An international case-control study of adult diet and brain tumor risk: a histology-specific analysis by food group.


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PURPOSE: Existing studies of diet and adult brain tumors have been limited by small numbers in histology-specific subgroups. Dietary data from an international collaborative case-control study on adult brain tumors were used to evaluate associations between histology-specific risk and consumption of specific food groups.

METHODS: The study included 1548 cases diagnosed between 1984 and 1991 and 2486 control subjects from 8 study centers in 6 countries. Of the 1548 cases, 1185 were gliomas, 332 were meningiomas, and 31 were other tumor types. Dietary consumption was measured as average grams per day.

RESULTS: We found inverse associations between some vegetable groups and glioma risk, the strongest for yellow-orange vegetables (odds ratio [OR], 0.7, 95% confidence interval [CI], 0.5-0.9 for the 4th vs. 1st quartile of consumption, p for trend<0.001), and the association was limited to specific glioma subtypes. There was no association with cured meat. Non-cured meat was associated with a modest increase in glioma risk (OR, 1.3; 95% CI, 1.0-1.7 for 4th quartile vs. 1st quartile, p for trend=0.01). We also found positive associations between egg, grain, and citrus fruit consumption and glioma but not meningioma risk.

CONCLUSIONS: Our study suggests that selected dietary food groups may be associated with adult gliomas and its subtypes but not meningiomas.

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