

## The Association of Cataract and Cataract Surgery With the Long-term Incidence of Age-Related Maculopathy

### The Beaver Dam Eye Study

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**Objective** To examine the association between cataract and cataract surgery and the 10-year incidence of age-related maculopathy (ARM).

**Methods** A population-based cohort study of persons aged 43 to 86 years at baseline, living in Beaver Dam, Wis, of whom 3684 participated in a 5-year and 2764 in a 10-year follow-up. We used standardized protocols for physical examination, blood collection, health history, slitlamp and retroillumination photography of the lenses to determine the presence of cataract, and stereoscopic color fundus photography to determine the presence of ARM. We used the Kaplan-Meier (product-limit) survival approach and discrete linear logistic regression in analyses.

**Main Outcome Measures** The risk ratios (RRs) of persons with cataract or cataract surgery at baseline.

**Results** While controlling for age, sex, systolic blood pressure, history of heavy drinking and smoking, and vitamin use, cataract at baseline was associated with incidence of early ARM (RR, 1.30; 95% confidence interval [CI], 1.04-1.63), soft indistinct drusen (RR, 1.38; 95% CI, 1.08-1.75), increased retinal pigment (RR, 1.38; 95% CI, 1.07-1.79), and progression of ARM (RR, 1.37; 95% CI, 1.06-1.77). We found no association with the incidence of late ARM. In contrast, cataract surgery before baseline was associated with incidence of late ARM (RR, 3.81; 95% CI, 1.89-7.69), increased retinal pigment (RR, 1.89; 95% CI, 1.18-3.03), retinal pigment epithelial depigmentation (RR, 1.95; 95% CI, 1.17-3.25), pure geographic atrophy (RR, 3.18; 95% CI, 1.33-7.60), exudative macular degeneration (RR, 4.31; 95% CI, 1.71-10.9), and progression of ARM (RR, 1.97; 95% CI, 1.29-3.02), but not with the incidence of early ARM.

**Conclusions** These findings indicate an association of cataract with subsequent risk for early ARM. Cataract surgery increased the risk for late ARM.

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