

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.

Parekh N, Chappell RJ, Millen AE, Albert DM, Mares JA.

The Cancer Institute of New Jersey, University of Medicine and Dentistry of New Jersey, New Brunswick, NJ, USA.

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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