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Service (sector) Retina and Vitreous N° CEP

Retinopathy and Survival in a Non-Diabetic Population: The Beaver Dam Eye Study

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Purpose: To investigate the association of retinopathy with all cause and cause-specific mortality in the non-diabetic Beaver Dam population. **Methods:** The Beaver Dam Eye Study is an ongoing prospective, population-based cohort study initiated in 1988-1990 in 4,926 persons 43-86 years of age. At baseline, stereoscopic color retinal photographs were graded for retinopathy using a modified Airlie House Classification scheme. The association of retinopathy at baseline with all cause and cause specific (ischemic heart disease and stroke) mortality was investigated considering retinopathy status categorized in four groups: 1) no lesions 2) presence of hemorrhages only 3) presence of microaneurysms only 4) presence of moderate retinopathy. Deaths were ascertained by contacting family members and physicians, review of newspaper obituaries, use of vital status records, and death certificates. For cause-specific analyses, any mention on the death certificate was considered an event. Univariate and multivariate analysis were performed. **Results:** 4294 subjects were included in the study. The prevalence of retinopathy (groups 2-4) was 7.7% (1.6%, group2; 5.2%, group3; 0.9%, group4). After 14 years (December 2002), 1235 non-diabetic participants died. When adjusting for age and gender, there was increasing mortality and increasing ischemic heart disease mortality, respectively, with increasing severity of retinopathy at baseline: group 2 vs 1: hazard ratio and 95% confidence interval 1.05 (0.73-1.52) and 1.52 (0.86-2.72); group 3 vs 1: 1.04 (0.81-1.34) and 1.27 (0.82-1.95); group 4 vs 1: 1.76 (1.16-2.69) and 3.17 (1.73-5.78) compared to those without retinopathy. After controlling for other risk factors, the association remained significant for all-cause (1.71 (1.06-2.76)) and ischemic heart disease (3.32 (1.71-6.48)) mortality when comparing group4 vs group1. In this population, retinal changes were not associated with increased mortality with stroke. **Conclusions:** People who presented the most advanced level of retinopathy had decreased survival for all-cause and ischemic heart disease after adjusting for several risk factors when compared to people without retinopathy. The presence of hemorrhage or microaneurysms only was not significantly related to decreased survival. Retinopathy was not associated with increased mortality with stroke.