

ORIGINAL RESEARCH COMMUNICATION

Prospective study of intake of fruit, vegetables, and carotenoids and the risk of adult glioma^{1,2,3}

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Background: Nutrients in dietary fruit and vegetables have been hypothesized to lower the risk of glioma by reducing the endogenous formation of *N*-nitroso compounds. Studies examining fruit and vegetable consumption and brain tumors have relied on case-control study designs, with one exception, and results have been inconsistent.

Objective: We prospectively examined the relation between consumption of fruit and vegetables (and specifically carotenoids) and the risk of glioma among men and women in 3 large US cohort studies: the Health Professionals Follow-Up Study (HPFS), the Nurses' Health Study I (NHS I), and NHS II.

Design: Dietary intake was assessed by food-frequency questionnaires obtained at baseline and updated every 4 y through 2002 (HPFS and NHS I) or 2003 (NHS II). We identified 296 incident adult gliomas during 3 669 589 person-years of follow-up. Cox proportional hazard models were used to estimate incidence rate ratios (RR) and 95% CIs between intake of fruit, vegetables, and carotenoids and glioma risk, with adjustment for age and total caloric intake.

Results: Updated average consumption of total fruit and vegetables was not significantly associated with glioma risk in the men and women (pooled multivariate RR in a comparison of the highest with the lowest quintile: 1.12; 95% CI: 0.74, 1.69). Other fruit and vegetable subgroups, individual fruit and vegetables, and 5 major carotenoids were not significantly associated with risk of glioma.

Conclusion: Our findings suggest that fruit, vegetable, and carotenoid consumption is not likely associated strongly with the risk of adult glioma.

Key Words: Fruit • vegetables • glioma • prospective studies • epidemiology

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