

Abstract

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The relationship of dietary lipid intake and age-related macular degeneration in a case-control study: AREDS Report No. 20.

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OBJECTIVE: To evaluate the association of lipid intake with baseline severity of age-related macular degeneration (AMD) in the Age-Related Eye Disease Study (AREDS).

METHODS: Age-Related Eye Disease Study participants aged 60 to 80 years at enrollment (N = 4519) provided estimates of habitual nutrient intake through a self-administered semiquantitative food frequency questionnaire. Stereoscopic color fundus photographs were used to categorize participants into 4 AMD severity groups and a control group (participants with <15 small drusen).

RESULTS: Dietary total omega-3 long-chain polyunsaturated fatty acid (LCPUFA) intake was inversely associated with neovascular (NV) AMD (odds ratio [OR], 0.61; 95% confidence interval [CI], 0.41-0.90), as was docosahexaenoic acid, a retinal omega-3 LCPUFA (OR, 0.54; 95% CI, 0.36-0.80), comparing highest vs lowest quintile of intake, after adjustment for total energy intake and covariates. Higher fish consumption, both total and broiled/baked, was also inversely associated with NV AMD (OR, 0.61; 95% CI, 0.37-1.00 and OR, 0.65; 95% CI, 0.45-0.93, respectively). Dietary arachidonic acid was directly associated with NV AMD prevalence (OR, 1.54; 95% CI, 1.04-2.29). No statistically significant relationships existed for the other lipids or AMD groups.

CONCLUSION: Higher intake of omega-3 LCPUFAs and fish was associated with decreased likelihood of having NV AMD.

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