	<0.001	<0.001	<0.001

Table 3. The Univariate Analysis and Multivariate Regression Analysis of Baseline Covariables in the Handan Eye Study

	Univariate Logistic Regression		Multivariable Logistic Regression	
Variable	***P***	**OR (95% CI)**	***P***	**OR (95% CI)**
Age, y	<0.001	1.06 (1.04–1.07)	<0.001	1.06 (1.04–1.07)
Sex	0.042	0.75 (0.57–0.99)	0.006	0.64 (0.47–0.88)
Systolic blood pressure, mm Hg	<0.001	1.01 (1.01–1.02)		
Diastolic blood pressure, mm Hg	0.51	1.00 (0.99–1.02)		
Hypertension, yes vs. no	0.001	1.58 (1.20–2.08)		
Diabetes, yes vs. no	0.385	1.50 (0.60–3.75)		
History of stroke, yes vs. no	0.563	1.28 (0.56–2.95)		
History of heart disease, yes vs. no	0.267	0.65 (0.30–1.39)		
BMI, kg m^2				
Underweight, <18.50	0.979	0.99 (0.36–2.73)		
Normal, 18.50–24.99	Ref	Ref		
Overweight, 25.00–29.99	0.445	0.68 (0.24–1.89)		
Obese, ≥30.00	0.473	0.65 (0.20–2.10)		
Total cholesterol, mmol/L	0.734	0.97 (0.83–1.14)		
HDL cholesterol, mmol/L	0.218	1.35 (0.84–2.17)		
LDL cholesterol, mmol/L	0.92	0.99 (0.79–1.24)		
Triglycerides, mmol/L	0.11	0.87 (0.73–1.03)		
Smoking status				
Never	Ref	Ref		
Past	0.192	1.50 (0.82–2.75)		
Current	0.315	1.17 (0.86–1.58)		
Drinking status				
Never	Ref	Ref		
Past	0.214	0.79 (0.54–1.15)		
Current	0.408	1.36 (0.66–2.83)		
Refractive error				
Emmetropia	Ref	Ref		
Myopia	0.941	0.99 (0.67–1.45)		
Hyperopia	<0.001	1.88 (1.39–2.57)		
Axial length, mm	0.013	0.79 (0.66–0.95)	0.01	0.78 (0.63–0.94)
Corneal curvature radius, mm	0.033	0.55 (0.32–0.95)		

Ref, reference.

proved that retinal light dose is inversely proportional to AL. These studies may explain the decreased AMD risk in individuals with shorter AL. Third, it has been reported that intraocular vascular endothelial growth factor (VEGF) levels significantly decrease with increasing AL.[24] Longer eyeballs, which have larger intraocular volumes, lead to VEGF dilution, and the opposite for shorter eyeballs.

It has been reported that hyperopia is significantly associated with early AMD prevalence in some studies, such as in the Rotterdam Study, Singapore Malay Eye Study, and Beijing Eye Study.[25–27] However, most of the above studies show that hyperopic eyes have nearly the same incidence as emmetropic eyes, except for the Beijing Eye Study (P = 0.057; OR = 1.15; 95% CI, 1.00–1.33). In our study, the association between hyperopia and early AMD was significant in the univariate analysis and not significant after the adjustment for the other risks, which might be due to a confounding effect.

Conclusion

In conclusion, the 6-year incidence of early and late AMD in the Handan Eye Study was 4.2% and 0.2%, respectively, which was lower than that previously reported in Caucasian populations. The incidence of early AMD was higher in men than in women. Moreover, the incidence of early AMD was significantly associated with older age, male sex, and shorter AL.

Table 4. The 5-Year Incidence of Early and Late AMD in Caucasian and Asian Populations After Age Standardization

Study	Age, y	Early AMD, %	Late AMD, %	Handan Eye Study Age-Adjusted Early AMD, %	Handan Eye Study Age-Adjusted Late AMD, %
Beijing Eye Study	≥40	4.20	0.10	4.22	0.24
Singapore Malay Eye Study	≥40	5.09	0.72	4.22	0.24
Hisayama Study	≥50	7.95	0.84	4.94	0.33
Beaver Dam Eye Study	≥43	8.19	0.91	4.46	0.27
Blue Mountain Eye Study	≥49	8.74	1.10	4.91	0.32

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