

Abstract

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Association between vitamin D and age-related macular degeneration in the Third National Health and Nutrition Examination Survey, 1988 through 1994.

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OBJECTIVE: To evaluate the associations between levels of vitamin D (25-hydroxyvitamin D) in serum and prevalent age-related macular degeneration (AMD).

METHODS AND DESIGN: Cross-sectional associations of serum vitamin D and early and advanced AMD, assessed from nonmydriatic fundus photographs, were evaluated in the third National Health and Nutrition Examination Survey, a multistage nationally representative probability sample of noninstitutionalized individuals (N = 7752; 11% with AMD).

RESULTS: Levels of serum vitamin D were inversely associated with early AMD but not advanced AMD. The odds ratio (OR) and 95% confidence interval (CI) for early AMD among participants in the highest vs lowest quintile of serum vitamin D was 0.64 (95% CI, 0.5-0.8; P trend <.001). Exploratory analyses were conducted to evaluate associations with important food and supplemental sources of vitamin D. Milk intake was inversely associated with early AMD (OR, 0.75; 95% CI, 0.6-0.9). Fish intake was inversely associated with advanced AMD (OR, 0.41; 95% CI, 0.2-0.9). Consistent use vs nonuse of vitamin D from supplements was inversely associated with early AMD only in individuals who did not consume milk daily (early AMD: OR, 0.67; 95% CI, 0.5-0.9).

CONCLUSION: This study provides evidence that vitamin D may protect against AMD. Additional studies are needed to confirm these findings.

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